MCR Market & Communications Research

2019 Monsoon Trough Rainfall and Flood Review

Research with Community Members

Report

The Office of the Inspector-General Emergency Management

17 May 2019

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Background and method

Background

Background	The Office of the Inspector-General Emergency Management (IGEM) was asked to undertake a review of key preparedness and response elements to the flooding events that occurred in North Queensland in early 2019. To help inform the review, MCR was commissioned by IGEM to gather feedback from community members via a telephone survey. Two geographic areas were identified as the focus for the survey: • Study Area 1: Townsville region (people living in suburbs most impacted by the event – see page 8 for details) • Study Area 2: Western region (people living in the local government areas of Flinders, Richmond, Cloncurry and McKinlay)

Objectives	The objectives of the research were to:
	• understand community engagement with local Disaster Management Arrangements, including:
	  ○ awareness of arrangements, perceptions of which organisation(s) are responsible for disaster management, awareness and participation in community and public events about Disaster Management Arrangements;
	
	• measure community awareness and understanding of flood risks, including:
	  ○ the sources consulted for flood risk information and confidence in dealing with flooding events;
	
	• understand the personal impacts experienced as a result of the recent event, including:
	  ○ the proportion who needed to evacuate, experiences of those who used an official evacuation centre and perceptions about the potential impact that an early release of water from the Ross River Dam would have had;
	
	• understand the sources of information consulted by community members in the lead-up to and during the recent event, including:
	  ○ the warnings received, the perceived effectiveness of communication channels for distributing warnings and community suggestions for improving emergency warnings generally.
	
	This report details the findings to the telephone survey conducted in April 2019.

Method

Method	Computer assisted telephone interviewing (CATI) was used to survey respondents. This is where a trained interviewer reads the pre-programmed questions from a computer screen and enters responses into the computer as they are given by the respondent.
Target audience	People living in the specified geographic areas during the 2019 flooding event.
Sample size	500 interviews were conducted across two study areas in the proportions detailed below.
Geographic universe	Two study areas were included in the survey as follows: • Study Area 1: Townsville region (n=400) People living in the following suburbs Bluewater, Bluewater Park, Bushland Beach, Cranbrook, Aitkenvale, Mundingburra, Gulliver, Vincent, Kirwan, Woodstock, Douglas, Garbutt, North Ward, West End, Thuringowa Central, Heatley, Currajong, Pimlico, Hermit Park, Hyde Park, Rosslea, Railway Estate, Idalia, Rosslea, Annandale, Mount Louisa • Study Area 2: Western region (n=100) People living in the local government areas of Flinders, Richmond, Cloncurry and McKinlay Respondents to the survey were screened to be in the area in the lead-up to and or during the 2019 flooding events

Questionnaire	In consultation with IGEM, MCR designed the questionnaire, see Appendix A.
Sample composition	A complete sample composition is included at Appendix B.
Weighting and significance testing	Post enumeration, the data for each study area were weighted to represent the age and gender profile of the suburbs sampled in that study area. Data analysis was conducted by MCR using the data analysis package Q-Software. On columns with at least n=30 respondents, significance testing (using z-test, Bessel's correction on and false discovery rate off) was applied at the 95% confidence level.
Fieldwork partner	MCR's fieldwork partner Q&A Market Research conducted the fieldwork. Q&A Market Research has ISO 20252 quality accreditation.
Fieldwork dates	Fieldwork was conducted between 2 and 20 April 2019. A fieldwork statistics report is included at Appendix C.
Qualitative investigation	Seven one-on-one in-depth qualitative telephone interviews were undertaken with people who had evacuated their home and used an official evacuation centre during the 2019 event. This qualitative investigation was designed to understand perceptions of how the evacuation centres were managed and gather suggested improvements for future events. See Appendix F for more details on the findings and the method.

MCR is a member of AMSRO and abides by the AMSRS Code of Professional Behaviour. The Code of Professional Behaviour can be downloaded at www.amsrs.com.au. Under the Code of Professional Behaviour – information about Client's businesses, their commissioned market research data and findings remain confidential to the clients unless both clients and researchers agree the details of any publications.

Disclaimer

As is our normal practice, we emphasise that any market size estimates in this report can be influenced by a number of unforeseen events or by management decisions. Therefore no warranty can be given that the information included will be predictive of a desired outcome.

Definitions/abbreviations

IGEM	The Office of the Inspector-General Emergency Management
LGA	Local Government Area
QPS	Queensland Police Service
QFES	Queensland Fire and Emergency Services
LDMG	Local Disaster Management Group
SES	State Emergency Service
TCC	Townsville City Council

Summary – comparison of study areas

Background

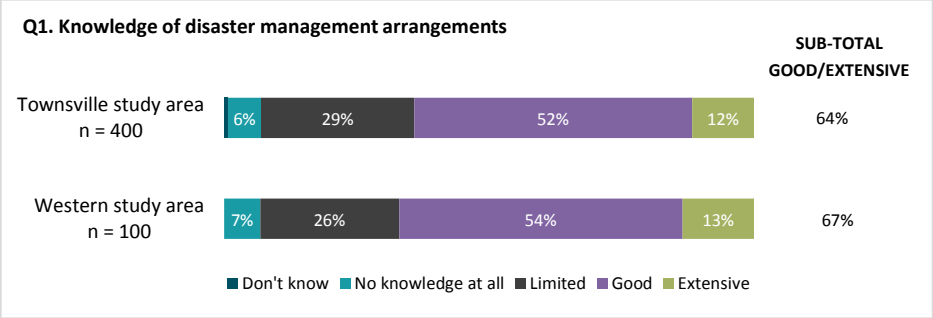
A telephone survey was conducted in April 2019 with people aged 18 years or older who were present in flood affected areas in the lead-up to and or during the floods in early 2019. There were two geographic areas surveyed:

- Study Area 1: Townsville region (people living in suburbs that were most heavily impacted – see method for specific suburbs) (n=400)
- Study Area 2: Western region (people living in the local government areas of Flinders, Richmond, Cloncurry and McKinlay) (n=100).

Community engagement

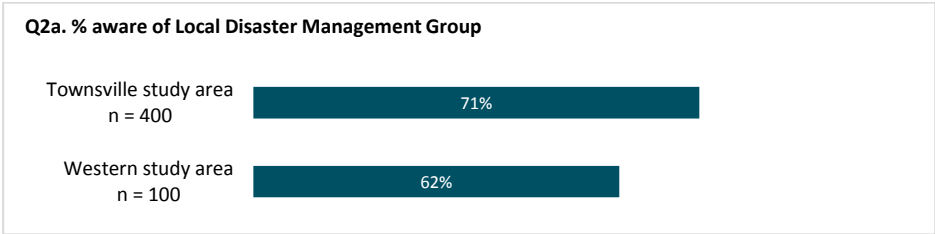
Knowledge of Disaster Management Arrangements

Two thirds of respondents in both the Townsville study area (64%) and the Western study area (67%) rated their knowledge of local Disaster Management Arrangements as extensive or good. Among Townsville residents, 29% considered their knowledge to be limited while 6% admitted to having no knowledge at all. Similar findings were noted in the Western study area (26% limited, 7% no knowledge).



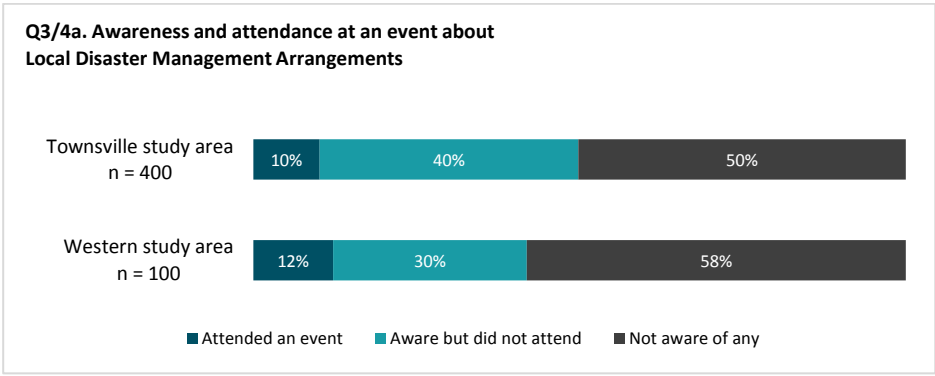
The local council was by far the most commonly nominated organisation considered responsible for disaster management in the Townsville (70%) or Western districts (78%).

71% of respondents in the Townsville study area and 62% in the Western study area were aware of the Local Disaster Management Group (LDMG). One in two said they would know how to contact their LDMG (52% Townsville study area, 46% Western study area).



Awareness and attendance – community engagement events

One in ten respondents in the Townsville (10%) or Western (12%) study areas had attended a community event, public meeting or presentation about Disaster Management Arrangements in their local area in the last few years. In the Townsville study area 50%, of all respondents were unaware of such events, while in the Western study area, the proportion of those unaware was 58%.



Flood risks

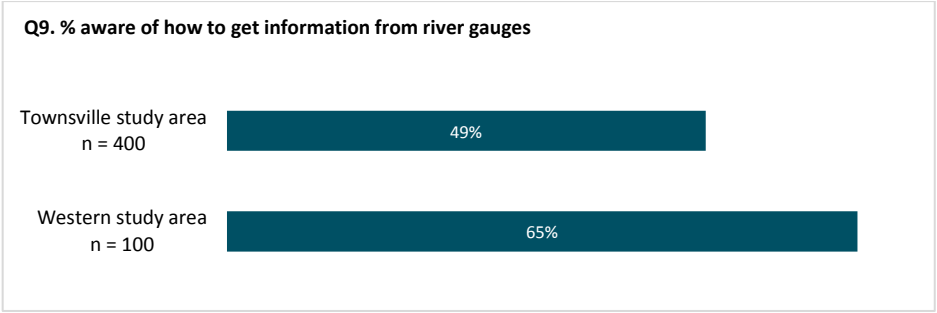
Enquiries about local risks

38% of respondents in the Townsville study area and 22% in the Western study area said they had previously enquired about the risks of flood to their property. The local council or individual residents such as family, friends or neighbours were most commonly consulted about flood risks.

Respondent confidence was high, both in relation to their own understanding of flood risk (93% Townsville, 94% Western) and in being prepared for and knowing how to respond to flood (94% Townsville, 94% Western).

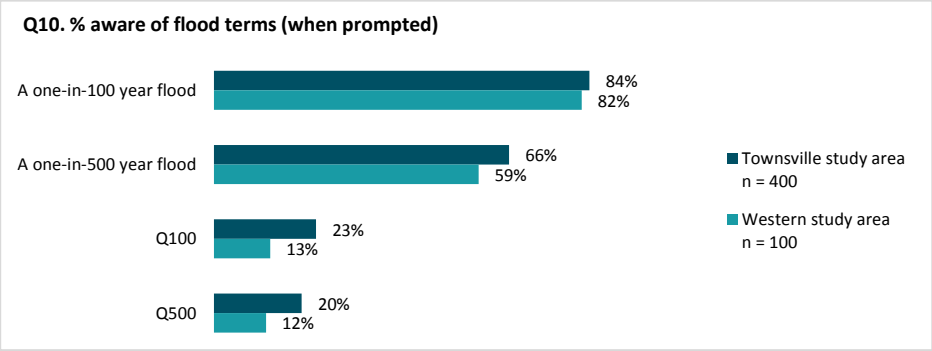
Awareness of how and where to seek information from river gauges

49% of Townsville study area respondents were aware of how to get information from river gauges in their area, compared to 65% among Western study area respondents.



Awareness and understanding of flood terms

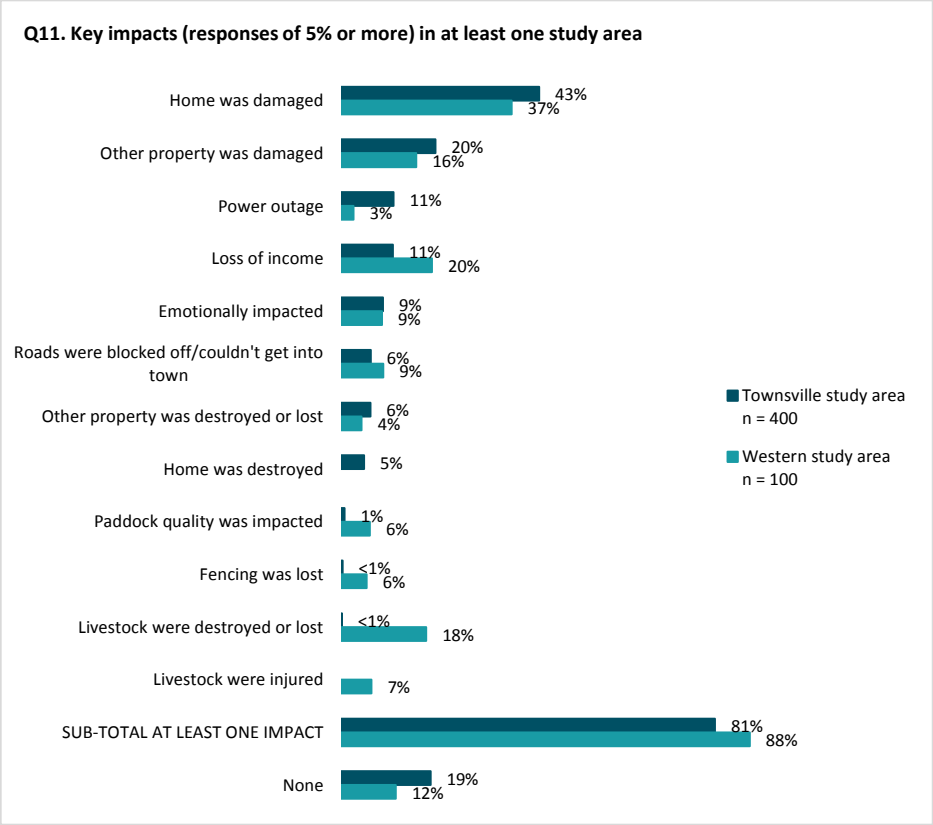
Respondents were prompted with four flooding-related terms and asked if they had heard of them. The 'one-in-100/one-on-500 year-flood' references were more widely known than the shorter terms of 'Q100' or 'Q500'.



All respondents were asked what the terms 'Q100'/'Q500' meant to them, with the most common interpretation being related to frequency of flooding (e.g. a flood that occurs every 100 years/500 years). 43% of respondents in Townsville and 61% in the Western study area were unable to articulate a meaning for these terms. Frequency of flooding was the most common meaning offered when asked in relation to the terms 'one-in-100/one-in-100 500 year flood'. The proportion of respondents unable to articulate a meaning for these terms was lower (13% in Townsville study area, 14% in Western study area) than for the terms Q100/Q500.

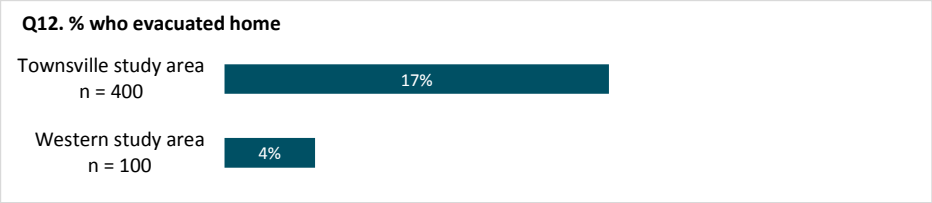
Impact of event

81% of Townsville and 88% of Western study area respondents nominated at least one impact they personally experienced as a result of the flood in early 2019. Damage to the home was the most commonly reported impact (see chart below for other key impacts).



Evacuation

17% of respondents in the Townsville study area and 4% in the Western study area reported evacuating their home during the recent event.



Most Townsville evacuees stayed with family, friends or neighbours (87%). 9% stayed in an official evacuation centre, while 5% stayed elsewhere (e.g. workplace/motel). In the Western study area none of the four respondents who evacuated stayed in an official evacuation centre (staying instead at the airport or elsewhere on their property away from the main house).

Perceptions about the impacts of an early release of water from Ross River Dam

One in four respondents in the Townsville study area felt that an early release of water from the Ross River Dam leading up to the flooding event would have made a difference to them or their property (24%). Prevalence of this view increased to one in two among those who evacuated their homes (49%).

Among those who felt an earlier release would have made a difference, expected differences mentioned were:

- Lower level of flood waters (30%)
- Minimised damage (20%)
- Home would not have flooded (7%)
- Slower, less damaging release of water (5%).

Information sources

Townsville study area

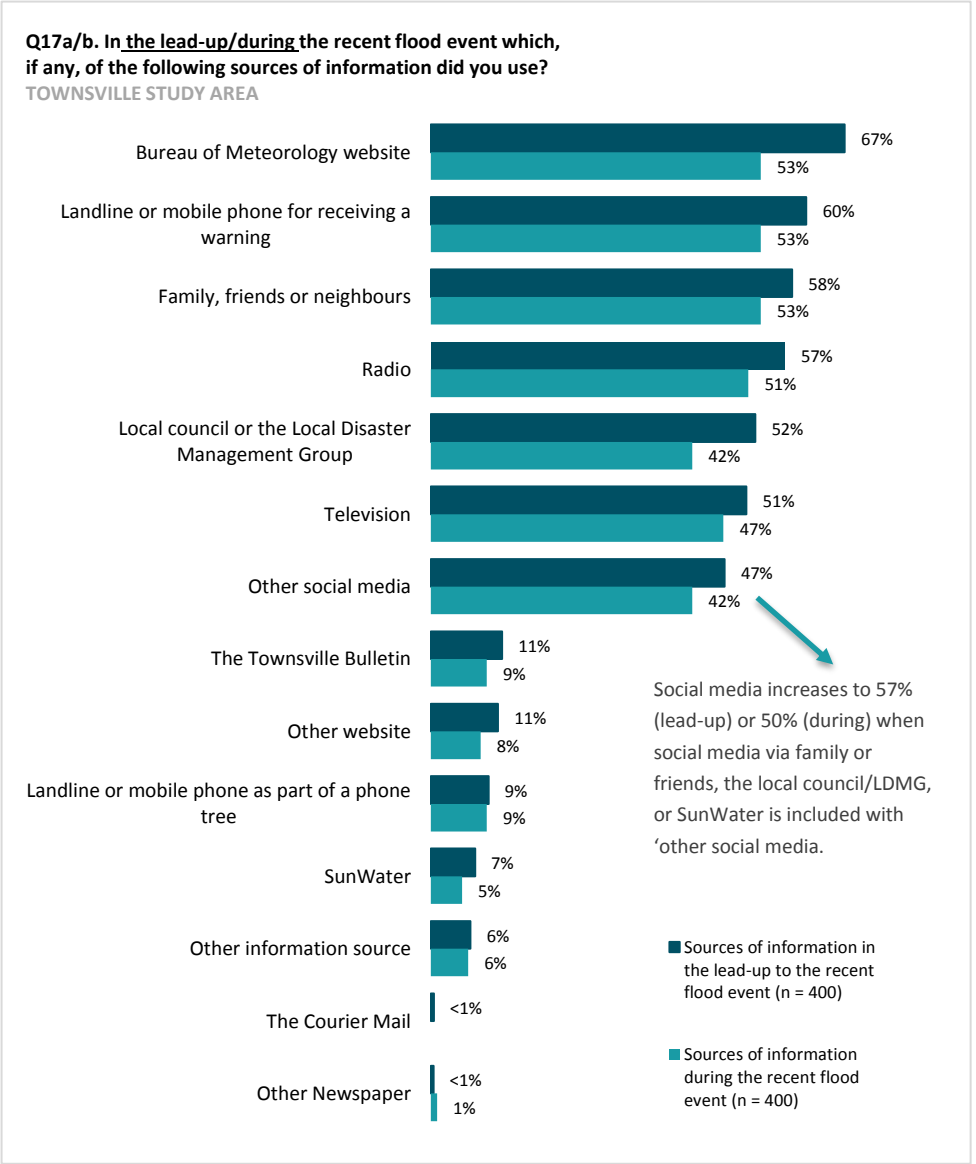
Respondents in the Townsville study area were most likely to report using the Bureau of Meteorology (BOM) website for information in the lead-up to the flood event in early 2019 (67%). Other sources used in the lead-up were telephone warnings (landline or mobile) (60%), family/friends/neighbours (58%) or the radio (57%).

57% of residents reported using social media (Facebook or other from at least one source i.e. from family/friends/neighbours, the council/LDMG, SunWater or any other social media) in the lead-up to the event. Facebook pages most likely to have been consulted in the lead-up were the pages of family or friends (23% of all respondents), followed by Townsville City Council Facebook pages (20%). Females or those aged under 45 years were more likely than average to report using social media for information in the lead-up to the event.

Respondents were equally likely to report using telephone warnings (53%), the BOM website (53%) or family/friends/neighbours (53%) during the event. Closely followed by radio (51%), social media (50% any social media mention) or television (47%).

Text message warnings

79% of all respondents in the Townsville study area reported that they received at least one warning via text message during the event in early 2019. Respondents were most likely to report receiving messages from the Council (58%), the LDMG (40%) or (1% SunWater). The vast majority of messages were considered easy to understand (95% of local council messages, 96% of LDMG messages, 100% SunWater).



Information sources

Western study area

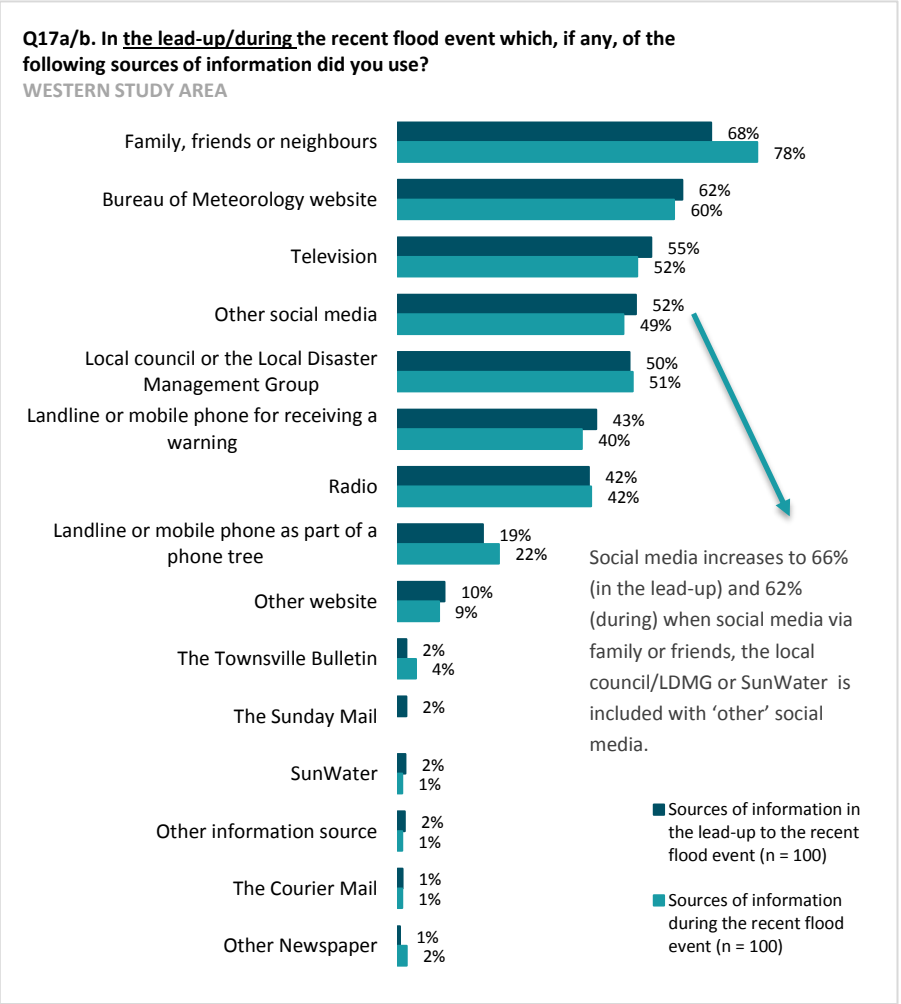
Respondents in the Western study area were most likely to report consulting family/friends/neighbours (68%) or the Bureau of Meteorology (BOM) website (62%) for information in the lead-up to the flood event in early 2019. Other information sources commonly used in the lead-up to the event were television (55%), the LDMG (50%) or a warning received via a landline or mobile telephone (43%).

66% of residents reported using social media (Facebook or other) via at least one source (i.e. from family/friends/neighbours, the council/LDMG, SunWater or any other social media) in the lead-up to the event. Facebook pages most likely to have been consulted in the lead-up were the local council's Facebook pages (23%) or the personal pages of family/friends/neighbours (17%). Those aged under 45 years were more likely than average to report using social media for information in the lead-up to the event.

During the event, family/friends/neighbours (78%) were the most common source of information, followed by the BOM website (60%), television (52%) or the LDMG (51%).

Text message warnings

26% of all respondents in the Western study area reported that they received at least one warning via text message from either the local council (13%) and/or the Local Disaster Management Group (14%). All messages were considered easy to understand.



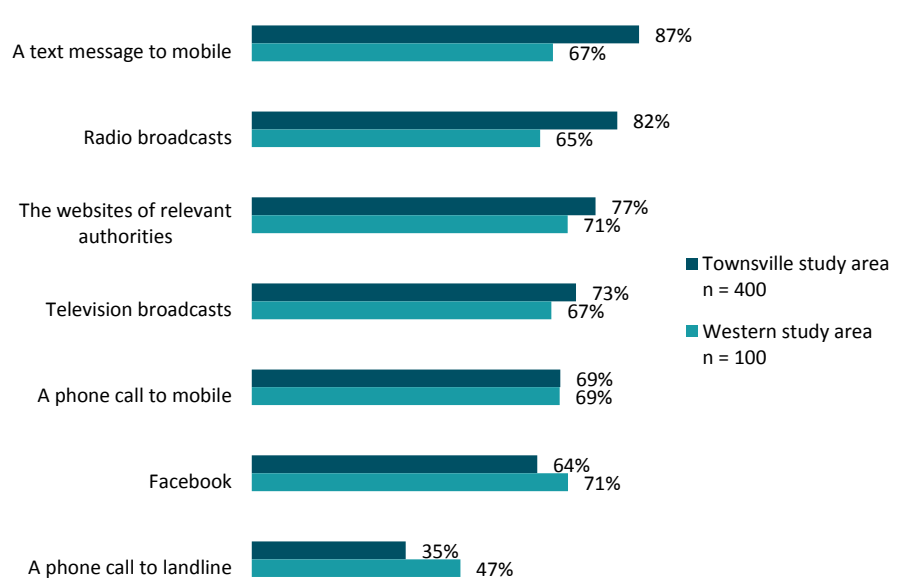
Perceived effectiveness of channels for receiving warnings

Respondents were read out a range of methods for receiving warnings during times of disaster and asked to rate the effectiveness of each.

The methods most likely to be rated as effective by Townsville study area respondents were text messages to mobile phone (87% effective), followed by radio broadcasts (82%) or websites of relevant authorities (77%). A phone call to a landline telephone was the channel least likely to be rated as effective (35%).

In the Western study area all channels were rated similarly in terms of effectiveness, the exception being phone calls to landlines, this method being perceived to be less effective than other methods (47%).

Q21. % rating warning channel as effective

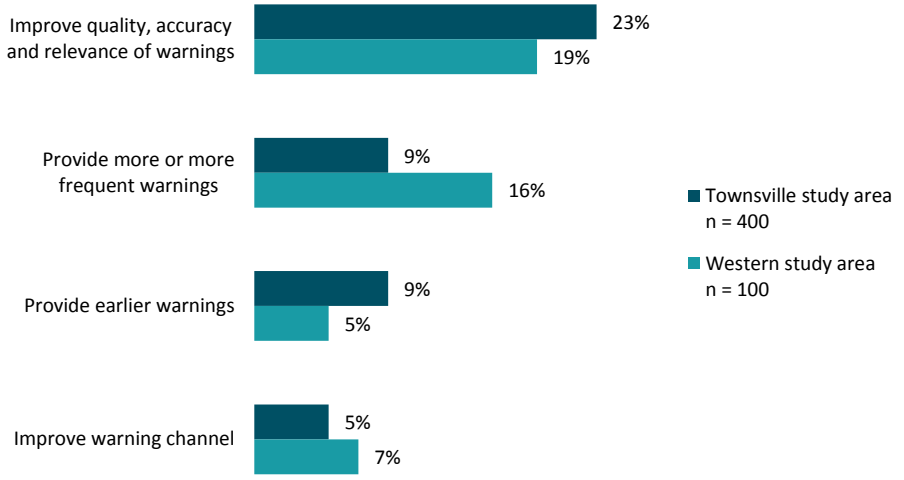


Suggestions for improving emergency warnings

When given the opportunity to make suggestions for improving emergency warnings (from any source or organisation), respondents most commonly suggested improving the quality, accuracy and relevance of messages delivered (Townsville 23%, Western 19%) (e.g. be specific about the locations impacted, ensure the information is specific to the people they are being sent to).

After this, 9% of respondents in the Townsville study area called for more/more frequent warnings while a further 9% suggested earlier warnings. 16% of Western study area respondents suggested more/more frequent warnings while 5% suggested earlier warnings.

Q22. Key suggestions for improving emergency warnings



Findings: Study Area 1 - Townsville

1.0 Community engagement

1.1 Knowledge of Disaster Management Arrangements

Two thirds (64%) of respondents from the Townsville study area rated their knowledge of Disaster Management Arrangements in Townsville as extensive (12%) or good (52%). 29% considered their knowledge to be limited while 6% admitted to having no knowledge at all.

1.1.1 Sub-group differences

Those aged 45 years or older (70%) were more likely than their younger counterparts (58%) to consider their knowledge of Disaster Management Arrangements to be good or extensive.

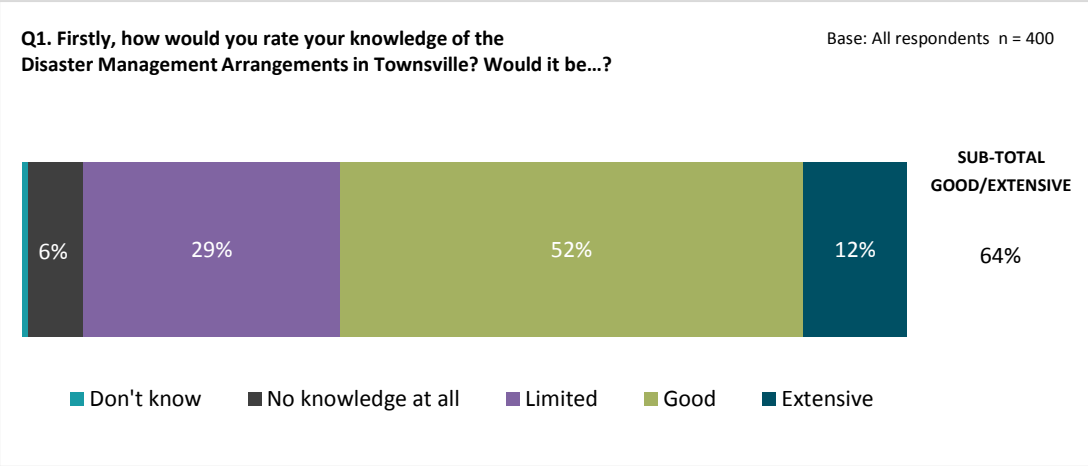


Table: Q1. Firstly, how would you rate your knowledge of the Disaster Management Arrangements in Townsville? Would it be…?

Column %	Total - Townsville study area n = 400	GENDER		AGE		EVACUATED HOME	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
SUB-TOTAL EXTENSIVE/GOOD	64%	64%	64%	58% ↓	70% ↑	60%	65%
Extensive	12%	11%	13%	10%	14%	13%	11%
Good	52%	54%	51%	48%	56%	47%	54%
Limited	29%	29%	29%	36% ↑	22% ↓	32%	28%
No knowledge at all	6%	6%	7%	6%	6%	8%	6%
Don't know	1%	<1%	1%		1%		1%

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

1.2 Organisation perceived to be responsible for Disaster Management Arrangements

Respondents were asked to nominate, without prompting, the organisation(s) they believed to be responsible for Disaster Management generally in the Townsville area. Most commonly the Townsville City Council was mentioned (70%), followed by a range of other organisations such as: State Emergency Service (SES) (15%), the Queensland State Government (13%), Queensland Police Service (QPS) (12%), Queensland Fire and Emergency Services (QFES) (11%) and the Local Disaster Management Group (LDMG) (10%).

1.2.1 Sub-group differences

Males were more likely than females to nominate QPS (15% males, 8% females) or QFES (15% males, 7% females).

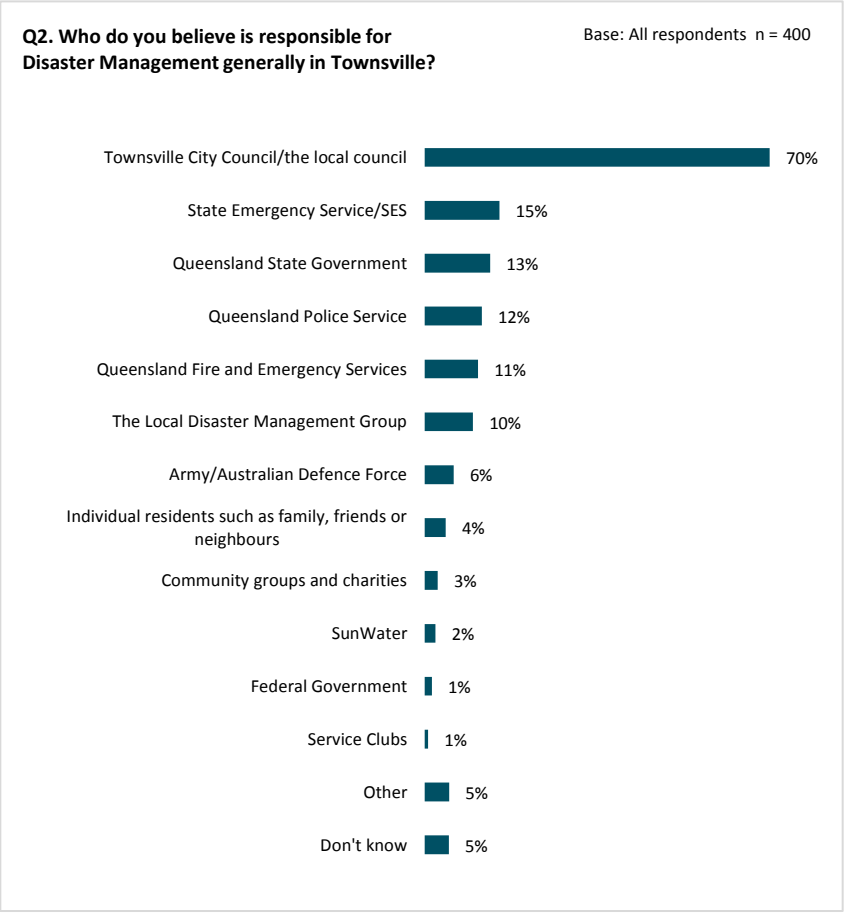


Table: Q2. Who do you believe is responsible for Disaster Management generally in Townsville?

Column %	**Total - Townsville study area n = 400**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
Townsville City Council/the local council	70%	69%	71%	74%	66%	73%	69%
State Emergency Service/SES	15%	15%	15%	14%	16%	15%	15%
Queensland State Government	13%	15%	11%	12%	14%	7% ↓	14% ↑
Queensland Police Service	12%	15% ↑	8% ↓	11%	12%	10%	12%
Queensland Fire and Emergency Services	11%	15% ↑	7% ↓	10%	11%	4% ↓	12% ↑
The Local Disaster Management Group	10%	11%	8%	9%	11%	6%	11%
Army/Australian Defence Force	6%	5%	7%	6%	5%	4%	6%
Individual residents such as family, friends or neighbours	4%	6% ↑	2% ↓	2% ↓	6% ↑	5%	4%
Community groups and charities	3%	2%	3%	1%	4%	2%	3%
SunWater	2%	3%	1%	2%	3%	2%	2%
Federal Government	1%	1%	1%	1%	1%	1%	1%
Service Clubs	1%	<1%	1%		1%		1%
Other	5%	5%	5%	3%	6%	5%	5%
Don't know	5%	3%	6%	5%	5%	5%	5%

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

1.3 Awareness and knowledge of the Local Disaster Management Group

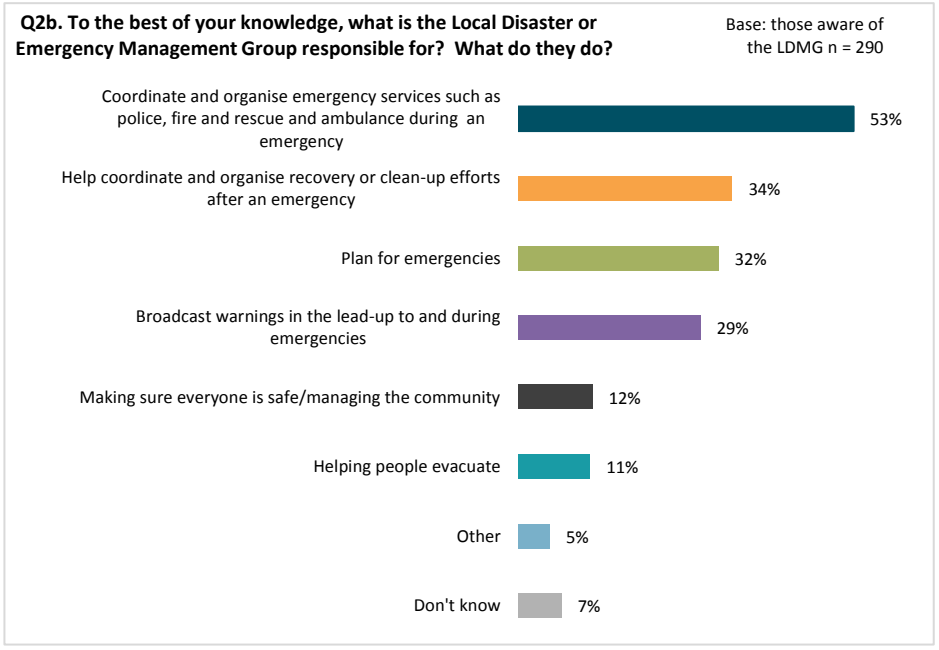
71% of residents in the Townsville study area were aware of the Local Disaster Management Group (LDMG).

Those aware of the LDMG were asked to describe in their own words what the LDMG is responsible for. Coordinating or organising emergency services during an event was the most common response (53%), followed by coordinating services after a disaster (34%), planning for emergencies (32%) or broadcasting warnings during an emergency (29%). Ensuring community safety (12%) or helping people to evacuate (11%) were less commonly mentioned responsibilities.

Of all respondents, one in two (52%) said they would know how to contact their LDMG if they needed to.

1.3.1 Sub-group differences

Those who evacuated their home during the recent event (49%) were more likely than those who did not (29%) to consider the LDMG to be responsible for planning for emergencies.



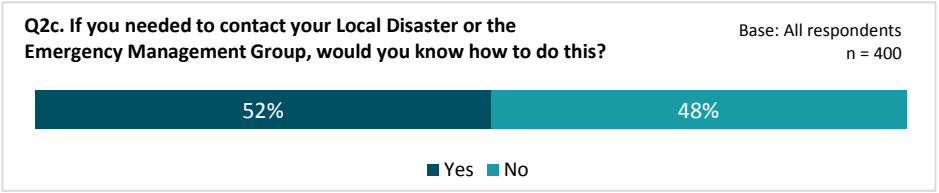


Table: Q2a. Before today had you heard of the Local Disaster Management Group? It may also be known as the Local Emergency Management Group?

Column %	**Total - Townsville study area n = 400**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
Yes	71%	70%	72%	67%	75%	64%	73%
No	29%	30%	28%	33%	25%	36%	27%

Study Area 1 - Townsville; Weighted;

Table: Q2b. To the best of your knowledge, what is the Local Disaster or Emergency Management Group responsible for? What do they do?

Column %	**Total - Townsville study area n = 290**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 140	Female n = 150	<45 years n = 123	45+ years n = 167	Yes n = 42	No n = 248
Coordinate and organise emergency services such as police, fire and rescue and ambulance during an emergency	53%	56%	50%	52%	53%	53%	53%
Help coordinate and organise recovery or clean-up efforts after an emergency	34%	32%	35%	34%	34%	37%	33%
Plan for emergencies	32%	31%	32%	31%	32%	49% ↑	29% ↓
Broadcast warnings in the lead-up to and during emergencies	29%	21% ↓	36% ↑	26%	31%	27%	29%
Making sure everyone is safe/managing the community	12%	10%	13%	14%	9%	11%	12%
Helping people evacuate	11%	9%	13%	13%	9%	12%	11%
Other	5%	8% ↑	2% ↓	5%	5%	7%	5%
Don't know	7%	6%	8%	6%	7%	5%	7%

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

Table: Q2c. If you needed to contact your Local Disaster or Emergency Management Group, would you know how to do this?

Column %	**Total - Townsville study area n = 400**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
Yes	52%	51%	53%	51%	53%	44%	54%
No	48%	49%	47%	49%	47%	56%	46%

Study Area 1 - Townsville; Weighted; ^ Caution: small cell size

1.4 Awareness of and attendance at community events about disaster management

10% of respondents reported attending a community event, public meeting or presentation about Disaster Management arrangements in their local area in the last few years. A further 40% of residents were found to be aware of engagement events but had not attended any, while 50% of all residents were unaware of any of these events.

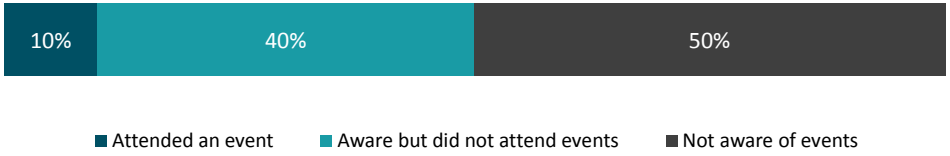
Among those who attended a community engagement event, the Townsville City Council (45%) was the organisation most frequently nominated as present at the event. After this, QFES (38%), SES (35%) and QPS (27%) were the next most commonly reported as being in attendance.

1.4.1 Sub-group differences

Those who evacuated their home (67%) were more likely than those who did not (47%) to be unaware of community engagement events over the past few years.

Q3/4a. In the past few years, had you heard about or attended any community events, public meetings or presentations about Disaster Management arrangements in your local area?

Base: All respondents n = 400



Q4a. Which organisations were present at such events?

Base: those who attended events n = 41

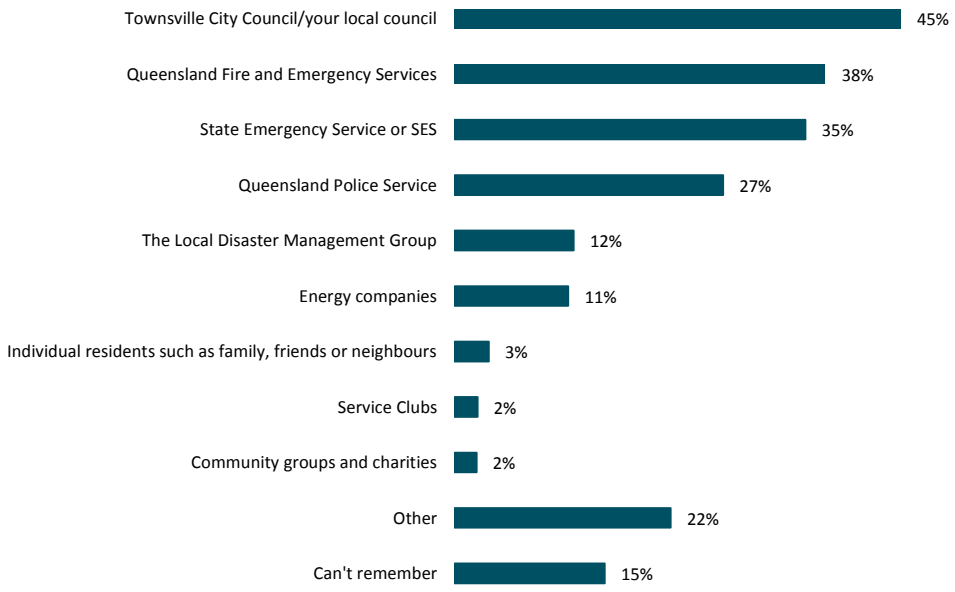


Table: Q3. In the past few years, had you heard about any community events, public meetings or presentations about Disaster Management arrangements in your local area?

Column %	**Total - Townsville study area n = 400**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
Yes	50%	49%	51%	48%	52%	33% ↓	53% ↑
No	50%	51%	49%	52%	48%	67% ↑	47% ↓

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

Table: Q4a. Did you attend any of these community events, public meetings or presentations about Disaster Management arrangements?

Column %	**Total - Townsville study area n = 400**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
Yes	10%	10%	10%	13%	8%	11%	10%
No	40%	39%	40%	35%	44%	22% ↓	43% ↑
Not aware of any	50%	51%	49%	52%	48%	67% ↑	47% ↓

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

Table: Q4b. Which organisation or organisations were present at such events?

Column %	**Total - Townsville study area n = 41**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 20^	Female n = 21^	<45 years n = 23^	45+ years n = 18^	Yes n = 7^	No n = 34
Townsville City Council/your local council	45%	49%	41%	35%	61%	68%	40%
Queensland Fire and Emergency Services	38%	44%	32%	32%	45%	52%	34%
State Emergency Service or SES	35%	40%	32%	25%	51%	40%	34%
Queensland Police Service	27%	27%	27%	27%	28%	39%	25%
The Local Disaster Management Group	12%	20%	4%	9%	16%	11%	12%
Energy companies	11%	13%	10%	15%	6%	16%	10%
Individual residents such as family, friends or neighbours	3%	7%		6%			4%
Service Clubs	2%		4%		6%		3%
Community groups and charities	2%		4%		6%	13%	
Other	22%	24%	20%	22%	22%	19%	22%
Can't remember	15%	4%	25%	22%	5%	13%	16%

Study Area 1 - Townsville; Weighted; ^ Caution: small cell size

2.0 Flood Risk

2.1 Enquires made about flood risk and satisfaction with flood risk

Four in ten (38%) residents in the Townsville study area said they had previously enquired about the risk of flooding to their property. Groups or organisations most commonly consulted were the Townsville City Council (24%) or individual residents such as family, friends or neighbours (20%). Other groups were consulted by 5% or fewer residents (and detailed in the adjacent chart).

The majority of those who made enquiries were satisfied with the information provided (for all responses see table Q6).

2.1.1 Sub-group differences

Those aged under 45 years (43%) were more likely than those aged 45 years or older (32%) to have made enquiries about flood risks.

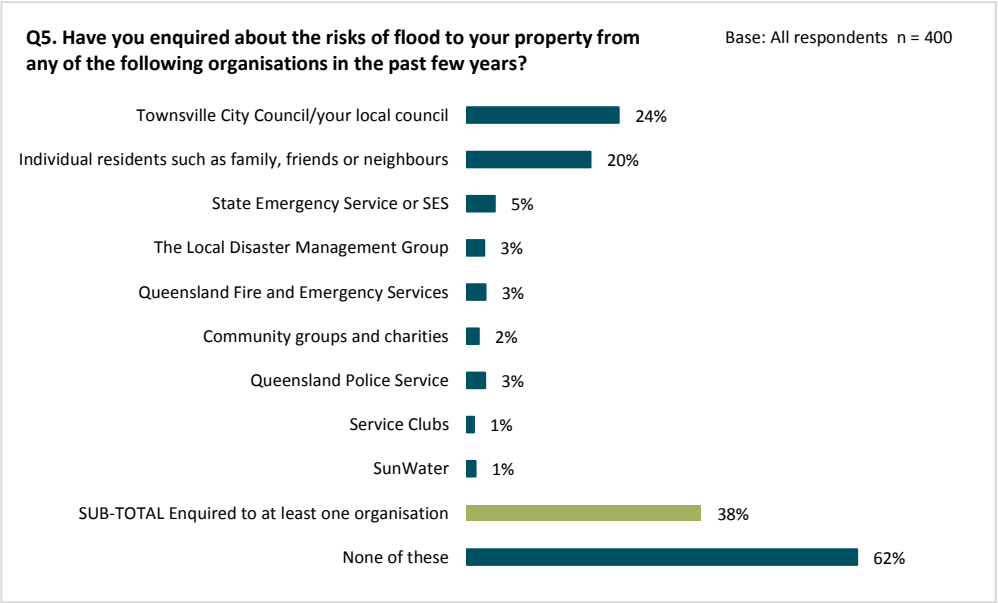


Table: Q5. Have you enquired about the risks of flood to your property from any of the following organisations in the past few years?

Column %	**Total - Townsville study area n = 400**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
Townsville City Council/your local council	24%	24%	25%	29% ↑	20% ↓	20%	25%
Individual residents such as family, friends or neighbours	20%	19%	21%	24% ↑	16% ↓	14%	21%
State Emergency Service or SES	5%	4%	5%	6%	3%	3%	5%
The Local Disaster Management Group	3%	2%	4%	3%	2%		3% ↑
Queensland Fire and Emergency Services	3%	3%	3%	4%	2%	1%	3%
Community groups and charities	2%	1%	3%	2%	2%	1%	2%
Queensland Police Service	3%	2%	4%	3%	3%		4% ↑
Service Clubs	1%	1%	1%	1%	1%	1%	1%
SunWater	1%	2%	1%	1%	2%		2% ↑
SUB-TOTAL Enquired to at least one organisation	38%	39%	36%	43% ↑	32% ↓	31%	39%
None of these	62%	61%	64%	57% ↓	68% ↑	69%	61%

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

Table: Q6. How satisfied were you with the information provided by {insert organisation from Q5}? Were you…

Column %		Total - Townsville study area	GENDER		AGE		EVACUATED HOME	
			Male	Female	<45 years	45+ years	Yes	No
Townsville City Council/your local council (n = 98)	Very satisfied	39%	36%	42%	40%	38%	27%	41%
	Satisfied	51%	56%	47%	50%	53%	66%	49%
	SUB-TOTAL SATISFIED	90%	92%	89%	89%	92%	93%	90%
	Not satisfied	7%	8%	6%	8%	6%		8%
	Don't know	3%		5%	3%	2%	7%	2%
The Local Disaster Management Group (n = 11^)	Very satisfied	73%	73%	73%	82%	59%		73%
	Satisfied	27%	27%	27%	18%	41%		27%
	SUB-TOTAL SATISFIED	100%	100%	100%	100%	100%		100%
	Not satisfied							
	Don't know							
SunWater (n = 6^)	Very satisfied	29%	26%	33%		38%		29%
	Satisfied	40%	74%		100%	21%		40%
	SUB-TOTAL SATISFIED	69%	100%	33%	100%	60%		69%
	Not satisfied	31%		67%		40%		31%
	Don't know							
Queensland Police Service (n = 12^)	Very satisfied	15%		23%	14%	17%		15%
	Satisfied	77%	77%	77%	86%	66%		77%
	SUB-TOTAL SATISFIED	92%	77%	100%	100%	83%		92%
	Not satisfied	8%	23%			17%		8%
	Don't know							
Queensland Fire and Emergency Services (n = 12^)	Very satisfied	77%	83%	73%	76%	79%	100%	75%
	Satisfied	15%		27%	24%			16%
	SUB-TOTAL SATISFIED	92%	83%	100%	100%	79%	100%	92%
	Not satisfied							
	Don't know	8%	17%			21%		8%
State Emergency Service or SES (n = 18^)	Very satisfied	30%	42%	19%	38%	14%	100%	20%
	Satisfied	55%	47%	62%	54%	57%		63%
	SUB-TOTAL SATISFIED	85%	89%	81%	92%	71%	100%	83%
	Not satisfied	5%		9%		14%		6%
	Don't know	10%	11%	9%	8%	15%		12%

Study Area 1 - Townsville; Weighted; ^ Caution: small cell size

*Table: Q6. How satisfied were you with the information provided by {insert organisation from Q5}? Were you… **(continued)***

Column %		Total - Townsville study area	GENDER		AGE		EVACUATED HOME	
			Male	Female	<45 years	45+ years	Yes	No
Individual residents such as family, friends or neighbours (n = 77)	Very satisfied	45%	35%	53%	38%	55%	78%	40%
	Satisfied	49%	55%	44%	55%	40%	13%	54%
	SUB-TOTAL SATISFIED	94%	89%	97%	93%	95%	91%	94%
	Not satisfied	5%	8%	3%	7%	3%	9%	5%
	Don't know	1%	2%			3%		1%
Service Clubs (n = 5^)	Very satisfied	64%	54%	69%	59%	67%	100%	55%
	Satisfied	36%	46%	31%	41%	33%		45%
	SUB-TOTAL SATISFIED	100%	100%	100%	100%	100%	100%	100%
	Not satisfied							
	Don't know							
Community groups and charities (n = 8^)	Very satisfied	65%	50%	70%	100%	41%		74%
	Satisfied	23%	50%	15%		40%	100%	13%
	SUB-TOTAL SATISFIED	89%	100%	85%	100%	81%	100%	87%
	Not satisfied							
	Don't know	11%		15%		19%		13%

Study Area 1 - Townsville; Weighted; ^ Caution: small cell size

2.2 Confidence in personal understanding of flood risk

93% of respondents in the Townville study area felt confident in their understanding of the flood risk to their property (53% very confident, 41% confident).

2.2.1 Sub-group differences

Males (59%) or those who did not evacuate their home during the recent event (57%) were more likely than average (53%) to feel very confident in their level of understanding. There was no significant difference in the results to this question when analysing respondent age.

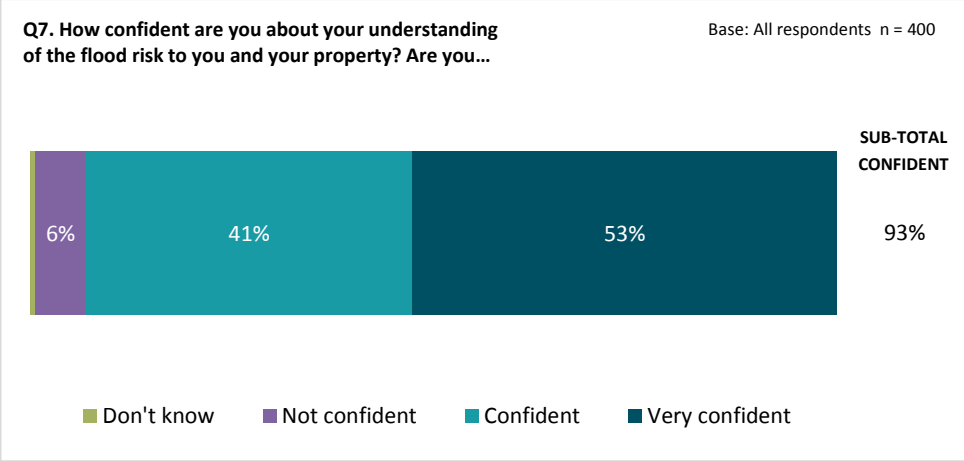


Table: Q7. How confident are you about your understanding of the flood risk to you and your property? Are you…

Column %	Total - Townsville study area n = 400	GENDER		AGE		EVACUATED HOME	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
Very confident	53%	59% ↑	46% ↓	52%	53%	29% ↓	57% ↑
Confident	41%	33% ↓	48% ↑	40%	41%	55% ↑	38% ↓
SUB-TOTAL CONFIDENT	93%	93%	94%	92%	94%	84% ↓	95% ↑
Not confident	6%	6%	6%	8%	4%	16% ↑	4% ↓
Don't know	1%	1%	<1%		1%		1%

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

2.3 Confidence in being prepared for and knowing how to respond to future flooding events

94% of respondents were found to be confident in regards to being prepared for and knowing how to respond to flooding events in the future (52% very confident, 41% confident).

2.3.1 Sub-group differences

Confidence levels were statistically consistent across the age, gender and evacuation status of survey respondents.

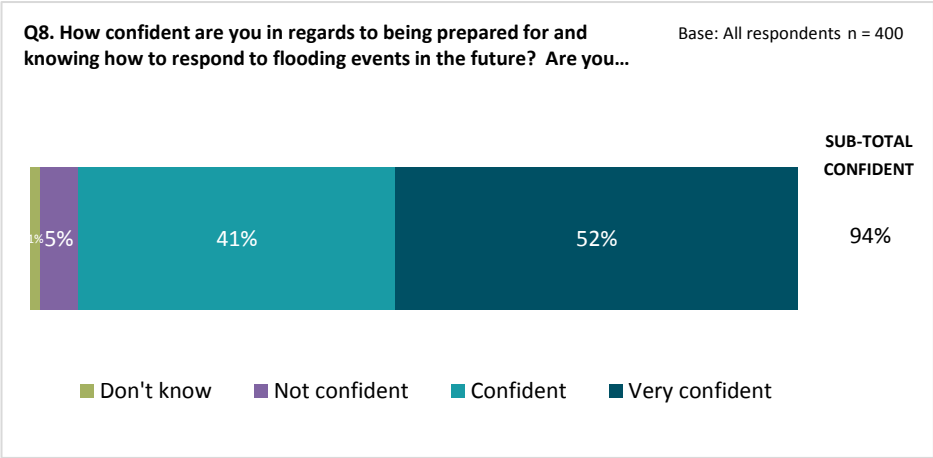


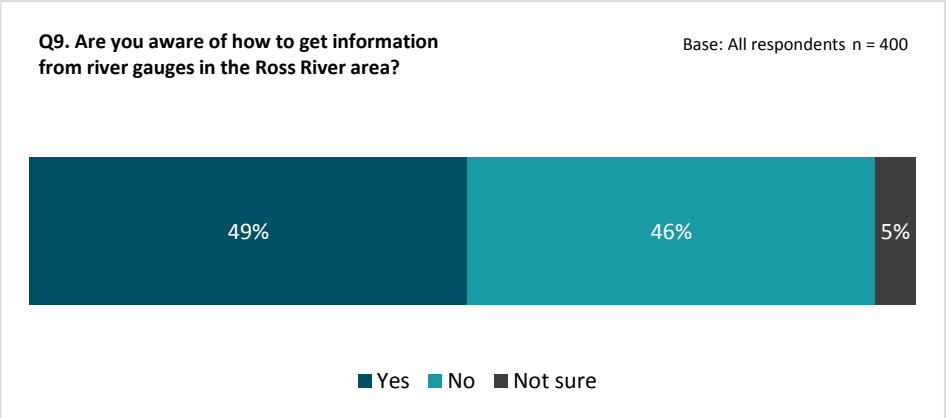
Table: Q8. How confident are you in regards to being prepared for and knowing how to respond to flooding events in the future? Are you…

Column %	Total - Townsville study area n = 400	GENDER		AGE		EVACUATED HOME	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
Very confident	52%	57%	48%	50%	54%	48%	53%
Confident	41%	38%	45%	44%	39%	45%	41%
SUB-TOTAL CONFIDENT	94%	95%	93%	94%	94%	92%	94%
Not confident	5%	5%	5%	5%	4%	6%	5%
Don't know	1%	<1%	2%	1%	2%	1%	1%

Study Area 1 - Townsville; Weighted

2.4 Awareness of how and where to seek information from river gauges

One in two (49%) Townsville study area respondents were aware of how to get information from river gauges in the Ross River area.



2.4.1 Sub-group differences

Those aged under 45 years (56%) were more likely than those aged 45 years or older (43%) to be aware of how to get information from river gauges.

Table: Q9. Are you aware of how to get information from river gauges in Townsville?

Column %	Total - Townsville study area n = 400	GENDER		AGE		EVACUATED HOME	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
Yes	49%	54%	45%	56% ↑	43% ↓	46%	50%
No	46%	42%	50%	41% ↓	51% ↑	53%	45%
Not sure	5%	3%	6%	3%	6%	1% ↓	5% ↑

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

2.5 Awareness of flood terms

Respondents were prompted with four flooding-related terms and asked which, if any, they had previously heard of. A 'one-in-100 year-flood' was the most widely recalled term (84% were aware of this terminology). 66% reported awareness of the 'one-in-500-year flood' reference. By comparison, awareness was lower for the shorter terms of 'Q100' (23%) or 'Q500' (20%).

2.5.1 Sub-group differences

Males were more likely than females to be aware of the 'Q100' (32% males, 14% females) or 'Q500' (28%, 12%) terms.

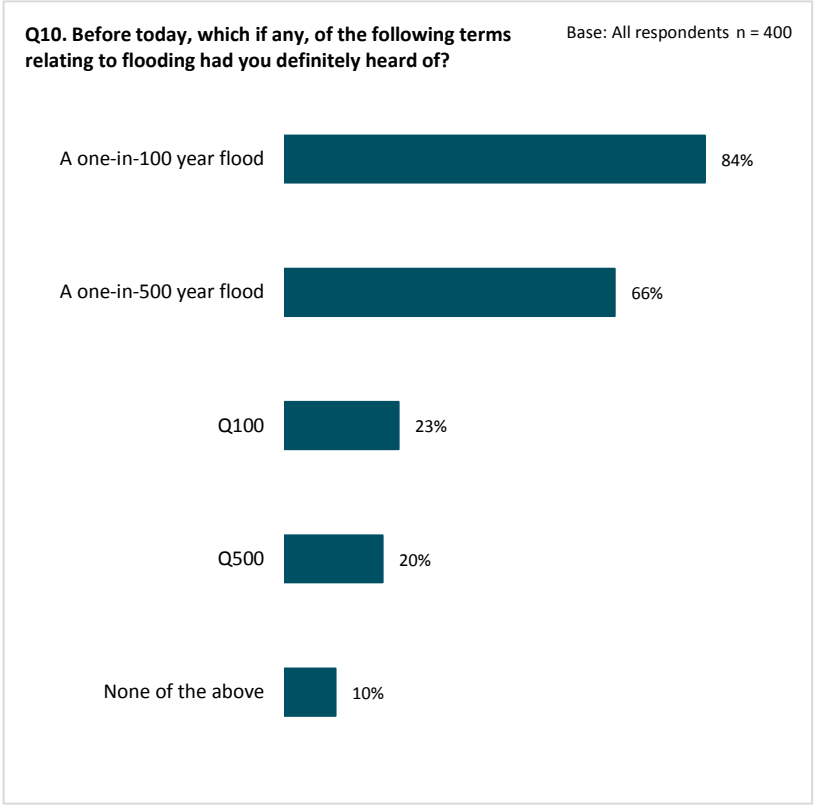


Table: Q10. Before today, which if any of the following terms relating to flooding had you definitely heard of?

Column %	**Total - Townsville study area n = 400**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
A one-in-100 year flood	84%	85%	83%	85%	84%	85%	84%
A one-in-500 year flood	66%	70%	62%	68%	64%	58%	68%
Q100	23%	32% ↑	14% ↓	21%	25%	19%	24%
Q500	20%	28% ↑	12% ↓	18%	21%	16%	20%
None of the above	10%	10%	11%	10%	10%	11%	10%

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

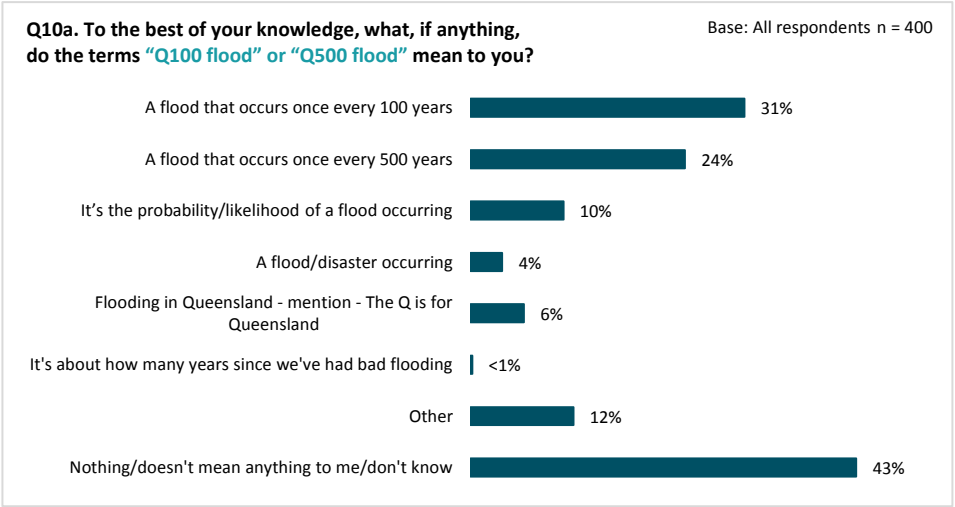
2.6 Meaning of flood terms

All respondents were asked what the terms ‘Q100’ and ‘Q500’ meant to them with the most common interpretation being related to frequency of flooding (e.g. a flood that occurs every 100 years/500 years 31%/24%). 43% of respondents were unable to articulate a meaning for these terms.

The main interpretation of the terms ‘one-in-100/500 year flood’ were a flood that occurs every 100 years/500 years (38%/32%). A further 21% interpreted these terms to mean the probability of a flood is one-in-100/500 while 12% commented that the terms were referring to a very rare or large flood. 13% were unable to provide a meaning for the ‘one-in-100/500 year flood’ terms.

2.6.1 Sub-group differences

Females (49%) or those who evacuated from their home during the recent event (57%) were more likely than average (43%) to be unsure of the meaning of the terms ‘Q100’ or ‘Q500’.



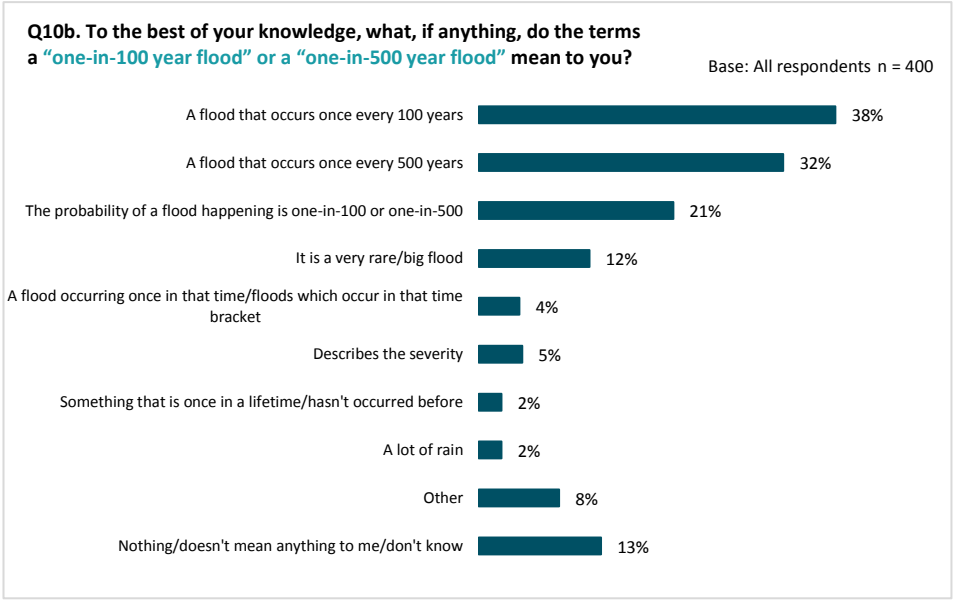


*Table: Q10a. To the best of your knowledge, what, if anything, do the terms **"Q100 flood" or "Q500 flood"** mean to you?*

Column %	**Total - Townsville study area n = 400**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
A flood that occurs once every 100 years	31%	34%	28%	28%	34%	23%	32%
A flood that occurs once every 500 years	24%	28%	21%	22%	26%	14% ↓	26% ↑
It's the probability/likelihood of a flood occurring	10%	12%	9%	10%	10%	12%	10%
A flood/disaster occurring	4%	2%	5%	4%	4%	1%	4%
Flooding in Queensland - mention - The Q is for Queensland	6%	4%	7%	8%	4%	1% ↓	7% ↑
It's about how many years since we've had bad flooding	<1%		<1%		<1%		<1%
Other	12%	13%	10%	10%	13%	6%	13%
Nothing/doesn't mean anything to me/don't know	43%	38% ↓	49% ↑	47%	40%	57% ↑	41% ↓

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

*Table: Q10b. To the best of your knowledge, what, if anything, do the terms a **"one-in-100 year flood" or a "one-in-500 year flood"** mean to you?*

Column %	**Total - Townsville study area n = 400**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
A flood that occurs once every 100 years	38%	43% ↑	33% ↓	37%	39%	34%	38%
A flood that occurs once every 500 years	32%	37%	28%	33%	32%	26%	33%
The probability of a flood happening is one-in-100 or one-in-500	21%	20%	21%	26% ↑	15% ↓	18%	21%
It is a very rare/big flood	12%	13%	11%	13%	11%	15%	11%
A flood occurring once in that time/floods which occur in that time bracket	4%	3%	6%	5%	4%	7%	4%
Describes the severity	5%	4%	5%	7% ↑	2% ↓	2%	5%
Something that is once in a lifetime/hasn't occurred before	2%	1% ↓	4% ↑	3%	2%	3%	2%
A lot of rain	2%	2%	3%	3%	2%	6%	2%
Other	8%	7%	10%	7%	10%	6%	9%
Nothing/doesn't mean anything to me/don't know	13%	14%	12%	11%	15%	12%	13%

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

3.0 Impact of event

3.1 Personal impact of flooding event in February 2019

Eight in ten respondents nominated at least one impact they personally experienced as a result of the flood in early 2019, with the most commonly reported impacts being:

- Home damage (43%) (a further 5% noted that their home had been destroyed)
- Property damage (non-home) (20%)
- Power outage (11%)
- Loss of income (11%)
- Emotional impacts (9%)
- Property (non-home) lost or destroyed (6%)
- Road blockages/difficulty getting into town (6%).

3.1.1 Sub-group differences

As might be expected, those who evacuated their home were more likely than those who did not, to report a range of impacts, including damage to their home (61% among evacuees, 39% non-evacuees), other property damage (34%, 18%), power outage (26%, 8% non-evacuees) or a destroyed home (20%, 2% non-evacuees). The reader is referred to the table overleaf for other sub-group differences.

Q11. Thinking specifically now about the flooding event in February this year, what impact or impacts, if any, did you personally experience?

Base: All respondents n = 400

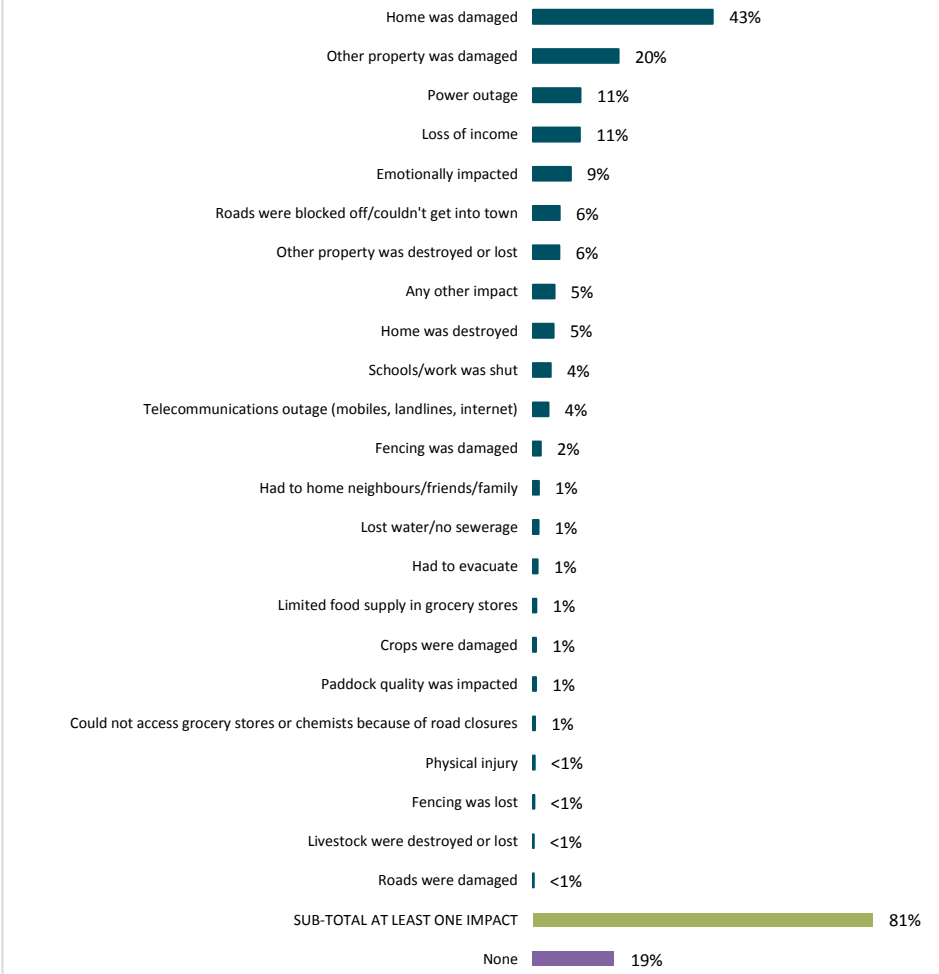


Table: Q11. Thinking specifically now about the flooding event in February this year, what impact or impacts, if any, did you personally experience?

Column %	**Total - Townsville study area** **n = 400**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
Home was damaged	43%	43%	43%	40%	46%	61% ↑	39% ↓
Other property was damaged	20%	22%	18%	24%	17%	34% ↑	18% ↓
Power outage	11%	9%	13%	12%	10%	26% ↑	8% ↓
Loss of income	11%	12%	10%	15% ↑	8% ↓	17%	10%
Emotionally impacted	9%	5% ↓	12% ↑	7%	11%	16%	8%
Roads were blocked off/couldn't get into town	6%	7%	6%	8%	4%	1% ↓	7% ↑
Other property was destroyed or lost	6%	6%	7%	6%	7%	18% ↑	4% ↓
Any other impact	5%	5%	5%	8% ↑	3% ↓	6%	5%
Home was destroyed	5%	4%	5%	5%	5%	20% ↑	2% ↓
Schools/work was shut	4%	3%	6%	6% ↑	2% ↓	1%	5%
Telecommunications outage (mobiles, landlines, internet)	4%	2%	5%	4%	3%	9%	3%
Fencing was damaged	2%	<1% ↓	3% ↑	1%	3%		2% ↑
Had to home neighbours/friends/family	1%	1%	1%	2%	1%		2% ↑
Lost water/no sewerage	1%	1%	2%	1%	1%	1%	1%
Had to evacuate	1%	<1%	2%	<1%	2%	5%	<1%
Limited food supply in grocery stores	1%	2%			2%		1%
Crops were damaged	1%		1%	1%	1%	2%	1%
Paddock quality was impacted	1%		1%	1%	<1%	2%	1%
Could not access grocery stores or chemists because of road closures	1%	<1%	1%	1%		2%	<1%
Physical injury	<1%	<1%	<1%		1%		1%
Fencing was lost	<1%	1%		1%			<1%
Livestock were destroyed or lost	<1%	<1%			<1%		<1%
Roads were damaged	<1%	<1%			<1%		<1%
SUB-TOTAL AT LEAST ONE IMPACT	81%	77%	84%	86% ↑	75% ↓	99% ↑	77% ↓
None	19%	23%	16%	14% ↓	25% ↑	1% ↓	23% ↑

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

3.2 Evacuation process in February 2019

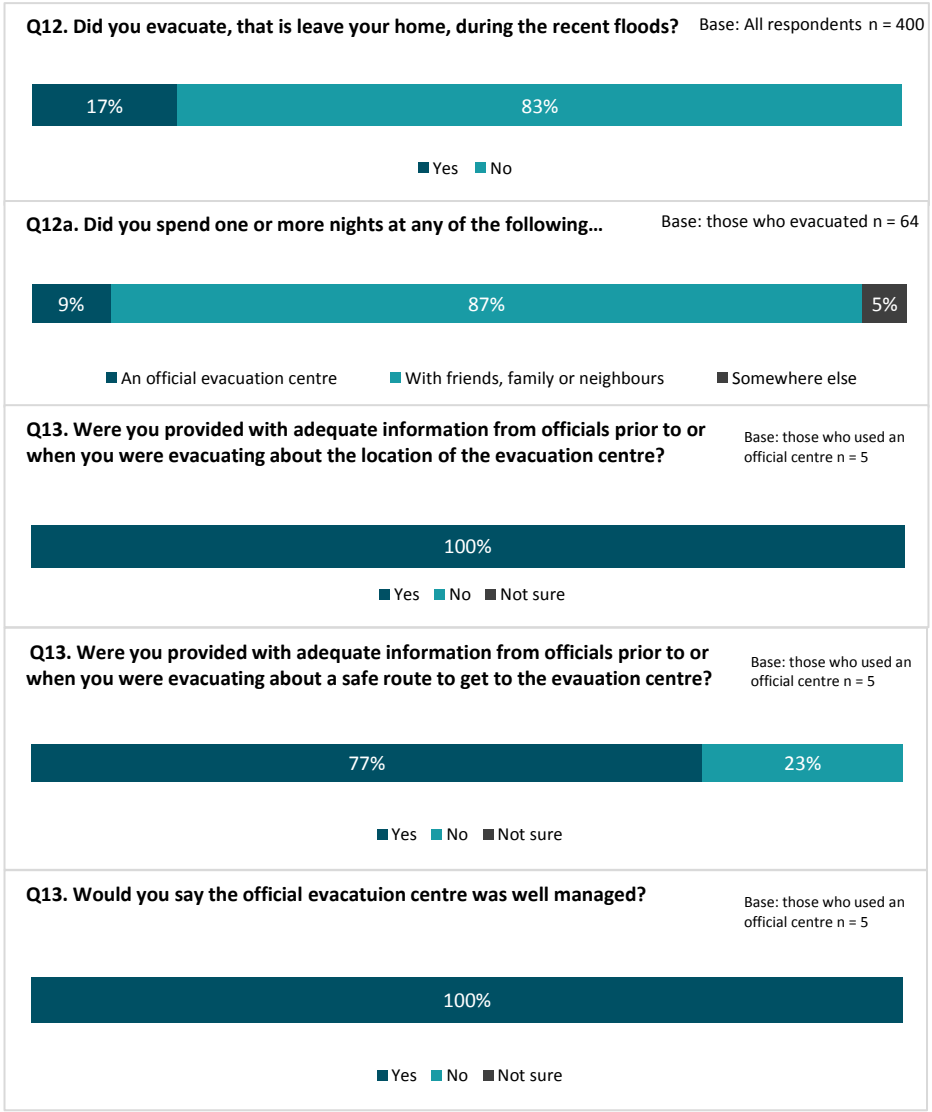
17% of respondents in the Townsville study area reported evacuating their home during the recent event. Evacuation incidence was higher among those aged under 45 years (21%) than those aged 45 years or older (13%).

Most evacuees stayed with friends, friends or neighbours (87%). 9% stayed in an official evacuation centre, while 5% stayed elsewhere (e.g. workplace/motel).

Those who stayed with family and friends stayed for an average of 12.7 nights. Some in this group report extended stays (e.g. up to 76 days). The average stay of the five official evacuation centre users in our sample was 2.5 nights (1 stayed for 1 night, 2 stayed for 2 nights, 1 stayed for 3 nights, 1 stayed for 5 nights).

All five evacuation centre users reported that they were provided with adequate information on the location of the evacuation centre; all said the centre was well managed and four of the five said they were provided with adequate information about a safe route to use to get to the evacuation centre.

All five evacuation centre users were asked for their suggested improvements to the management of the centre. While most felt the centres were well run given the trying circumstances, there was one suggestion for more volunteers, and another for more room/space to improve sleeping arrangements.



3.3 Qualitative investigation – evacuation centre users

In addition to the feedback gathered during the quantitative telephone survey, MCR also conducted seven one-on-one in-depth telephone interviews with people who had evacuated their home and used an official evacuation centre during the 2019 event. This qualitative investigation was designed to understand perceptions of how the evacuation centres were managed and gather suggested improvements for future events.

A summary of the findings is provided here. The reader is also referred to Appendix F for more detailed feedback.

Overall, evacuees were positive about their experience. There was a general feeling of everyone at the evacuation centre being patient and cooperative during a stressful time. The staff and volunteers were considered to have done their very best and evacuees were grateful for the assistance provided. Stories about locals dropping in home-baked food and toys and clothing were common and evacuees noticed and appreciated the efforts of local businesses and retailers who donated goods and services. Staff and volunteers from the Red Cross and Salvation Army were praised for their organisation, hard work and management of people in difficult circumstances. The presence (and or availability) of police and ambulance crews was also well received and reassured centre users about their safety and wellbeing.

The biggest reported issues were related to overcrowding (leading to insufficient toilet and shower facilities, a feeling of a lack of personal space and/or over-worked staff/volunteers) and some concerns about the behaviour of a minority of centre users (i.e. intoxicated individuals). Formal or regular information updates on the weather and impacts outside the centres were said to be limited and this was a source of frustration for some evacuation centre users.

Table: Q12. Did you evacuate, that is leave your home, during the recent floods?

Column %	**Total - Townsville study area n = 400**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
Yes	17%	15%	18%	21% ↑	13% ↓	100% ↑	
No	83%	85%	82%	79% ↓	87% ↑		100% ↑

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

Table: Q12a. Did you spend one or more nights at any of the following…

Column %	**Total - Townsville study area n = 64**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 27^	Female n = 37	<45 years n = 36	45+ years n = 28^	Yes n = 64	No n = 0^
An official evacuation centre	9%	18%	3%	10%	7%	9%	
With friends, family or neighbours	87%	77%	95%	88%	86%	87%	
Somewhere else	5%	6%	5%	2%	10%	5%	

Study Area 1 - Townsville; Weighted; ^ Caution: small cell size

Table: Q12a. Did you spend one or more nights at any of the following… (An official evacuation centre – mean and with friends, family or neighbours – mean)

Average	**Total - Townsville study area n = 5^**
Nights spent when evacuated home during Feb 2019 flood - An official evacuation centre - MEAN	2.54
Nights spent when evacuated home during Feb 2019 flood - With friends, family or neighbours - MEAN	12.71

Study Area 1 - Townsville; Weighted; ^ Caution: small cell size

3.4 Perception about the impacts of an early release of water from the Ross River Dam

One in four respondents in the Townsville study area felt that an early release of water from the Ross River Dam leading up to the flooding event would have made a difference to them or their property (24%). Prevalence of this view increased to one in two among those who evacuated their home (49%).

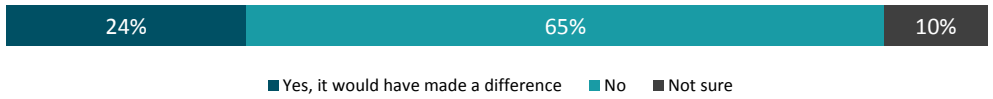
Among those who felt that an earlier release would have made a difference, expected differences mentioned were:

- Lower level of flood waters (30%)
- Minimised damage (20%)
- Home would not have flooded (7%)
- Slower, less damaging release of water (5%).

Those who did not feel an earlier release would have made a difference to them were most commonly of this view as they did not live in a heavily impacted area (i.e. not near river 36%, didn't flood 17%, live in a high area 12%). 13% felt the flood was a result of the rain rather than due to the timing of the release.

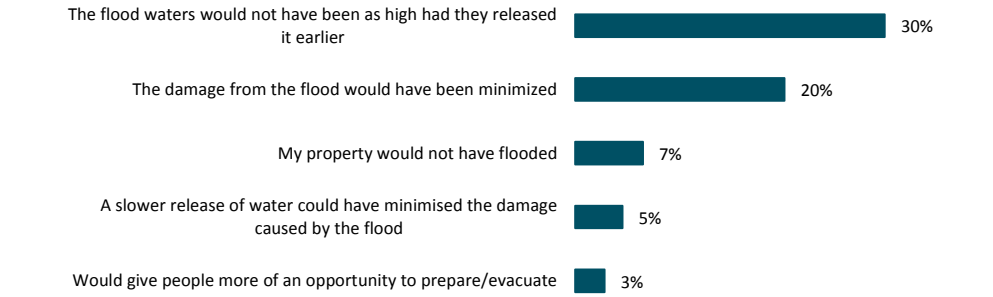
Q14. Do you believe an early release of water from the Ross River Dam leading up to the flooding event would have made a difference to you or your property?

Base: All respondents n = 400



Q16a. KEY Reasons an earlier release would have made a difference

Base: those who believe an early release of water would have made a difference n = 98



Q16b. KEY Reasons an earlier release would have made NO difference

Base: those who do not believe an early release of water would have made a difference n = 260

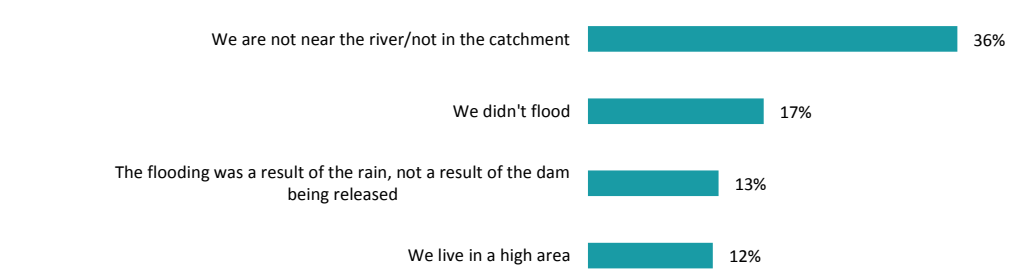


Table: Q14. Do you believe an early release of water from the Ross River Dam leading up to the flooding event would have made a difference to you or your property?

Column %	**Total - Townsville study area n = 400**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
Yes, it would have made a difference	24%	29%	21%	24%	25%	49% ↑	20% ↓
No	65%	63%	66%	67%	63%	37% ↓	71% ↑
Not sure	10%	8%	13%	9%	12%	13%	10%

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

Table: Q16a. What difference would this have made?

Column %	**Total - Townsville study area n = 98**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 56	Female n = 42	<45 years n = 43	45+ years n = 55	Yes n = 31	No n = 67
They should have emptied it earlier than they did	37%	32%	43%	44%	30%	37%	37%
The flood waters would not have been as high had they released it earlier	30%	33%	26%	29%	30%	28%	31%
The damage from the flood would have been minimized	20%	17%	25%	24%	16%	38% ↑	11% ↓
My property would not have flooded	7%	6%	7%	4%	9%	3%	9%
A slower release of water could have minimised the damage caused by the flood	5%	5%	4%	3%	6%	5%	4%
Would give people more of an opportunity to prepare/evacuate	3%		7%		6%	3%	3%
Had there been an earlier release of water the impact of the flood could have been managed better (it would have spread the water out)	2%		6%	5%			4%
They should not have opened it at high tide	2%	2%	3%	2%	2%	4%	1%
Other	13%	17%	7%	15%	11%	6%	16%

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

Table: Q16b. Why would this have made no difference?

Column %	**Total - Townsville study area n = 260**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 122	Female n = 138	<45 years n = 119	45+ years n = 141	Yes n = 24^	No n = 236
We are not near the river/not in the catchment	36%	33%	40%	40%	33%	7%	40%
We didn't flood	17%	21%	14%	15%	20%	4%	19%
The flooding was a result of the rain, not a result of the dam being released	13%	12%	14%	13%	12%	46%	9%
We live in a high area	12%	15%	10%	12%	13%		14%
Wouldn't have made a difference - NFI	7%	4%	10%	5%	9%	8%	7%
Opening it earlier would've made no difference to the outcome	3%	5%	2%	3%	4%	9%	3%
Council managed the situation well	2%	3%	1%	1%	2%	6%	1%
The drain upgrades helped	<1%		1%	1%		4%	
Other	12%	11%	14%	13%	12%	20%	12%
Don't know	1%		1%	1%	1%		1%

Study Area 1 - Townsville; Weighted; ^ Caution: small cell size

4.0 Information sources

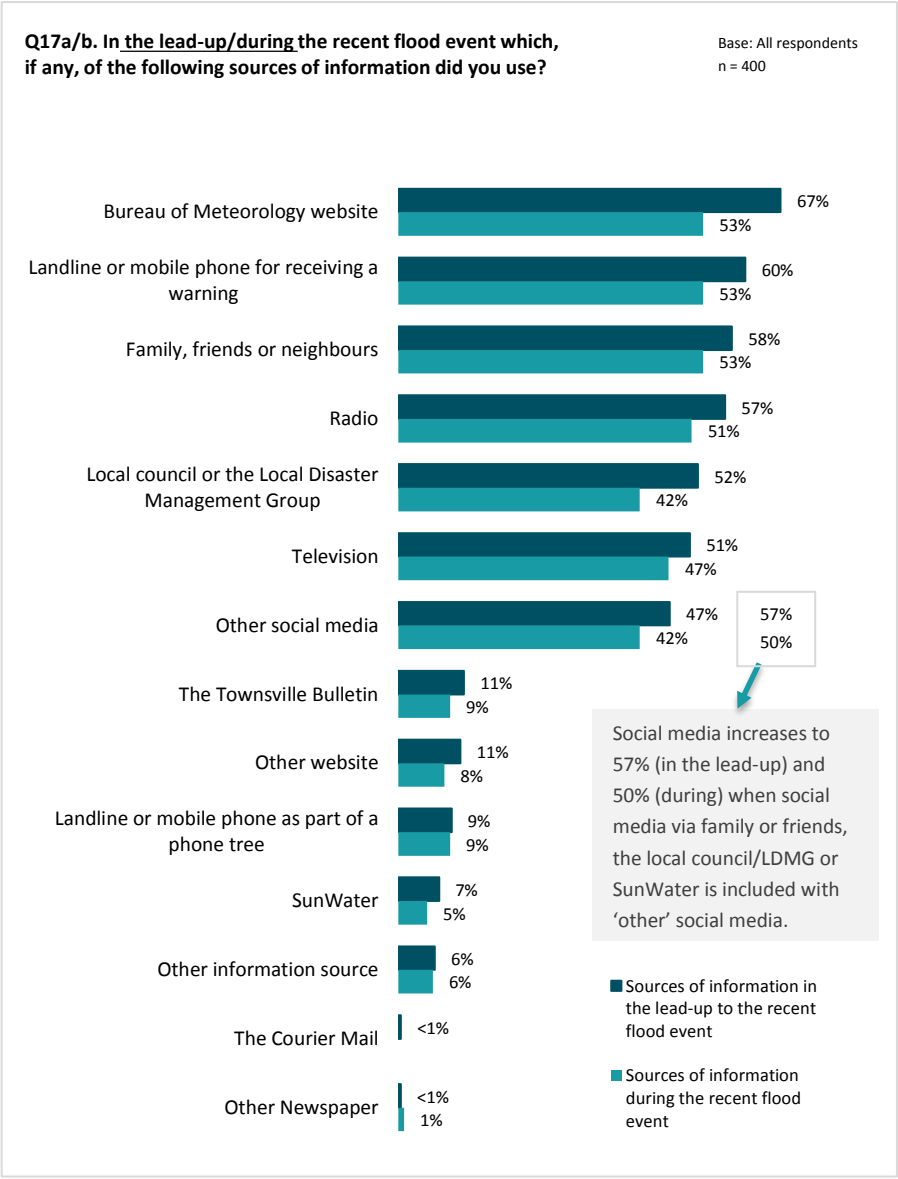
4.1 Information sources used

Respondents in the Townsville study area were most likely to report using the Bureau of Meteorology (BOM) website for information in the lead-up to the flood event in early 2019 (67%). Other sources used in the lead-up by close to six in ten respondents were telephone warnings (landline or mobile) (60%), family/friends/neighbours (58%) or the radio (57%).

57% of residents reported using social media (Facebook or other) via at least one of source (i.e. from family/friends/neighbours, the council/LDMG, SunWater or any other social media) in the lead-up to the event. The Facebook pages most likely to have been consulted in the lead-up were the pages of family or friends (23% of all respondents), followed by the Townsville City Council's Facebook pages (20%). Females (63%) or those aged under 45 years (76%) were more likely than average (57%) to report using social media for information in the lead-up to the event.

Respondents were equally likely to report using telephone warnings (53%), the BOM website (53%) or family/friends/neighbours (53%) during the event. This was closely followed by radio (51%), television (47%) or social media (50% any social media mention).

In the lead-up to the event, the average number of information source used was 4.4, compared with 3.8 during the event. Younger people used a greater number of information sources (both in the lead-up to and during the event) than those aged 45 years or older.

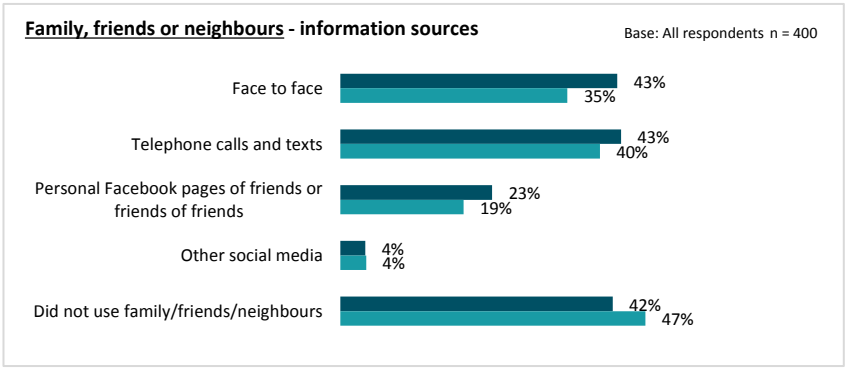


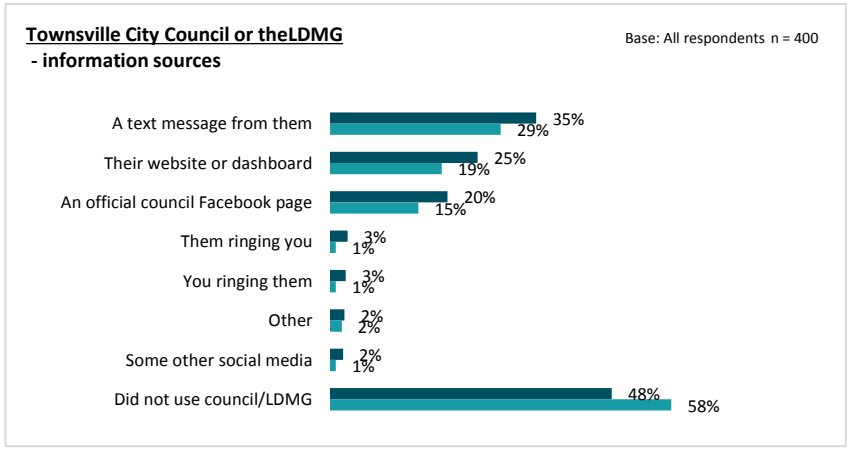
4.1.1 Information channel by source

Four in ten respondents consulted family, friends or neighbours face-to-face (43% lead-up, 35% during) or via telephone (43% lead-up, 40% during). 23% used personal Facebook pages in the lead-up to the event while 19% used Facebook during the event.

Communications with Townsville City Council or the LDMG were most likely to have occurred via a text message (35% lead-up, 29% during), their website (25% lead-up, 19% during) or through the official council Facebook page (20% lead-up, 15% during).

Information from SunWater was most commonly sourced via their website (4% lead-up, 3% during) or via a text message from them (2% lead-up, 1% during).





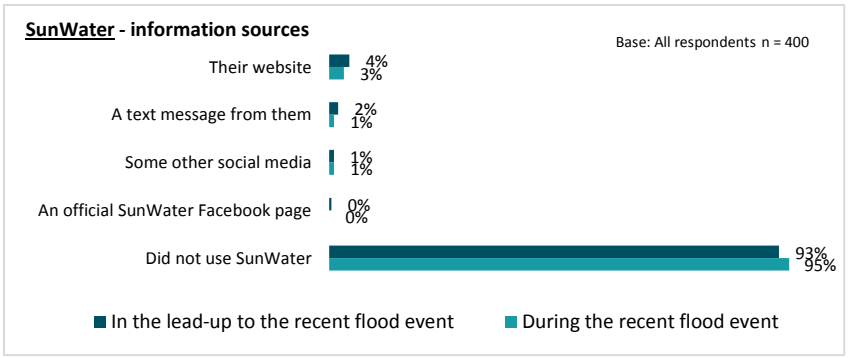


Table: Q17a. In the lead-up to the recent flood event which, if any, of the following sources of information did you use?

Column %	Total - Townsville study area n = 400	GENDER		AGE		EVACUATED HOME	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
Bureau of Meteorology website	67%	64%	69%	72% ↑	61% ↓	66%	67%
Landline or mobile phone for receiving a warning	60%	56%	64%	65%	56%	64%	60%
Family, friends or neighbours	58%	57%	59%	65% ↑	51% ↓	66%	56%
Radio	57%	59%	54%	54%	60%	57%	57%
SUB-TOTAL - ANY SOCIAL MEDIA REFERENCE - LEAD-UP (includes family/friends, council, SunWater, other social media)	57%	52% ↓	63% ↑	76% ↑	39% ↓	62%	56%
Other social media	47%	43%	51%	64% ↑	31% ↓	47%	47%
Local council or the Local Disaster Management Group	52%	51%	53%	63% ↑	42% ↓	65% ↑	50% ↓
Television	51%	51%	50%	43% ↓	58% ↑	42%	52%
The Townsville Bulletin	11%	10%	13%	8% ↓	15% ↑	7%	12%
Other website	11%	9%	13%	12%	10%	8%	11%
Landline or mobile phone as part of a phone tree	9%	7%	12%	10%	8%	8%	9%
SunWater	7%	9%	5%	6%	8%	8%	7%
Other information source	6%	8%	5%	3% ↓	10% ↑	6%	6%
The Courier Mail	<1%		1%		1%		1%
Other Newspaper	<1%	<1%	<1%	<1%	<1%		1%
The Sunday Mail							

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

Table: Q17a. In the lead-up to the recent flood event which, if any, of the following sources of information did you use? (Average number of sources used in LEAD-UP)

Average	Total - Townsville study area n = 400	GENDER		AGE		EVACUATED HOME	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
Q17a Average number of sources used in LEAD-UP	4.38	4.25	4.49	4.67 ↑	4.09 ↓	4.46	4.36

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

Table: Q17b. And during the recent flood event which, if any, of the following sources of information did you use?

Column %	Total - Townsville study area n = 400	GENDER		AGE		EVACUATED HOME	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
Landline or mobile phone for receiving a warning	53%	49%	58%	58%	49%	58%	52%
Bureau of Meteorology website	53%	53%	53%	58% ↑	48% ↓	55%	53%
Family, friends or neighbors	53%	49%	56%	57%	49%	59%	51%
Radio	51%	53%	50%	50%	53%	42%	53%
SUB-TOTAL - ANY SOCIAL MEDIA REFERENCE - DURING (includes family/friends, council, SunWater, other social media)	50%	43% ↓	57% ↑	68% ↑	32% ↓	51%	50%
Other social media	42%	37% ↓	47% ↑	58% ↑	27% ↓	43%	42%
Television	47%	46%	48%	41% ↓	54% ↑	42%	48%
Local council or the Local Disaster Management Group	42%	39%	45%	51% ↑	33% ↓	46%	41%
Landline or mobile phone as part of a phone tree	9%	7%	11%	9%	9%	10%	9%
The Townsville Bulletin	9%	6%	11%	7%	10%	7%	9%
Other website	8%	8%	7%	11%	5%	8%	8%
Other information source	6%	7%	4%	5%	7%	5%	6%
SunWater	5%	7%	3%	5%	5%	2%	5%
Other Newspaper	1%	1%		1%	<1%		1%
The Courier Mail	<1%		<1%		<1%		<1%

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

Table: Q17b. And during the recent flood event which, if any, of the following sources of information did you use?

Average	Total - Townsville study area n = 400	GENDER		AGE		EVACUATED HOME	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
Q17b Average number of sources used DURING	3.79	3.63	3.94	4.09 ↑	3.48 ↓	3.78	3.79

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

Verbatim comments – "other" information sources

Radio

The most commonly mentioned radio station was Triple M (4TOFM 102.3), followed by ABC local radio. Other stations mentioned to a lesser extent included Star 106.3, hit103.1, Power100, Hot FM.

Television

Most television users used all or a variety of TV channels. Mentions of single channels were most likely to be Channel 7, followed by the ABC.

Social media

Facebook was by far the most common type of social media used. Very minor mention of Twitter and Instagram was noted.

Websites

Storm chaser websites, Wally's Weather, Weather Zone and Google were mentioned under websites by a minority of people.

Other

Workplaces and flood maps were mentioned by a minority of respondents as a source of information.

5.0 Text message warnings

To facilitate accurate respondent recall of text messages received, wherever possible, respondents were asked to read out the message(s) directly from their mobile phone to the interviewer. Prior to checking their mobile phone, 314 respondents stated that they had received a text message from either the local council (229 people) and/or the Local Disaster Management Group (158 people) and/or SunWater (6 people).

Of those, 98 people believed they had the message(s) retained on their mobile phone. These respondents were then asked to read-out the message(s).

The survey only measured text messages received from the local council, the Local Disaster or Emergency Management Group or SunWater.

5.1 Warnings received via text message

79% of all respondents in the Townsville study area reported they received at least one warning via text message during the event in early 2019. Respondents were most likely to report receiving messages from the Council (58%) or the LDMG (40%). 1% received a text message from SunWater.

5.1.1 Sub-group differences

Those who evacuated their home (89%) were more likely than those who did not (77%) to report receiving at least one text message warning.

5.1.2 Verbatim text messages

32% of those who received a message reported saving at least one of these messages. Respondents were asked to read the text messages received. These messages are detailed on pages 54 and 55.

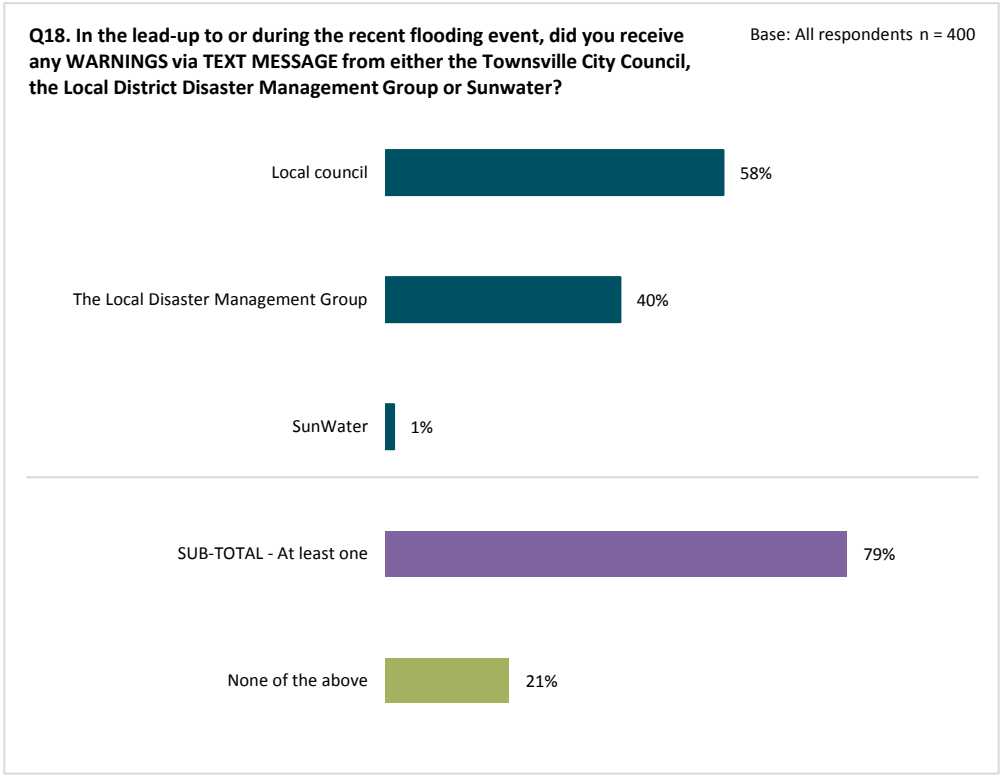


Table: Q18. In the lead-up to or during the recent flooding event, did you receive any WARNINGS via TEXT MESSAGE from either the Townsville City Council, the Local District Disaster Management Group or Sunwater?

Column %	**Total - Townsville study area n = 400**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
Local council	58%	56%	59%	57%	58%	67%	56%
The Local Disaster Management Group	40%	42%	38%	48% ↑	32% ↓	43%	39%
SunWater	1%	2%	1%	1%	2%		2% ↑
SUB-TOTAL - At least one	79%	79%	79%	81%	76%	89% ↑	77% ↓
None of the above	21%	21%	21%	19%	24%	11% ↓	23% ↑

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

Table: Q19a. I'd now like to ask some specific questions about the text messages you received. Did you save any or all of those messages?

Column %	**Total - Townsville study area n = 314**	**GENDER**		**AGE**		**EVACUATED HOME**	
		Male n = 151	Female n = 163	<45 years n = 144	45+ years n = 170	Yes n = 57	No n = 257
Yes	32%	30%	34%	39% ↑	25% ↓	37%	31%
No	68%	70%	66%	61% ↓	75% ↑	63%	69%

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

Verbatim messages

Townsville City Council messages

Messages, as read out by respondents, and attributed to Townsville City Council are detailed below. While some messages appeared to be from the TLDMG they have been included here as the respondent had nominated Townsville City Council as the sender.

Seven mentions of the following message were made: *Flood warning from TCC - your property may receive flooding from Ross River - warn others - take action now - phone 1800 738 541 or listen to local radio.*

Six mentions were related to the Burdekin River/Macrossan Bridge:

- Five mentions: *Warning. Burdekin River will peak 19m, Macrossan Bridge Sellheim closed for some days. Dial 000 for emergencies, or visit website*
- One mention also included a website: *Warning. Burdekin River will peak 19m, Macrossan Bridge Sellheim closed for some days. Dial 000 for emergency. Further details www.getready.ctrc.qld.gov.au*

Flooding messages with TLDMG included in the message were as follows:

- Nine mentions: *Flood warning from TLDMG. Increased flooding from intense rainfall. Move to higher ground if concerned. Phone 1800738451 or listen to local radio*
- Five mentions: *EMERGENCY EMERGENCY EMERGENCY, warning from TLDMG. Move away from Ross River now. Flash flooding from dam between 2030 0600 hours. Call 000 for life threatening emergencies*

Six mentions (worded similarly) (no organisation nominated): *Flood warning, imminent flooding from intense rainfall, move to higher ground if concerned, call or listen to radio.*

Other messages, each mentioned once, included the following:

- *Your property may experience imminent flooding from Ross River. Warn others. Take action now.*
- *Flash flood advice from the TLDMG. Imminent flooding from intense rainfall*
- *Hinchinbrook council advice. Lower Herbert flood levels expected to reach 5.5m at river gauge this afternoon, refer to website for more info, disaster.hinchinbrook.gov.au.*
- *Increased flooding from intense rainfall. Move to higher ground if concerned*
- *Leave now. You are of risk in the area*
- *Monsoon rain forecast. Be on alert*
- *Move away from Ross River now. Flash flooding from between 2300 and 600 and call 000 if life threatening emergency*
- *Queensland emergency from TNM emergency. Move away from Ross River now. Call triple 0 for life threatening emergency. Listen to local radio*
- *Townsville residents are told to conserve water*
- *Tune into the Townsville Disaster Management dashboard for updates on community recovery*
- *(The message was) telling us about road closures and telling us what they were going to do with regard to the dam and when it would happen*
- *(The message was) it is now too late to evacuate*
- *Boil water advice from council, residents must boil all drinking water until further notice, tell others, for further info visit website*

Messages attributed to the LDMG (as read by respondents) are detailed below:

- 43 mentions (the same message was often reported as being received multiple times): *EMERGENCY EMERGENCY EMERGENCY, warning from TLDMG. Move away from Ross River now. Flash flooding from dam between 2030 0600 hours (8.30 to 6am). Call 000 for life threatening emergencies*
- 44 mentions: *Flood warning from TLDMG. Increased flooding from intense rainfall. Move to higher ground. If concerned phone 1800 78541 or listen to local radio*
- 20 mentions: *Emergency emergency warning from TLDMG. Move from Ross River. Flash flooding occurring now. Get to higher ground now. Call 000 for life threatening emergencies*
- 17 mentions: *Flood warning from TLDMG. Imminent flooding from intense rainfall. Move to higher ground if concerned. Phone 1800 738 541 or listen to local radio*
- 11 mentions: *Flash flood advice from TLDMG, flooding from intense rainfall, move to higher ground if concerned, call 1800738541 or listen to radio*
- 9 mentions: *Warning. Burdekin River will peak 19m, Macrossan Bridge Sellheim closed for some days. Dial 000 for emergencies, or visit website*
- 6 mentions: *Move away from Ross River now. Flash flooding from dam between 2030 and 600 call 000 for life threatening emergencies*
- 4 mentions: *Flood warning from TCC - your property may receive flooding from Ross River - warn others - take action now - phone 1800 738 541 or listen to local radio*

Other single mentions included:

- *Evacuate if concerned, call triple 0 for life threatening emergencies*
- *Council advises of storm tide warning from the red zone on Thursday or Friday. Residents advised to prepare for inundation of properties*
- *Flood warning TLDMG, your property may experience flooding in this area. Evacuation is urged if safety concerns*
- *Getready.ctrc.qld.edu warning river will increase 19m*
- *Emergency emergency warning from TLDMG. Move from rocks and rivers now. Flash flooding occurring now/call 00 for life threatening emergency*

5.2 Ease of understanding text messages

The vast majority of messages were considered easy to understand (95% of local council messages, 96% of LDMG messages, 100% SunWater). Respondents said this was because they were concise, used simple everyday language or provided the information needed.

Not providing enough specific location-based information or information that was ambiguous were the most common reasons for rating messages as hard to understand.

Table: Q20c/a. Overall, was the warning message easy or hard to understand/who was it from?

Column %	**Local council n = 53**	**Local Disaster or Emergency Management group n = 171**	**SunWater n = 1^**
Message easy to understand	95%	96%	100%
Message hard to understand	5%	4%	

Study Area 1 - Townsville; Weighted; ^ Caution: small cell size

The specific messages rated as 'hard to understand' were as follows:

Local council	**Local Disaster or Emergency Management Group**
• *Flood warning from TLDMG. Imminent flooding from intense rainfall, move to higher ground if concerned, phone number 1800 738 541 or listen to local radio (2 mentions)* • *EMERGENCY EMERGENCY EMERGENCY, warning from TLDMG. Move away from Ross River now. Flash flooding from dam between 20:30 0600 hours. Call 000 for life threatening emergencies (1 mention)*	• *Flood warning from TLDMG. Imminent flooding from intense rainfall. Move to higher ground if concerned. Phone 1800 738 541 or listen to local radio (2 mentions)* • *Emergency emergency warning from TLDMG. Move from Ross River. Flash flooding occurring now. Get to higher ground now. Call 000 for life threatening emergencies (1 mention)* • *Warning. Burdekin River will peak 19m, Macrossan Bridge Sellheim closed for some days. Dial 000 for emergencies, or visit website (1 mention)* • *Flood warning TLDMG, your property may experience flooding in this area. Evacuation is urged if safety concerns (1 mention)*

5.3 Text message warning referred elsewhere

Most messages received referred the respondent elsewhere (71% of messages received from the Townsville City Council (TCC), 60% of messages from LDMG, 100% SunWater).

21% of recipients of a local council message that referred the reader elsewhere said that they went to this source for more information. 5% of recipients of LDMG messages that referred the reader elsewhere said they went to this source of information. All agreed the message about where to go for more information was specific enough (100% TCC, 100% LDMG).

Table: Q20e/a. Did the message refer you somewhere else for more information?

Column %	**Local council n = 53**	**Local Disaster or Emergency Management group n = 171**	**SunWater n = 1^**
Yes	71%	60%	100%
No	29%	40%	

Study Area 1 - Townsville; Weighted; ^ Caution: small cell size

Table: Q20f. If yes at (e) - Did you go to this source for more information?

Column %	**Local council n = 37**	**Local Disaster or Emergency Management group n = 102**	**SunWater n = 1^**
Yes	21% ↑	5% ↓	
No	79% ↓	95% ↑	100%

Study Area 1 - Townsville; Weighted; ^ Caution: small cell size

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

Table: Q20g. If yes at (f) - Was the message about where to go for more information specific enough?

Column %	**Local council n = 9^**	**Local Disaster or Emergency Management group n = 5^**	**SunWater n = 0^**
Yes	100%	100%	
No			

Study Area 1 - Townsville; Weighted; ^ Caution: small cell size

6.0 Perceived effectiveness of communication channels for receiving warnings

Respondents were read out a range of methods for receiving warnings during times of disaster and asked to rate the effectiveness of each.

The method most likely to be rated as effective by Townsville study area respondents was a text message to mobile phone (87% effective), followed by radio broadcasts (82%) or websites of relevant authorities (77%). The method least likely to have been rated as effective was a phone call to landline (35%). The reader is referred to the adjacent chart for all responses.

6.1.1 Sub-group differences

Older residents (45+ years) were more likely than average to rate a phone call to landline (46%, 35% average) or television broadcasts (77%, 73% average) as effective. The younger cohort were more likely than average to consider the websites of relevant authorities (83%, 77% average) or Facebook (81%, 64% average) to be effective channels for distributing warnings during times of disaster.

Females (70%) were more likely than average (64%) to rate Facebook as an effective method of receiving warnings.

Those who evacuated their home during the flood (79%) were more likely than those who did not (67%) to rate a phone call to a mobile phone as effective.

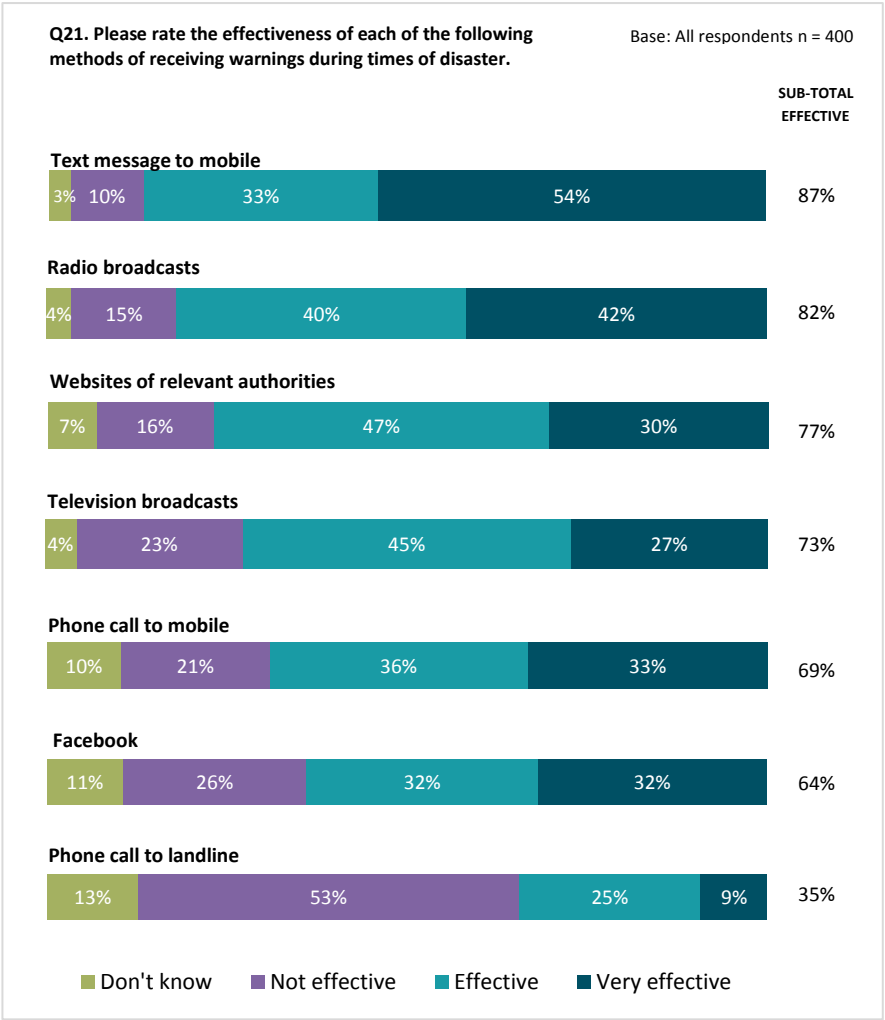


Table: Q21. Please rate the effectiveness of each of the following methods of receiving warnings during times of disaster. The first method…, the next method is…

Column %		Total - Townsville study area n = 400	GENDER		AGE		EVACUATED HOME	
			Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
A phone call to landline	Very effective	9%	11%	8%	7%	12%	15%	8%
	Effective	25%	31% ↑	20% ↓	16% ↓	34% ↑	22%	26%
	SUB-TOTAL EFFECTIVE	35%	42% ↑	28% ↓	23% ↓	46% ↑	37%	34%
	Not effective	53%	48%	57%	64% ↑	42% ↓	53%	53%
	Don't know	13%	10%	15%	13%	12%	10%	13%
A phone call to mobile	Very effective	33%	33%	33%	35%	31%	42%	32%
	Effective	36%	36%	36%	34%	37%	37%	35%
	SUB-TOTAL EFFECTIVE	69%	69%	69%	69%	69%	79% ↑	67% ↓
	Not effective	21%	21%	20%	19%	23%	13%	22%
	Don't know	10%	10%	11%	12%	9%	7%	11%
A text message to mobile	Very effective	54%	51%	57%	56%	52%	47%	55%
	Effective	33%	35%	31%	33%	32%	39%	31%
	SUB-TOTAL EFFECTIVE	87%	86%	88%	89%	84%	87%	87%
	Not effective	10%	10%	11%	8%	12%	10%	10%
	Don't know	3%	4%	2%	3%	3%	3%	3%

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

*Table: Q21. Please rate the effectiveness of each of the following methods of receiving warnings during times of disaster. The first method…, the next method is… **(continued)***

Column %		Total - Townsville study area n = 400	GENDER		AGE		EVACUATED HOME	
			Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
The websites of relevant authorities	Very effective	30%	25% ↓	35% ↑	34%	27%	27%	31%
	Effective	47%	47%	46%	49%	44%	53%	45%
	SUB-TOTAL EFFECTIVE	77%	73% ↓	81% ↑	83% ↑	71% ↓	80%	76%
	Not effective	16%	20%	13%	13%	19%	20%	16%
	Don't know	7%	7%	6%	3% ↓	10% ↑		8% ↑
Television broadcasts	Very effective	27%	24%	30%	25%	29%	29%	27%
	Effective	45%	48%	43%	43%	48%	37%	47%
	SUB-TOTAL EFFECTIVE	73%	72%	73%	68% ↓	77% ↑	66%	74%
	Not effective	23%	22%	24%	27%	20%	31%	21%
	Don't know	4%	5%	3%	5%	3%	3%	5%
Radio broadcasts	Very effective	42%	41%	42%	40%	43%	40%	42%
	Effective	40%	44%	36%	42%	39%	33%	41%
	SUB-TOTAL EFFECTIVE	82%	85%	79%	82%	82%	74%	83%
	Not effective	15%	13%	16%	15%	14%	22%	13%
	Don't know	4%	2% ↓	5% ↑	2%	5%	4%	3%
Facebook	Very effective	32%	24% ↓	39% ↑	45% ↑	19% ↓	35%	31%
	Effective	32%	33%	31%	36%	28%	29%	33%
	SUB-TOTAL EFFECTIVE	64%	57% ↓	70% ↑	81% ↑	47% ↓	64%	64%
	Not effective	26%	32% ↑	20% ↓	16% ↓	35% ↑	26%	25%
	Don't know	11%	11%	10%	4% ↓	17% ↑	10%	11%

Study Area 1 - Townsville; Weighted

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

7.0 Suggestions for improving emergency warnings

Respondents in the Townsville study area were given the opportunity to make suggestions for improving emergency warnings (from any source or organisation). The most common suggestion to arise related to improving the quality, accuracy and relevance of messages delivered (23%) (e.g. be specific about the locations impacted, ensure the information is specific to the people they are being sent to).

After this, 9% called for more or more frequent warnings while a further 9% suggested earlier warnings. The reader is referred to the adjacent chart for all responses to this question.

7.1.1 Sub-group differences

Younger respondents (<45 years 28%) were more likely than those aged 45 years or older (19%) to suggest improvements related to quality/accuracy/relevance of messages.

Q22. Thinking about the emergency warnings generally, from any source or organisation, how could they be improved?

Base: All respondents n = 400

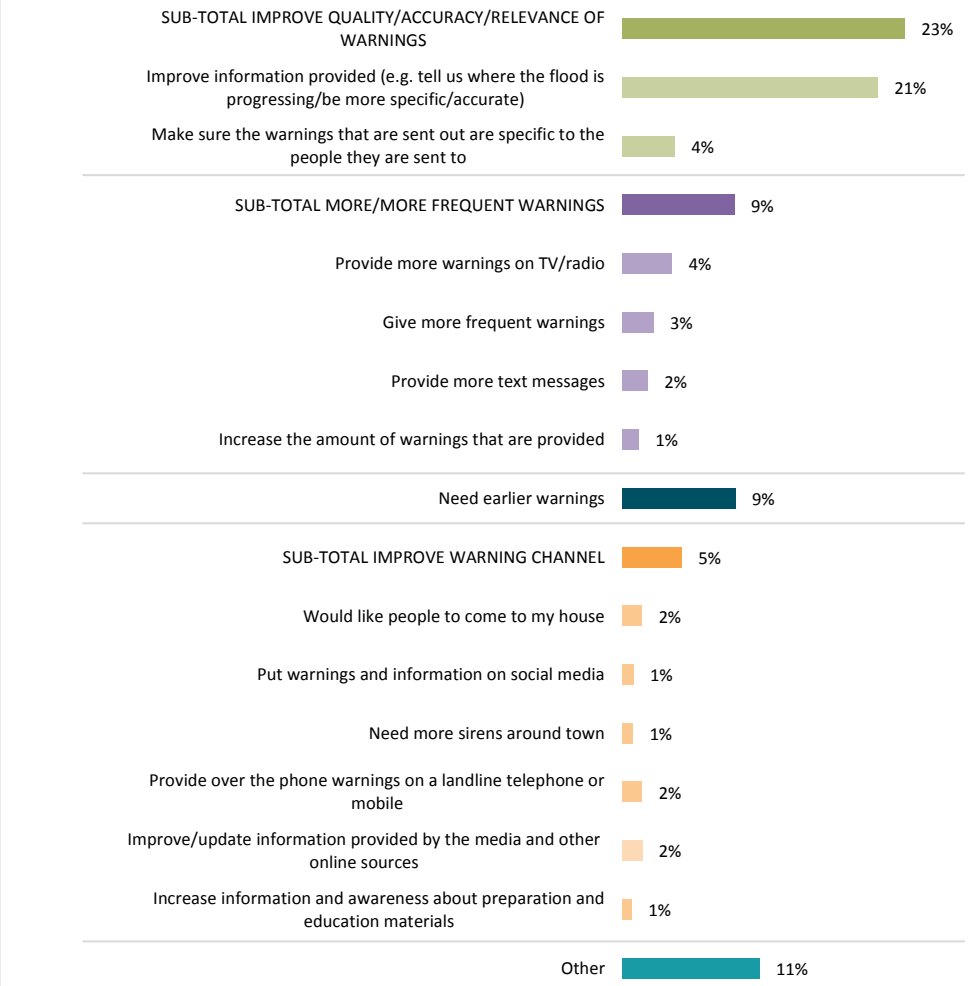


Table: Q22. Thinking about the emergency warnings generally, from any source or organisation, how could they be improved?

Column %	Total - Townsville study area n = 400	GENDER		AGE		EVACUATED HOME	
		Male n = 193	Female n = 207	<45 years n = 178	45+ years n = 222	Yes n = 64	No n = 336
SUB-TOTAL IMPROVE QUALITY/ACCURACY/RELEVANCE OF WARNINGS	23%	21%	25%	28% ↑	19% ↓	33%	21%
Improve information provided (e.g. tell us where the flood is progressing/be more specific/accurate) (e.g. the quality/clarity of information provided)	21%	19%	22%	25%	17%	29%	19%
Make sure the warnings that are sent out are specific to the people they are sent to	4%	2%	6%	5%	4%	8%	4%
SUB-TOTAL MORE/MORE FREQUENT WARNINGS	9%	7%	11%	9%	9%	10%	9%
Provide more warnings on TV/radio	4%	2% ↓	6% ↑	3%	5%	3%	4%
Give more frequent warnings	3%	2%	3%	4%	1%	2%	3%
Provide more text messages	2%	2%	2%	2%	3%	2%	2%
Increase the amount of warnings that are provided	1%	1%	1%	1%	2%	4%	1%
Need earlier warnings	9%	8%	11%	10%	9%	8%	10%
SUB-TOTAL IMPROVE WARNING CHANNEL	5%	6%	4%	3%	6%	3%	5%
Would like people to come to my house	2%	1%	2%	<1%	3%	1%	2%
Put warnings and information on social media	1%	1%	1%	1%	1%		1%
Need more sirens around town	1%	1%	1%	1%	1%	1%	1%
Provide over the phone warnings on a landline telephone or mobile	2%	3%	<1%	2%	1%	1%	2%
Other							
Improve/update information provided by the media and other online sources (e.g. more accurate information, update websites etc)	2%	1%	2%	1%	2%	3%	1%
Improve the amount of information people receive about being prepared for a disaster (e.g. what warning systems are available/how to prepare your home) and make people aware of the educational material available	1%	1%	<1%	1%	1%	1%	1%
Other	11%	12%	11%	9%	13%	19%	10%

Study Area 1 - Townsville; Weighted

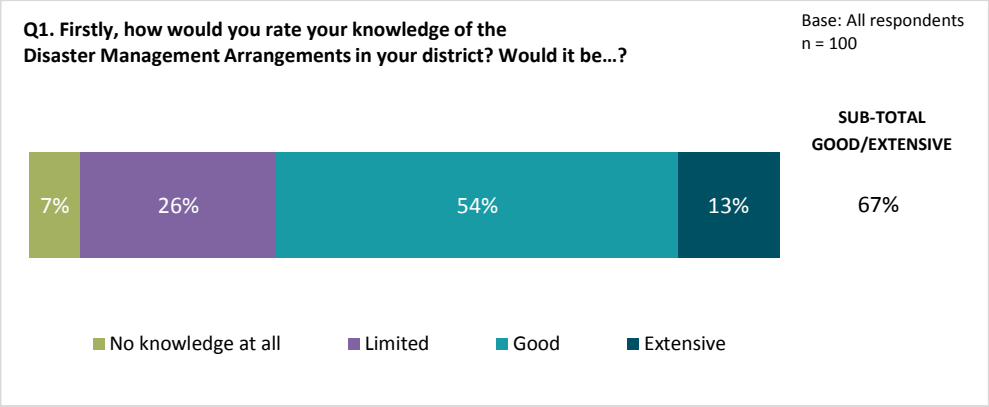
↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

Findings: Study Area 2 - Western

1.0 Community engagement

1.1 Knowledge of Disaster Management Arrangements

67% of respondents in the Western study area rated their knowledge of Disaster Management Arrangements as extensive (13%) or good (54%), 26% considered their knowledge to be limited while 7% admitted to having no knowledge at all.



1.1.1 Sub-group differences

Knowledge of Disaster Management Arrangements was highest among primary producers (78% extensive/good, 64% among non-primary producers).

Table: Q1. Firstly, how would you rate your knowledge of the Disaster Management Arrangements in your district? Would it be…?

Column %	Total - Western study area n = 100	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
SUB-TOTAL EXTENSIVE/GOOD	67%	72%	61%	71%	63%	100%	66%	78%	64%
Extensive	13%	16%	11%	7%	19%		14%	10%	14%
Good	54%	56%	50%	64%	44%	100%	52%	68%	50%
Limited	26%	22%	31%	26%	26%		27%	22%	27%
No knowledge at all	7%	6%	7%	3%	11%		7%		9%
Don't know									

Study Area 2 - Western; Weighted; ^ Caution: small cell size

1.2 Organisation perceived to be responsible for Disaster Management Arrangements

Respondents were asked to nominate, without prompting, the organisation(s) they believed to be responsible for Disaster Management generally in their district. Eight in ten (78%) nominated their local council, this being by far the most commonly mentioned entity. Other entitites were mentioned by fewer than 10% of respondents: SES (9%), family or friends (6%), QPS (5%), QFES (5%), LDMG (5%).

1.2.1 Sub-group differences

Nine in ten primary producers (89%) nominated their local council as being responsible for Disaster Management (compared with 76% among non-primary producers).

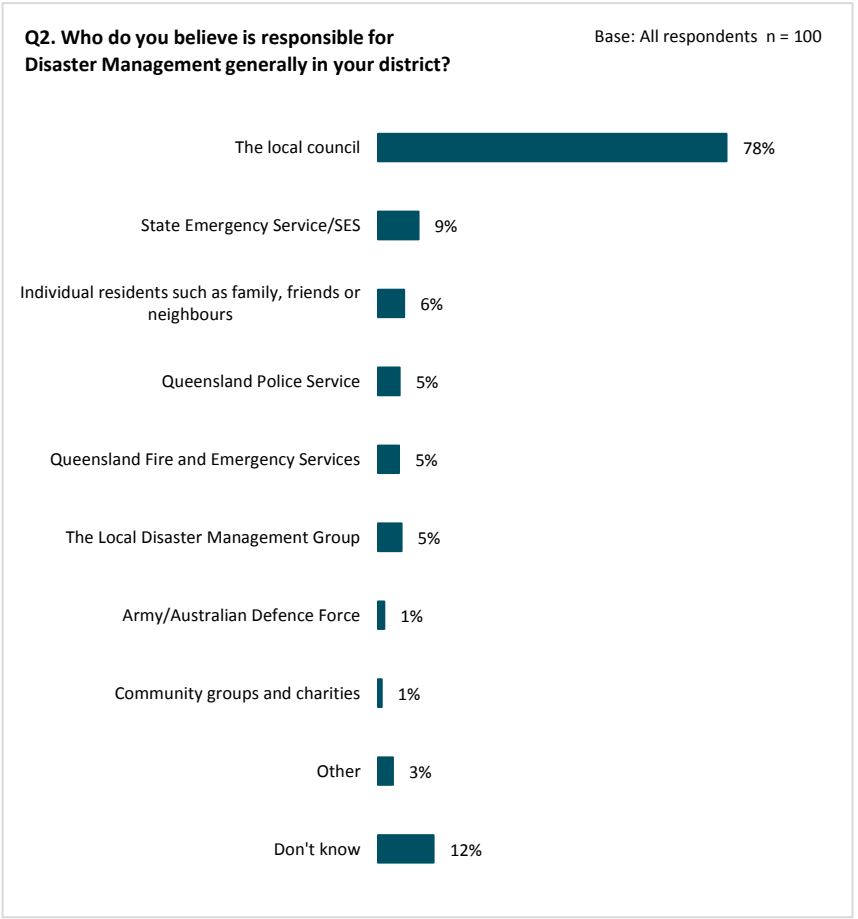


Table: Q2. Who do you believe is responsible for Disaster Management generally in your district?

Column %	Total - Western study area n = 100	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
The local council	78%	75%	83%	83%	74%	100%	77%	89%	76%
State Emergency Service/SES	9%	7%	11%	8%	10%		9%	22%	6%
Queensland State Government									
Individual residents such as family, friends or neighbours	6%	8%	3%	7%	5%		6%	6%	6%
Queensland Police Service	5%	6%	3%	3%	7%		5%		6%
Queensland Fire and Emergency Services	5%	4%	6%	3%	7%		5%	3%	5%
The Local Disaster Management Group	5%	8%	2%	8%	2%		6%		7%
Army/Australian Defence Force	1%		3%	3%			1%		2%
Community groups and charities	1%		2%	2%		20%			1%
SunWater									
Federal Government									
Service Clubs									
Other	3%	5%	1%		6% ↑		3%	5%	3%
Don't know	12%	12%	13%	8%	16%		13%	6%	14%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

1.3 Awareness and knowledge of the Local Disaster Management Group

62% of respondents in the Western study area were aware of the Local Disaster Management Group (LDMG).

Those aware of the LDMG were asked to describe in their own words what the LDMG is responsible for. Coordinating and organising recovery or clean-up efforts after an emergency was the most common responsibility associated with the group (55%). This was followed by coordination of services such as police, fire and rescue and ambulance during an emergency (41%) or planning for emergencies (40%). Broadcasting warnings (20%) or ensuring community safety (3%) were less commonly mentioned.

46% of all respondents said they would know how to contact their LDMG if they needed to.

1.3.1 Sub-group differences

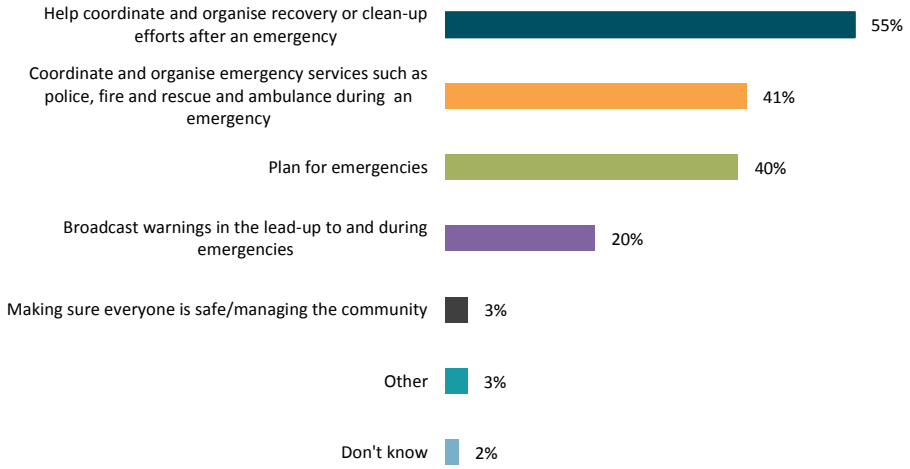
Younger respondents (<45 years 58%) were more likely than those aged 45 years or older (35%) to know how to contact their LDMG.

Q2a. Before today had you heard of the Local Disaster Management Group? It may also be known as the Local Emergency Management Group?

Base: All respondents
n = 100

Q2b. To the best of your knowledge, what is the Local Disaster or Emergency Management Group responsible for? What do they do

Base: those aware of the LDMG
n = 63



Q2c. If you needed to contact your Local Disaster or the Emergency Management Group, would you know how to do this?

Base: All respondents
n = 100

Table: Q2a. Before today had you heard of the Local Disaster Management Group? It may also be known as the Local Emergency Management Group?

Column %	**Total - Western study area n = 100**	**GENDER**		**AGE**		**EVACUATED**		**PRIMARY PRODUCER**	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
Yes	62%	62%	62%	62%	63%	57%	62%	68%	61%
No	38%	38%	38%	38%	37%	43%	38%	32%	39%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

Table: Q2b. To the best of your knowledge, what is the Local Disaster or Emergency Management Group responsible for? What do they do?

Column %	**Total - Western study area n = 63**	**GENDER**		**AGE**		**EVACUATED**		**PRIMARY PRODUCER**	
		Male n = 26^	Female n = 37	<45 years n = 21^	45+ years n = 42	Yes n = 2^	No n = 61	Yes n = 14^	No n = 49
Help coordinate and organise recovery or clean-up efforts after an emergency	55%	53%	58%	66%	46%	60%	55%	69%	52%
Coordinate and organise emergency services such as police, fire and rescue and ambulance during an emergency	41%	48%	32%	49%	33%	40%	41%	43%	40%
Plan for emergencies	40%	42%	37%	37%	42%	40%	40%	25%	44%
Broadcast warnings in the lead-up to and during emergencies	20%	23%	17%	26%	15%		21%	10%	23%
Making sure everyone is safe/managing the community	3%	6%		6%			3%		4%
Other	3%	4%	2%		6%		3%		4%
Don't know	2%		4%		3%		2%		2%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

Table: Q2c. If you needed to contact your Local Disaster or Emergency Management Group, would you know how to do this?

Column %	**Total - Western study area n = 100**	**GENDER**		**AGE**		**EVACUATED**		**PRIMARY PRODUCER**	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
Yes	46%	51%	40%	58% ↑	35% ↓	57%	46%	61%	42%
No	54%	49%	60%	42% ↓	65% ↑	43%	54%	39%	58%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

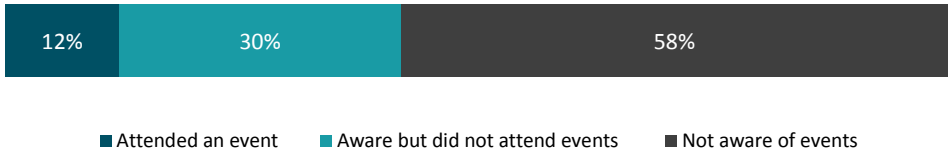
1.4 Awareness of and attendance at community events about disaster management

12% of respondents in the Western study area reported attending a community event, public meeting or presentation about Disaster Management arrangements in their local area in the last few years. A further 30% of residents were aware of such events but had not attended any, while 58% of all residents were unaware of these events.

Among those who attended a community engagement event, the local council (61%) was the organisation most frequently nominated as being present at the event. The SES (47%), QFES (36%) and QPS (31%) were the next most commonly mentioned organisations.

Q3/4a. In the past few years, had you heard about or attended any community events, public meetings or presentations about Disaster Management arrangements in your local area?

Base: All respondents n = 100



Q4b. Which organisations were present at such events?

Base: those who attended events n = 12 (caution small cell size)

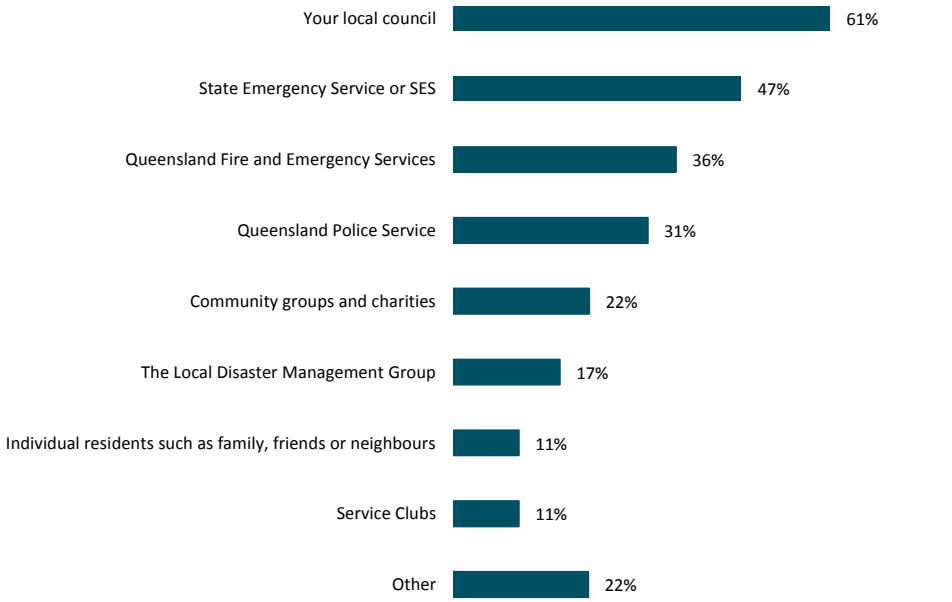


Table: Q3. In the past few years, had you heard about any community events, public meetings or presentations about Disaster Management arrangements in your local area?

Column %	Total - Western study area n = 100	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
Yes	42%	41%	42%	47%	37%	57%	41%	44%	41%
No	58%	59%	58%	53%	63%	43%	59%	56%	59%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

Table: Q4a. Did you attend any of these community events, public meetings or presentations about Disaster Management arrangements?

Column %	Total - Western study area n = 100	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
Yes	12%	12%	12%	16%	9%	34%	11%	28%	8%
No	30%	29%	30%	32%	28%	23%	30%	16%	33%
Not aware of any events	58%	59%	58%	53%	63%	43%	59%	56%	59%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

Table: Q4b. Which organisation or organisations were present at such events?

Column %	**Total - Western study area n = 12^**	**GENDER**		**AGE**		**EVACUATED**		**PRIMARY PRODUCER**	
		Male n = 5^	Female n = 7^	<45 years n = 6^	45+ years n = 6^	Yes n = 1^	No n = 11^	Yes n = 6^	No n = 6^
Your local council	61%	61%	60%	61%	61%	100%	56%	52%	68%
State Emergency Service or SES	47%	52%	40%	45%	49%		53%	41%	51%
Queensland Fire and Emergency Services	36%	33%	40%	28%	49%		41%	41%	32%
Queensland Police Service	31%	33%	29%	28%	37%		35%	31%	32%
Community groups and charities	22%	19%	25%	36%		100%	12%	25%	19%
The Local Disaster Management Group	17%	19%	15%	17%	17%		19%		32%
Individual residents such as family, friends or neighbours	11%	19%		17%			12%		19%
Service Clubs	11%	19%		17%			12%		19%
Other	22%	19%	25%	11%	39%		25%	33%	12%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

2.0 Flood Risk

2.1 Enquires made about flood risk and satisfaction with flood risk

22% of residents in the Western study area said they had enquired about the risk of flood to their property in the past few years. The most commonly consulted groups or organisations were other individual residents such as family, friends or neighbours (16%) or the local council (11%). The reader is referred to the adjacent chart for all responses.

Satisfaction with the information provided by these organisations was high (at least nine in ten were satisfied). All responses are detailed at Table Q6 on pages 74-75.

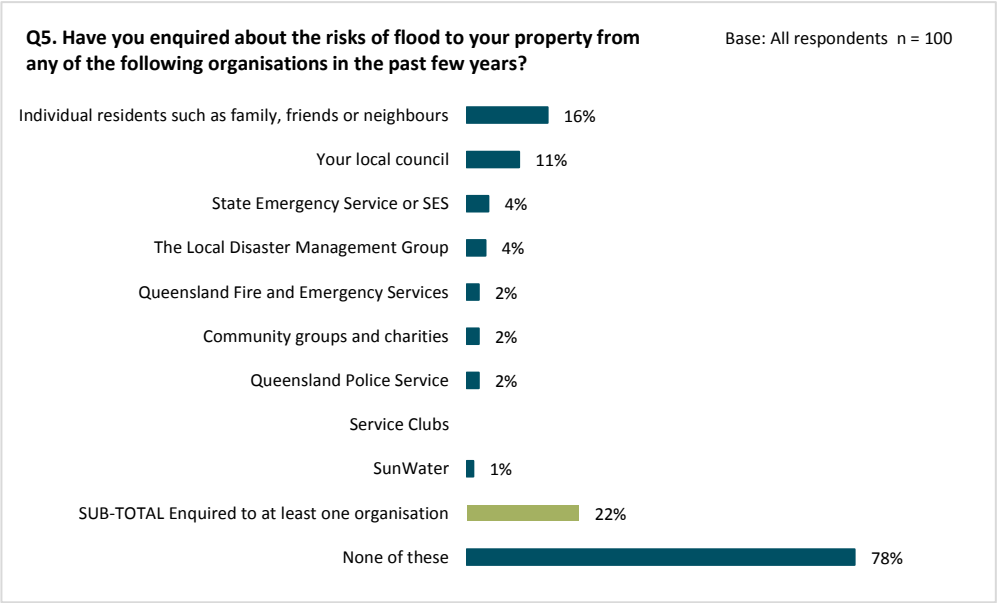


Table: Q5. Have you enquired about the risks of flood to your property from any of the following organisations in the past few years?

Column %	**Total - Western study area n = 100**	**GENDER**		**AGE**		**EVACUATED**		**PRIMARY PRODUCER**	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
Individual residents such as family, friends or neighbours	16%	10%	23%	21%	12%	57%	14%	10%	18%
Your local council	11%	12%	9%	16%	5%		11%	7%	11%
State Emergency Service or SES	4%	3%	6%	7%	2%		5%		6%
The Local Disaster Management Group	4%	7%		8%			4%		5%
Queensland Fire and Emergency Services	2%	3%	1%	4%	1%		3%		3%
Community groups and charities	2%	3%	1%	4%	1%		3%		3%
Queensland Police Service	2%	3%	1%	4%	1%		3%	3%	2%
Service Clubs									
SunWater	1%		3%	3%			1%		2%
SUB-TOTAL Enquired to at least one organisation	22%	15%	31%	30%	15%	57%	21%	17%	24%
None of these	78%	85%	69%	70%	85%	43%	79%	83%	76%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

Table: Q6. How satisfied were you with the information provided by… Were you…

Column %		Total - Western study area	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
			Male	Female	<45 years	45+ years	Yes	No	Yes	No
Your local council (n = 9^)	Very satisfied	32%	43%	14%	24%	57%		32%	41%	31%
	Satisfied	55%	57%	50%	58%	43%		55%	59%	54%
	SUB-TOTAL SATISFIED	87%	100%	64%	82%	100%		87%	100%	85%
	Not satisfied	13%		36%	18%			13%		15%
	Don't know									
The Local Disaster Management Group (n = 2^)	Very satisfied	50%	50%		50%			50%		50%
	Satisfied	50%	50%		50%			50%		50%
	SUB-TOTAL SATISFIED	100%	100%		100%			100%		100%
	Not satisfied									
	Don't know									
SunWater (n = 1^)	Very satisfied	100%		100%	100%			100%		100%
	Satisfied									
	SUB-TOTAL SATISFIED	100%		100%	100%			100%		100%
	Not satisfied									
	Don't know									
Queensland Police Service (n = 2^)	Very satisfied									
	Satisfied	100%	100%	100%	100%	100%		100%	100%	100%
	SUB-TOTAL SATISFIED	100%	100%	100%	100%	100%		100%	100%	100%
	Not satisfied									
	Don't know									
Queensland Fire and Emergency Services (n = 2^)	Very satisfied									
	Satisfied	100%	100%	100%	100%	100%		100%		100%
	SUB-TOTAL SATISFIED	100%	100%	100%	100%	100%		100%		100%
	Not satisfied									
	Don't know									

Study Area 2 - Western; Weighted; ^ Caution: small cell size

*Table: Q6. How satisfied were you with the information provided by… Were you… (**continued**)*

Column %		Total - Western study area	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
			Male	Female	<45 years	45+ years	Yes	No	Yes	No
State Emergency Service or SES (n = 4^)	Very satisfied	32%		55%	42%			32%		32%
	Satisfied	68%	100%	45%	58%	100%		68%		68%
	SUB-TOTAL SATISFIED	100%	100%	100%	100%	100%		100%		100%
	Not satisfied									
	Don't know									
Individual residents such as family, friends or neighbours (n = 16^)	Very satisfied	74%	50%	87%	68%	85%	100%	70%	100%	70%
	Satisfied	26%	50%	13%	32%	15%		30%		30%
	SUB-TOTAL SATISFIED	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Not satisfied									
	Don't know									
Community groups and charities (n = 2^)	Very satisfied									
	Satisfied	100%	100%	100%	100%	100%		100%		100%
	SUB-TOTAL SATISFIED	100%	100%	100%	100%	100%		100%		100%
	Not satisfied									
	Don't know									

Study Area 2 - Western; Weighted; ^ Caution: small cell size

2.2 Confidence in personal understanding of flood risk

94% of respondents in the Western study area felt confident in their understanding of the flood risk to their property (59% very confident, 34% confident).

2.2.1 Sub-group differences

Those aged under 45 years (98%) were more likely than the older cohort (45+ years 89%) to feel confident in their level of understanding of the flood risk to their property.

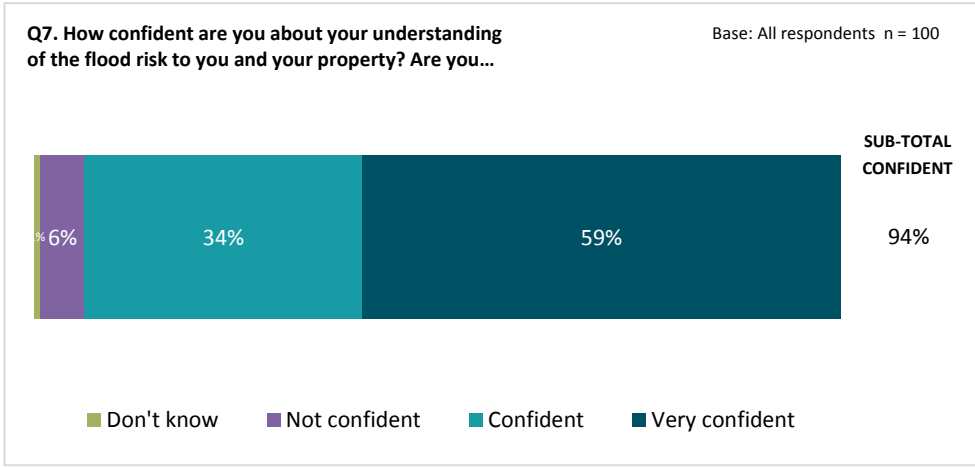


Table: Q7. How confident are you about your understanding of the flood risk to you and your property? Are you…

Column %	Total - Western study area n = 100	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
Very confident	59%	59%	60%	55%	64%	57%	59%	67%	57%
Confident	34%	37%	31%	44%	26%	43%	34%	29%	36%
SUB-TOTAL CONFIDENT	94%	96%	91%	98% ↑	89% ↓	100%	93%	96%	93%
Not confident	6%	4%	7%		11% ↑		6%		7%
Don't know	1%		2%	2%			1%	4%	

Study Area 2 - Western; Weighted; ^ Caution: small cell size

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

2.3 Confidence in being prepared for and knowing how to respond to future flooding events

94% of Western study area respondents were found to be confident in regards to being prepared for and knowing how to respond to flooding events in the future (53% very confident, 41% confident).

2.3.1 Sub-group differences

Confidence levels were statistically consistent across the age, gender and primary producer status of survey respondents.

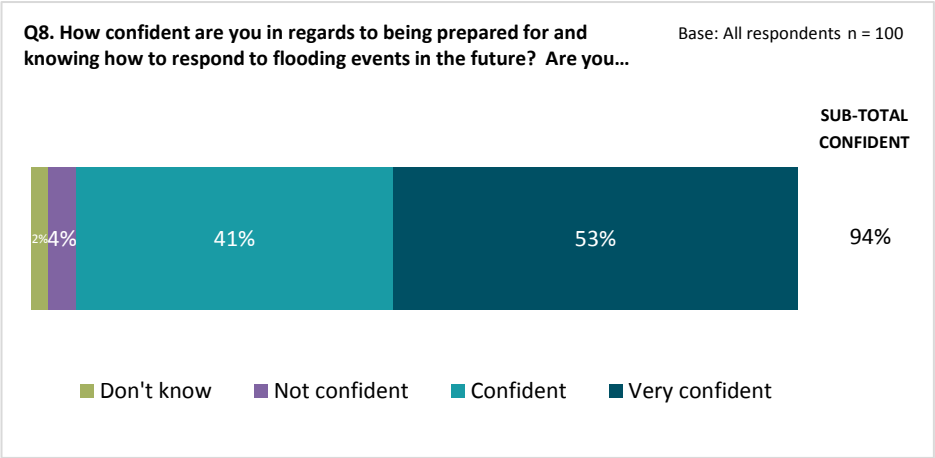


Table: Q8. How confident are you in regards to being prepared for and knowing how to respond to flooding events in the future? Are you…

Column %	Total - Western study area n = 100	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
Very confident	53%	58%	47%	51%	54%	57%	53%	73%	48%
Confident	41%	37%	47%	44%	39%	43%	41%	16%	48%
SUB-TOTAL CONFIDENT	94%	94%	94%	96%	93%	100%	94%	90%	95%
Not confident	4%	4%	3%	3%	4%		4%	6%	3%
Don't know	2%	2%	3%	2%	3%		2%	4%	2%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

2.4 Awareness of how and where to seek information from river gauges

Two thirds (65%) of Western study area respondents were aware of how to get information from river gauges in their local area.

2.4.1 Sub-group differences

Those aged under 45 years (75%) were more likely than those aged 45 years or older (56%) to be aware of how to get information from river gauges.

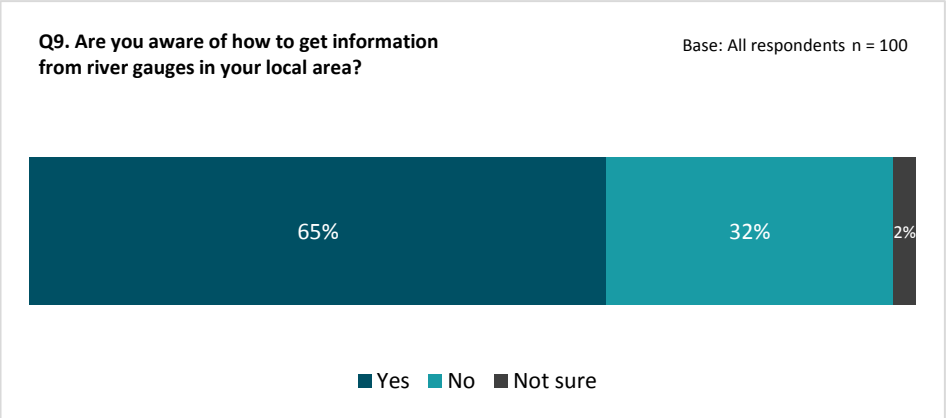


Table: Q9. Are you aware of how to get information from river gauges in your local area?

Column %	Total - Western study area n = 100	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
Yes	65%	73%	55%	75% ↑	56% ↓	57%	65%	74%	63%
No	32%	27%	39%	25%	39%	43%	32%	24%	35%
Not sure	2%		6%		5%		3%	3%	2%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

2.5 Awareness of flood terms

Respondents were prompted with four flooding-related terms and asked which, if any, they had previously heard of. A 'one-in-100 year-flood' was the most widely recalled term (82% of respondents in the Western study area were aware of this terminology). 59% reported awareness of the 'one-in-500-year flood' reference. By comparison, awareness was lower for the 'Q100' (13%) or 'Q500' (12%) terms.

2.5.1 Sub-group differences

Females (20%) were more likely than males (2%) to not be aware of any of the tested flooding-related terms.

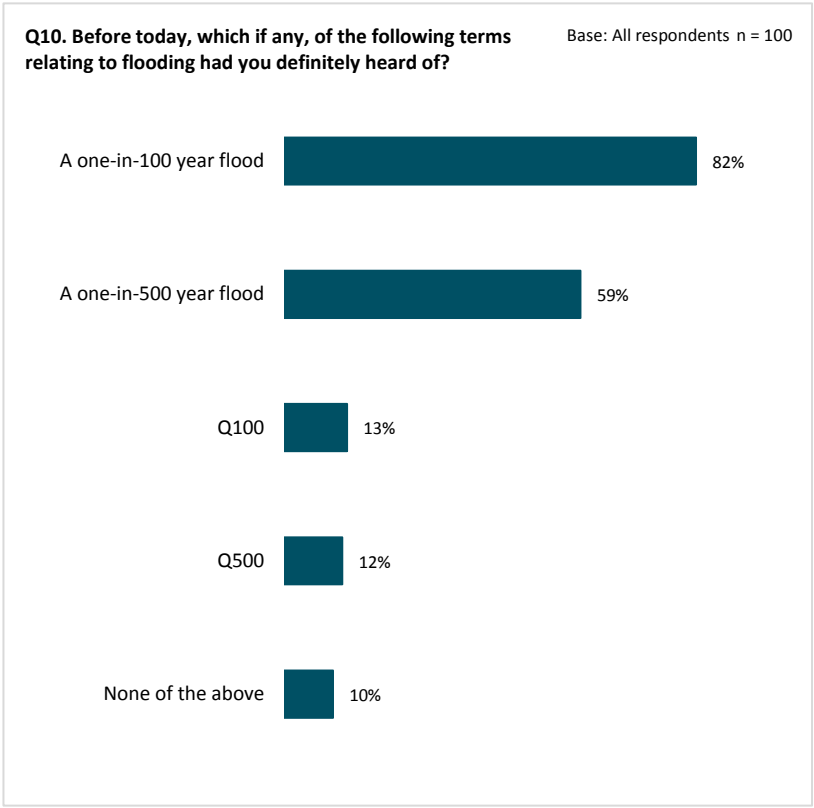


Table: Q10. Before today, which if any of the following terms relating to flooding had you definitely heard of?

Column %	**Total - Western study area n = 100**	**GENDER**		**AGE**		**EVACUATED**		**PRIMARY PRODUCER**	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
A one-in-100 year flood	82%	89%	74%	75%	89%	80%	82%	85%	82%
A one-in-500 year flood	59%	74% ↑	42% ↓	64%	55%	77%	59%	48%	62%
Q100	13%	18%	6%	10%	15%		13%	15%	12%
Q500	12%	17%	5%	7%	16%		12%	15%	11%
None of the above	10%	2% ↓	20% ↑	12%	8%		10%	15%	8%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

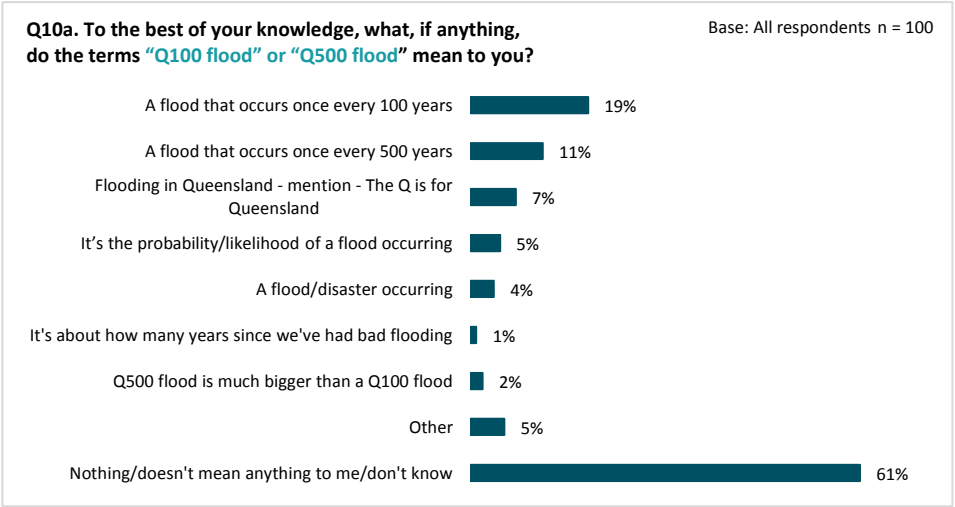
2.6 Meaning of flood terms

All respondents were asked what the terms 'Q100' and 'Q500' meant to them, with the most common interpretation being related to frequency of flooding (e.g. a flood that occurs every 100 years/500 years 19%/11%). 61% of Western study area respondents were unable to articulate a meaning for these terms.

The main interpretation of the terms 'one-in-100/500 year flood' were a flood that occurs every 100 years/500 years (45%, 40%). A further 12% interpreted these terms to mean the probability of a flood is one-in-100/500 while 10% commented that the terms were referring to a very rare or large flood. 14% were unable to provide a meaning for the 'one-in-100/500 year flood' terms.

2.6.1 Sub-group differences

Females (21%) were more likely than males (7%) to be unsure about the meaning of the 'one-in-100/500 year flood' terms.



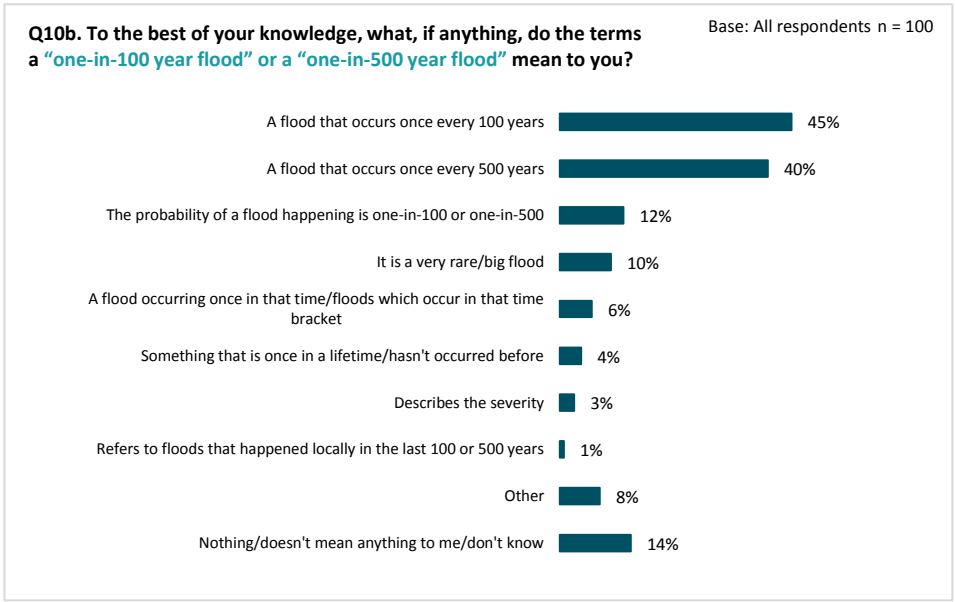


*Table: Q10a. To the best of your knowledge, what, if anything, do the terms **"Q100 flood"** or **"Q500 flood"** mean to you?*

Column %	Total - Western study area n = 100	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
A flood that occurs once every 100 years	19%	20%	17%	20%	17%		19%	24%	17%
A flood that occurs once every 500 years	11%	9%	14%	13%	10%		12%	15%	10%
Flooding in Queensland - mention - The Q is for Queensland	7%	2% ↓	13% ↑	10%	4%		7%	6%	8%
It's the probability/likelihood of a flood occurring	5%	3%	6%	9%	1%		5%	12%	3%
A flood/disaster occurring	4%	6%	1%	3%	5%		4%	5%	3%
It's about how many years since we've had bad flooding	1%	2%			2%		1%	5%	
Q500 flood is much bigger than a Q100 flood	2%	3%		4%			2%		2%
Other	5%	5%	6%	7%	4%	23%	5%	7%	5%
Nothing/doesn't mean anything to me/don't know	61%	60%	63%	51%	71%	77%	61%	46%	65%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

*Table: Q10b. To the best of your knowledge, what, if anything, do the terms a **"one-in-100 year flood"** or a **"one-in-500 year flood"** mean to you?*

Column %	Total - Western study area n = 100	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
A flood that occurs once every 100 years	45%	50%	38%	51%	39%		47%	45%	45%
A flood that occurs once every 500 years	40%	47%	32%	49%	31%		42%	38%	41%
The probability of a flood happening is one-in-100 or one-in-500	12%	10%	15%	19%	7%		13%	9%	13%
It is a very rare/big flood	10%	10%	9%	8%	11%	34%	9%	13%	9%
A flood occurring once in that time/floods which occur in that time bracket	6%	6%	7%	4%	8%	23%	5%	6%	6%
Something that is once in a lifetime/hasn't occurred before	4%	7%		7%	2%		4%		5%
Describes the severity	3%	4%	1%		5%		3%		3%
Refers to floods that happened locally in the last 100 or 500 years	1%		2%		2%		1%		1%
Other	8%	7%	8%	3%	12%		8%	6%	8%
Nothing/doesn't mean anything to me/don't know	14%	7% ↓	21% ↑	8%	19%	43%	12%	21%	12%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

3.0 Impact of event

3.1 Personal impact of flooding event in February 2019

Close to nine in ten respondents in the Western study area (88%) nominated at least one impact they personally experienced as a result of the flood in early 2019, with the most commonly reported impacts being:

- Home damage (37%)
- Loss of income (20%)
- Livestock destroyed or lost (18%)
- Property damage (non-home) (16%).

3.1.1 Sub-group differences

Those aged under 45 years (96%) were more likely than those aged 45 years or older (81%) to report at least one impact.

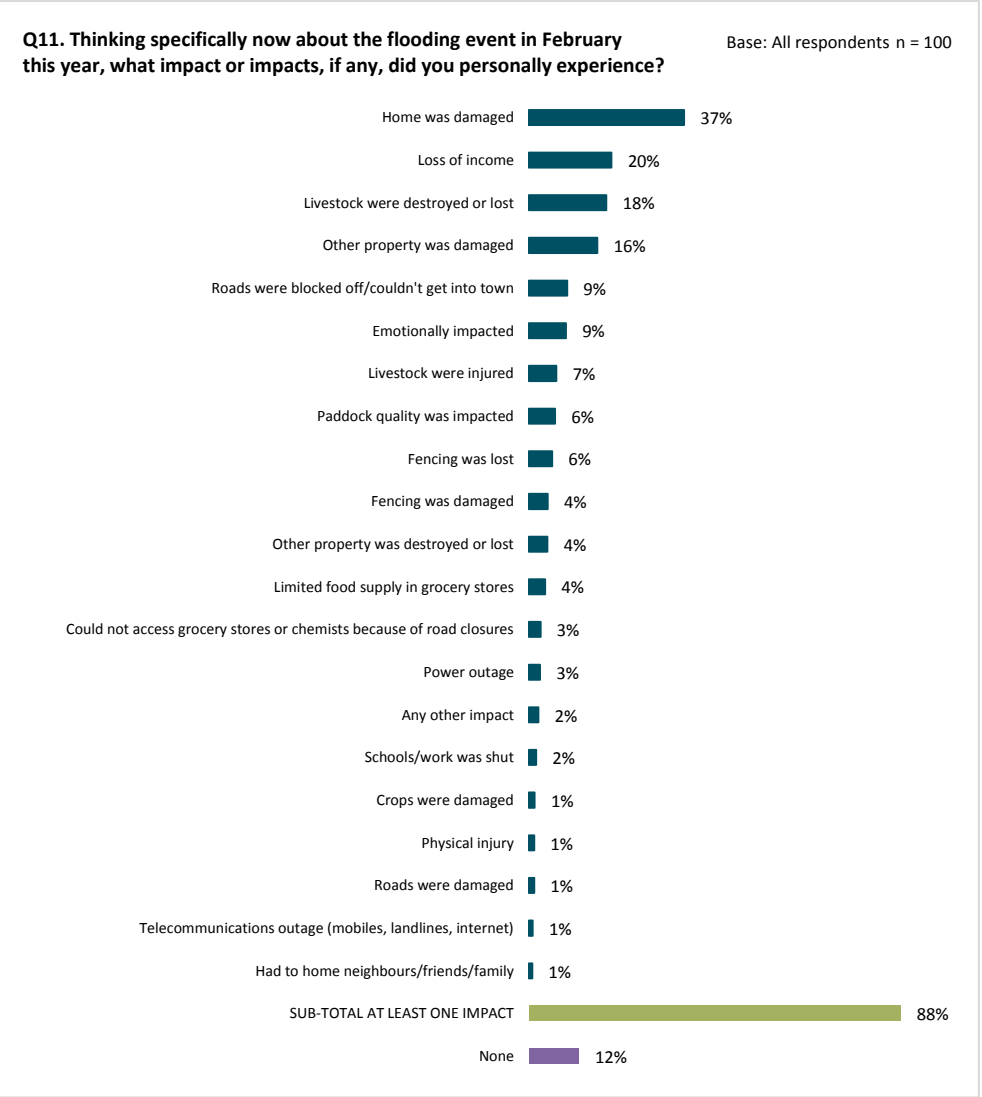


Table: Q11. Thinking specifically now about the flooding event in February this year, what impact or impacts, if any, did you personally experience?

Column %	**Total - Western study area n = 100**	**GENDER**		**AGE**		**EVACUATED**		**PRIMARY PRODUCER**	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
Home was damaged	37%	36%	37%	40%	34%	43%	37%	13%	43%
Loss of income	20%	24%	15%	21%	18%		20%	15%	21%
Livestock were destroyed or lost	18%	18%	19%	19%	18%	34%	18%	65%	7%
Other property was damaged	16%	23% ↑	8% ↓	10%	22%	23%	16%	6%	19%
Roads were blocked off/couldn't get into town	9%	7%	11%	16% ↑	3% ↓	23%	9%	11%	9%
Emotionally impacted	9%	7%	11%	8%	9%	34%	8%	14%	8%
Livestock were injured	7%	3%	10%	5%	8%		7%	22%	3%
Paddock quality was impacted	6%	2%	11%	6%	6%		6%	21%	3%
Fencing was lost	6%	4%	7%	2%	9%		6%	28%	
Fencing was damaged	4%	2%	8%	3%	6%		5%	11%	3%
Other property was destroyed or lost	4%	4%	5%	7%	2%	20%	4%	6%	4%
Limited food supply in grocery stores	4%	3%	4%	7%	1%		4%		5%
Could not access grocery stores or chemists because of road closures	3%		6%	6%			3%		3%
Power outage	3%	2%	3%	6%			3%		3%
Any other impact	2%	2%	3%		4%		2%		3%
Schools/work was shut	2%	2%	2%	2%	2%		2%		2%
Crops were damaged	1%		3%	3%			1%		2%
Physical injury	1%	2%		3%			1%		2%
Roads were damaged	1%	2%		3%			1%	6%	
Telecommunications outage (mobiles, landlines, internet)	1%	2%			2%		1%		1%
Had to home neighbours/friends/family	1%		2%	2%			1%		1%
SUB-TOTAL AT LEAST ONE IMPACT	88%	89%	87%	96% ↑	81% ↓	100%	88%	93%	87%
None	12%	11%	13%	4% ↓	19% ↑		12%	7%	13%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

3.2 Evacuation process in February 2019

4% of respondents in the Western study area reported evacuating their home during the recent flood event. None of the four respondents who evacuated used an official evacuation centre (staying instead at the airport or elsewhere on their property away from the main house).

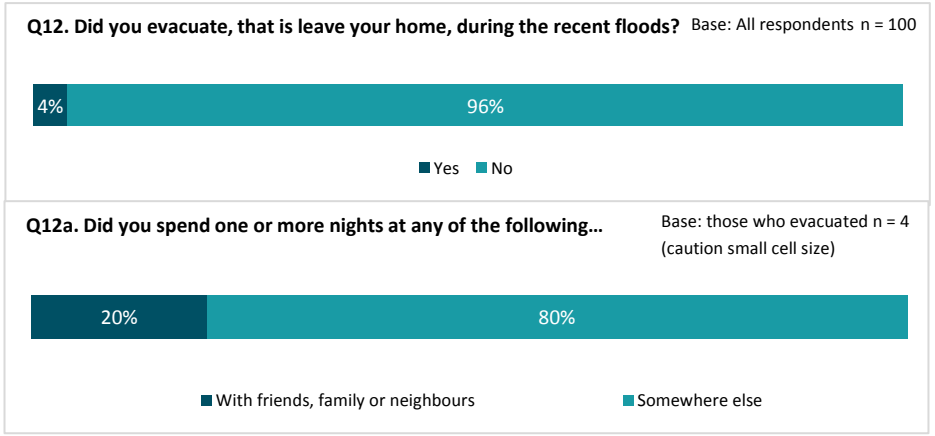


Table: Q12. Did you evacuate, that is leave your home, during the recent floods?

Column %	Total - Western study area n = 100	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
Yes	4%	3%	5%	5%	4%	100%		7%	3%
No	96%	97%	95%	95%	96%		100%	93%	97%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

Table: Q12a. Did you spend one or more nights at any of the following…

Column %	Total - Western study area n = 4^	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
		Male n = 2^	Female n = 2^	<45 years n = 2^	45+ years n = 2^	Yes n = 4^	No n = 0^	Yes n = 1^	No n = 3^
An official evacuation centre									
With friends, family or neighbours	20%		37%	37%		20%			31%
Somewhere else	80%	100%	63%	63%	100%	80%		100%	69%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

Table: Q12a. Did you spend one or more nights at any of the following… (With friends, family or neighbours)

Verbatim	Total - Western study area n = 4^
Nights spent when evacuated home during Feb 2019 flood - With friends, family or neighbours	1 1 night 1 2 nights 1 17 nights 1 12 nights

Study Area 2 - Western; Weighted; ^ Caution: small cell size

4.0 Information sources

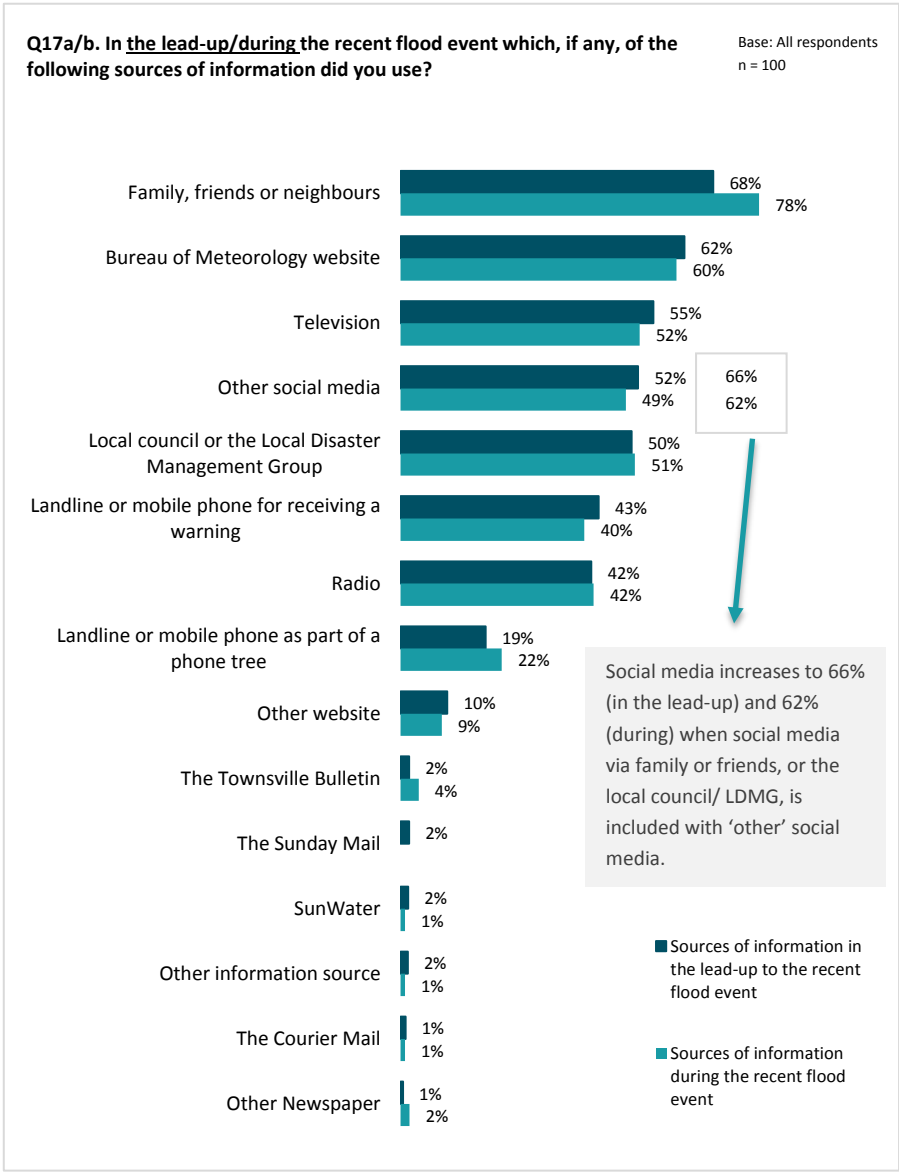
4.1 Information sources used

Respondents in the Western study area were most likely to report consulting family/friends/neighbours (68%) or the Bureau of Meteorology (BOM) website (62%) for information in the lead-up to the flood event in early 2019. Other information sources commonly used in the lead-up were television (55%), the LDMG (50%) or a warning via a landline or mobile telephone (43%).

66% of residents reported using social media (Facebook or other) via at least one source (i.e. from family/friends/neighbours, the council/LDMG, SunWater or any other social media) in the lead-up to the event. The Facebook pages most likely to have been consulted in the lead-up the event were pages by the local council (23%) or the personal pages of family/friends/neighbours (17%). Those aged under 45 years were more likely than average to report using social media for information in the lead-up to the event.

During the event, family/friends/neighbours (78%) were the most common source of information, followed by other social media (62%) (including via family or friends, or the local council/LDMG), BOM website (60%), television (52%) or the LDMG (51%).

In the lead-up to the event, the average number of information sources used was 4.09, compared with 4.14 during the event. Younger people in the Western study area used a greater number of information sources (both in the lead-up to and during the event) than those aged 45 years or older.

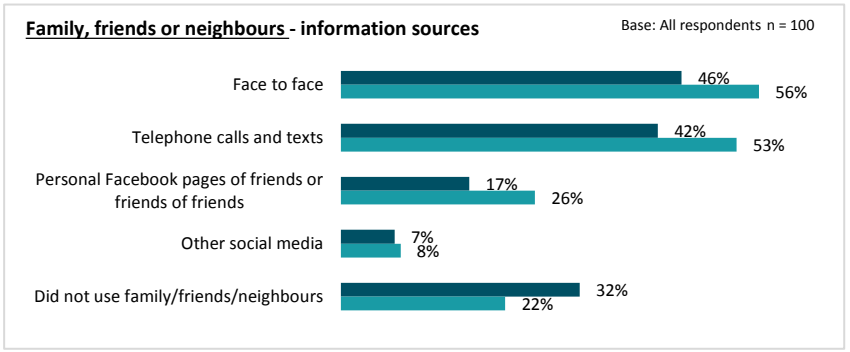


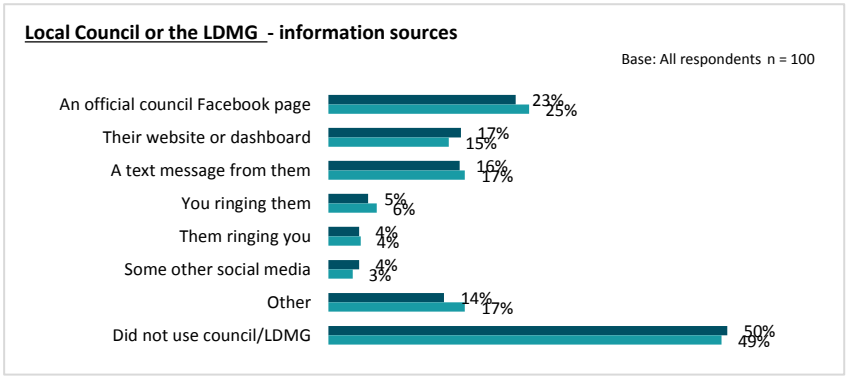
4.1.1 Information channel by source

At least four in ten respondents consulted family, friends or neighbours face-to-face (46% lead-up, 56% during) or via telephone (42% lead-up, 53% during), while 17% used personal Facebook pages in the lead-up to the event and 26% during the event.

Communications with the local council or the LDMG were most likely to have occurred via an official council Facebook page (23% lead-up, 25% during), via a text message (16% lead-up, 17% during) or the council website (17% lead-up, 15% during).

'Other' social media was predominantly Facebook (one mentions Instagram). ABC was the radio station most commonly nominated (minor mention of Mt Isa Radio). ABC and Channel 7 were the most commonly named TV stations (followed by Channel 9, minor mention of Imparja Television). The North Queensland Register, Country Life and The Northern Miner were the three named newspapers. Websites mentioned (other than BOM or council) were Elders Weather Site, Queensland Government, Main Roads and local news stations.





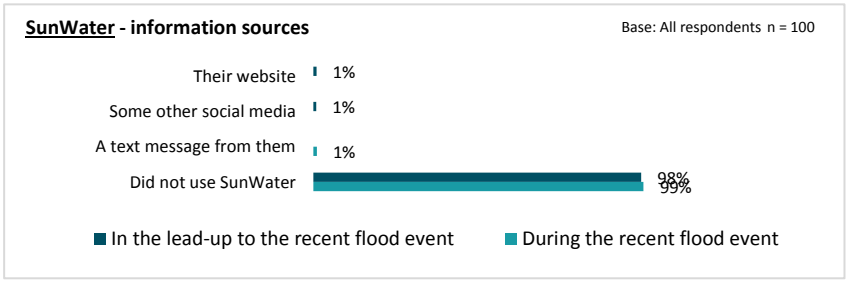


Table: Q17a. In the lead-up to the recent flood event which, if any, of the following sources of information did you use?

Column %	Total - Western study area n = 100	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
Family, friends or neighbours	68%	59% ↓	79% ↑	79% ↑	58% ↓	54%	69%	70%	68%
Bureau of Meteorology website	62%	58%	67%	73% ↑	51% ↓	34%	63%	65%	61%
Television	55%	59%	50%	45%	64%	46%	55%	63%	53%
SUB-TOTAL - ANY SOCIAL MEDIA REFERENCE - LEAD-UP (includes family/friends, council, SunWater and/or other social media)	66%	59%	75%	88% ↑	46% ↓	54%	66%	72%	65%
Other social media	52%	44%	61%	69% ↑	36% ↓		54%	46%	53%
Local council or the Local Disaster Management Group	50%	57%	42%	64% ↑	38% ↓	43%	51%	52%	50%
Landline or mobile phone for receiving a warning	43%	49%	36%	54% ↑	33% ↓		45%	52%	41%
Radio	42%	47%	35%	38%	45%		43%	62%	36%
Landline or mobile phone as part of a phone tree	19%	24%	12%	22%	15%		19%	26%	17%
Other website	10%	12%	9%	10%	11%	34%	9%	10%	10%
The Townsville Bulletin	2%	3%		4%			2%		2%
The Sunday Mail	2%	3%		4%			2%		2%
SunWater	2%	2%	2%	2%	2%	20%	1%		2%
Other information source	2%		4%		3%		2%		2%
The Courier Mail	1%		2%		2%		1%		1%
Other Newspaper	1%		1%		1%		1%	3%	

Study Area 2 - Western; Weighted; ^ Caution: small cell size

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

Table: Q17a. In the lead-up to the recent flood event which, if any, of the following sources of information did you use? (Average number of sources used in LEAD-UP)

Average	Total - Western study area n = 100	GENDER		AGE		EVACUATED HOME		PRIMARY PRODUCER	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
Q17a Average number of sources used in LEAD-UP	4.09	4.16	4.00	4.63 ↑	3.60↓	2.32	4.16	4.50	3.99

Study Area 2 - Western; Weighted; ^ Caution: small cell size

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level.

Table: Q17b. And during the recent flood event which, if any, of the following sources of information did you use?

Column %	Total - Western study area n = 100	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
Family, friends or neighbours	78%	74%	83%	87% ↑	70% ↓	100%	77%	85%	77%
Bureau of Meteorology website	60%	61%	58%	69%	51%	57%	60%	65%	58%
Television	52%	56%	48%	43%	61%	46%	53%	59%	51%
Local council or the Local Disaster Management Group	51%	60%	41%	67% ↑	37% ↓	77%	50%	55%	51%
SUB-TOTAL - ANY SOCIAL MEDIA REFERENCE - DURING (includes family/friends, council, SunWater and/or other social media)	62%	58%	66%	82% ↑	43% ↓	54%	62%	55%	64%
Other social media	49%	43%	57%	68% ↑	32% ↓	20%	51%	34%	53%
Radio	42%	45%	38%	46%	38%	20%	43%	62%	37%
Landline or mobile phone for receiving a warning	40%	48%	30%	49%	31%	23%	41%	56%	36%
Landline or mobile phone as part of a phone tree	22%	28%	15%	28%	17%	20%	22%	30%	20%
Other website	9%	13%	4%	5%	12%		9%	9%	9%
The Townsville Bulletin	4%	7%	1%	8%	1%		5%	9%	3%
Other Newspaper	2%	3%	1%	4%	1%		3%	12%	
The Courier Mail	1%	2%	1%		3%		2%		2%
Other information source	1%		2%		2%		1%		1%
SunWater	1%		2%	2%		20%			1%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level

Table: Q17b. And during the recent flood event which, if any, of the following sources of information did you use?

Average	Total - Western study area n = 100	GENDER		AGE		EVACUATED HOME		PRIMARY PRODUCER	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
Q17a Average number of sources used in LEAD-UP	4.14	4.39	3.82	4.76 ↑	3.56↓	3.83	4.15	4.77	3.98

Study Area 2 - Western; Weighted; ^ Caution: small cell size

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level

5.0 Text message warnings

To facilitate accurate respondent recall of text messages received, wherever possible, respondents were asked to read out the message(s) directly from their mobile phone to the interviewer. Prior to checking their mobile phone, 23 respondents stated that they had received a text message from either the local council (12 people) and/or the Local Disaster Management Group (12 people).

Of those, 4 people believed they had the message(s) retained on their mobile phone. These respondents were then asked to read-out the message(s).

The survey only measured text messages received from the local council or the Local Disaster or Emergency Management Group.

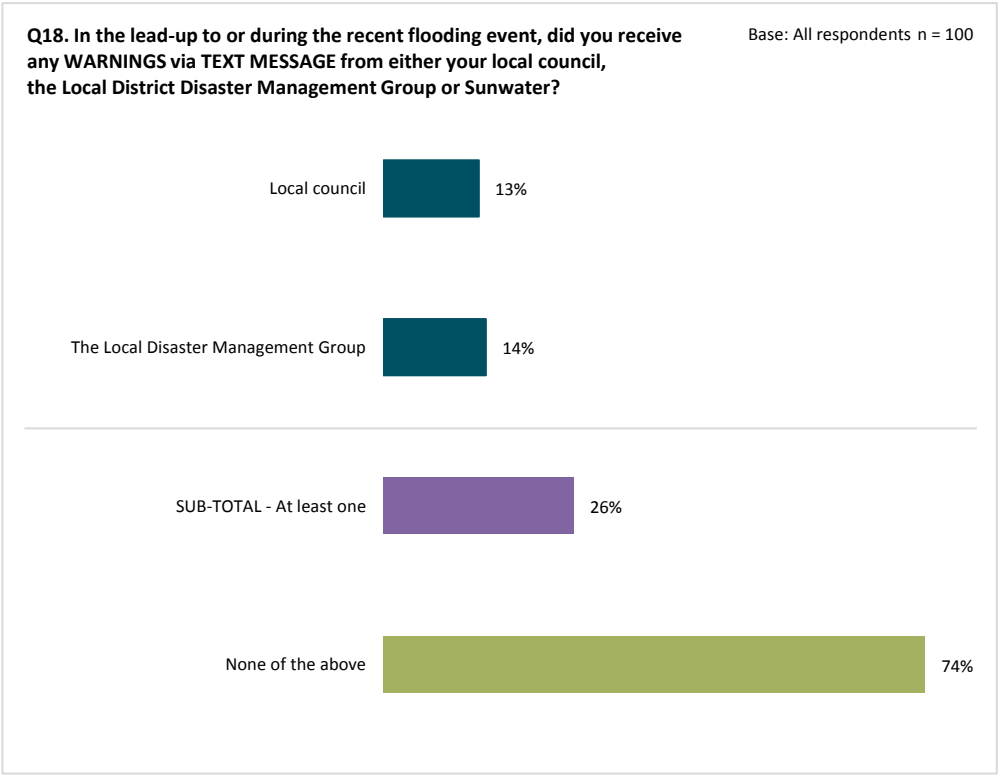
5.1 Warnings received via text message

26% of all respondents in the Western study area reported they received at least one warning via text message from either the local council (13%) and/or the Local Disaster Management Group (14%).

19% of those who received a message had at least one of these messages saved.

Four messages were (thought to be) received from the LDMG, one message was (thought to be) received from a local council. All messages were rated as easy to understand (they were considered easy to read, used basic language and were informative).

Respondents were asked to read the text messages received. They are detailed below as stated by respondents.



The message thought to be from local council was:

- Flood advice message from QSES for Flinders River in Hughenden. Ernest Henry Bridge expected to flood. Bridge will be closed.

Messages thought to be from the Local Disaster or Emergency Management group were:

- Flinders LDMG watch. Flood Northside of Flinders River expected. Warn others and leave area if required. Seek higher ground
- Flinders LDMG flood advice. For Flinders River in Hughenden. Ernest Henry Bridge expected to flood. Bridge will be closed
- Expect the flood bridge to be closed
- Flinders LDMG flood advice. Ernest Henry Bridge expected to flood. Bridge will be closed.

Table: Q18. In the lead-up to or during the recent flooding event, did you receive any WARNINGS via TEXT MESSAGE from either your local council, the Local District Disaster Management Group or Sunwater?

Column %	**Total - Western study area n = 100**	**GENDER**		**AGE**		**EVACUATED**		**PRIMARY PRODUCER**	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
Local council	13%	12%	14%	15%	11%		13%	11%	13%
The Local Disaster Management Group	14%	16%	12%	20%	9%	23%	14%	14%	14%
SUB-TOTAL - At least one	26%	28%	24%	35%	18%	23%	27%	25%	27%
None of the above	74%	72%	76%	65%	82%	77%	73%	75%	73%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

Table: Q19a. I'd now like to ask some specific questions about the text messages you received. Did you save any or all of those messages?

Column %	**Total - Western study area n = 23^**	**GENDER**		**AGE**		**EVACUATED**		**PRIMARY PRODUCER**	
		Male n = 11^	Female n = 12^	<45 years n = 12^	45+ years n = 11^	Yes n = 1^	No n = 22^	Yes n = 5^	No n = 18^
Yes	19%	12%	27%	24%	9%		19%	32%	15%
No	81%	88%	73%	76%	91%	100%	81%	68%	85%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

Table: Q20c/a. Overall, was the warning message easy or hard to understand/who was it from?

Column %	**Local council n = 1^**	**Local Disaster or Emergency Management group n = 4^**
Message easy to understand	100%	100%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

5.2 Text message warning referred elsewhere

Of the two messages that referred the user elsewhere, one respondent reported going to this source for more information and thought the message about where to go was specific enough.

Table: Q20e/a. Did the message refer you somewhere else for more information?

Column %	**Local council n = 1^**	**Local Disaster or Emergency Management group n = 4^**
Yes		50%
No	100%	50%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

Table: Q20f. If yes at (e) - Did you go to this source for more information?

Column %	**Local Disaster or Emergency Management group n = 2^**
Yes	70%
No	30%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

Table: Q20g. If yes at (f) - Was the message about where to go for more information specific enough?

Column %	**Local Disaster or Emergency Management group n = 1^**
Yes	100%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

6.0 Perceived effectiveness of communication channels for receiving warnings

Respondents in the Western study area were read out a range of methods for receiving warnings during times of disaster and asked to rate the effectiveness of each.

In the Western study area all channels were rated similarly in terms of effectiveness (between six and seven in ten rating as effective), the exception was phone calls to landlines (47%).

6.1.1 Sub-group differences

The younger cohort were more likely than those aged 45 years or older to consider a text message to mobile (80% <45 years, 56% 45+ years), the websites of relevant authorities (86%, 57%) or Facebook (86%, 57%) to be effective channels for distributing warnings during times of disaster.

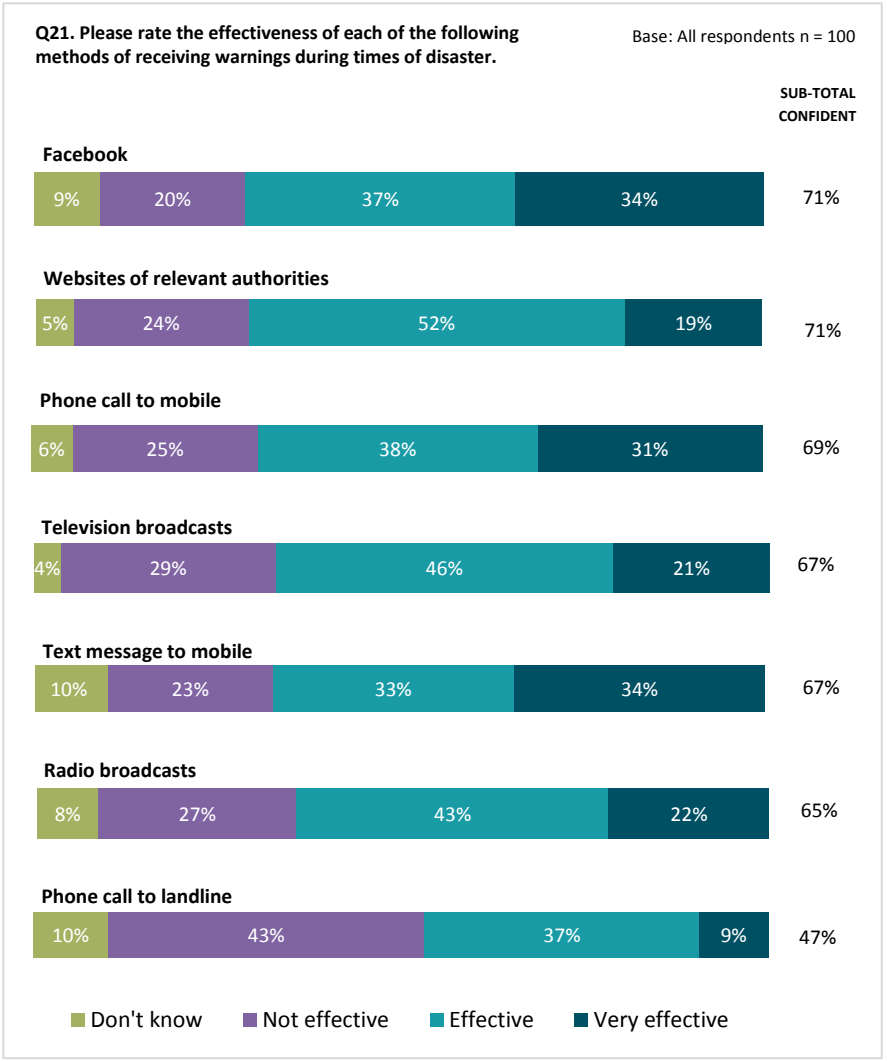


Table: Q21. Please rate the effectiveness of each of the following methods of receiving warnings during times of disaster. The first method…, the next method is…

Column %		Total - Western study area n = 100	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
			Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
A phone call to landline	Very effective	9%	4% ↓	16% ↑	7%	11%		10%	21%	6%
	Effective	37%	40%	34%	43%	32%	23%	38%	27%	40%
	SUB-TOTAL EFFECTIVE	47%	44%	50%	50%	43%	23%	48%	48%	46%
	Not effective	43%	44%	42%	38%	48%	77%	42%	52%	41%
	Don't know	10%	12%	8%	11%	9%		11%		13%
A phone call to mobile	Very effective	31%	35%	25%	41% ↑	21% ↓		32%	42%	28%
	Effective	38%	42%	33%	32%	44%	43%	38%	19%	43%
	SUB-TOTAL EFFECTIVE	69%	78% ↑	58% ↓	74%	65%	43%	70%	60%	71%
	Not effective	25%	17% ↓	36% ↑	23%	27%	57%	24%	33%	23%
	Don't know	6%	6%	6%	3%	8%		6%	6%	5%
A text message to mobile	Very effective	34%	38%	30%	45%	25%	80%	33%	27%	36%
	Effective	33%	35%	31%	36%	31%	20%	34%	31%	33%
	SUB-TOTAL EFFECTIVE	67%	73%	61%	80% ↑	56% ↓	100%	66%	58%	70%
	Not effective	23%	15%	31%	10% ↓	34% ↑		24%	35%	19%
	Don't know	10%	12%	8%	10%	10%		10%	6%	11%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level

*Table: Q21. Please rate the effectiveness of each of the following methods of receiving warnings during times of disaster. The first method…, the next method is… **(continued)***

Column %		Total - Western study area n = 100	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
			Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
The websites of relevant authorities	Very effective	19%	18%	19%	23%	15%	23%	19%	17%	19%
	Effective	52%	55%	48%	63% ↑	41% ↓	20%	53%	37%	56%
	SUB-TOTAL EFFECTIVE	71%	73%	68%	86% ↑	57% ↓	43%	72%	55%	75%
	Not effective	24%	24%	25%	14% ↓	33% ↑	57%	23%	42%	19%
	Don't know	5%	3%	7%		10% ↑		5%	3%	6%
Television broadcasts	Very effective	21%	17%	27%	15%	27%	57%	20%	21%	21%
	Effective	46%	54%	35%	58% ↑	35% ↓	43%	46%	42%	47%
	SUB-TOTAL EFFECTIVE	67%	71%	63%	73%	62%	100%	66%	63%	68%
	Not effective	29%	27%	31%	22%	36%		30%	37%	27%
	Don't know	4%	2%	6%	5%	3%		4%		5%
Radio broadcasts	Very effective	22%	23%	20%	22%	22%	23%	22%	18%	23%
	Effective	43%	45%	40%	50%	36%	54%	42%	54%	40%
	SUB-TOTAL EFFECTIVE	65%	68%	60%	72%	58%	77%	64%	71%	63%
	Not effective	27%	27%	27%	20%	34%	23%	27%	29%	27%
	Don't know	8%	5%	12%	9%	8%		9%		10%
Facebook	Very effective	34%	28%	41%	47% ↑	22% ↓	20%	34%	27%	35%
	Effective	37%	36%	38%	39%	35%		39%	40%	36%
	SUB-TOTAL EFFECTIVE	71%	64%	79%	86% ↑	57% ↓	20%	73%	68%	72%
	Not effective	20%	25%	15%	14%	27%	57%	19%	26%	19%
	Don't know	9%	11%	6%		17% ↑	23%	8%	6%	9%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level

7.0 Suggestions for improving emergency warnings

Western study area respondents were given the opportunity to suggest improvements to emergency warnings (from any source or organisation). The two most common suggestions were to improve the quality, accuracy and relevance of messages delivered (e.g. be specific about the locations impacted, ensure the information is specific to the people they are being sent to) (19%) and to provide more/more frequent warnings (16%). The reader is referred to the adjacent chart for all responses.

7.1.1 Sub-group differences

Females (7%) were more likely than males (0) to suggest issuing warnings and information via social media, 8% of females (compared to no males) suggested more weather radars to monitor developments.

Q22. Thinking about the emergency warnings generally, from any source or organisation, how could they be improved?

Base: All respondents n = 100

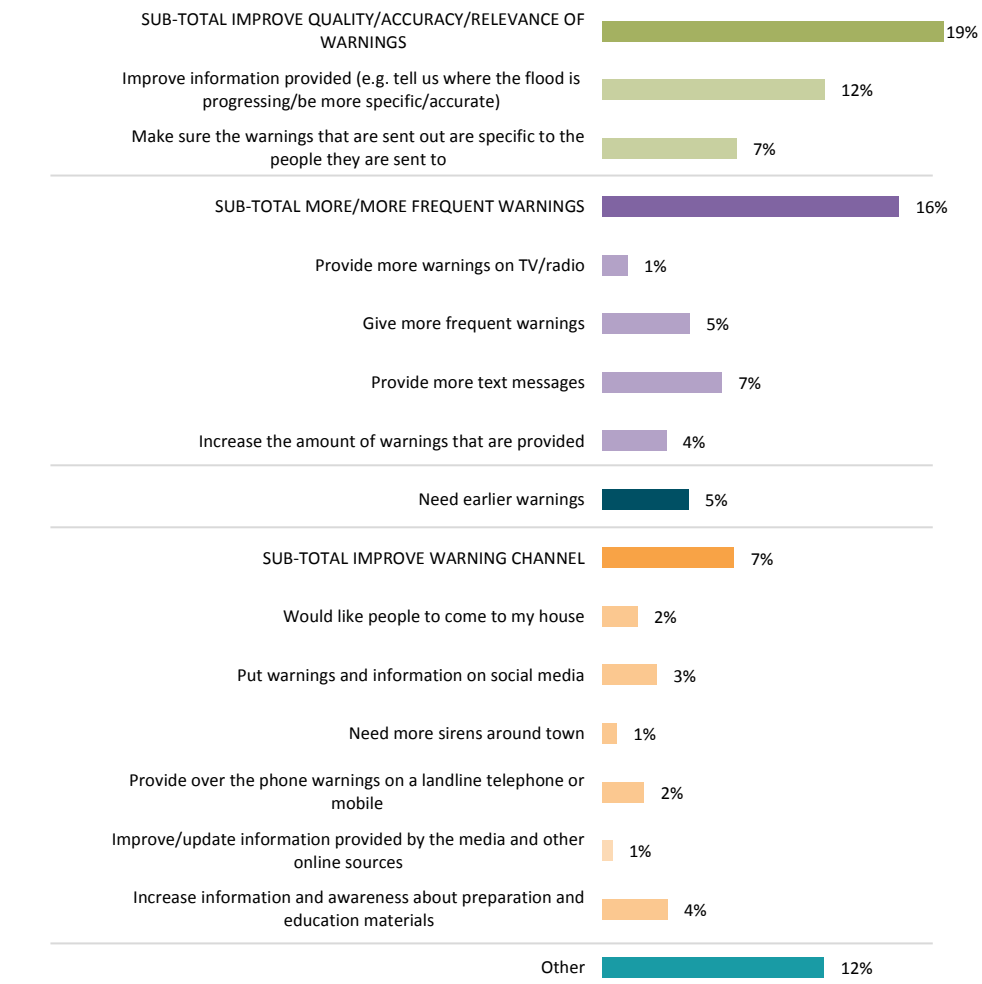


Table: Q22. Thinking about the emergency warnings generally, from any source or organisation, how could they be improved?

Column %	Total - Western study area n = 100	GENDER		AGE		EVACUATED		PRIMARY PRODUCER	
		Male n = 44	Female n = 56	<45 years n = 35	45+ years n = 65	Yes n = 4^	No n = 96	Yes n = 21^	No n = 79
SUB-TOTAL IMPROVE QUALITY/ACCURACY/RELEVANCE OF WARNINGS	19%	18%	19%	13%	24%	23%	18%	15%	20%
Improve information provided (e.g. tell us where the flood is progressing/be more specific/accurate) (e.g. the quality/clarity of information provided)	12%	8%	17%	8%	15%		13%	9%	13%
Make sure the warnings that are sent out are specific to the people they are sent to	7%	10%	4%	4%	10%	23%	7%	6%	8%
SUB-TOTAL MORE/MORE FREQUENT WARNINGS	16%	14%	18%	18%	14%		17%	10%	18%
Provide more warnings on TV/radio	1%		3%	3%			1%		2%
Give more frequent warnings	5%	5%	5%	7%	2%		5%	4%	5%
Provide more text messages	7%	3%	10%	3%	10%		7%		8%
Increase the amount of warnings that are provided	4%	6%		5%	2%		4%	6%	3%
Need earlier warnings	5%	4%	6%	6%	4%		5%		6%
SUB-TOTAL IMPROVE WARNING CHANNEL	7%	2% ↓	14% ↑	2% ↓	12% ↑		8%	4%	8%
Would like people to come to my house	2%		4%		4%		2%		2%
Put warnings and information on social media	3%		7% ↑	2%	4%		3%	4%	3%
Need more sirens around town	1%		2%		2%		1%		1%
Provide over the phone warnings on a landline telephone or mobile	2%	2%	3%		4%		2%		3%
Improve the amount of information people receive about being prepared for a disaster (e.g. what warning systems are available/how to prepare your home) and make people aware of the educational material available	1%		1%		1%		1%		1%
Increase the amount of weather radars to monitor developing weather	4%		8% ↑	5%	3%	34%	2%	7%	3%
Other	12%	10%	14%	10%	14%		13%	32%	7%

Study Area 2 - Western; Weighted; ^ Caution: small cell size

↓↑Arrows indicate results are significantly different to the average at the 95% confidence level

Appendices

Appendix A – Questionnaire

Questionnaire definitions:
SR – single response answer
MR – multiple responses allowed
Unprompted – the codeframe is not read out – interviewers select the relevant codes as the respondent answers
Prompted – the codeframe is read out
OE - Open ended question – where there is no codeframe and the respondent answers in their own words – these questions are 'coded' into themes at the completion of surveying (there is an additional cost per OE)

INTRODUCTION

Good morning/afternoon/evening. This is <name> calling from Q&A Market Research on behalf of the Office of the Inspector-General Emergency Management. In light of recent flooding events, the Office of the Inspector-General is surveying local residents to gather community feedback in relation to disaster management arrangements in your area. The survey will take approximately 15 minutes and your answers will remain anonymous. Would you be able to help us out?

If no, ask: Would there be another adult in your household who would be interested in providing feedback?

If agreed to interview:
Thank-you. Throughout the interview I'll be following a standard questionnaire to keep the interview as brief as possible and ensure that questions are consistent from interview to interview. Because I'm following the questionnaire, it may sometimes seem like I'm being too formal or mechanical. Please be assured your opinions are very important to us and I want to be sure I record them accurately.

Firstly I need to ask a few demographic type questions to ensure we're talking with a good cross section of the local community.

SCREENING QUESTIONS

Ask all

AA Just confirming, do you live in {INSERT SUBURB/LGA}? SR

(Programmer note: In the Townsville region a suburb from the list below will be read out, in the Western region the LGA name will be read out)

TOWNSVILLE REGION

1. Bluewater
2. Bluewater Park
3. Bushland Beach
4. Cranbrook
5. Aitkenvale
6. Mundingburra
7. Gulliver
8. Vincent
9. Heatley
10. Currajong
11. Pimlico
12. Hermit Park
13. Hyde Park
14. Rosslea
15. Railway Estate
16. Idalia
17. Rosslea
18. Annandale
19. Mount Louisa
20. Kirwan
21. Woodstock
22. Douglas
23. Garbutt
24. North Ward
25. West End
26. Thuringowa Central

WESTERN REGION

27. Cloncurry Shire Council
28. Flinders Shire Council
29. McKinlay Shire Council
30. Richmond Shire Council

31. None of the above - TERMINATE

ASK WESTERN REGION ONLY

BB Are you a primary producer? …

1. NO
2. Yes:

If yes *ask* Is that… READ OUT

3. Livestock
4. Cropping such as cotton, grain or hay
5. Horticulture
6. All of the above

Ask all

CC And were you in the area in the lead-up to and or during the flooding event in early 2019?

1. Yes
2. No Ask if there is another adult in the household who was – if not, TERMINATE

All

DD Record gender

1. Male
2. Female

Ask all

EE And are you aged 18 years or older?

1. Yes
2. No Ask if there is an adult in the household – if not, TERMINATE

All

FF What is your postcode?

Direct numeric entry: _____

READ OUT:

This survey is about disaster management arrangements. Disaster management arrangements refer to the arrangements for preventing or reducing the impact of, preparing for, responding to and recovering from a disaster.

The first section of this survey asks about your general experience with disaster management arrangements in your area. Later in the survey there will be questions specifically about the most recent flooding event that occurred in February this year.

COMMUNITY ENGAGEMENT

Ask all

Q1 Firstly, how would you rate your knowledge of the Disaster Management Arrangements in {*Townsville / your district*}? Would it be…? READ OUT SR

1. Extensive
2. Good
3. Limited
4. Or do you have no knowledge at all
5. Don't know (do not read out)

Ask all

Q2 Who do you believe is responsible for Disaster Management generally {*in Townsville / your district}?* UNPROMPTED MR

1. Townsville City Council/the local council
2. The Local Disaster Management Group
3. SunWater
4. Queensland Police Service
5. Queensland Fire and Emergency Services
6. State Emergency Service / SES
7. Individual residents such as family, friends or neighbours
8. Service Clubs
9. Community groups and charities
10. Other (please specify) _____
11. Don't know

Ask all

Q2a Before today had you heard of the Local Disaster Management Group? It may also be known as the Local Emergency Management Group?

1. Yes
2. No

Ask those aware of LDMG code 1 at Q2a

Q2b To the best of your knowledge, what is the Local Disaster or Emergency Management Group responsible for? What do they do? UNPROMPTED MR

1. DON'T KNOW
2. Plan for emergencies
3. Coordinate and organise emergency services such as police, fire and rescue and ambulance during an emergency
4. Broadcast warnings in the lead-up to and during emergencies
5. Help coordinate and organise recovery or clean-up efforts after an emergency
6. Other (specify) _____

Ask all

Q2c If you needed to contact your Local Disaster or Emergency Management Group, would you know how to do this?

1. Yes
2. No

Ask all

Q3 In the past few years, had you heard about any community events, public meetings or presentations about Disaster Management arrangements in your local area?

1. Yes
2. No

Ask those aware of community events code 1 at Q3

Q4 Did you attend any of these community events, public meetings or presentations about Disaster Management arrangements?

1. NO
2. YES – if yes ask:

Which organisation or organisations were present at such events? UNPROMPTED MR

3. Townsville City Council / your local council
4. The Local Disaster Management Group
5. SunWater
6. Queensland Police Service
7. Queensland Fire and Emergency Services
8. State Emergency Service or SES
9. Individual residents such as family, friends or neighbours
10. Service Clubs
11. Community groups and charities
12. Other (please specify) _____

FLOOD RISKS

Ask all

Q5 Have you enquired about the risks of flood to your property from any of the following organisations in the past few years? READ OUT MR

RANDOMISE ORDER

1. Townsville City Council / your local council
2. The Local Disaster Management Group
3. SunWater
4. Queensland Police Service
5. Queensland Fire and Emergency Services
6. State Emergency Service or SES
7. Individual residents such as family, friends or neighbours
8. Service Clubs
9. Community groups and charities
10. NONE

LOOP QUESTION

FOR EACH ORGANISATION MENTIONED AT Q5 ASK

Q6 How satisfied were you with the information provided by {*insert organisation from Q5*}? Were you … READ OUT

1. Very satisfied
2. Satisfied, or
3. Not satisfied
4. Don't know (do not read)

Ask all

Q7 How confident are you about your understanding of the flood risk to you and your property? Are you… READ OUT SR

1. Very confident
2. Confident, or
3. Not confident
4. Don't know (do not read out)

Ask all

Q8 How confident are you in regards to being prepared for and knowing how to respond to flooding events in the future? Are you… READ OUT SR

1. Very confident
2. Confident, or
3. Not confident
4. Don't know (do not read out)

Ask all

Q9 Are you aware of how to get information from river gauges in {*TSV - the Ross River area / Western - your local area*}?

1. Yes
2. No
3. Not sure

Ask all

Q10 Before today, which if any of the following terms relating to flooding had you definitely heard of? READ OUT MR

1. Q100
2. Q500
3. A one-in-100 year flood
4. A one-in-500 year flood
5. None of the above

Ask all

Q10a To the best of your knowledge, what, if anything, do the terms “Q100 flood” or “Q500 flood” mean to you? UNPROMPTED MR

1. Not sure/can’t say

Ask all

Q10b To the best of your knowledge, what, if anything, do the terms a “one-in-100 year flood” or a “one-in-500 year flood” mean to you? UNPROMPTED MR

1. Not sure/can’t say

IMPACT OF EVENT

Ask all

Q11 Thinking specifically now about the **flooding event** in February this year, what impact or impacts, if any, did you personally experience? Any others? UNPROMPTED MR

1. NONE
2. Physical injury
3. Emotionally impacted
4. Home was damaged
5. Home was destroyed
6. Other property was damaged
7. Other property was destroyed or lost
8. Crops were damaged
9. Crops were destroyed
10. Livestock were injured
11. Livestock were destroyed or lost
12. Fencing was damaged
13. Fencing was lost
14. Paddock quality was impacted
15. Telecommunications outage (mobiles, landlines, internet)
16. Power outage
17. Loss of income
18. Any other impact (specify) _____

Ask all

Q12 Did you evacuate, that is leave your home, during the recent floods?

1. Yes
2. No

If yes evacuated code 1 at Q12 ask

Q12a Did you spend one or more nights at any of the following… READ OUT MR

1. An official evacuation centre (if yes how many nights _____)
2. With friends, family or neighbours (if yes, how many nights _____)
3. Somewhere else (if yes, specify where _____ and how many nights _____)

Ask those who spent at least one night in an <u>official</u> evacuation centre (code 1 at Q12a)

Q13 Were you provided with adequate information from officials prior to or when you were evacuating about… READ OUT?

a) Information about the location of the evacuation centre
b) Information about a safe route to get to the evacuation centre

1. Yes
2. No
3. Not sure

Ask those who spent at least one night in an <u>official</u> evacuation centre (code 1 at Q12a)

Q13 Would you say the official evacuation centre was well managed? READ OUT SR

1. Yes
2. No
3. Not sure

Ask those who spent at least one night in an <u>official</u> evacuation centre (code 1 at Q12a)

Q13a How could the management of the evacuation centre have been improved? What other improvements could have be made to the running of evacuation centres? Anything else? UNPROMPTED MR

_____

_____

TOWNSVILLE ONLY

Q14 Do you believe an early release of water from the Ross River Dam leading up to the flooding event would have made a difference to you or your property?

1. Yes
2. No
3. Not sure

Ask yes code 1 at Q14

Q16a What difference would this have made?

Ask no code 2 at Q14

Q16b Why would this have made no difference?
UNPROMPTED MR

INFORMATION & WARNINGS

ASK ALL

Q17a In the lead-up to the recent flood event which, if any, of the following sources of information did you use?

Q17b And during the recent flood event which, if any, of the following sources of information did you use? READ OUT MR

a) Family friends or neighbours
    1. No
    2. Yes – was that via (MR)
        1. Face to face
        2. Telephone calls and texts
        3. Personal Facebook pages of friends or friends of friends
        4. Other social media

b) {Townsville City Council / Your local council} or the Local Disaster Management Group
    1. No
    2. Yes – was that via (MR)
        1. You ringing them
        2. Them ringing you
        3. A text message from them
        4. An official council Facebook page
        5. Some other social media
        6. Their website or dashboard
        7. Other

c) SunWater
    1. No
    2. Yes – was that via (MR)
        1. You ringing them
        2. Them ringing you
        3. A text message from them
        4. An official SunWater Facebook page
        5. Some other social media
        6. Their website

d) Radio
    1. No
    2. Yes – which station? _____

e) Television
    1. No
    2. Yes – which station?

f) Bureau of Meteorology website

g) Landline or mobile phone for receiving a warning

h) Landline or mobile phone as part of a phone tree

i) Newspaper (specify) _____

j) Other social media (specify) _____

k) Other website (specify) _____

l) Other information source (specify) _____

TEXT MESSAGE WARNINGS

Ask all

Q18 In the lead-up to or during the recent flooding event, did you receive any WARNINGS via TEXT MESSAGE from either the {Townsville City Council / Your Local Council}, the Local District Disaster Management Group or Sunwater? READ OUT MR

1. Townsville City Council / Your local council
2. The Local Disaster Management Group
3. SunWater
4. None of the above

Ask those who received text warnings (code 1,2,3 at Q18)

Q19a I'd now like to ask some specific questions about the text messages you received. Did you save any or all of those messages?

1. Yes
2. No SKIP TO Q21

LOOP START – Q20a-Q20g will be asked for each message that is available

Q20 Please note it's very important that I accurately record each message. Let's go back to the very first warning you received – can you locate that warning?
Interviewer note: if there are multiple messages on the one date, record each separately by time

a) Who was it from?
   1. Townsville City Council / Your Local Council
   2. Local Disaster or Emergency Management group
   3. SunWater
   4. No further messages

b) Can you please read to me the message exactly:

   1. Record verbatim: _____

c) Overall, was the warning message easy or hard to understand?
   1. Easy
   2. Hard

d) Why was the message {*insert rating from Q20c* easy/hard} to understand?

Record verbatim: _____

Ask all message recipients

e) Did the message refer you somewhere else for more information?
   1. Yes
   2. No

f) *If yes at (e)* - Did you go to this source for more information?
   1. Yes
   2. No

g) *If yes at (f)* - Was the message about where to go for more information specific enough?
   1. Yes
   2. No

NEXT LOOP Now let's go to the next text message you received.
REPEAT loop until no more messages - no more messages – go to Q21

Ask all

Q21 Please rate the effectiveness of each of the following methods of receiving warnings during times of disaster. The first method…, the next method is…

ROTATE

a) A phone call to landline
b) A phone call to mobile
c) A text message to mobile
d) The websites of relevant authorities
e) Television broadcasts
f) Radio broadcasts
g) Facebook
h) Any other social media (specify _____)

Would you rate this as … READ OUT

1. Very effective
2. Effective, or
3. Not effective
4. Don't know (do not read out)

Ask all

Q22 Thinking about emergency warnings generally, from any source or organisation, how could they be improved? How else? UNPROMPTED MR

DEMOGRAPHICS

And a final few demographic type questions to ensure we're talking with a good cross section of the local community.

Ask all

D1 To which of the following age categories do you belong? Are you under or over 40 years of age? READ OUT SR

1. 18 to 24 years
2. 25 to 29 years
3. 30 to 34 years
4. 35 to 39 years
5. 40 to 44 years
6. 45 to 49 years
7. 50 to 54 years
8. 55 to 59 years
9. 60 to 64 years
10. 65 years or over

Ask all

D2 Which of the following categories best describes your household type? READ OUT SR

1. Lone person household
2. Couple with no children
3. Single or couple with dependent children (mostly aged under 13 years)
4. Single or couple with dependent children (mostly aged over 13 years)
5. Single or couple with adult children (aged over 18 years)
6. Couple whose children have left the family home
7. Group household (non related individuals)
8. Other/specify _____

Ask all

D3 Which of the following best describes your work status? READ OUT SR

1. You work full time
2. You work part time
3. You do home duties
4. You are a student
5. You are retired
6. You are currently in between jobs
7. You are on a pension/benefit
8. Other /specify

Ask to those who evacuated to an OFFICIAL evacuation centre (code 1 at Q12a)

R1 Earlier you mentioned that you evacuated your home during the floods. Our research partner MCR is conducting further research with evacuees over the next couple of weeks. Respondents would receive a cash incentive of $60 for their time. Would you like to register your interest in taking part? Just letting you know, not everyone who registers will be contacted.

1. YES – interested – what is the best number for you _____
2. No – not interested

Thank you for your time today.

Some people may find the topic of this research distressing. If you do feel upset or distressed in any way, you may like to contact Lifeline on: 13 11 14.

Privacy statement

The information you have provided today will be used only by the Office of the Inspector-General Emergency Management for research purposes. Your answers will be combined with those of other participants to provide feedback to the Office on the needs and views of the community. Your name and responses to this survey will always remain anonymous.

Appendix B – Sample composition

	STUDY AREA	
Column %	**Townsville study area**	**Western study area**
n	**n = 400**	**n = 100**
Townsville	100%	
n=	400	
Western Downs		100%
n=		100

	STUDY AREA	
Column %	**Townsville study area**	**Western study area**
n	**n = 400**	**n = 100**
Bluewater	1%	
n=	4	
Bluewater Park	1%	
n=	2	
Bushland Beach	4%	
n=	16	
Cranbrook	5%	
n=	19	
Aitkenvale	6%	
n=	23	
Mundingburra	5%	
n=	18	
Gulliver	4%	
n=	14	
Vincent	2%	
n=	7	
Heatley	4%	
n=	16	
Currajong	3%	
n=	10	
Pimlico	1%	
n=	4	
Hermit Park	3%	
n=	12	
Hyde Park	1%	
n=	3	
Rosslea	2%	
n=	6	
Railway Estate	3%	
n=	13	
Idalia	4%	
n=	14	
Annandale	8%	
n=	30	
Mount Louisa	8%	
n=	33	
Kirwan	24%	
n=	94	

	STUDY AREA	
Column %	**Townsville study area**	**Western study area**
n	**n = 400**	**n = 100**
Woodstock	1%	
n=	2	
Douglas	4%	
n=	16	
Garbutt	2%	
n=	8	
North Ward	4%	
n=	14	
West End	4%	
n=	15	
Thuringowa Central	2%	
n=	7	
Cloncurry Shire Council		33%
n=		33
Flinders Shire Council		41%
n=		41
McKinlay Shire Council		14%
n=		14
Richmond Shire Council		12%
n=		12

	STUDY AREA	
Column %	**Townsville study area**	**Western study area**
n	**n = 400**	**n = 100**
Male	48%	44%
n=	193	44
Female	52%	56%
n=	207	56

	STUDY AREA	
Column %	**Townsville study area**	**Western study area**
n	**n = 400**	**n = 100**
18 to 24 years	8%	6%
n=	33	6
25 to 29 years	6%	8%
n=	24	8
30 to 34 years	12%	6%
n=	49	6
35 to 39 years	8%	7%
n=	32	7
40 to 44 years	10%	8%
n=	40	8
SUB-TOTAL <45 years	45%	35%
n=	178	35
45 to 49 years	13%	5%
n=	50	5
50 to 54 years	11%	13%
n=	43	13
55 to 59 years	5%	11%
n=	20	11
60 to 64 years	8%	11%
n=	32	11
65 years or over	19%	25%
n=	77	25
SUB-TOTAL 45+ years	56%	65%
n=	222	65

		STUDY AREA	
Column %		**Townsville study area**	**Western study area**
n		**n = 400**	**n = 100**
Lone person household		15%	26%
	n=	60	26
Couple with no children		15%	13%
	n=	61	13
Single or couple with dependent children (mostly aged under 13 years)		27%	17%
	n=	108	17
Single or couple with dependent children (mostly aged over 13 years)		11%	10%
	n=	45	10
Single or couple with adult children (aged over 18 years)		14%	14%
	n=	54	14
Couple whose children have left the family home		14%	19%
	n=	54	19
Group household (non related individuals)		3%	1%
	n=	12	1
Other		2%	
	n=	6	

		STUDY AREA	
Column %		**Townsville study area**	**Western study area**
n		**n = 400**	**n = 100**
You work full time		49%	52%
	n=	195	52
You work part time		14%	15%
	n=	56	15
You do home duties		5%	8%
	n=	21	8
You are a student		3%	1%
	n=	12	1
You are retired		18%	15%
	n=	71	15
You are currently in between jobs		3%	
	n=	11	
You are on a pension/benefit		5%	9%
	n=	21	9
Other		3%	
	n=	13	

Appendix C – Fieldwork statistics

Field Dates	2/04/2019 - 20/04/2019	
Sample disposition	**Townsville study area**	**Western study area**
Total	**5759**	**1123**
Virgin	1860	123
Language	24	2
Refused	429	71
No Answer	1235	480
Complete	400	100
Soft Appointment	34	22
Hard Appointment	41	4
Quota Failure	10	1
Killed	448	104
Business Number	12	9
Dead	1266	207
Response rate	48%	58%

Appendix D – 'Other' responses

Q2 Who do you believe is responsible for Disaster Management generally {*in Townsville / your district*}?	
Townsville study area	**Western study area**
Bureau of Meteorology	Ambulances/Queensland Health
Insurance companies	Citizens, people should prepare themselves
The Hospital	Everyone in the area
Local radio stations	Department of Primary Industries
Government agencies	
Everybody is responsible to an extent	
The radio	
Other regions who have experienced similar things who might have knowledge about how to deal with the disaster	
Government	
The media	
Politicians	
The public	
Health authorities	
Disaster management coordinator	
Flood mitigation team	
Water board	
National government, state government, insurance companies	
Queensland Water	
Bureau of Meteorology	
State government	

Q2b To the best of your knowledge, what is the Local Disaster or Emergency Management Group responsible for? What do they do? UNPROMPTED MR	
Townsville study area	**Western study area**
Organising evacuation centres	They give you money
Explaining the potential extent of disaster	Supported us with funding for damages
Assisting and alert people and manage afterwards	
Helping people with big emergencies	
Setting up open days	
Help with cyclones and anything that effects the community	
Too many people in the positions do not know what they're doing, haven't been there long enough to know what should	
Cleaning up problems	
Media	
Everything that goes wrong	
Helping the victims of floods	
Spending a lot of money on nothing	
Informing people of how to prepare	
Informing residents	
Sending out messages on Facebook	

Q4 Did you attend any of these community events, public meetings or presentations about Disaster Management arrangements? Which organisation or organisations were present at such events?	
Townsville study area	**Western study area**
Cyclone aware services	Local hospital
Ambulance services	The Prime Minister
Energy Queensland/Queensland Ambulance Service/Health/Housing communities/ Queensland Rails/Transport and Main Roads	Ambulance, hospital, doctors
Department of Human Services	
The army	
Transport and Main Roads	
Banks, Red Cross	
Universities	
Universities	

Q10a To the best of your knowledge, what, if anything, do the terms "Q100 flood" or "Q500 flood" mean to you? UNPROMPTED MR	
Townsville study area	**Western study area**
Sensationalism - puts a name to things	A large scale event that covers more than a local area
Abbreviations of the longer ratio terms	Dangerous
Abbreviations for the longer ones	Someone to ring when you get flooded in
Assuming that it's the same as the other terms (one-in-100 etc)	
Basically they are forecasting the level of flooding	
Calculated estimation of where river heights will be according to tidal charts	

Q10b To the best of your knowledge, what, if anything, do the terms a "one-in-100 year flood" or a "one-in-500 year flood" mean to you? UNPROMPTED MR	
Townsville study area	**Western study area**
I don't think they are right in saying that because next month it could happen again – we had Noah 10 years ago	The type of flood that happened in 1979
500 year flood is bigger event than a 100 year flood	They put a bridge or some sort of structure and they calculate that it will be flooded once in 100 years
The biggest flood on record in that period of time	Go somewhere else during the flood
The chance of it actually happening is slim	A disaster
The natural cycle of things	Panic for the whole area
A very unusual event	The community will be isolated
One should get to higher ground	It's something we can't prepare for
Just hype, not a description of the flood – more sensationalism	There is a disaster and everybody has to evacuate
Highly unusual	
It gives a level to look at for comparison	
Disastrous for everyone	
It's a way for government authorities to gauge water levels – you can get information from local council	
Way over the top terms and observations, fake news and overdramatised	
A good average for what the impact will be	
The level of the water, there's not much you can do about it	
One in 100 doesn't necessarily mean once in 100 years, it means a big flood but it may happen again in ten years' time	
Means that a flood can't be completely controlled or planned for	
More weasel words	
It happened twice in one week so it's all a load of rubbish	
Possibly recurring	
Very rare occurrence	
It's a misleading statement	
The cost to the taxpayer	
They don't know whether it's a one in 100 or 500 year flood	
Bigger floods than usual	

Q11 Thinking specifically now about the flooding event in February this year, what impact or impacts, if any, did you personally experience? Any others? UNPROMPTED MR	
Townsville study area	**Western study area**
Community impacts	Flight delays
A lot of out of pocket costs not covered by insurance	Rationing food
The impact of having a lot more people in the house due to their house being flooded	Had to help locals with clean-up as no SES were around
Wife stuck in Victoria	
Water levels just rose into the back yard and into the neighbour's yard	
Increase in insurance prices	
A very stressful time	
We lost the NBN which meant relying on data which was in and out all the time because of the severe storm. Facebook was the only source of information that was easily accessible. Radio stations weren't recording locally, there was only national information which left us residents in the dark relying each other	
Friends lost properties and homes	
Garden was damaged	
Family and friends affected, got stuck in town	
Called 000 and they sent me to SES and they sent me back to 000 - requested a helicopter and was confirmed but never arrived	
Had to work a lot of extra shifts/overtime	
Lots of rain	
Airport closed, could not get to work	
Work load increased due to working in health	
Difficult to get trades people to come and fix things	
Loss of stock from workshop at work	
Sewage backed up and limited travel from house	
We got called away from property when we did not need to be	
Dog died	

Q16a What difference would this have made?
Townsville study area
Partial difference – the new dam that narrowed the Ross River made more of a difference
It could have, but I'm not suggesting that they have done anything wrong
The parameters need to be evaluated by authorities, the dam was too high
The damage to the wall could have been extensive
I'm sure there would be professionals that know more than me
The mistake was double the amount of water with only a couple of hours to tell people about it
They could prevent impacts by having a bigger dam

Q16b Why would this have made no difference?
Townsville study area
It's too hard to predict mother nature so there is no point releasing it if the floods don't occur
I believe they did the best they could with what they were given, never happened before
The Ross River creek drainage system did not break its banks
I think they managed it as well as they could have
It will follow the creek first and it will only go up to the lower parts
It was either let the water out earlier and have multiple floods or let it out when they did and just having the one flood
I'm not informed enough to answer
The sewage backup from the Bohle River was the issue
The way the house has been designed it doesn't take a lot of water to come in
Because all the research around showed it wasn't going to flood
Well it had to be done at some point in time
The street over the back was a creek to start with
There was a king tide making everything worse
No one could predict the damages
It didn't stop raining
It's just the location where I am
Flooding was occurring before dam gates were opened

Q22 Thinking about emergency warnings generally, from any source or organisation, how could they be improved? How else? UNPROMPTED MR	
Townsville study area	**Western study area**
The (emergency) organisations need collaborate together	The most effective warning system would be to get the weather bureau on side
They should bring back sirens	Properties should have the names of properties painted on the roof
Needs more organisation for in-person warnings	Letting trains leave from the lowest lying area was not a good decision
Relevant authorities don't have full understanding of how to control water	Nobody knew what was coming, you can't blame anyone
If you're going to evacuate, you should make it compulsory and tell people to get out, or don't tell them to evacuate	Maybe something could be delivered in our mailbox warning us
Communication with people who have little resources	Make sure the warnings get to everyone
The council should have a dedicated radio station providing up-to-date information without music and maybe in the form of a talk back service	We need a better mobile service around town so we can receive warnings
People have to listen to the warnings	Technology always fails so they should provide warnings that don't rely on technology
All emergency services need to be in the same room when working out warnings	Try and predict the events of floods earlier
Put out warnings as early as possible	Mobiles aren't very reliable because they are always out of range - the coverage needs to be better
Show people historical data to show how likely a flood is	Just better communication
Dam gates should be opened by people, not automated	Use platforms other than the internet so that people without service have access to the warnings
Warnings should be believable and reliable, less frequent and not sensationalistic and available without mobile/internet access	Concentrate a bit more on people that are in outback Queensland
A special local disaster channel	
Avoid the network being jammed with too many messages	
Videos on social media simulating how the flood is going to be were good	
Fake phone calls were a problem, caused panic	
Make sure everyone in the area receives the warnings	
They need people with experience in these matters in local government	
The dashboard was useful	
The warnings are good early, but are not as good when the problem is getting closer	
Warnings need to reach more people	
More attention needs to be given to people with pets	
Be careful not to cause panic	
Warnings are good – residents need to listen more	
The dashboard is the best way to do it	
Use warnings with a hierarchy of importance (e.g. level 4 could be extreme)	
More pet friendly shelters are needed	
More information in the text messages about where to go or where higher ground was	

Appendix E – Sampling error chart

All sample surveys and polls, whether or not they use probability sampling, are subject to multiple sources of error which are most often not possible to quantify or estimate, including sampling error, coverage error, error associated with non-response, error associated with question wording and response options and post survey weighting and adjustments. Therefore MCR avoids the words "margin of error" as they are not able to be verified. All that can be calculated are different possible sampling errors with different probabilities of pure, unweighted, random samples with 100 response rates. These are only theoretical because no published surveys come close to this ideal. At the absolute minimum, sampling error based on various cell sizes for this survey could fall within the following ranges.

(at the 95 confidence level)

Sample size	10/90	20/80	30/70	40/60	50/50
5	±27.0	±36.0	±41.0	±44.0	±45.0
10	±19.0	±25.0	±29.0	±31.0	±32.0
15	±15.0	±21.0	±24.0	±25.0	±26.0
20	±13.0	±18.0	±20.0	±22.0	±22.0
25	±12.0	±16.0	±18.0	±19.5	±20.0
30	±11.0	±15.0	±16.7	±17.9	±18.0
35	±10.0	13.5	±15.5	±16.6	±16.9
40	±9.0	±12.6	±14.5	±15.5	±15.8
50	±8.0	±11.3	±13.0	±13.9	±14.1
60	±7.7	±10.3	±11.8	±12.6	±12.9
70	±7.2	±9.6	±11.0	±11.7	±12.0
80	±6.7	±8.9	±10.2	±11.0	±11.1
90	±6.3	±8.4	±9.7	±10.3	±10.5
100	±6.0	±8.0	±9.2	±9.8	±10.0
150	±4.8	±6.5	±7.5	±8.0	±8.2
160	±4.7	±6.3	±7.2	±7.7	±7.9
170	±4.6	±6.1	±7.0	±7.5	±7.7
200	±4.2	±5.6	±6.5	±6.9	±7.0
220	±4.0	±5.4	±6.2	±6.6	±6.7
240	±3.9	±5.2	±5.7	±6.3	±6.5
250	±3.8	±5.1	±5.8	±6.2	±6.3
260	±3.7	±5.0	±5.7	±6.1	±6.2
280	±3.6	±4.8	±5.5	±5.9	±6.0
300	±3.5	±4.6	±5.3	±5.7	±5.8
320	±3.4	±4.5	±5.1	±5.5	±5.6
340	±3.3	±4.3	±5.0	±5.3	±5.4
350	±3.2	±4.3	±4.9	±5.2	±5.3
360	±3.2	±4.2	±4.8	±5.2	±5.3
380	±3.1	±4.1	±4.7	±5.0	±5.1
400	±3.0	±4.0	±4.6	±4.9	±5.0
420	±2.9	±3.9	±4.5	±4.8	±4.9
440	±2.9	±3.8	±4.4	±4.7	±4.8
450	±2.8	±3.8	±4.3	±4.6	±4.7
460	±2.8	±3.7	±4.3	±4.6	±4.7
480	±2.7	±3.7	±4.2	±4.5	±4.6
500	±2.7	±3.6	±4.1	±4.4	±4.5
550	±2.6	±3.4	±3.9	±4.1	±4.3
600	±2.4	±3.3	±3.7	±4.0	±4.1
650	±2.4	±3.1	±3.6	±3.8	±3.9
700	±2.3	±3.0	±3.5	±3.7	±3.8
750	±2.2	±2.9	±3.3	±3.6	±3.7
800	±2.1	±2.8	±3.2	±3.5	±3.5
850	±2.1	±2.7	±3.1	±3.4	±3.4
900	±2.0	±2.4	±3.1	±3.3	±3.3
950	±1.9	±2.6	±3.0	±3.2	±3.2
1000	±1.9	±2.5	±2.9	±3.1	±3.2

Appendix F – Qualitative investigation

Summary

Seven one-on-one in-depth telephone interviews were undertaken with people who had evacuated their home and used an official evacuation centre during the 2019 event. This qualitative investigation was designed to understand perceptions of how the evacuation centres were managed and gather suggested improvements for future events.

Overall, evacuees were positive about their experience. There was a general feeling of everyone at the evacuation centre being patient and cooperative during a stressful time. The staff and volunteers were considered to have done their very best and evacuees were grateful for the assistance provided. Stories about locals dropping in home-baked food and toys and clothing were common and evacuees noticed and appreciated the efforts of local businesses and retailers who donated goods and services. Staff and volunteers from the Red Cross and Salvation Army were praised for their organisation, hard work and management of people in difficult circumstances. The presence (and or availability) of police and ambulance crews was also well received and reassured centre users about their safety and wellbeing.

The biggest reported issues were related to overcrowding (leading to insufficient toilet and shower facilities, a feeling of a lack of personal space and/or over-worked staff/volunteers) and some concerns about the behaviour of a minority of centre users (i.e. intoxicated individuals). Formal or regular information updates on the weather and impacts outside the centres were said to be limited and this was a source of frustration for some evacuation centre users.

Qualitative findings

Evacuation process

For many respondents, the evacuation process was rushed. Most wanted (and thought they would be able) to remain in their home throughout the event (particularly those with pets). Some commented that they had never evacuated during a cyclone and were therefore not expecting to do so during a flood.

Once the electricity was switched off some felt isolated and unable to get sufficient information or frequent enough updates. Respondents mainly relied on information from authorities visiting their street, text message warnings or talking to neighbours in person or family and friends by phone.

Most were warned to evacuate by army, police or SES personnel in the days leading up to the peak of the flood event. The information provided by authorities about how and where to evacuate to was said to be limited. They felt the information provided in the lead-up to the flood was less instructive than during times of cyclones where residents are specifically told to prepare their emergency kit with radio and torch etc.

The impetus to evacuate for many was the loss of power and rising sewage. For some who left it until Sunday evening, rising water levels after the dam gates were fully opened led them to leave in the dark and one group had to evacuate without the assistance of rescue personnel. Some evacuees interviewed were advised of their closest evacuation centre, others were just taken to the closest centre.

Most people took a few items of clothing and toiletries as they evacuated. Some took relevant paperwork, passports and mobile phone chargers. Items left at home by respondents included pet food, nappies/formula, medicines and purses/wallets with identification cards. Most said they didn't take enough clothing, because they assumed they'd only be away from home for one night. One respondent reported all personal items becoming wet or damaged during the evacuation process. Another was limited in what they could take as they were on a paddleboard (with their cat).

Overall, respondents interviewed didn't fully comprehend the repercussions of the dam gates being fully opened. Being unfamiliar with flooding meant they were unsure exactly how to prepare and many underestimated the amount of time they would be away from home.

Verbatim - preparation and evacuation process

"It was Sunday and I think like most people, we went, 'she'll be right'. We were told to prepare on Friday and Saturday SES came around. Then the power went out Saturday morning (but we were thinking) 'we'll be right, we'll be right'. Sunday morning, the sewerage let go, the toilets all bubbled up and spilled out stuff, so at 10 o'clock when the army came around and said, 'you really have to go now because at 6 o'clock tonight they are opening the dam gates'. We walked out through thigh deep water to the other side of the intersection which was high and dry and we got into army vehicles."

Ignatius Park Evacuation Centre user

"I think they should have told us earlier that they were going to open the flood gates and the consequences of that. We really didn't find that out until Sunday morning. Don't forget, we had no power so you couldn't listen to radio, TV or anything. I had the emergency alert on my phone, so every 10 minutes it was saying, 'prepare to evacuate' but it was just too much because they didn't go into any details to state why you should (evacuate)."

Ignatius Park Evacuation Centre user

"They always say prepare for a cyclone, be cyclone ready, but there were no (messages) like 'make sure you have your radio, make sure you get your torches' that they normally have during cyclones. They kind of just said 'the dam's filling', 'the dam's getting a leak', 'evacuate' - they didn't really have too much information telling us to prepare for it."

Ignatius Park & Shopping Centre Evacuation Centre user

"Everyone was advised to leave but I wanted to stay behind and prepare by getting my belongings up high. We only had house insurance and not contents and we wanted to save what we could and we stayed the night in the house and the water started to come in at about roughly around 9 or 10 o'clock when it started to enter the actual house inside and then we evacuated at about 4am when it was about at its worst."

Lavarack Barracks Evacuation Centre user

"They were saying you have to go and I said no I'm not going to, like at the end of the day I have a cat and I decided if the water's not going to come into my house then I'm not going to disrupt my cat. I know it's silly, but I thought I was going to be safe in my house anyway, but then the water started coming in so I was like okay I'd better go, so the army did come around, they were in one of those water ducks and they got my neighbour but then they left and I was (left) so I actually have a paddle board, I paddled myself to safety, the cat came with me on the paddle board too."

Ignatius Park and Shopping Centre Evacuation Centre user

"Well I didn't think it was going to be so bad, I thought, 'well I will stay here one night, that won't be so bad, I will go home', yeah, right, that didn't work. Plus I had my cat (at home). I couldn't take my cat with me because I didn't have a (cat) carrier, it just all happened so quickly, but anyway she survived too thank God. It was two days before we could get back in, but she was on top of the wardrobe."

Ignatius Park Evacuation Centre user

Registration process

According to those interviewed, the registration process upon arrival at the evacuation centre was quick and easy. All registered, except for one respondent who did not because they didn't think they would be staying long. All who registered reported doing so in hardcopy; in most cases a staff member guided them in this task. Most understood the reasons for the centre collecting their contact details – although none could recall being told what would happen to the information they provided. Most added that they were quite overwhelmed upon arrival and now find it difficult to recall the events exactly.

Having to sign out when leaving the centre during the day was somewhat frustrating for some as their name couldn't easily be found on the list upon re-entering the centre.

One attributed difficulty registering with community recovery for financial assistance after the flood to their paperwork from the evacuation centre being misplaced.

All respondents were provided with a basic orientation of the centre upon arrival. Some were aware of an unofficial code of conduct although none could recall seeing a written version.

One respondent said they felt a bit like a prisoner at the Heatley evacuation centre given the cramped conditions and use of colour-coded wristbands to identify people.

Verbatim – registration process

"The Red Cross were there and when everyone come in they would register them and they would give you an arm tag and put you into a registration book and then someone would show you where to sleep, find you somewhere to sleep in the hall."

Heatley Evacuation Centre user

"(It was) a very easy quick and easy form and the Red Cross guys were absolutely adorable, they were just so supportive and welcoming and warm and gentle and friendly."

Alligator Creek and Heatley Evacuation Centre user

"Yes, I think it did help (to have talked about the rules of the centre) because you get all sorts of people there and some of them were drunk when they got there. It was okay, they weren't rioting or anything, but just a bit tipsy and they wanted to go to the pub. You can't stop people from going to the pub, but they were told very very sternly that they were not to bring any alcohol back."

Ignatius Park Evacuation Centre user

"I was very overwhelmed when I came in and that is probably why I can't remember a lot."

Alligator Creek and Heatley Evacuation Centre user

Operation of centre

Overall, respondents considered the evacuation centres to be very well managed and coordinated. Centres were set up and ready to receive users; bedding (stretcher beds, blow-up mattresses and linen) was available, staff were welcoming and professional, supplies such as food and water were adequate and evacuees generally worked well together under stressful conditions. The presence of police and ambulance personnel (or their availability when needed) was appreciated by all respondents and provided a sense of safety and wellbeing.

Some issues (while relatively minor) were raised, such as:

- Overcrowding
- Insufficient toilet facilities
- Intoxicated persons (alcohol and Illicit drugs)
- Lack of communications/information updates.

<u>Overcrowding and insufficient toilet facilities</u>

The biggest issue reported by users related to overcrowding, particularly at the Heatley evacuation centre, but also Ignatius Park. The impacts of overcrowding were:

- Insufficient toilet facilities (porta-loos were reportedly delivered at Heatley but not for some days).
- Insufficient shower facilities, although this facility was deemed less critical than toilets.
    - Despite a lack of toilet and shower facilities, all respondents commented that the facilities were kept clean and hygienic and everyone "got by".
- Increased stress and anxiety due to the limited personal space and because noise from children and pets made sleeping difficult.
    - A number reported leaving Heatley after one night because they found it too overwhelming (one went to the shopping centre that had opened for evacuees and another to a friend's place).
- Insufficient staff at the centre.

According to our respondents, over-crowding was less of an issue at the Lavarack Barracks, Alligator Creek and North Shore evacuation centres.

<u>Intoxicated persons (alcohol and Illicit drugs)</u>

The presence of a small number of intoxicated people (alcohol and illicit drugs) was also noted by some respondents (Heatley and Ignatius Park), although the impact was seen to be low as police were fast to manage the situation. Nevertheless some felt uneasy, especially those with children, while others felt they had to guard their possessions (even though they weren't 'valuables').

As the peak of the event passed, one respondent noticed the police and ambulance presence reducing as these personnel were needed elsewhere. Because a number of centre users had also left by this time it wasn't a cause of concern.

Communications from centre organisers

Information or updates from centre staff about the conditions impacting the area and/or their home was said to be limited (this was consistent across all respondents, regardless of the evacuation centre). Most felt this was because at the height of the event, the staff didn't really know what was going on outside the centre and were too busy trying to manage the centre to provide information and updates. At smaller centres police were asked for updates and responded with as much information as they could – although this was typically done on an individual level rather than communicating the information to the whole group. Some commented that making announcements at the centres was difficult as there was no sound system or speakers. There were no reports of bulletin or notice boards being used.

While most were keen to learn about the impacts to their property and find out when they would be able to go and inspect the damage, two evacuees commented that they did not wish to receive such updates during the event, explaining that they were already anxious and upset and felt that hearing about the damage (and not being able to do anything about it) would have been emotionally devastating.

Other minor operational issues

Supplies

As stated earlier, the centres were considered to be well supplied with food, water, tea and coffee and activities for children. One respondent with a baby aged six months noted that when they first arrived at North Shore there were initially no nappies or baby formula available but that this was addressed quite quickly.

Closing of centres

One respondent reported being shifted to other centres as the first centre they stayed in closed. The downside of this was shifting from a small evacuation centre which was described as very comfortable (Alligator Creek) to a larger centre (Heatley) which was felt to be overcrowded and overwhelming. The only linen offered to this person had already been used and was therefore rejected as this user was worried about hygiene and their health.

Most respondents left the evacuation centre of their own volition prior to the centres closing. Red Cross staff and the Queensland Government provided much appreciated assistance in finding alternate accommodation for those who were unable to return to their home.

Medical support

Respondents praised the medical assistance and first aid provided at the centre; paramedics were on hand (or available) to check over those who were unwell and doctors visited the centres to write prescriptions for those who had left medications at home. Some reported a pharmacy representative visiting the centre (Heatley) to collect prescriptions and deliver medicines, while others reported that Red Cross representatives offered to drive to a pharmacy to have prescriptions filled (Alligator Creek).

This medical attention was deemed essential, especially for a number of frail and/or elderly people at the centres whose conditions were felt to necessitate hospitalisation, but who could not be hospitalised due to a lack of beds. Physical injuries (e.g. pinched nerves, sore backs) sustained when people were evacuating or setting up beds (or sleeping on stretcher beds) were also reported by a few respondents. Most were aware of refrigeration facilities available for medicines in the evacuation centres, though none needed to use this facility.

Mental health support (mostly provided via Red Cross staff counsellors) was also evident and appreciated. Just having someone to talk to was comforting, especially for those who came on their own to an evacuation centre.

Pets

One respondent took her cat (in a cat carrier) with her to the evacuation centre. At the centre this pet owner felt the number of dogs was overwhelming for the cat and she was unable to let her cat out of the pet carrier to 'stretch its legs'. This was a contributing factor to her moving to the shopping centre evacuation centre on the second night.

Two other respondents had cats but were unable to take them when they evacuated as they did not have a cage at home to transport them in. Wanting to check on their pets after the flood peak led both to temporarily leave the centre to visit their home as soon as they could (sometimes against advice of centre staff).

Generally, the management of pets was considered adequate, although some respondents noticed some pet owners arguing with staff about bringing pets inside the centre and others complained that the noise of barking dogs increased stress levels at the centre.

Verbatim comments

Satisfaction

"Honestly I can't fault the search and rescue people or those at the evacuation centre - the people and the volunteers, I really cannot fault any of them. It was just the way it was. It was just hectic and crazy, and there were sick kids and babies and kids screaming but I can't suggest any changes or anything because I wouldn't know what else they could have done, they were just (inundated with people)."

Ignatius Park and Shopping Centre Evacuation Centre user

"They (centre staff) were all very very kind and caring and they understood what we were going through and (they remained calm) even when people were going off at them."

Ignatius Park and Shopping Centre Evacuation Centre user

"I don't actually think (there is anything they could improve on). You are not going there for a holiday, it is like an emergency."

Lavarack Barracks Evacuation Centre user

"What a magnificent job (the staff did), what those women did was incredible. They organised beds and blankets and everything. There was about two women there for a thousand people and they did an incredible job, they dealt with anyone who did give them a bit of a hard time and said, 'deal with it'. But there was no real trouble in there that I know of."

Heatley Evacuation Centre user

"We had stretcher beds and it only took about a day or two and Bunnings donated a whole heap of blow up mattresses and they were all in their boxes and brand-new pillows and sheets."

Alligator Creek and Heatley Evacuation Centre user

"Yes, they had bedding and sheets. They had all the food and (I was) very happy for a cup of tea. They had everything. That and if I needed help with my little one (someone was there to help)."

Ignatius Park and Heatley Evacuation Centre user

"The staff were excellent. Some other people were arguing with them, but they handled the situation pretty well, they were excellent, they were perfect. They asked people if they were all right and if they needed assistance with anything and even when there were arguments with other people in there, they resolved it straight away and notified the police and even the ambulance was there too."

Ignatius Park and Heatley Evacuation Centre user

Overcrowding issues

"They had to get to a point where they said no more people, like we can't fit any more people here so when they started saying that and turning people away that's when I was like yeah there's way too many people here for me too, and that's when I tried to find a place to go to."

Ignatius Park and Shopping Centre Evacuation Centre user

"No (there weren't enough toilets) but then you don't usually get a couple of hundred people there at any one time, it is a school hall, but it is okay, you just had to queue up sometimes, but no big deal."

Ignatius Park Evacuation Centre user

"There were two halls and the first one I went into, which was the good one I think, they had about 400 people in it when I got there and that only had two showers I think and two or three men's toilets and then that got bigger and then they opened up the other basketball centre at the back and they moved us in there, they only had one shower in there and one toilet and ended up with about 400 in there but everyone seemed to manage. The last day I noticed port-a-loos brought in."

Heatley Evacuation Centre user

"They did have a policeman walking around there all the time. (There was) probably 1,000 people in there and one policeman but they did their best. I saw them with some young blokes dealing in drugs near the end but they (the police) were taking care of that."

Heatley Evacuation Centre user

"I didn't like Heatley at all, there was no air conditioning for a start, just very very overcrowded and I was actually getting quite sick because I am allergic to mould and my car was full of mould and (I felt) anxious and depressed from everything and we were squished in and there was no new sheets and no new pillows."

Alligator Creek and Heatley Evacuation Centre user

"The only thing was that there were people there doing drugs outside the building. The police were inside and they didn't know what was happening outside so some ladies told the policeman they were shooting up, he went outside and dealt with them. I could understand they were stressed out but there were children there too."

Ignatius Park and Heatley Evacuation Centre user

Communications

"No, I didn't want to know (what was happening outside). It would have just made that night even worse if I had known. We knew that a metre of water was coming and I was just worried about my cat, I was sure that when we came back after two days that she would be dead."

Ignatius Park Evacuation Centre user

"It was (difficult) trying to gather enough information to know when was a good time to go home. We were waiting on people that were out of the base or had friends and family come pick them up and been out and about to tell us what the water was like around the area. It just wasn't a priority (for the evacuation centre staff), they were more concerned with actually rescuing people and keeping them safe rather than worrying about letting someone know when they could go home. I just don't think it was a priority for them."

Lavarack Barracks Evacuation Centre user

"I don't think anyone knew (what was happening outside), that was the problem. No one could give us information. It is one thing to say you want more information, we all want to know how our houses are but the girls at the desk they didn't know. They were doing a job, so you didn't want to go up and ask, they didn't have the time, they had a lot of people to handle."

Heatley Evacuation Centre user

"It was just a little inflatable thing (that the army used to evacuate us). They were helpful in like they looked after you but they didn't actually have much information about the actual flood, they pretty much knew as much as anyone else did."

Lavarack Barracks Evacuation Centre user

Health

"I was very crook because I pulled my back out in the evacuation centre too trying to help a bloke up."

Heatley Evacuation Centre user

"They asked people about medication when they went in and I think they did have somewhere to keep medication; they did have a doctor turn up or a chemist to give medication out and talk to people and your medication would come the next day."

Heatley Evacuation Centre user

"(The ambulance was there only when needed) I pinched a nerve in my back when I was laying on the hard stretcher and there was a couple of us also needing medication and they called the ambos and they came out and did a once over and then we actually managed to get a doctor out to write out scripts and stuff that we needed because I needed pain killers and Panadol wasn't cutting the mustard."

Alligator Creek and Heatley Evacuation Centre user

Qualitative method

Seven interviews were undertaken, over the phone, between 17 April and 1 May 2019. A profile of each respondent is provided below.

	Suburb evacuated from	Gender	Evacuation centre	Number in party	Date evacuated *(note, respondents were not always certain of dates and times, these are best estimates)*
#1	Hermit Park	Female	Ignatius Park, then the shopping centre	On own (took pet cat)	Thursday 31st January Used paddleboard and paddled out
#2	Idalia	Male	Lavarack Barracks	3 adults (adult son with parents)	Sunday 3rd February Late evening/early Monday morning - flagged (via flashlight) army duck
#3	Rosslea	Female	Ignatius Park	On own (66 year old)	Sunday 3rd February morning/midday Walked through thigh-deep water to army vehicles
#4	Rosslea	Male	Heatley	On own (69 year old, poor health/disabled)	Respondent is unsure (but estimates it was well before dam gates were fully opened) Drove himself
#5	City area	Female	Alligator Creek, then Heatley	On own, younger backpacker, poor health	Thursday or Friday morning (respondent is unsure) Attempted to drive out of Townsville but highway cut and was sent back to Alligator Creek
#6	Hermit Park	Male	North Shore	4 (two adults – husband & wife, two children – 9 yrs, 6 months)	Sunday 3rd February morning SES boat picked up
#7	Hermit Park	Female	Ignatius Park, then Heatley	3 adults and a 3 year old child	Sunday 3rd Feb evening Emergency evacuation – phoned for help but none arrived – spent some time on the roof of a partly submerged car (child was momentarily lost in water – taken to hospital and given all-clear and the party returned to the evacuation centre)

Therese Coutts (Senior Project Director) from MCR conducted all interviews. The discussion guide used in the interviews is appended at Appendix A. The interviews went for approximately 45 minutes each and respondents were paid a $60 incentive (via an emailed gift voucher) to thank them for their time.

Respondents were recruited to participate via three methods:

- Three were nominated by the Red Cross
- Two were sourced from the quantitative survey with Townsville residents (when they indicated they used an official evacuation centre they were asked if they'd like to take part in further research)
- Two were sourced using Q&A Market Research's (the quantitative fieldwork supplier) panel of focus group participants.

Qualitative research disclaimer

Qualitative in-depth interviews are a valuable means of identifying a range of attitudes and behaviours within a target group. However they do not measure the extent to which these attitudes or behaviours are found throughout the entire market. As is our normal practice, we emphasise that any findings are qualitative in nature and cannot be extrapolated to the entire market.