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RESEARCH

Social Research on Floods in the Hawkesbury Nepean Valley

Quantitative Research Report

24 September 2014

Contents

Executive Summary

This executive summary outlines the key findings of a comprehensive social research study which was conducted on behalf of the NSW Government's *Hawkesbury-Nepean Valley Flood Management Taskforce.*

The findings here are a synthesis of both the qualitative and quantitative research conducted as part of this work. The target audience was residents living in the Hawkesbury-Nepean Valley (HNV), within the Probable Maximum Flood (PMF) risk zone, who were key decision makers in their household.

The research was undertaken in late August and early September 2014. The qualitative research involved six focus group discussions with residents, supplemented by a small amount of key stakeholder research, and the quantitative research consisted of a robust telephone survey of n=400 residents.

Please note that the quantitative research is the primary focus of this report, while the qualitative research is reported separately.

About the Local Community

- **The research suggests that the target audience is quite well-established and that people greatly value living in the area** – especially for the lifestyle, social networks, space and natural beauty.
  - On average, respondents had lived at their current property for 20 years, with 48% having lived there for 20 or more years. Those within the 1 in 100 flood risk area had lived there for longer than those beyond this boundary (24 vs. 18 years on average).
  - Most respondents own their own home; at 85% this is significantly higher than the average for greater Sydney (65% in the 2011 Census).
- **There are certainly strong networks among residents in the Valley**, with the majority of respondents (92%) reporting that at minimum they know a fair few people within the local community. However there is also a degree of isolation among a small minority, with 7% saying they know hardly anyone or no-one at all.
- **Around three quarters of respondents also reported knowing their neighbours well** (net 77% agree, with a large 46% agreeing strongly), and that they often do things to help others in the community (net 73% strongly or somewhat agree).
  - Indeed, participants gave examples of the community coming together for other emergencies including recent bushfires and floods.
  - Social cohesion appears somewhat stronger in the Penrith floodplain where people were more likely to agree *strongly* with both of these statements than in Richmond Windsor.
- Despite strong informal networks, **more formalised community activity is fairly low**, with only 30% stating that they are involved with a local community or social group, most commonly the local church or sporting clubs.
- **Interest in getting involved in local planning for emergencies was relatively low**: while nearly four in ten respondents agreed they were interested (38%), just 14% agreed strongly.
  - Penrith floodplain residents were slightly more likely than those in Richmond Windsor to be interested in getting involved (18% vs. 12% strongly agree) – a further indication of the stronger social cohesion within this floodplain.

Executive Summary *cont'd*

Floods in Context: Risk & Experiences

- Severe storm was considered a higher risk than either bushfire or flood. When asked to rate the risk on a 0-10 scale where 0 meant no risk at all and 10 meant an extremely high risk of a severe storm affecting their property in the next five years, almost half (46%) of respondents perceived a high risk (i.e. they gave a rating of 7 or more). This compared with **just 33% who thought there was a high flood risk**, and 25% for bushfire.
  - In line with the qualitative research, those on the Penrith floodplain were somewhat more likely to perceive a low flood risk, where 43% rated the risk between 0 and 3 out of 10, compared with 38% of those on the Richmond Windsor floodplain.
  - Older people and males were also more sceptical of the flood risk.
- The more frequent the actual flood risk was, the higher the perceived risk was. **Those within the 1 in 100 year flood risk zone were significantly more likely to perceive a flood risk** than those beyond this zone, with average ratings of 5.5 and 3.8 out of 10 respectively.
- Just over **half of all respondents (52%) had experienced flooding**, including one in five (21%) at their current property.
  - Those in the Richmond Windsor floodplain were also much more likely to have ever experienced flooding than those in the Penrith floodplain (64% vs. 33% respectively).
  - Residents within the 1 in 20 year flood risk were the most likely to have experienced a flood at their place (49%), falling to just 5% of those within the 1867 – PMF zone.
- In turn, a fairly low level of overall concern was registered about the flood risk in the area, with an average rating of just 4.6 out of 10 (where 10 meant 'extremely concerned'). Those in the 1 in 20 year flood zone were more likely than others to be concerned (20% of whom gave a rating of 9 or 10, compared with 9% of others).

Flood Preparedness

- **A mix of perceived preparedness levels is evident within the community.** The results were fairly divided: similar proportions felt quite prepared (37% gave a 7 or higher), fairly prepared (31% gave a 4 – 6), and not really if at all prepared (30%). However, there is only a fair level of perceived preparedness overall, with the average rating being 5.2 out of 10. This suggests that broad-based targeting of communications is warranted in order to reach those who feel less prepared.
- **Almost seven in ten (67%) had done nothing at all, highlighting the widespread complacency within the community.** Importantly, a significant proportion of these respondents (28%) also felt quite or very prepared for a flood – again reflecting people's over-confidence.
- **Barriers to preparing for the possibility of a flood were explored, where the standout barrier was essentially that there was no perceived risk of flooding, which was seen in the qualitative research as well.** More than half of all respondents agreed that they would have plenty of warning if a flood was coming, so they don't need to prepare in advance for the possibility (60%). This result indicates quite a widespread misconception that should be addressed in communications across the Valley.
- **Half of all respondents (49%) said they would need at least a fair amount of help to prepare** (giving a rating of 4 or higher, where 0 meant no help at all and 10 meant they'd need a great deal of help), **and almost as many (44%) thought they'd need help to evacuate**, suggesting there would be a substantial need for community support in the lead up to and in the event of a major flood.
- In terms of preparedness drivers, experiencing a flood in the past was the most mentioned reason for preparing for a flood. Meanwhile, many said they hadn't actually done anything to prepare despite *feeling* very prepared, reflecting their lack of understanding of what it means to be ready for a flood, and a sense that it is about being mentally prepared rather than necessarily physically prepared.

Executive Summary *cont'd*

- The main potential drivers to becoming more prepared were more information / checklists about the sort of things that should be done to prepare (12%), and advance warnings of a coming flood (8%). A few suggested a flood rating for their property could motivate them to prepare (6%).
- Respondents were asked an open-ended question to understand what they thought could be done to ensure they evacuate quickly and follow orders. Reflecting their lack of knowledge, almost half (46%) were unable to nominate anything, while some indicated they would simply follow instructions (13%).

Flood Response

- In line with the qualitative research phase, three quarters (73%) of respondents felt quite or very confident they would know exactly what to do if they received an evacuation order; giving a confidence rating of 7 or more out of 10, where 0 meant not at all and 10 meant extremely confident.
- After hearing on the radio their street was evacuating, almost a third (32%) believed they would leave immediately and not do or wait for anything else. This may present a concern because they may not make important preparations like turning off the power and securing belongings.
- Six in ten (58%) thought they would be able to leave within an hour of being given a direct evacuation order from the SES, while 35% would take longer than an hour; 62 minutes on average.
- Notably, those living within the 1 in 100 year flood risk zone indicated they would take around twice as long as those beyond this area to leave their property, at 88 minutes vs. 45 minutes on average, respectively. This may be due to them having larger land holdings and more to prepare.
- When asked who they would need to hear an evacuation order from to decide to leave their property immediately, without prompting the vast majority said the SES (76%) and/or the police (74%). Note that those within the 1 in 20 – 1 in 100 year risk zone tended to nominate the police and the SES compared with those in the 1 in 20 year risk zone where it was clearer cut to residents that SES is the lead agency.
- A small proportion maintained they would refuse to leave regardless of who gave the evacuation order (3%).
- Almost a quarter have someone in their household who suffers from a disability that would affect their ability to evacuate quickly in the event of a flood (22%).
- The qualitative research showed that in general, the likelihood of complying with evacuation orders increases the more people understand the seriousness of the issue and the broad range of impacts on the community, particularly the issues around road access and utilities being cut off.
  - Most people expected they would follow a definitive instruction to evacuate immediately if they understood there was the very real potential for loss of life as a result of people not following orders.
  - Once carefully explained, the need for staged evacuation was understood, but the findings suggest that some people would ignore this once they feel at immediate risk.
- Actual knowledge of what to do in the event of an evacuation order was quite limited, pointing to a degree of bravado. Around a third (34%) of respondents knew that they would need to turn off the electricity and gas at the mains, and secure items that were likely to float or cause damage (32%) before evacuating during a flood.
- However, one in eight respondents admitted they weren't aware of what the procedures were at all (13%). Highlighting the bravado, this included some people who earlier said they were *very confident* they'd know what to do if they received the order to evacuate (11%).

Executive Summary *cont'd*

- When asked where they would go in an evacuation situation, almost four in ten (37%) would go to a family member or friend's house, while around three in ten (29%) would go wherever they were directed. Almost a third of respondents thought they would simply go to 'higher ground' (29%).

- On average they would take 2 cars to evacuate. Most wouldn't be towing anything (79%), but one in five (23%) said they would.

- While the majority of respondents (63%) claimed they would not try to return home if they were told access to their area was cut, more than a quarter (27%) said they would still try to return home if they were outside their local area when their area was being evacuated. Again, this represents a significant proportion who could put people's lives at risk, including their own.

Communications & Engagement

- Recall of flood related information in the area is low, with only a quarter of respondents (26%) saying they had seen, heard or read anything recently. Printed advertising and editorial sources had the highest recall (brochures, newspapers, street signs and billboards), followed by radio.
  - Those on the Penrith floodplain were more likely to have seen flood related advertising on a street sign or billboard (32%) than those on the Richmond Windsor floodplain (5%). Notably, in the qualitative research those in the Penrith floodplain were also quite likely to say that signage would be a good way of drawing their attention to flood related information, suggesting this is an effective medium in this area.

- In the qualitative research, after learning more about flood risk and potential impacts, interest levels increased significantly and participants strongly supported the development of an awareness and education campaign on this issue.
  - In particular, the impact of the flood impact map showing the extent of potential flooding on neighbourhoods and infrastructure had a sobering effect.
  - In the HNV region, people's perceptions were sometimes impacted by neighbours' and long term residents' bravado in playing down the risk inherent in past floods and 'false alarms'. In general this community appears to be somewhat blasé about risk issues based on anecdotal sharing of past experiences and local folklore.

- The strongest channel preference for general information about flood was brochures via mail at 51%, and there is some sense that local councils have a role to play in providing information about flood risks and how to prepare for floods.

- There were some differences in preferred channels for general flood information among respondents, most notably:
  - Those aged 65+ were more divided than other age groups on their preferences, with some preferring information in the mail, some preferring the radio and some wanting a telephone call from the SES, while younger respondents were far more likely to prefer information in the mail than via any other channel.
  - Those in the 1 in 100 year flood risk zone were even more likely than those living beyond this area to prefer information in the mail, although it was still the number one source for both groups (60% and 45% respectively).
  - These differences may reflect the heightened sense of flood risk among younger people and those within the 1 in 100 zone, in that more important information is expected to be delivered more directly.

- During a flood and in an evacuation situation, there would likely be strong reliance on the SES (net 45% – either via phone at 34% and/or through its website at 19%) and radio (38%).

Executive Summary *cont'd*

- If an evacuation warning or order were required, respondents would most prefer to receive a *direct* message to evacuate, either via SMS (47%), a phone call from the emergency services (40%) or through doorknocking by the SES or other emergency services (30%).
- The qualitative research also indicated that the community finds it difficult to interpret a lot of the terminology commonly used in relation to floods including '1 in 100 years', references to 'the gauge', and moderate vs major flooding.
- Qualitative participants wanted to see an information pack with of a brochure and preparedness checklist sent to each household, with a corresponding public relations campaign comprising initiatives such as media stories, advertising, local exhibitions and briefings of local opinion leaders. Some in the Richmond Windsor floodplain were interested in attending a local community meeting to discuss the issue further.
  - There was strong demand for one overarching, clear authoritative source of information in the event of flood, but some uncertainty about whose role this was. Councils were seen as the main source of information about flood planning, with the SES regarded primarily as a hands-on response agency.
  - Many participants stressed the importance of ensuring the design, visuals and messages strongly reinforced the relevance and seriousness of the issue through localisation of information, maps, animations and images.
- The qualitative research also showed that the 2013 bushfires have set a benchmark for how participants expect communications will occur in the actual event of a flood, with key elements including text messages, one clear authoritative voice letting people know what to do, automated phone calls and door knocking, and an app like 'Bushfires Near Me'.
- Despite this, people will also be looking for verification of information and instructions from other sources including media, websites, friends and family.

Conclusion

- It appears that the majority of residents are in the Pre-Contemplation stage within the Stages of Change model (see overview on p18). That is, they are not yet aware of the problem or the need to become flood ready, let alone thinking about changing their behaviour. This is evidenced by the community's widespread lack of preparedness for the possibility of a flood, along with the relatively low overall perceived risk of flooding, and the lack of knowledge of flood impacts or how to respond in a flood.
  - Residents within the Penrith floodplain are more likely to be in Pre-Contemplation, although many in the Richmond Windsor floodplain are also at this stage of the behaviour change process.
  - Older male residents are also more sceptical and communications will require more effort to convince them of the risk and need to prepare.
- The research revealed a range of common misconceptions to address within the community about flooding in the area, including:
  - Floods won't affect them because they won't reach their property and if they do, they can easily get to higher ground;
  - There would only be minor floods like those of the last 30-50 years (since the dam was built there haven't been any big floods, so they're unlikely – indeed the dam seems to be keeping people safe) and they know how to deal with relatively minor floods;
  - There will only be a flood if there is a massive spill from Warragamba Dam or if it fails or is damaged in a terrorist act;
  - Flood waters rise slowly so there will be plenty of time to prepare at the time and no pressing need to prepare in advance;
  - Flood preparation is simply a matter of common sense;
  - The biggest risk is to property and possessions, not to personal safety; and
  - Things would reasonably quickly return to normal after a major flood – there was very little awareness of the potential impact on supporting infrastructure preventing an immediate return to normal life.

Introduction

Background & Objectives

Introduction

- Infrastructure New South Wales (INSW) commissioned Newgate Research to conduct social research to inform the design of a targeted and measureable stakeholder and community engagement, education and awareness strategy that consults on flood risk and builds flood resilience in the Hawkesbury-Nepean Valley (HNV).
- The risk of potential flooding in the HNV has been well documented and well known for over a century. Since at least the early 1990s, successive plans have been put forward to mitigate the risks, ranging from raising and strengthening the walls of Warragamba Dam to improving roads for evacuation.
- Following the Brisbane floods in 2011, the need to spill Warragamba Dam and localised flooding in 2012, concerns about the potential impacts of flooding were heightened, with the HNV recognised as the biggest flood risk in NSW and possibly Australia, potentially impacting over 70,000 people. Flood mitigation was identified as a priority in INSW's *State Infrastructure Strategy* in 2012 and following this the NSW Government announced the *Hawkesbury-Nepean Valley Flood Management Review* to consider flood planning, flood mitigation and flood response in the valley.
- Stage One of the review was chaired by the NSW Office of Water and involved the Department of Premier and Cabinet, Sydney Catchment Authority, NSW State Emergency Service (SES), NSW Treasury, Office of Environment and Heritage, Department of Planning and Infrastructure and Department of Finance and Services. The findings were presented to the NSW Government in late 2013, finding that while there is no simple solution or single infrastructure option that can address all of the flood risk in the HNV floodplain, it is possible to reduce and manage the risks through a combination of flood prevention, preparedness, response and recovery.
- The immediate priority of the Taskforce established to lead the second stage of the review – and the focus of this project – is building the resilience and preparedness of the communities and businesses of the HNV by increasing and maintaining community awareness of the risks and options available to them in responding to floods. The Taskforce has committed to work with key stakeholders including local councils, the insurance industry, flood and water management and other government agencies.
- Newgate Research was appointed to conduct a comprehensive social research benchmarking program to support Stage Two of the Review.

Objectives

- The overall objective of this project was to find out from the HNV community what they understood about the risk of flood and its potential impacts, and how they could be influenced to ensure the right response; how stakeholders could be leveraged to assist in this campaign; and how this could be done without raising undue alarm or concern.
- More specific objectives of this project were to:
  - Provide an understanding of the HNV community's knowledge, attitudes, behaviours and intentions, including drivers and barriers to responding suitably in the event of a flood, as well as people's information requirements that will inform education, engagement and awareness building strategies;
  - Identify and understand the social networks and partnerships that connect the community, and therefore could be tapped into to engage and educate;
  - Identify education strategies and other engagement activities that are most likely to work with the targeted communities to foster ownership of the problems and empower people with solutions; and
  - Establish a baseline and repeatable methodology to measure changes over time in the community's understanding, preparedness and likely responses to a flood, including the call to evacuate, if this were to eventuate.
- The findings of the research will inform the design of a targeted and measurable stakeholder and community engagement, education and awareness strategy that reduces both the risk of loss of life and economic impacts, by building flood resilience among potentially impacted communities. The campaign is expected to be rolled out from mid-2015. It will be tracked over time (measuring outcomes not outputs) and modified as required to maintain currency, community participation and depth of engagement.

Research Methodology: Quantitative Survey

- A quantitative telephone survey was conducted with a stratified random sample of HNV residents aged 18 and over, where the core target audience was those living within the extent of the record 1867 flood zone, but a quarter of those interviewed lived beyond this area, up to the Probable Maximum Flood (PMF) area, to gain a more complete picture. To qualify for the survey, respondents had to be one of the main decision makers when it comes to major household decisions.
- Newgate Research designed the questionnaire, with survey programming and data collection by AFS. The survey was fielded 2-15 September 2014, with an average interview length of 21 minutes.
  - The SES provided a list of addresses within the whole PMF area and AFS matched these with phone numbers using White Pages telephone listings. Overall AFS was able to match 27.5% (n=8,750) of the 31,203 address points in the target area provided by SES.
  - A pilot of n=14 interviews was completed on the first night, with changes made to the questionnaire the next day primarily to reduce the interview length. Pilot data was able to be retained.
- In total, n=400 interviews were conducted representing a best practice maximum error margin of +/-5% at the 95% confidence level.
- The SES address list was also used to develop the survey quotas to get a good mix of the community by flood type area and floodplain, while the quotas by flood risk zone saw those within the extent of the record 1867 flood over-represented relative to the actual population within the PMF area, given they represent the core target audience. Some quotas had to be relaxed later in the fieldwork due to a lack of sample; weighting was used to correct for this.
- 'Soft quotas' for age and gender were used based on rough population proportions to ensure a good mix of people in the survey. These were not strict 'hard quotas' because we were seeking main decision makers, which is different from overall population distribution.
- The table below shows the Sample (N=) with phone numbers by floodplain, flood type area and flood risk area, along with the number of interviews achieved per cell (Int. n=) and the proportion (%) of the available sample that was interviewed.

Flood type area:	High Flood Island			Low Flood Island			Overland Escape Route			Rising Road Access			Trapped Perimeter			Total		
Flood risk zone x floodplain:	**Sample N=**	**Int. n=**	**%**	**Sample N=**	**Int. n=**	**%**	**Sample N=**	**Int. n=**	**%**	**Sample N=**	**Int. n=**	**%**	**Sample N=**	**Int. n=**	**%**	**Sample N=**	**Int. n=**	**%**
Penrith floodplain:	-	-	-	592	36	6%	362	24	7%	1380	55	4%	-	-	-	2334	115	5%
Up to 1 in 20 year zone	-	-	-	211	3	1%	193	5	3%	128	1	1%	-	-	-	532	9	2%
1 in 20 - 1 in 100 year zone	-	-	-	48	19	40%	33	10	30%	12	5	42%	-	-	-	93	34	37%
1 in 100 – 1867 flood zone	-	-	-	54	4	7%	101	7	7%	480	35	7%	-	-	-	635	46	7%
1867 flood extent – PMF zone	-	-	-	279	10	4%	35	2	6%	760	14	2%	-	-	-	1074	26	2%
Richmond Windsor floodplain:	430	24	6%	3546	176	5%	72	4	6%	2302	80	3%	21	1	5%	6371	285	4%
Up to 1 in 20 year zone	108	5	5%	975	19	2%	27	3	11%	236	14	6%	3	0	0%	1349	41	3%
1 in 20 - 1 in 100 year zone	106	7	7%	299	68	23%	18	1	6%	161	9	6%	3	1	33%	587	86	15%
1 in 100 – 1867 flood zone	52	7	13%	916	49	5%	4	0	0%	508	27	5%	3	0	0%	1483	83	6%
1867 flood extent – PMF zone	164	5	3%	1356	40	3%	23	0	0%	1397	30	2%	12	0	0%	2952	75	3%
Total	430	24	6%	4138	212	5%	434	28	6%	3682	135	4%	21	1	5%	8705	400	5%

Research Methodology: Quantitative Survey *cont'd*

- An extra 74 address points were identified by AFS and used to help complete the n=400 surveys. These were on streets that were unique to any given flood type area and flood risk area.
- To correct for sampling bias, the final data set was weighted by floodplain and flood type area to reflect the actual population distribution using the address points provided by the SES.
- Artificial weighting by flood risk area was also used, to boost the representation of those *within* the 1867 flood extent area and in particular within the 1 in 100 year flood risk area at the total sample level. This was to enable the results to largely reflect the core target audience and reduce the focus on the population within the 1867 – PMF area, which is much larger.
- We believe the results accurately reflect the views of the HNV community who are potentially and realistically most at risk of being affected by a major flood. The tables below shows how the weights were applied to the final data set.

Weighting Used – As per Actual Population	High Flood Island	Low Flood Island	Overland Escape Route	Rising Road Access	Trapped Perimeter	**Grand Total**
Penrith Floodplain	-	5.7%	4.2%	29.0%	-	**38.8%**
Up to 1 in 20 Year Flood	-	0.3%	0.2%	1.3%	-	**1.8%**
1 in 20 - 1 in 100 Year Flood	-	1.5%	1.1%	7.9%	-	**10.5%**
1 in 100 - 1867 Flood	-	2.3%	1.7%	11.6%	-	**15.6%**
1867 - PMF Flood	-	1.6%	1.2%	8.1%	-	**10.9%**
Richmond Windsor Floodplain	3.2%	32.3%	1.2%	24.3%	0.2%	**61.2%**
Up to 1 in 20 Year Flood	0.5%	4.9%	0.2%	3.7%	0.0%	**9.2%**
1 in 20 - 1 in 100 Year Flood	0.9%	9.4%	0.4%	7.1%	0.1%	**17.8%**
1 in 100 - 1867 Flood	1.3%	12.9%	0.5%	9.7%	0.1%	**24.4%**
1867 - PMF Flood	0.5%	5.1%	0.2%	3.9%	-	**9.7%**
Grand Total	**3.2%**	**38.0%**	**5.4%**	**53.3%**	**0.2%**	**100.0%**

Net Flood Risk Zone Weights	Weighting for TOTAL sample
Up to 1 in 20 Year Flood	12%
1 in 20 - 1 in 100 Year Flood	28%
1 in 100 - 1867 Flood	40%
1867 - PMF Flood	20%

Overview of the Stages of Behaviour Change

The Stages of Change Model: This now widely used behaviour change model – sometimes known as the Transtheoretical Model – was developed in the late 1970's / early 80's by James Prochaska and Carlo DiClemente when studying how smokers were able to give up.

The idea: Behaviour change does not happen in one step; people tend to progress through the different stages (shown below) in their own way, at their own rate, from pre-contemplation towards successful and sustainable change. They need different forms of support at the various stages, and they may not progress if unsupported, or may experience relapses before finally reaching 'transcendence', when they are permanently changed and emerge as potential role models.

Varied applications: The framework is used for health and addiction problems, and increasingly sustainability behaviours, social marketing and community based programs aimed at building community resilience. The model has been informally considered within this research to understand the community's flood readiness.

Transcendence

Pre-contemplation

- Not yet acknowledging there is a problem behavior that needs to be changed

Support Responses:

- Raise awareness of the problem and personal consequences of inaction

Contemplation

- Acknowledging there is a problem but not ready or sure of wanting to change

Support Responses:

- As per Pre-contemplation
- Communicate the benefits of changing and how they will outweigh the short-term costs

Preparation

- Getting ready to change
- Making a commitment

Support Responses:

- Reinforce the benefits of changing
- Communicate options and ways of changing
- Provide links to information & resources

Action

- Changing behaviour
- Building up willpower

Support Responses:

- Provide encouragement
- Use case studies
- Create linkages with others
- Provide access to tools & resources

Maintenance

- Maintaining the behavior change, avoiding relapse
- Can lead to 'transcen-dence' from the old ways

Support Responses:

- Showcase and reward successes
- Provide encouragement
- Reinforce the importance of the change

Relapse

- Encourage self analysis, learning and getting back on track

Research Findings

Important Notes to the Reader

This research was conducted in accordance with the international quality standard for market and social research (ISO 20252), to which Newgate Research is accredited.

In preparing this report we have presented and interpreted information that we believe to be relevant to achieve the objectives of this research project.

Where assumptions are made as a part of interpreting the results or where our professional opinion is expressed rather than merely describing the findings, this is noted. Please ensure that you take these assumptions into account when using this report as the basis for any decision-making.

Please note that percentages on single response questions may not total 100% due to rounding, and if the question was multiple response the total may also exceed 100%. Throughout the report, weighted data is shown. See the Research Methodology section for more information about the weights used.

The actual questions asked in the survey are shown at the bottom of each page, along with the respondent base (typically all respondents). Where questions accepted multiple responses, this is specified after the question; otherwise questions should be assumed to have accepted a single response only.

Relevant statistically significant differences between sub-groups or questions are identified throughout the report at the 95% confidence level, using up / down arrows.

Please note that qualitative findings included throughout this report should not be considered statistically representative and cannot be extrapolated to the general population.

Verbatim quotes from the research are included in the report to further support and provide evidence of the findings.

> *"Fusce blandit laoreet lacus, ac fringilla nunc lobortis, id tempus erat tincidunt."*
> *(Penrith Floodplain)*

Getting to Know The Local Community

Introduction & Key Findings

Introduction

- Respondents were asked a series of profiling questions at the beginning and end of the survey to gain a greater understanding of the residents of the HNV.

Key Findings

- The research suggests that the target audience is quite well-established, as indicated by the following characteristics:
  - On average, respondents had lived at their current property for 20 years, with 48% having lived there for 20 or more years. Those within the 1 in 100 flood risk area had lived there for longer than those beyond this boundary (24 years vs. 18 years on average).
  - Most respondents own their own home; at 85% this is significantly higher than the average for greater Sydney (65% in the 2011 Census).
- The vast majority of respondents speak only English at home (96%), which is significantly higher than for greater Sydney (at 74% in the 2011 Census).
- More than one in five have someone in their household who suffers from a disability that would affect their ability to evacuate quickly in the event of a flood (22%).
- There are certainly strong networks among people in the Valley, with the majority of respondents (92%) reporting that at minimum they know a fair few people within the local community.
  - However there is also a degree of isolation among a small minority, with 8% saying they know hardly anyone or no-one at all.
- Around three quarters of respondents also reported knowing their neighbours well (net 77% agree, with a large 46% agreeing strongly), and that they often do things to help others in the community (net 73% strongly or somewhat agree).
  - Social cohesion appears to be somewhat stronger in Penrith floodplain - respondents in this area were significantly more likely to agree *strongly* with both of these statements than those on the Richmond Windsor floodplain.
- Despite strong informal networks, more formalised community activity is fairly low, with only 30% stating that they are involved with a local community or social group.
  - Of these, the most common community groups mentioned were the local church and local sporting clubs.
- Interest in getting involved in local planning for emergencies was relatively low: while nearly four in ten respondents agreed (38% net agree strongly / somewhat), just 14% agreed strongly.
  - Contrary to the qualitative research findings, Penrith floodplain residents were slightly (although not significantly) more likely than those in Richmond Windsor to be interested in getting involved (42% vs. 36% net agree). It may be that the participants in the qualitative research in Richmond Windsor happened to be among those who were more interested.
  - Females were more likely than males to want to be involved in local planning for emergencies (net 45% vs. 26% agreeing).
  - Notably, those who were interested in getting involved in planning were more likely to be concerned about how climate change could affect the area (44% vs. 30% who weren't interested in getting involved) – pointing to potential messaging around climate change to appeal to this target audience.

Respondent Profile: *A very good mix of the community was represented in the survey*

Demographics	Segment	Wtd %	Unwtd %
Age	< 45 years	18	17
	45 to 54 years	23	23
	55 to 64 years	26	24
	65+ years	34	36
Gender	Male	34	35
	Female	66	66
Home ownership	Own	85	86
	Rent	13	13
	Other	2	2
Tenure	Less than 2 years	1	2
	2 to 5 years	16	15
	6 to 9 years	9	10
	10 to 19 years	25	28
	20 years or more	48	44

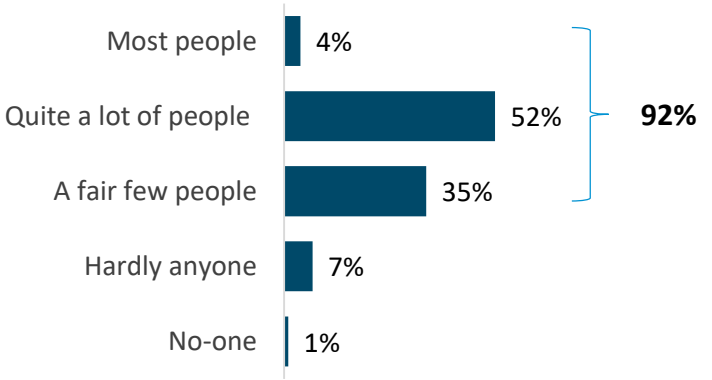
Demographics	Segment	Wtd %	Unwtd %
Number of People in Household	One	20	22
	Two	36	36
	Three to Four	30	30
	Five or more	15	13
Children under 18 at home?	Yes	36	35
	No	64	64
Employment Status	Working	49	49
	Retired	39	39
	Unemployed	4	4
	Other	10	10
Prefer to speak a LOTE at home?	English Only	96	98
	LOTE	4	3
People in household with disabilities	Myself	15	14
	Someone else	8	10
	Net Yes	22	22
	No	78	78

Base: All respondents (n=400).
VARIOUS QUESTIONS – REFER TO QUESTIONNAIRE

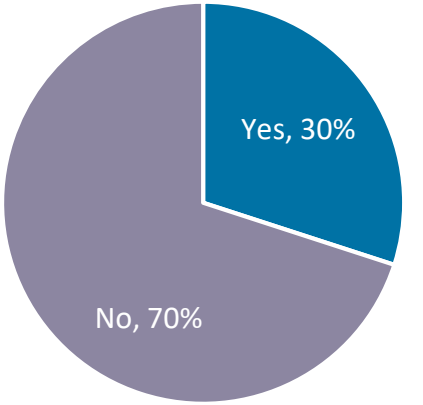
The Community

Social networks are strong among the local community despite fairly low participation in formal community groups

How Many People Do You Know in Your Local Community?



Involved in Local Community Groups?



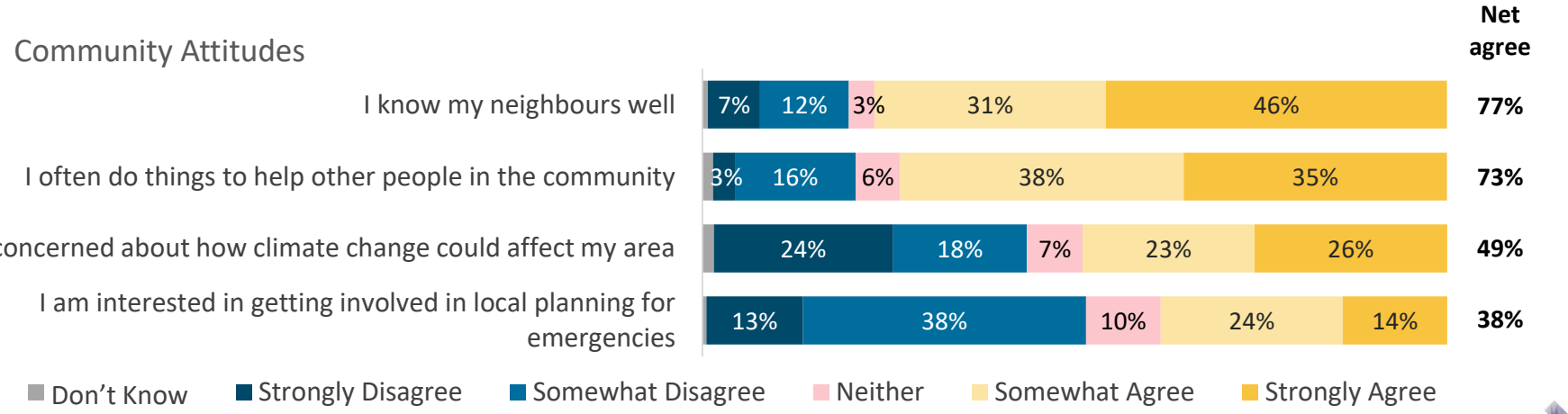
- There are certainly strong networks among people in the Valley, with the majority of respondents (92%) reporting that at minimum they know a fair few people within their local community. More than half (56%) thought they knew quite a lot, if not most people.
- However there is also a degree of isolation among a small minority, with 8% saying they know hardly anyone or no-one at all. People who had lived in the area for 10-19 years were most likely to say this (15% cf. 8% of those with less than 10 years in the area), as were those with a disability or illness that could prevent them from evacuating quickly (18%).
- Despite strong informal networks, more formalised community activity is fairly low, with only 30% stating they are involved with a local community or social group.
- Of respondents who are involved in a local community group the most commonly mentioned were a local church (24%) and local sporting clubs (21%), then at lower levels were: donating to local charities and organisations (8%), arts and crafts groups (7%), the RSL (6%) and senior citizens clubs (5%), Rotary clubs (5%) and volunteering at school or playgroups (4%).

Base: All respondents (n=400).
D1. Firstly, are you part of any local community groups, organisations or local charities? These include environmental groups, religious, sports, social or school groups.
Q2. Apart from the people in your household, how many people do you know in your local community; would you say you know…?

NEWGATE RESEARCH

The Community: *People know and help their neighbours, and those interested in assisting with emergency planning are also the most concerned about climate change*

- Around three quarters of respondents reported knowing their neighbours well (77% net somewhat or strongly agree).
  - Respondents on the Penrith floodplain were significantly more likely to agree *strongly* with this statement than those on the Richmond Windsor floodplain (55% vs. 40%).
- Agreement that they often do things to help other people in the community was also solid at 73% net strongly or somewhat agree.
  - Respondents on the Penrith floodplain were more likely to agree, compared with those in the Richmond Windsor floodplain (net 81% vs 69% strongly or somewhat agree).
- Almost half of all respondents (49%) agreed strongly or somewhat they were concerned about how climate change could affect the local area, while many disagreed (net 42%).
  - Females were more concerned than males (57% vs. 33% net agree respectively).
- Despite this, interest in getting involved in local planning for emergencies was relatively low at just under four in ten respondents (38% net agree and just 14% agreed strongly).
  - Somewhat contrary to the qualitative research, Penrith floodplain residents were slightly (but not significantly) more likely than those in Richmond Windsor to be interested in getting involved (42% vs. 36% net agree).
  - Females were more likely than males to want to be involved in local planning for emergencies (net 45% vs. 26% agree respectively).
  - Notably, those who were interested were more likely to be concerned about how climate change could affect the area (44% vs. 30% who weren't interested in getting involved) – pointing to potential messaging around climate change to appeal to this target audience.



Base: All respondents (n=400).
Q1. Do you agree or disagree with the following things some people have said? For each statement please tell me if you agree or disagree strongly or just somewhat.

NEWGATE RESEARCH

Floods in Context: Risk & Experiences

Introduction & Key Findings

Introduction

- At the start of the survey respondents were asked a series of questions to determine where the community sees floods in the context of their community, other natural disasters and their likely response in the event of a flood.
- This section covers respondents perceived risk of natural disaster in their area and in particular floods, previous experience of natural disasters and their probable first reaction and response to an emergency situation.

Key Findings

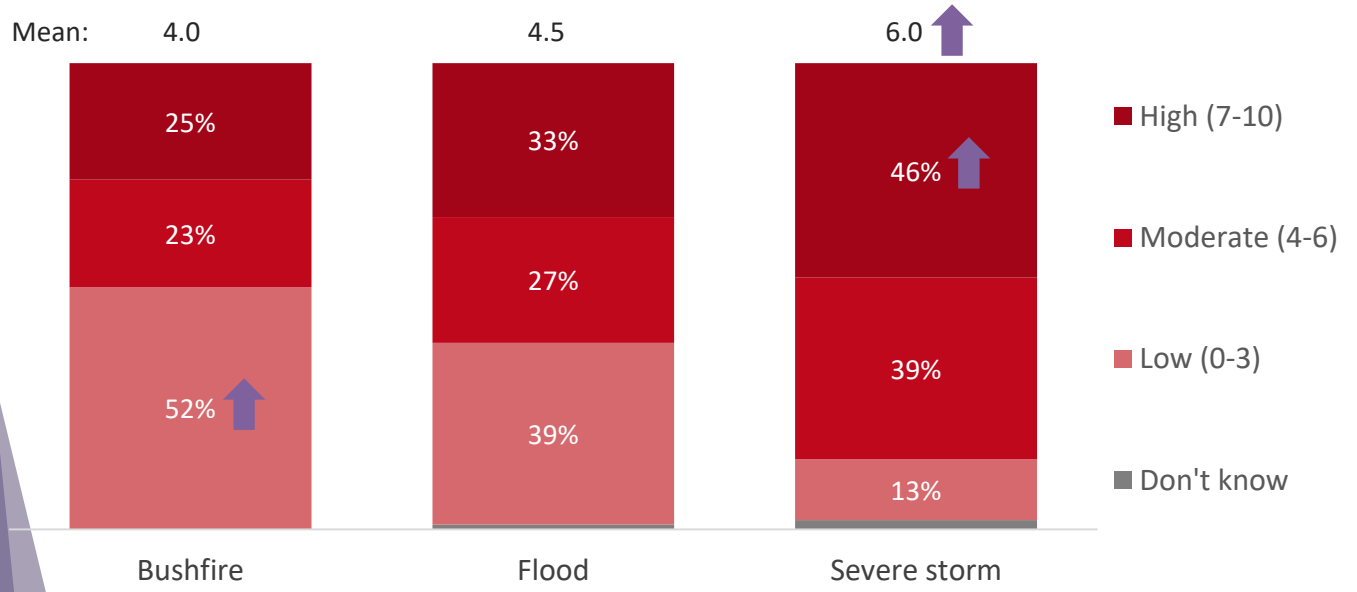
- Severe storm was considered a higher risk in the next five years than either bushfire or flood, with 46% of respondents rating the storm risk as high (i.e. 7 or more out of ten), versus 33% who believe the flood risk is high, and 25% saw a high bushfire risk.
  - Similar to the qualitative research, those on the Penrith floodplain were somewhat more likely to rate floods as low risk (between 0 and 3 out of 10) than those in the Richmond Windsor floodplain (43% vs. 38% respectively).
  - Respondents living in the 1 in 100 flood risk area gave higher ratings on average for perceived flood risk (average rating of 5.5 vs. 3.8 among those beyond the 1 in 100 flood risk area).
- While more than half (52%) of respondents had been through a flood at their current property or elsewhere, this is lower than the proportion who have been through severe storms (80%) or bushfires (62%).
  - There are significant differences by flood risk area, rising to half (49%) of those in the 1 in 20 year zone having experienced a flood at their place, and just 5% within the 1867 – PMF area.
  - As seen in the qualitative research, Windsor floodplain residents were also more likely to have had a flood (25% vs. 15% of Penrith floodplain residents).
- More than a third of those affected by a flood (36%) felt they were quite affected or severely affected (a rating of 7 or more out of 10), compared with just 21% of those who had experienced a bushfire.
- Around 95% of respondents believed they tend to respond to emergency situations in what might be characterised as a practical fashion, by either remaining calm and focusing on the task at hand (52%), trying to deal with the situation despite fears (29%), or even taking a leadership role (14%). The proportion who felt they would panic and need assistance was very low, at just 4%.
- Just over seven in ten (72%) believed they would follow instructions from emergency services, even if some of them might question the orders while doing so (30%). Importantly, none of the respondents thought they would ignore orders and rely solely on their own judgment. However, almost three in ten (27%) would use their own judgment and follow orders if appropriate, which is a relatively large proportion of people who may need special attention in an evacuation.
- Respondents were asked how concerned they were, if at all, about the risk of floods in their local area, where 0 meant not at all concerned and 10 meant extremely concerned. The average rating was just 4.6 out of 10, reflecting a fairly low level of concern overall. One third (32%) were not really concerned, giving a rating of 3 or lower, and two in five were fairly concerned (41%, giving a rating of 4-6), while a quarter were quite or very concerned (26% gave a rating of 7 or more).
- There was a marked difference in concern among those living within the 1 in 20 year flood risk area; more than half were at least quite concerned (54% gave a rating of 7 or higher), while only one in five (23%) in the '1 in 20 up to 1 in 100' zone, and around a quarter (24%) of those beyond the 1 in 100 area felt the same way.
- Respondents who had previously experienced a flood, on average, gave a higher rating for their level of concern than those who had not previously experienced a flood (5.2 vs. 4.0 respectively).

Perceived Risk of Natural Disasters

Severe storm perceived as a greater risk than flood or bushfire

- Severe storm was considered a higher risk in the next five years than either bushfire or flood, with 46% of respondents rating the severe storm risk as high (i.e. 7 or more out of ten), compared with 33% who believe the flood risk is high, and 25% who see bushfire as a high risk. Notably, as shown on the next page, around half had experienced a severe storm at their current property, explaining the perceived risk.
- Overall, there were no significant differences in perceived risk of flooding by floodplain, with an average rating of 4.2 out of 10 among those on the Penrith floodplain and 4.7 among those in the Richmond Windsor floodplain.
- Respondents living in the 1 in 100 year flood risk zone gave higher ratings on average for perceived risk of a flood affecting their property in the next 5 years or so, at 5.5 out of 10 compared with 3.8 among those living beyond the 1 in 100 flood risk area, as shown in the table below.

Perceived Risk of Events or Natural Disasters Affecting Your Property (Next 5 Years or So)

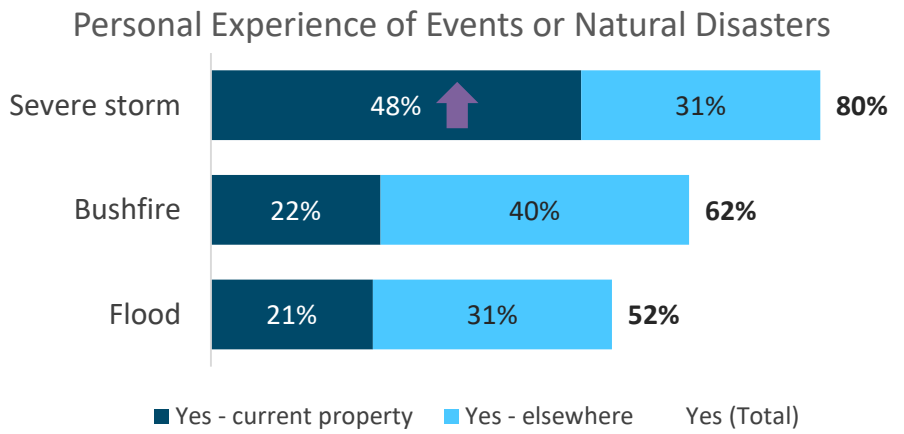


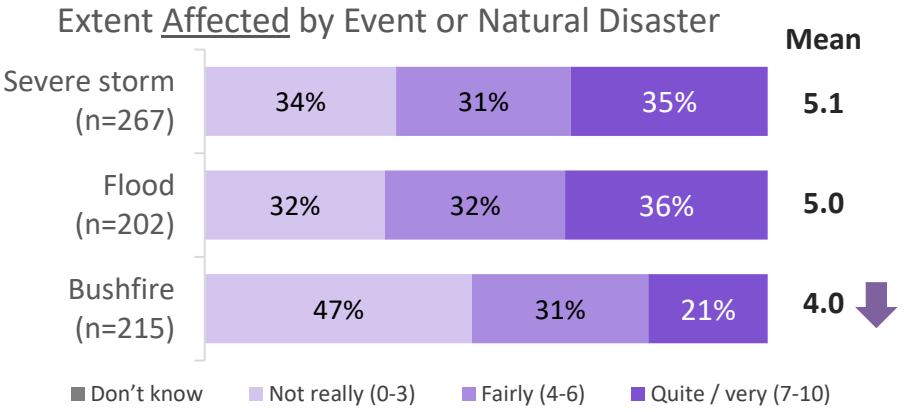
Flood Risk Zone by Perceived Flood Risk	Average Flood Risk Rating
Up 1 in 20 years	6.2
1 in 20 - 1 in 100 years	5.2
1 in 100 - 1867	4.1
1867 - PMF	3.3
Total up to 1 in 100	**5.5**
Total 1 in 100 - PMF	**3.8**

Base: All respondents (n=400).
Q5. I will now read out some different types of events and natural disasters. Using a scale where 0 means no risk at all and 10 means there is an extremely high risk, please tell me how much risk you think there is of each one affecting your property within the next five or so years. Firstly…

Previous Experiences with Natural Disasters: *Personal experience of flood is lower than storm or bushfire; notably though, the effects of storms and floods have been more severe than for bushfires*

- While more than half (52%) of respondents had been through a flood at their current property or elsewhere, this is significantly lower than the proportion who have been through severe storms (80%) or bushfires (62%).
- One in five (21%) have experienced a flood at their current property, although there are significant differences by flood risk area, rising to half (49%) of those in the 1 in 20 year flood risk zone and falling to just 5% within the 1867 – PMF area.
- As with the qualitative research, Windsor floodplain residents were also more likely to have had a flood (25% vs. 15% of Penrith floodplain residents).
- One third of those affected by a severe storm (35%) or flood (36%) felt they had been quite affected or severely affected (a rating of 7 or more out of 10), compared with 21% of those who had experienced a bushfire. This could be a useful finding for messaging - e.g. 'floods in the area could have a more significant effect on you than a bushfire'.



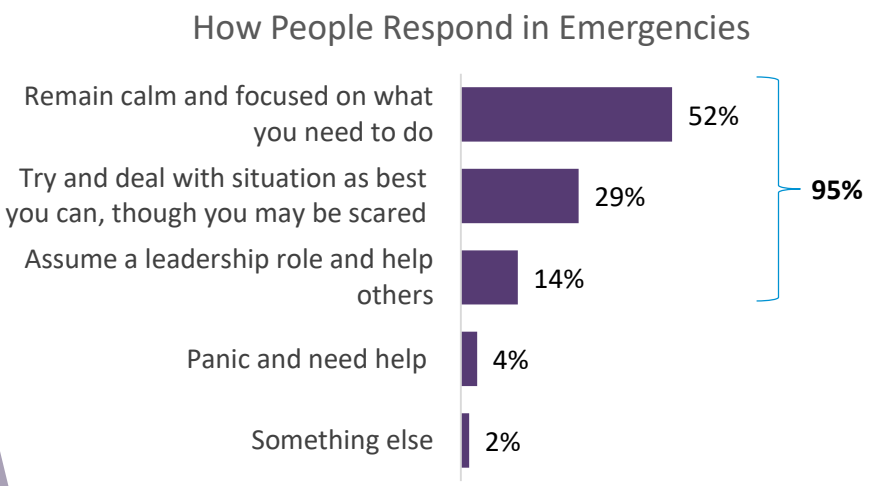


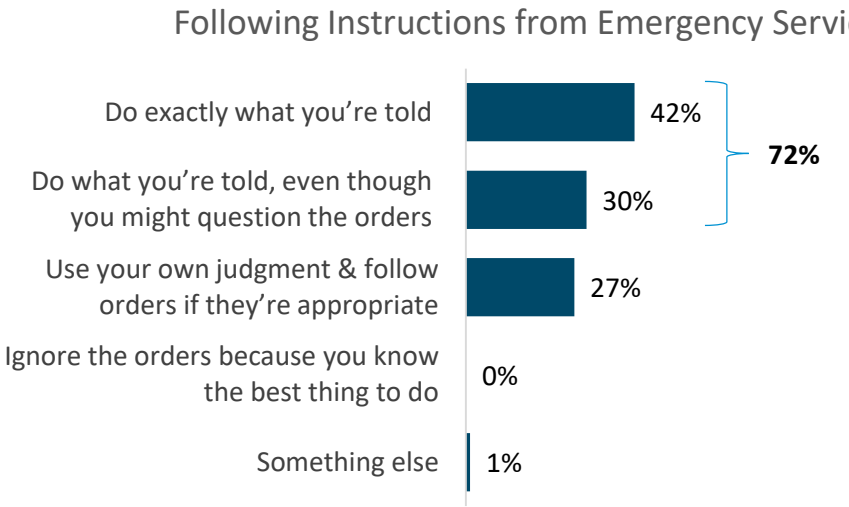
Experienced a flood at their current property	TOTAL	Flood Risk Zone						Flood Plain	
		Up to 1 in 20 years	1 in 20 - 1 in 100	1 in 100 - 1867	1867 - PMF	Total up to 1 in 100	Total 1 in 100 - PMF	Penrith	Windsor
	21%	49% ↑	25%	18%	5%	**32%** ↑	**14%**	15%	25% ↑

Base: All respondents (n=400).
Q6. Have you personally ever experienced any of the following – either at your property or somewhere else, or both?
Base: Respondents who were affected by the event or natural disaster (n= shown in chart).
*Q7. To what extent were you affected by the **READ FIRST ITEM** where 0 means you were not affected at all and 10 means you were severely affected?*

General Emergency Responses: *Most people think they tend to be practical in response to an emergency, and the large majority say they'd follow emergency service orders*

- Around 95% of respondents believed they tend to respond to emergency situations in what might be characterised as a practical fashion, by either remaining calm and focusing on the task at hand (52%), trying to deal with the situation despite fears (29%) or even taking a leadership role (14%).
- The proportion who felt they would panic and need assistance was low at 4%. However, this was significantly higher among residents:
  - In the 1867 – PMF flood risk area at 10%;
  - In households with one or more person with a disability or illness that could impact their ability to evacuate (9%); and
  - Aged 65+ years (8%).
- Just over seven in ten (72%) believed they would follow instructions from emergency services, even if some of them might question the orders while doing so (30%). Importantly, none of the respondents thought they would ignore orders and rely solely on their own judgment.
- However, almost three in ten (27%) would use their own judgment and follow orders if appropriate. This is a relatively large proportion of people who may need special attention when seeking to ensure that people do follow orders. This sentiment was more common among:
  - Those in an Overland Escape Route area (57%);
  - Males (39% vs. 20% of females); and
  - Those who indicated they would be towing another vehicle in an evacuation (43% vs. 22% of others).





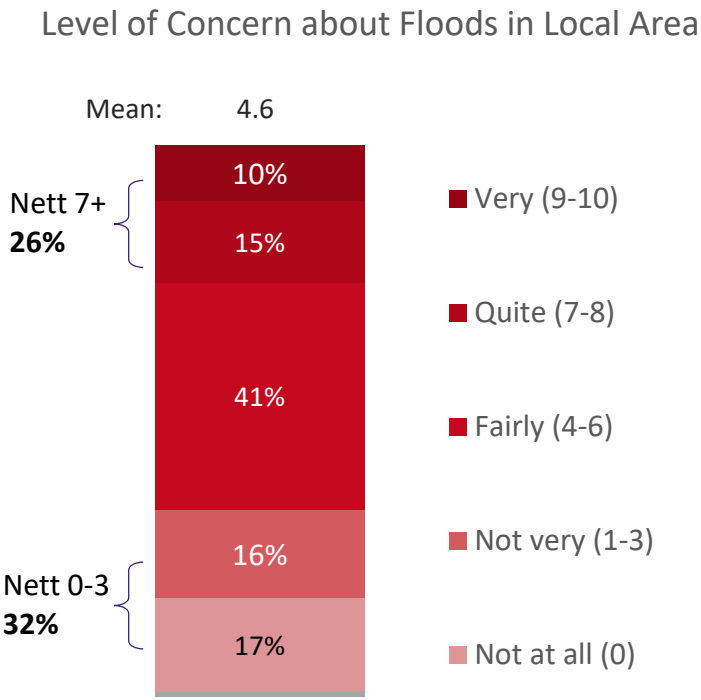
Base: All respondents (n=400).
Q3. People respond to emergencies in different ways. In an emergency situation, which of the following four items best matches how you would tend to respond…?
Q4. In an emergency situation, if you are given instructions or orders from an emergency service organisation, which of the following four items best applies to how you would respond…?

NEWGATE RESEARCH

Level of Concern about the Risk of Floods in Local Area

Reflecting low flood risk awareness, many in the community are not that concerned about floods in the area

- In turn, respondents were asked how concerned they were, if at all, about the risk of floods in their local area, where 0 meant not at all concerned and 10 meant extremely concerned.
- The average rating was just 4.6 out of 10, reflecting a fairly low level of concern overall. One third (32%) were not really concerned, giving a rating of 3 or lower, and two in five were fairly concerned (41%, giving a rating of 4-6), while a quarter were quite or very concerned (26% gave a rating of 7 or more).
- There was a marked difference in concern among those living within the 1 in 20 year flood risk area; more than half were at least quite concerned (54% gave a rating of 7 or higher), while only one in five (23%) in the '1 in 20 up to 1 in 100' zone, and around a quarter (24%) of those beyond the 1 in 100 area felt the same way.
- Respondents who had previously experienced a flood, on average, gave a higher rating for their level of concern than those who had not previously experienced a flood (5.2 vs. 4.0 respectively).



Base: All respondents (n=400).
Q8. How concerned or worried are you about the risk of floods in your local area, if at all, where 0 means not at all concerned and 10 means extremely concerned?

NEWGATE RESEARCH

Flood Preparedness

Introduction & Key Findings

Introduction

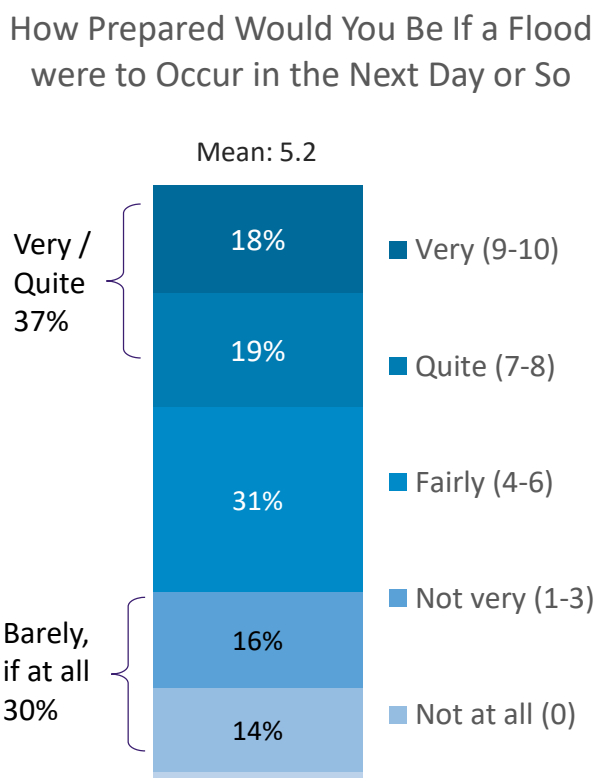
- Respondents were asked to rate how prepared they thought they'd be if there was a flood at their property in the next day or so, where 0 meant not at all prepared and 10 meant totally prepared.
- To understand the drivers and barriers to being prepared:
  - Those who felt highly prepared were asked what helped, motivated or prompted tem to be prepared; Those who did not feel highly prepared were asked why they didn't feel prepared, and what would help them to get prepared; and
  - Attitudes around flood risk were also measured.
- The extent to which people thought they'd need help to prepare and evacuate was also measured.

Key Findings

- A mix of preparedness levels is evident within the community. The results were fairly divided – similar proportions felt quite prepared (37% gave a 7 or higher), fairly prepared (31% gave a 4 – 6), and not really if at all prepared (30%).
- However, there is only a fair level of perceived preparedness overall, with the average rating being 5.2 out of 10. The ratings were also quite low across different sub-groups, with no major standouts, suggesting that broad-based targeting of communications is warranted in order to reach those who feel less prepared.
- Almost seven in ten (67%) had done nothing at all, highlighting the complacency within the community. Importantly, a significant proportion of these respondents (28%) also felt quite or very prepared for a flood – reflecting people's over-confidence.
- Barriers to preparing for the possibility of a flood were explored among those who did not feel highly prepared. As with the qualitative research, the standout response was essentially that they did not perceive any risk of flooding.
- Half of all respondents (49%) said they'd need at least a fair amount of help to prepare (giving a rating of 4 or higher, where 0 meant no help at all and 10 meant they'd need a great deal of help), and almost as many (44%) thought they'd need help to evacuate, suggesting there would be a substantial need for support in the event of a flood.
- Three in five respondents agreed that they would have plenty of warning if a flood was coming, so they don't need to prepare in advance for the possibility (60%). This result indicates quite a widespread misconception that should be addressed in communications across the Valley.
- Experiencing a flood in the past was the most mentioned reason for preparing for a flood, while many said they hadn't actually done anything to prepare despite feeling very prepared, reflecting their lack of understanding of what it means to be ready for a flood.
- The main potential drivers to becoming more prepared were more information/checklists about the sort of things that should be done to prepare (12%), and advance warnings of a coming flood (8%). A few suggested a flood rating for their property could motivate them to prepare (6%).
- Respondents were asked an open-ended question to understand what they thought could be done to ensure they evacuate quickly and follow orders.
  - Almost half (46%) were unable to nominate anything, while some indicated they would simply follow instructions (13%).
  - Some wanted directions that were clear, accurate and up to date (8%), some wanted to know the evacuation routes (7%) and some wanted to know where it was safe to go (7%).
  - At lower levels, they wanted to know how serious the situation was (5%), and to receive prior warnings (4%).
  - Some (4%) indicated they would actually need help or assistance to evacuate quickly.

Flood Preparedness Self-Rating

Reflecting their low perceived risk of floods, some feel they are barely if at all prepared (30%) although many (37%) feel quite prepared for a flood



Sub-Groups by Highly Prepared	% Very Quite (7+)	Ave.
Floodplain		
Penrith	33%	4.9
Richmond Windsor	40%	5.4
Flood Risk Area		
Up to 1 in 100	43%	5.8
1 in 100 - PMF	34% ↓	4.8
Flood Type Area		
High Flood Island	48%	5.9
Low Flood Island	33% ↓	4.8
Overland Escape Route	52%	6.3
Rising Road Access	38% ↓	5.4
Gender		
Male	45%	5.7
Female	34% ↓	4.9

- Respondents were asked to rate how prepared they thought they'd be if there was a flood at their property in the next day or so, where 0 meant not at all prepared and 10 meant totally prepared.
- The results were fairly divided – similar proportions felt quite prepared (37% gave a 7 or higher), fairly prepared (31% gave a 4 – 6), and not really if at all prepared (30%).
- However, there is only a fair level of perceived preparedness overall, with the average rating being 5.2 out of 10. The ratings were also quite low across different sub-groups, with no major standouts, suggesting that broad-based targeting of communications is warranted in order to reach those who feel less prepared.
- The table at left shows there were some significant but still slight differences between key subgroups, which should be noted for messaging purposes. These people were significantly *less* likely to feel very prepared:
  - Those living beyond the 1 in 100 flood extent zone;
  - Those living in a low flood island or an area with rising road access; and
  - Females.

Base: All respondents (n=400).
Q11 How prepared do you think you'd be if there was a flood at your property in the next day or so where 0 means not at all prepared and 10 means totally prepared?

NEWGATE RESEARCH

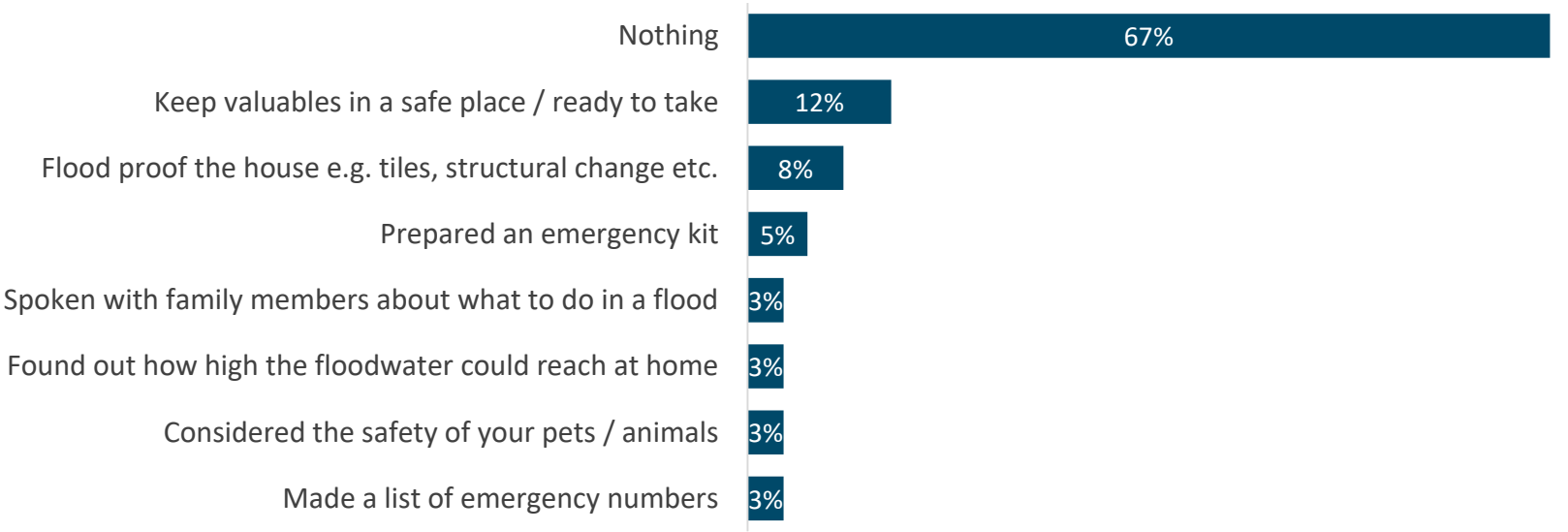
Flood Preparation Behaviours

The large majority has done nothing to prepare for a flood

- All respondents were asked what their household had done to prepare or be ready for a potential flood.
- Almost seven in ten (67%) had done nothing at all, highlighting the complacency within the community. Importantly, a significant proportion of these respondents (28%) also felt quite or very prepared for a flood – again reflecting people's over-confidence.
- A small minority had done things like keeping valuables in a safe place (12%), flood proofing the house (8%), or preparing an emergency kit (5%).

- In line with other questions, those who were more likely to have done *nothing* included:
  - Males (78% vs 62% of females);
  - Those aged 55+ (73% vs. 58% of those under 55 years of age);
  - Those beyond the 1 in 100 area (72% vs. 60% of those within this boundary); and
  - Tenants were somewhat more likely but not significantly so (75% vs. 66% of home owners).

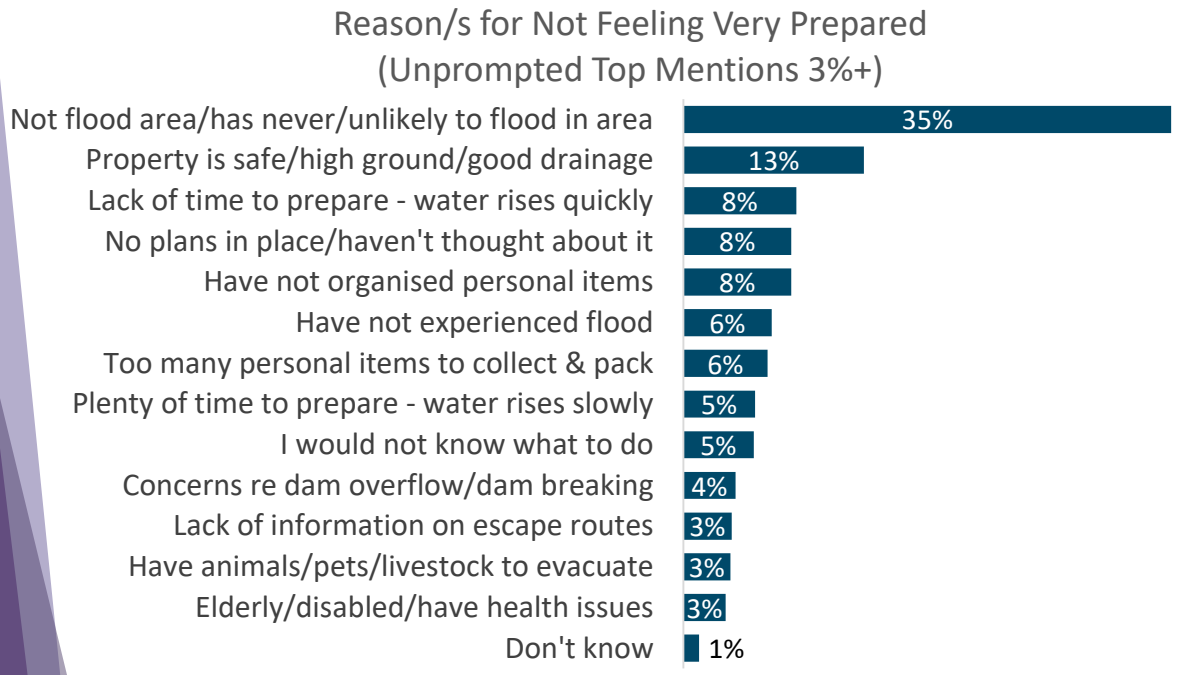
What the Household has done to Prepare for a Flood (Unprompted Top Mentions 3%+)



Base: All respondents (n=400). NB: Responses less than 3% not shown.
Q15. What has your household done to prepare or be ready for a potential flood, if anything? Do you have anything else in place that would help you in the event of a flood? MULTIPLE RESPONSE

Barriers – Reasons For Not Feeling Very Prepared:

Respondents were most likely to feel unprepared for a flood because they believed there was little chance of one occurring in their area, or that their property was safe, while a few were worried the water could rise so quickly that they couldn't be prepared



- Barriers to preparing for the possibility of a flood were explored among those who did not feel highly prepared (i.e. who gave a rating of less than 8 out of 10).
- As with the qualitative research, the standout response was essentially that they did not perceive any risk of flooding – i.e. it was not a flood area, had never flooded and/or was unlikely to do so (35%), or that the property was safe / on high ground (13%) – net 46%.
- Some groups were more likely to think a flood was unlikely in the area, providing further guidance on how to target messaging that is aimed at convincing people of the flood risk in the area:
  - Those beyond the 1 in 20 year flood risk zone (38% vs. 5% of those in the 1 in 20 year zone) – providing further evidence that those who need the most convincing about the flood risk live beyond the 1 in 20 year zone; and
  - Those aged 55+ (46% vs. 17% of younger respondents).

"Getting out of the place, if the water comes from Warragamba dam, every man and his animals will be trying to get out, the roads are not sufficient to get people out. The flood evacuation route is not extensive enough. The dam can't hold the water. The Hawkesbury council they seem to be putting in housing estates where ever they can put them, and this is disaster prone." (Richmond Windsor Floodplain)

"I don't think about it really. We would have time to prepare because it takes a few days of rain for us to be concerned and take action." (Richmond Windsor Floodplain)

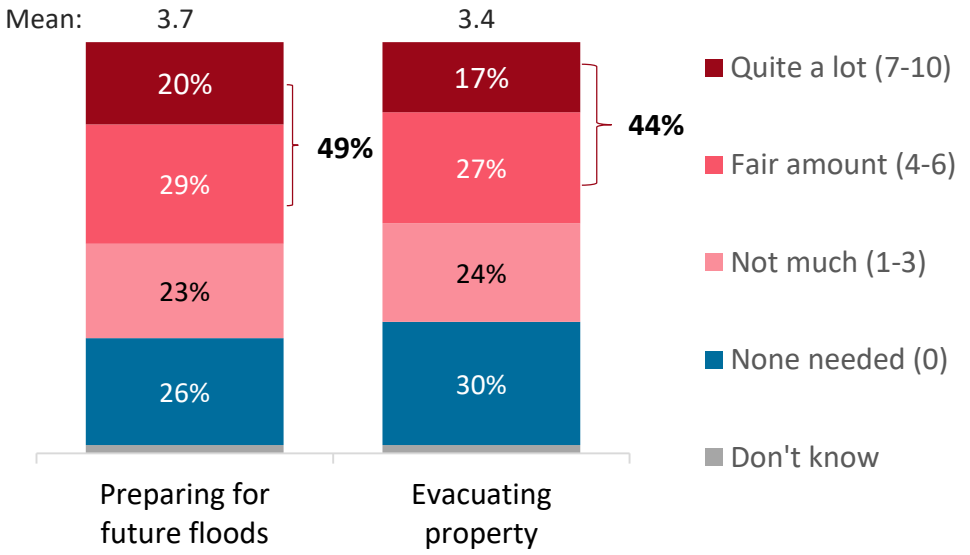
"I would require someone to help me because of my disabilities." (Penrith Floodplain)

"Because I have a lot of possessions to load in the car if the notice came to evacuate in a short time." (Penrith Floodplain)

Base: Respondents who did not feel they were very prepared (rating < 8 out of 10) (n=288). NB: Responses less than 3% not shown.
Q12. What are the reasons why you do not feel very prepared for a flood? OPEN ENDED, CODED

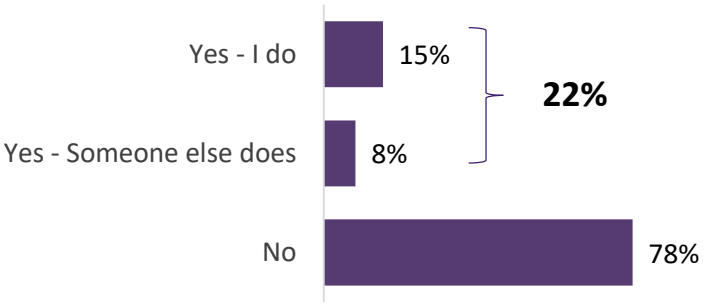
Needing Help in the Event of a Flood: *Around half would need at least a fair bit of help to prepare and slightly fewer need help to evacuate; 1 in 4 have a disability or illness that could impact their ability to evacuate*

Extent to Which Help is Needed



- Results were somewhat divided in terms of whether people would need help to prepare for floods or to evacuate. While some thought they wouldn't need any help at all (26% to prepare and 30% to evacuate), many did. Half of all respondents (49%) said they'd need at least a fair amount of help to prepare (giving a rating of 4 or higher, where 0 meant no help at all and 10 meant they'd need a great deal of help), and almost as many (44%) thought they'd need help to evacuate, suggesting there would be a substantial need for support in the event of a flood.

Disability or Illness that could Limit Ability to Evacuate in a Flood?

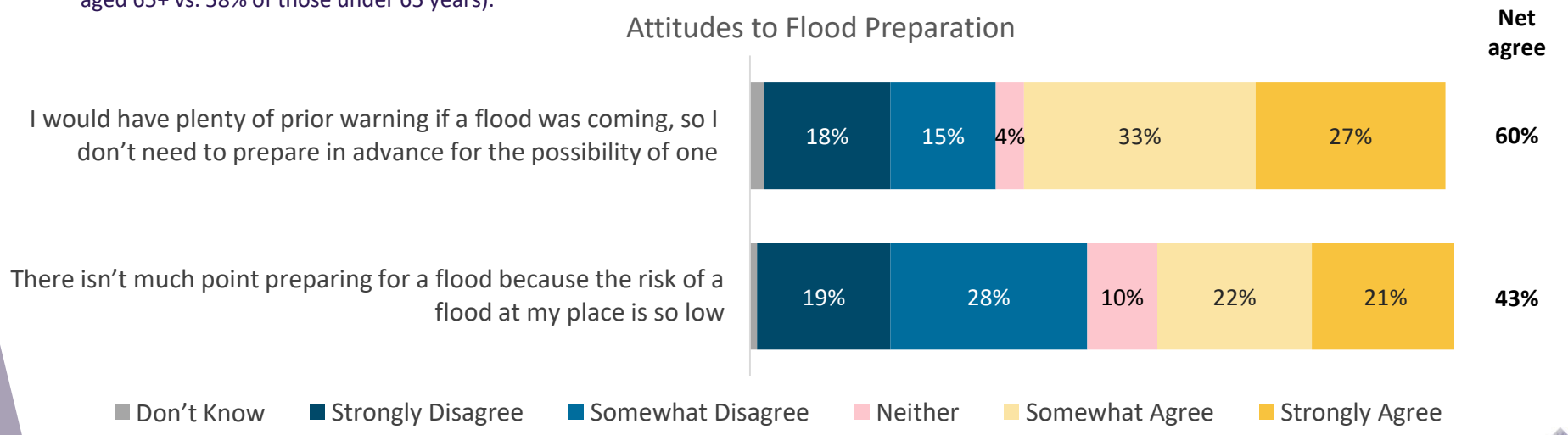


- Those who were significantly more likely to need quite a lot of help to *prepare* (a rating of 7 or more) were: in the 1 in 20 risk area (29%), in the 1867-PMF area (32%), in the Penrith floodplain (24% vs. 17% in Richmond Windsor), newer residents who have lived in the area for less than 10 years (30%), and those with kids (23% vs. 14% without).
- Those aged 55+ were more likely than younger respondents to need quite a lot of help *evacuating* (22% vs. 10% respectively), as were those beyond the 1 in 100 year zone (22% vs. 10% of others), and those on a low flood island (23%).
- Significantly, almost one in four respondents (22%) indicated either they or someone in their household has a disability or illness that could limit their ability to evacuate in a flood. They were around twice as likely as others to need quite a lot of help evacuating (28% gave a rating of 7 or higher vs. 14% of other respondents).

Base: All respondents (n=400).
Q14. And to what extent do you think you and your household would need any help with preparing for potential future floods, where 0 means you need no help at all and 10 means you would need a great deal of help. And using the same scale, how much help if any would you need evacuating from your property if the call came to do so?
D6. Do you or anyone in your household have any disabilities or illnesses that could limit your ability to evacuate in a flood? MULTIPLE RESPONSE

Attitudes to Flood Preparation: *Further highlighting the barriers, the majority think there's no need to prepare because there will be plenty of warning, while some don't see any point in preparing*

- The community's attitudes towards flood preparation were further measured through asking respondents whether they agreed or disagreed with two statements developed out of the qualitative research and literature review.
- Three in five respondents agreed that 'I would have plenty of warning if a flood was coming, so I don't need to prepare in advance for the possibility of one' (60%). This result indicates quite a widespread misconception that should be addressed in communications across the Valley.
  - This was higher in the Richmond Windsor floodplain compared with the Penrith floodplain; 65% vs. 53% net agree respectively.
  - Older respondents were also more inclined to think this (69% of those aged 65+ vs. 58% of those under 65 years).
- Opinions were more divided when it came to the statement 'there isn't much point preparing for a flood because the risk of a flood at my place is so low'; 43% agreed and 46% disagreed.
  - Ringing true with the qualitative research, males were significantly more likely than females to agree (54% vs. 38% respectively), suggesting males may need more convincing about the risk of flooding at their property.
  - Those in the 1867 – PMF flood zone were much more inclined to agree that the risk is so low than those within the 1867 flood extent area (61% vs. 40% respectively).



Base: All respondents (n=400).
Q13. Do you agree or disagree with the following things some people have said? For each statement please tell me if you agree or disagree strongly or just somewhat. Firstly…

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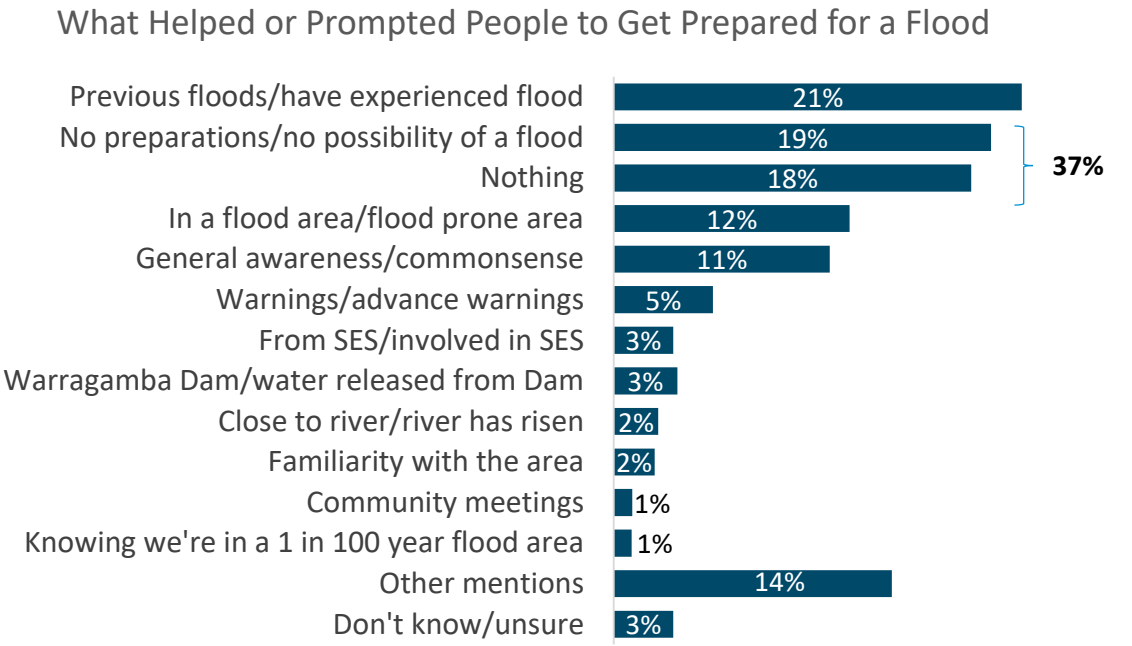
Preparedness Drivers: *Experiencing a flood in the past was the most mentioned reason for preparing for a flood, while many said they hadn't actually done anything to prepare despite feeling very prepared, reflecting their lack of understanding of what it means to be ready for a flood*

- To understand the drivers and motivations to preparing, those who felt highly prepared (i.e. who gave a preparedness rating of 8 or more out of 10) were asked what made, helped or prompted them to get prepared.
- As with the qualitative research, the number one response was having previous experience with a flood (21%).
- However, over a third of respondents (net 37%) also said they hadn't actually done anything to prepare, reflecting the degree of bravado observed in the qualitative research and other questions within this survey, in which many people thought that they didn't need to do anything to be prepared because there was no possibility of flooding at their place or they expected they would have time to prepare if a flood were coming, and would just need to rely on common sense and information being provided through the media.
- This bravado was higher among those aged 65+ (41% vs. 7% of younger respondents), who may benefit from seeing some messaging to the effect that 'you may not be as prepared as you think you are'.



"Previous experience of a flood about 4 years ago wasn't too good. The local radio had contributed to this and others." (Richmond Windsor Floodplain)

"I haven't prepared for a flood because there's no possibility for a flood in my area." (Penrith Floodplain)

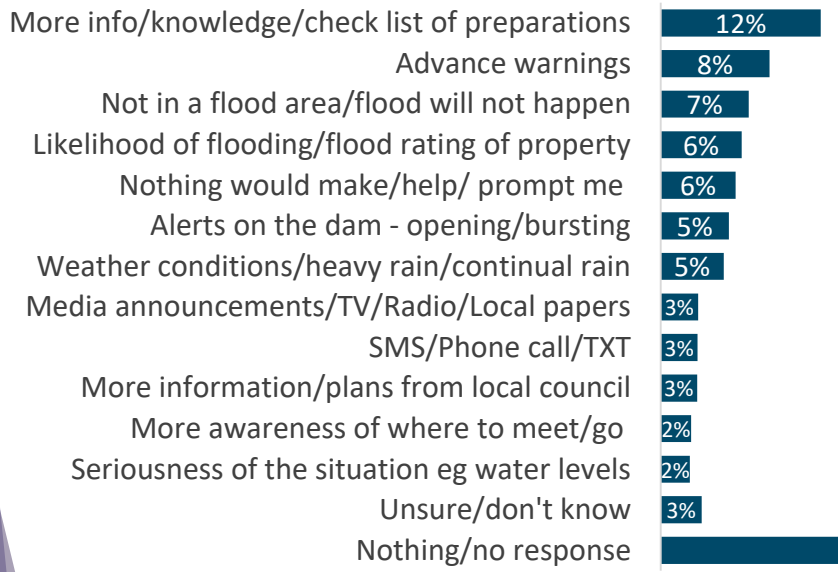
"A flood did occur in the past, it made me more aware. Just knowing the likelihood of being prepared in the local area is a great help. I have grown up in this area and I know the standards. The SES at the Hawkesbury show had valuable information which is standard." Richmond Windsor Floodplain

"I always think about it because we have no control over it. Once it was raining heavily so we had to think about it." (Penrith Floodplain)

Base: Respondents who felt they were very prepared (rating 8 or more out of 10) (n=112).
Q17. What was it that made, helped or prompted you to get prepared for a flood? MULTIPLE RESPONSE. OPEN ENDED QUESTION, POST-CODED.

Potential Drivers to Becoming More Prepared: *More information including a checklist was the most likely impetus for respondents to become more flood ready, followed by advance warnings of a flood – while many thought nothing would motivate them to prepare, again reflecting the lack of perceived risk of flood*

What *Could* Help or Prompt You to be More Prepared for a Flood? (Top Mentions 2%+)



- Those who *didn't* feel very prepared were asked what could help or motivate them to become more prepared for the possibility of a flood, the most common response was that nothing could (41%) – further highlighting the lack of perceived risk.
- The main potential drivers that respondents could identify were more information / checklists about the sort of things that should be done to prepare (12%), and advance warnings of a coming flood (8%).
- A few suggested a flood rating for their property could motivate them to prepare (6%). Newgate Research notes that such a system would need to be developed and understood in order for such a rating to have any meaning.
- A small proportion (5%) also thought that an alert about the dam either being opened or bursting would be sufficiently motivating.
- This topic was a key feature of the qualitative research – we recommend the reader refers to the qualitative research report for more information about potential drivers and the types of information people are looking for.

"Maybe just some sort of campaign from council, just explaining evacuation routes or something like a fridge magnet showing some guide." (Richmond Windsor Floodplain)

"I would like more information and reminders on what to do, where to go and what to take with me." (Richmond Windsor Floodplain)

"Just to get a warning SMS like we did last time." (Penrith Floodplain)

"A booklet with pointers from SES saying this is what you need to have in case of a flood. There's not enough information letting me know how to be aware." (Penrith Floodplain)

"An early warning should be enough to prompt me to prepare for a flood." (Penrith Floodplain)

Base: Respondents who did not feel they were very prepared (rating < 8 out of 10) (n=288). NB: Responses less than 2% not shown.
Q16. Can you think of anything that would make, help or prompt you to be more prepared for the possibility of a flood? OPEN ENDED, CODED

Facilitating Fast Evacuation and Following Instructions

The most common response to an evacuation order was that they would follow instructions given, while the main specific drivers to evacuating quickly were receiving clear and accurate directions, and information about the evacuation routes and where to go

What Could be Done to Ensure You Evacuate Quickly and Follow Instructions (Unprompted Top Mentions 3%+)

- Respondents were asked an open-ended question to understand what they thought could be done to ensure they evacuate quickly and follow orders.
- Reflecting the large lack of knowledge about flood evacuations in the community, almost half (46%) were unable to nominate anything, while some indicated they would simply follow instructions (13%).
- Some wanted directions that were clear, accurate and up to date (8%), some wanted to know the evacuation routes (7%) and some wanted to know where it was safe to go (7%).
- At lower levels, they wanted to know how serious the situation was (5%), and to receive prior warnings (4%).
- Some (4%) indicated they would actually need help or assistance to evacuate quickly, and this was more likely if they had someone in their home with a disability or illness (16%).

"I think they need to be stronger in the warnings and orders. There are too many people who don't take them seriously and put their life and the lives of others in jeopardy." (Richmond Windsor Floodplain)

"I know what I am doing, I have experienced emergency evacuations so don't need to follow instructions." (Richmond Windsor Floodplain)

"If the directions on the phone were clear and concise. A map of where you need to go to would also help." (Penrith Floodplain)

"Have better road infrastructure, from past experience it has been a single lane road across the bridge and the surrounding road couldn't cope with the congestion caused." (Richmond Windsor Floodplain)

"SES needs to make sure that the community have the correct information and correct timeframe for evacuation." (Penrith Floodplain)

Base: All Respondents (n=400). NB: Responses less than 3% not shown.
Q36. If you did get a flood evacuation order, what, if anything, do you think could be done to ensure you evacuate quickly and follow instructions? OPEN ENDED, CODED

Flood Response Behaviours

Introduction & Key Findings

Introduction

- This section relates directly to respondents' expected response to a flood and their awareness of evacuation procedures and preparedness for such.
- Respondents were asked a set of questions to better understand who they would expect to receive information and an evacuation order from, knowledge regarding what needs to be done in the event of an evacuation, how long it would take them to evacuate and what might affect this what they might need to do before they could finish evacuating.

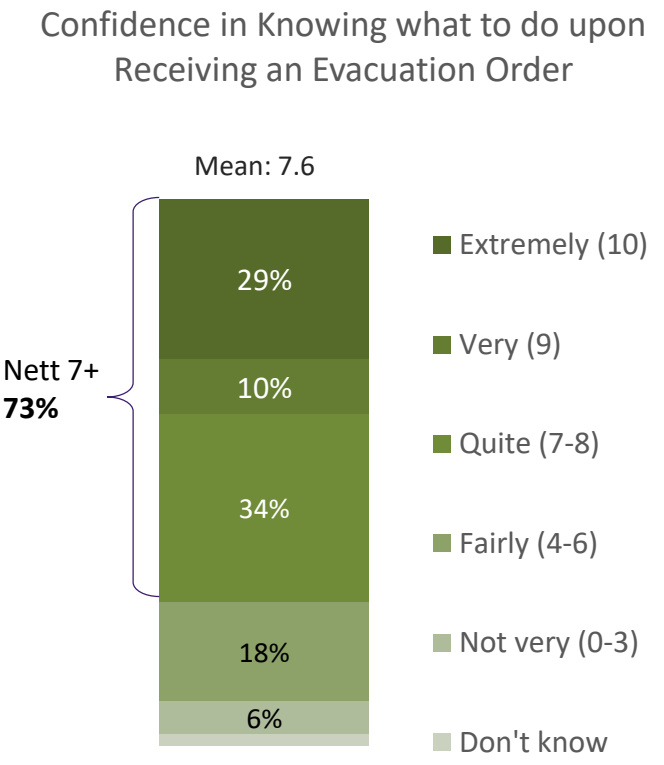
Key Findings

- In line with the qualitative research phase, three quarters (73%) of respondents felt quite or very confident they would know exactly what to do if they received an evacuation order; giving a confidence rating of 7 or more out of 10, where 0 meant not at all and 10 meant extremely confident.
- After hearing on the radio their street was evacuating, almost a third (32%) believed they would leave immediately and not do or wait for anything else. This may present a concern because they may not make important preparations like turning off the power and securing belongings.
- Six in ten (58%) thought they would be able to leave within an hour of being given a direct evacuation order from the SES, while 35% would take longer than an hour. On average, people would take 62 minutes.
    - Notably, those living within the 1 in 100 year flood risk zone indicated they would take around twice as long as those beyond this area, at 88 minutes and 45 minutes on average, respectively. This may require further exploration, but it could be that those within the 1 in 100 year zone have larger land holdings and therefore need more to prepare before leaving.
- When asked who they would need to hear an evacuation order from to decide to leave immediately, without prompting the vast majority said the SES (76%) and/or the police (74%). A small proportion maintained they would refuse to leave regardless of who gave the evacuation order (3%).
- Actual knowledge of what to do in the event of an evacuation order was quite limited, pointing to a degree of bravado. Around a third (34%) of respondents knew that they would need to turn off the electricity and gas at the mains, and secure items that were likely to float or cause damage (32%) before evacuating during a flood.
- However, one in eight respondents admitted they weren't aware of what the procedures were at all (13%). Highlighting the bravado, this included some people who earlier said they were *very confident* they'd know what to do if they received the order to evacuate (11%).
- When asked where they would go in an evacuation situation, almost four in ten (37%) would go to a family member or friend's house, while around three in ten (29%) would go wherever they were directed.
- Supporting findings from the qualitative research, around three in ten thought they would simply go to 'higher ground' (29%), suggesting a relatively large proportion of the community could unknowingly put themselves at risk by doing this.
- More than two in five (43%) would take just one car to evacuate, while a slightly lower proportion (38%) would take two, and the remainder (14%) would take three or more. On average across the whole target area, people would take 2.0 cars per household. Most wouldn't be towing anything (79%), but almost a quarter (23%) said they would.
- While the majority of respondents (63%) claimed they would not try to return home if they were told access to their area was cut, more than a quarter (27%) said they would still try to return home if they were outside their local area when their area was being evacuated. Again, this represents a significant proportion who could put people's lives at risk, including their own.

Confidence in Knowing what to do: **Evacuation Order**

There is a degree of bravado evident in people's expectations that they'll know what to do if ordered to evacuate

- Three quarters (73%) of respondents felt quite or very confident they would know exactly what to do if they received an evacuation order; i.e. they gave a confidence rating of 7 or more out of 10, where 0 meant not at all and 10 meant extremely confident. The average rating was therefore quite high at 7.6 out of 10. This reflects sentiment heard in the qualitative research that people would just use common-sense.
  - Those who had experienced a flood in the past were somewhat more confident they knew what to do if they heard or received an evacuation order than those who had not experienced a flood before (44% vs. 34% respectively giving a rating of 9+).
  - In keeping with observations in the qualitative research, those in the Richmond Windsor floodplain were somewhat more confident than those in the Penrith floodplain; 42% gave a rating of 9 or 10 compared with 34% respectively (although this is not a statistically significant difference).
  - Though also not statistically significant, there was some difference between those within the 1 in 100 year flood extent and those outside of this boundary (43% vs. 36% respectively gave a rating of 9 or more).
- Respondents who perceived a high risk of flood in their area were significantly more likely to think they would know what to do in the event of an evacuation order (83% vs. 69% of those who perceived a low or moderate risk of flood), likely reflecting their greater experience with floods.



Base: All respondents (n=400).
Q10. How confident are you that you would know exactly what to do if you heard or received an evacuation order where 0 means not at all confident and 10 means extremely confident?

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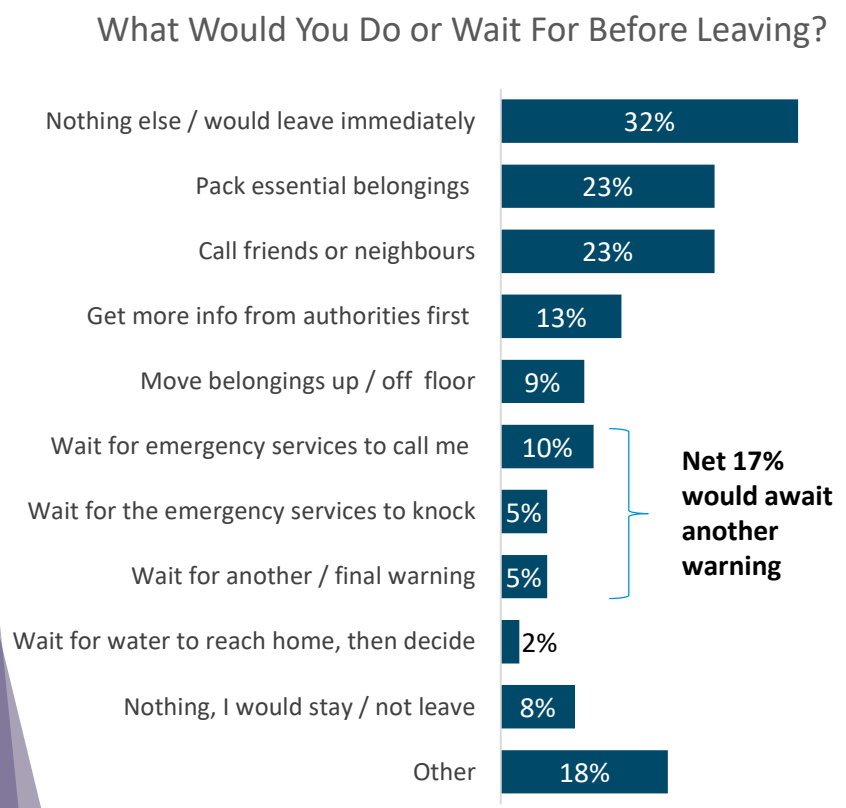
Responses After Hearing an Evacuation Order on Radio

Some residents would leave immediately upon hearing on the radio that their street had to evacuate, while some would prepare to leave and/or seek information, and some would await another warning



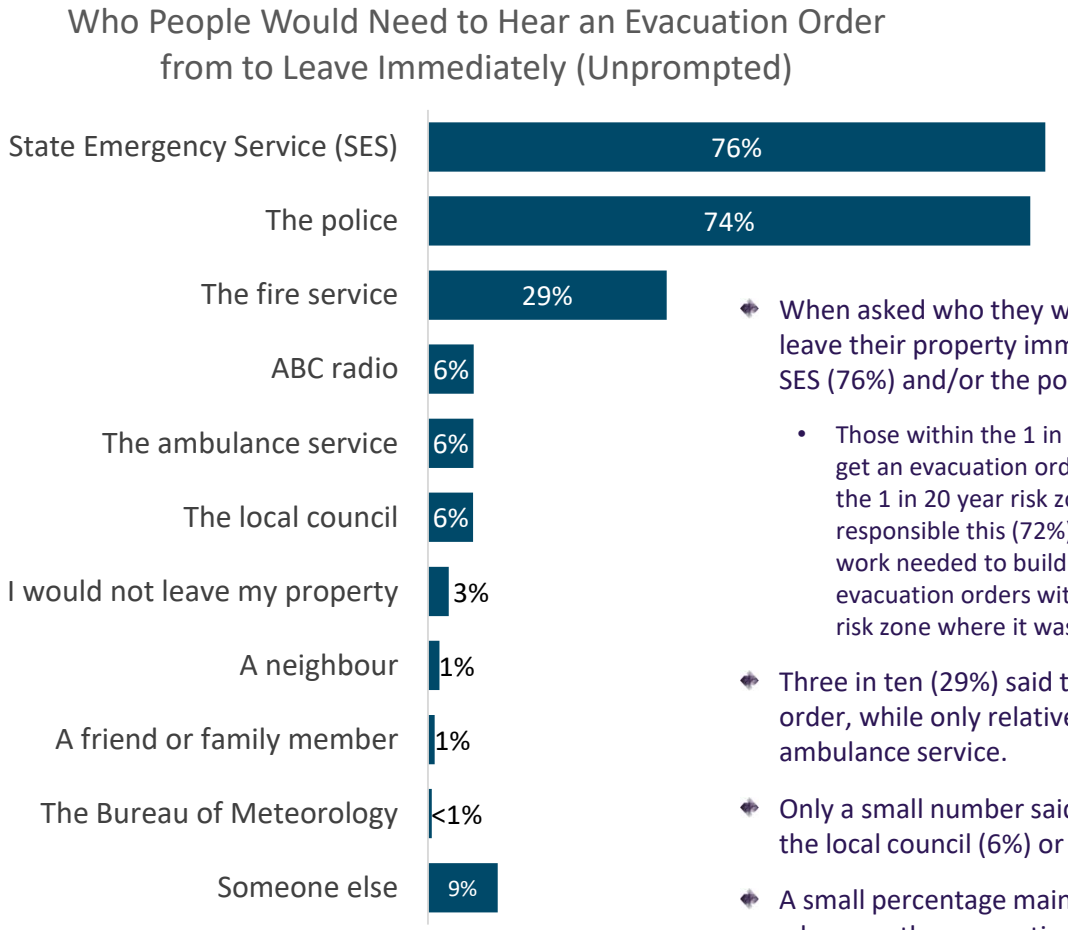
- After hearing on the radio their street was evacuating, almost a third (32%) believed they would leave immediately and not do or wait for anything else. This may present a concern because they may not make important preparations like turning off the power and securing belongings.
- Just over half of those not evacuating straight away would be preparing to leave by packing belongings (23%) or moving them to safety (9%), calling neighbours or friends (23%) or verifying the information by calling the authorities (13%).
- However a significant minority (17%) would wait for another warning: either a call and/or a doorknock from emergency services (10% and 5% respectively) and/or a more generalised warning (5%), reflecting the importance of direct contact. Only 2% said they would decide once the waters reached their property.
- Six in ten (58%) thought they would be able to leave within an hour of being given a direct evacuation order from the SES, while 35% would take longer than an hour. The average time people estimated was 62 minutes.
- Notably, those living within the 1 in 100 year flood risk zone indicated they would take around twice as long as those beyond this area, at 88 minutes and 45 minutes on average, respectively. This is something that may require further exploration in later research, but it could be a reflection that those within the 1 in 100 year zone have larger land holdings and more to prepare before leaving – e.g. animals, equipment, gates.

Base: All Respondents post pilot (n=399).
Q24. If you heard on the radio that people in your street had to evacuate their properties during a flood, what would you do, or wait for, before leaving? MULTIPLE RESPONSE
Q28. After receiving a flood evacuation order directly from the SES, how long do you think it would take you to leave your property? Please give me your best estimate in hours and/or minutes.

58% thought they'd be able to leave their property within an hour

Trusted Sources

SES and police the most trusted by far to issue the evacuation order

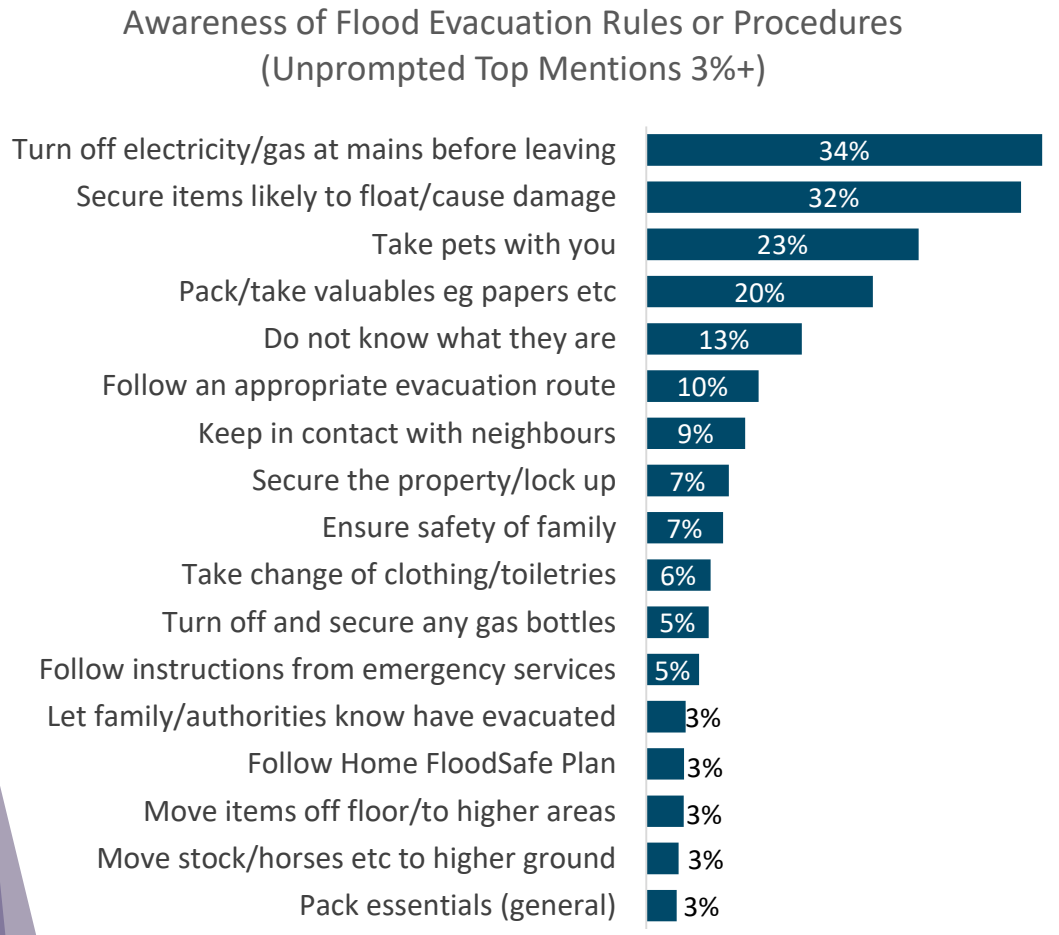


- When asked who they would need to hear an evacuation order from to decide to leave their property immediately, without prompting the vast majority said the SES (76%) and/or the police (74%).
  - Those within the 1 in 20 – 1 in 100 year risk zone tended to say said they'd need to get an evacuation order from the SES (71%) and the police (75%), while those within the 1 in 20 year risk zone were more likely to see the SES as the primary agency responsible this (72%) rather than the police (55%). This suggests there may be more work needed to build credibility and awareness of SES' primary role in issuing evacuation orders within the 1 in 20 – 1 in 100 year risk zone than in the 1 in 20 year risk zone where it was clearer to residents that SES is the lead agency.
- Three in ten (29%) said they would leave immediately if the fire service gave the order, while only relatively few (6%) would do so if the order came from the ambulance service.
- Only a small number said they would leave if they heard an evacuation order from the local council (6%) or ABC radio (6%).
- A small percentage maintained they would refuse to leave regardless of who gave the evacuation order (3%).

Base: All Respondents (n=400).
Q26. During a flood, who would you need to see or hear an evacuation order from to make you decide to leave the property immediately? MULTIPLE RESPONSE

Awareness of Flood Evacuation Rules or Procedures

A fair few respondents knew to turn off the electricity and gas at the mains and secure loose items, but some knew no procedures

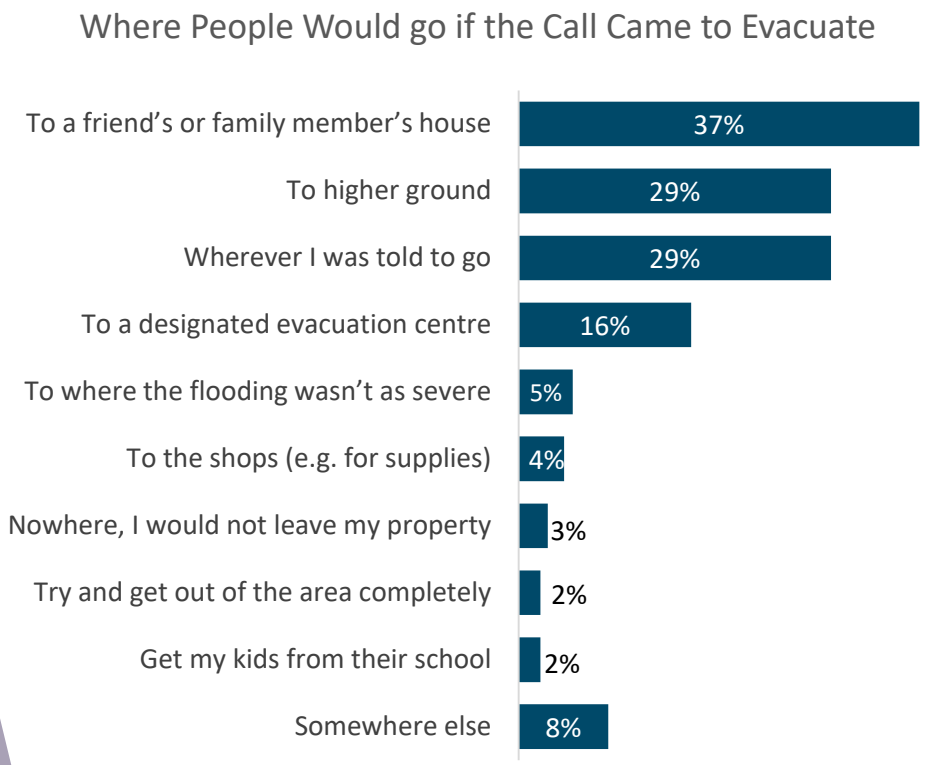


Base: All Respondents post pilot (n=387). NB: Responses less than 3% not shown. Q23. What are the things you need to do when evacuating during a flood, both before leaving home and after? MULTIPLE RESPONSE, UNPROMPTED

- Knowledge of the things people need to do before and after leaving home in a flood evacuation was somewhat limited despite the high levels of confidence, reflecting the degree of bravado observed in the qualitative research as well.
- Around a third (34%) of respondents knew that they would need to turn off the electricity and gas at the mains, and secure items that were likely to float or cause damage (32%) before evacuating during a flood.
- A fair minority of 23% mentioned taking pets as an evacuation procedure, and a fifth of respondents mentioned packing valuables (20%).
- Only one in ten respondents mentioned following an appropriate evacuation route (10%) or keeping in contact with their neighbours (9%).
- Very few people mentioned that instructions from the emergency services (5%) or their Home FloodSafe Plan (3%) should be followed.
- One in eight respondents admitted they weren't aware of what the procedures were at all (13%). Highlighting the bravado, this included some people who earlier said they were very confident they'd know what to do if they received the order to evacuate (11%).

Travel Movements

People would mainly go to a friend or family member's house, 'to higher ground', or wherever they were instructed to go



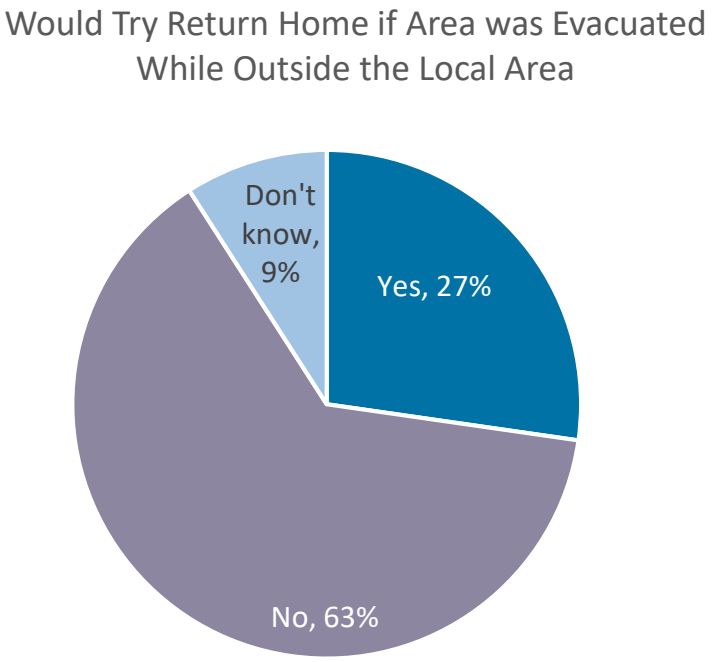
- Respondents were asked where they would go in an evacuation situation, almost four in ten (37%) would go to a family member or friend's house, while around three in ten (29%) would go to wherever they were directed.
- The same proportion simply thought they would go to 'higher ground' (29%). This suggests that a relatively large proportion of the community could unknowingly put themselves at risk by seeking higher ground, which was also a finding in the qualitative research.
- Only 16% said they would go to a designated evacuation centre, potentially reflecting a lack of awareness of these, which was observed in the qualitative research.
- More than two in five (43%) would take just one car (many preferring to keep the family together), while over a third (38%) would take two and the remainder (14%) would take three or more. Just 3% wouldn't take any cars at all.
  - Most wouldn't be towing anything (79%), but one in five (23%) would; namely a trailer (9%), boat (7%), caravan (4%) or a horse float (2%).

Average Number of Cars Needed to Evacuate: 2.0

Base: All Respondents (n=400).
Q31. An evacuation order involves telling people they need to leave straight away, and where they need to go in the event of a flood. If you received an evacuation order from the State Emergency Service during the daytime, where would you go, and would you make any stops along the way? MULTIPLE RESPONSE
Q29. How many cars do you think your household would use to evacuate? Base: Respondents who would use at least one car (n=382)
Q30. Do you think you would be towing any boats, trailers, caravans or anything else with you?

Intentions to Go Home Even if Told Access is Cut

Just over a quarter would still try to return home if they were outside of the area and heard from the authorities that access to their area was cut due to a flood evacuation, but the majority would stay away



- The majority of respondents (63%) claimed they would not try to return home if they were told access to their area was cut.
- Of some concern is that more than a quarter (27%) of all respondents said they would still try to return home if they were outside their local area when they heard from authorities the area was being evacuated.
  - In line with the qualitative research, males were slightly more likely than females to try to return home if they were told access to their area was cut while they were not home (34% vs. 24% respectively).
  - Those who were very confident they would know what to do in the event of an evacuation order were more likely to say they would return home (39%) than those less confident (21%).
  - Worth noting is that there was no difference between those who had experienced a flood before and those who had not (both at 27%).

Base: All Respondents (n=400).
Q32. If you were outside of your local area at work, shopping or visiting someone and heard from the authorities that access to your area was cut due to a flood evacuation, would you still try and go back to your house?

Communications & Engagement

Introduction & Key Findings

Introduction

- To inform INSW's decisions regarding communications and engagement strategies, respondents were asked about what sources of information they recall, currently use, or would use in relation to floods.
- This section covers communications usage and preferences in terms of accessing general information when a flood is not imminent, during a flood event and in an evacuation situation.

Key Findings

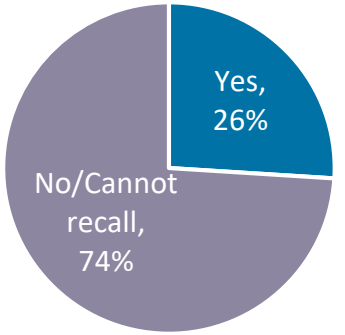
- Recall of flood related information in the area was low, with only a quarter of respondents (26%) saying they had seen, heard or read anything recently.
  - The content recalled related to past floods, evacuation routes and flood risk.
- Printed advertising and editorial sources had the highest recall (brochures, newspapers, street signs and billboards), followed by radio.
  - Councils and council services such as libraries were also quite well-recalled as information sources.
  - Those on the Penrith floodplain were more likely to have seen flood related advertising on a street sign or billboard (32%) than those on the Richmond Windsor floodplain (5%). Notably, in the qualitative research those in the Penrith floodplain were also quite likely to say that signage would be a good way of drawing their attention to flood related information, suggesting this is an effective medium in this area.
- The strongest channel preference for general information about flood was brochures via mail at 51%, and there is some sense that local councils have a role to play in providing information about flood risks and how to prepare for floods. At the next level down was radio at 19%.
- There were some differences in preferred channels for general flood information among respondents, most notably:
  - Those aged 65+ were more divided than other age groups on their preferences, with some preferring information in the mail, some preferring the radio and some wanting a telephone call from the SES, while younger respondents were far more likely to prefer information in the mail than via any other channel.
  - Those within the 1 in 100 year flood risk zone were even more likely than those living beyond this area to prefer information in the mail, although it was still the number one source for both groups (60% and 45% respectively).
  - These differences may reflect the heightened sense of flood risk among younger people and those within the 1 in 100 zone, in that more important information is expected to be delivered more directly.
- During a flood and in an evacuation situation, there would likely be strong reliance on the SES, with mainstream media in supporting roles – particularly radio.
  - Just under half (45%) of all respondents would go to the SES for information during a flood – either via telephone (34%) and/or through its website (19%).
  - Radio was the next key source for updates, with almost two in five respondents saying they would use this channel (38%).
- If an evacuation warning or order were required, respondents would most prefer to receive a *direct* message to evacuate, either via SMS (47%), a phone call from the emergency services (40%) or through doorknocking by the SES or other emergency services (30%).
  - Around a quarter (23%) believe radio announcements would be the best way to receive a warning or order to evacuate, indicating radio has a strong supporting role, but is a channel that could be better promoted to raise awareness of its role and specific importance in a flood.

Flood Related Information Recall

Recall of flood related information about the local area is quite low

- Recall of flood related information was quite low. Just over a quarter (26%) of respondents said they had seen or heard any flood related information about their local area.
  - Those living on the Richmond Windsor floodplain were more likely to say they had seen or heard flood related information about their local area than those on the Penrith floodplain (32% vs. 18%).
  - Those who had previously been affected by flooding were more likely to recall seeing information (33%) than those who had not previously been affected (20%).
  - Similarly, those who had previously been affected by severe storm (30%) were more likely to recall seeing such information compared with those who had not been through a severe storm (20%).

Recalled Flood Related Information About Local Area



- The word cloud below reflects the words respondents used in describing what they recalled seeing or hearing about flood.
- Some respondents had seen information about past floods including levels that past floods had reached. Some people had done their own research on this issue, while others had read stories in the newspaper.
- Information on escape and evacuation routes was also fairly well-recalled, as well as tips on how to prepare for flood (some had seen these in newspaper articles and flyers/brochures in the mail).
- Information on flood risk was also recalled, either via updates from local councils, discussions with insurers, or public debate in local papers about infrastructure (e.g. Warragamba Dam, local bridge and road maintenance).
- As can be seen, many talked about the medium in which they saw messaging, and the most common references were to information provided by local council and seen in local newspapers.

Base: All Respondents (n=400).
Q18. Have you recently seen or heard any flood related information about your local area? This could be about flood risks, past floods, preparing for a flood or what to do in a flood evacuation. IF YES: What information do you recall seeing or hearing? MULTIPLE RESPONSE

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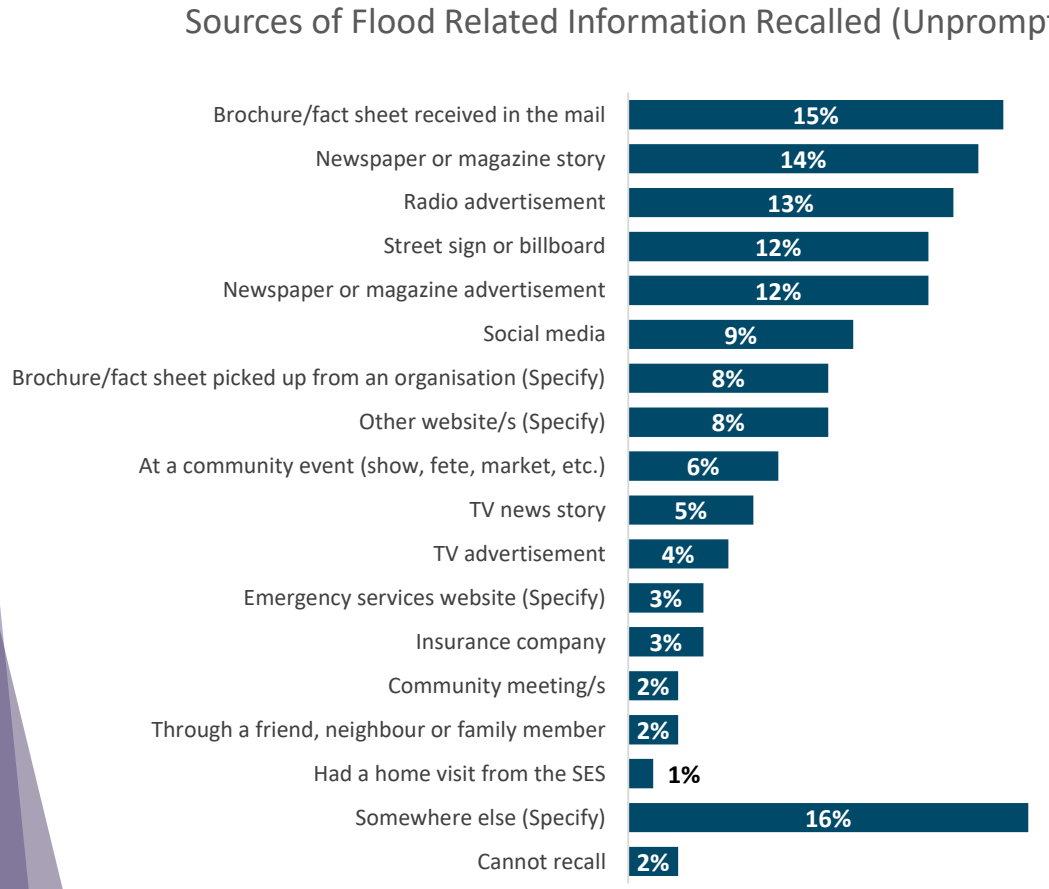
Sources of Information Recalled

Printed sources (advertising and editorial) and radio dominate unprompted recall; council information and social media also recalled

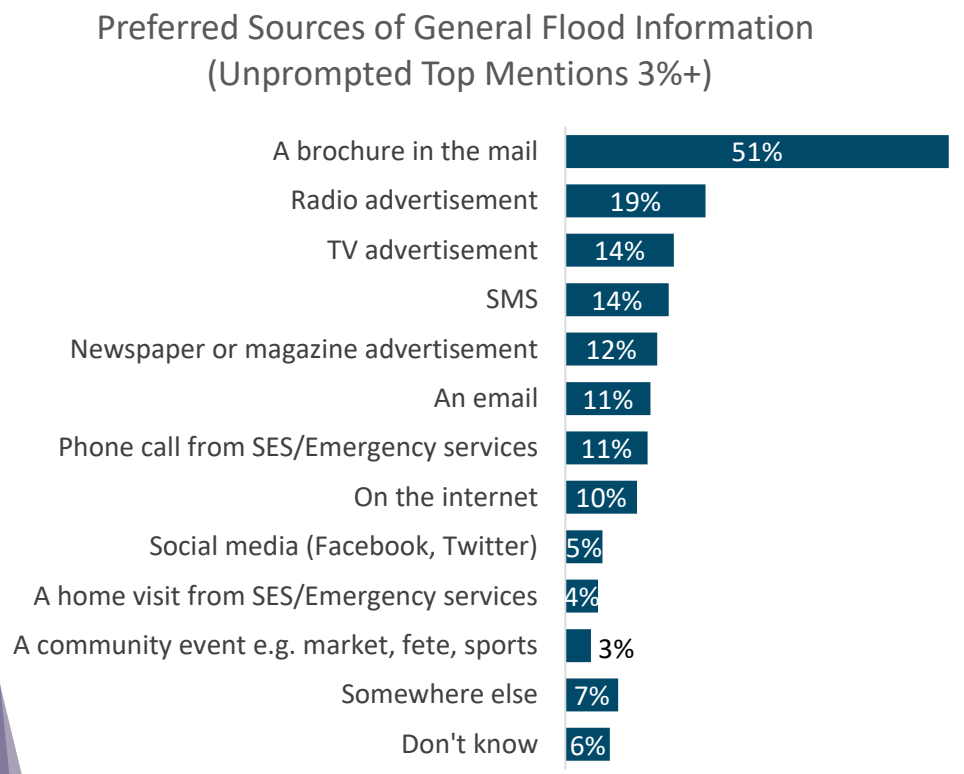


Base: Respondents who recalled seeing, hearing or receiving flood related information (n=107).
Q19. And where did you see, hear or get that flood related information from? MULTIPLE RESPONSE

- The most recalled flood information sources were brochures or fact sheets received in the mail (15%), newspaper or magazine stories (14%), radio advertising (13%), street signs or billboards (12%) and newspaper/magazine advertising (12%).
  - Those on the Penrith floodplain were more likely to have seen advertising on a street sign or billboard (32%) than those on the Richmond Windsor floodplain (5%). Notably, in the qualitative research those in the Penrith floodplain were also quite likely to say that signage would be a good way of drawing their attention to flood related information, suggesting this is an effective medium in the area.
  - Those who had not been affected by a flood in the past were also more likely to have seen advertising on a street sign or billboard than those who had (25% vs. 4% respectively).
- A fair proportion (16%) mentioned other sources. Analysis of the responses shows that local councils and council-related services including libraries provided information which was remembered.
- It is of some note that social media sources were more recalled than TV news or advertising (at 9%, 5% and 4% respectively).
  - Those with children under the age of 18 in their homes were much more likely to recall information from social media sources than those without children (22% vs. 2%).

Preferred Sources for General Flood Information

Brochures by mail the most preferred by far for general information

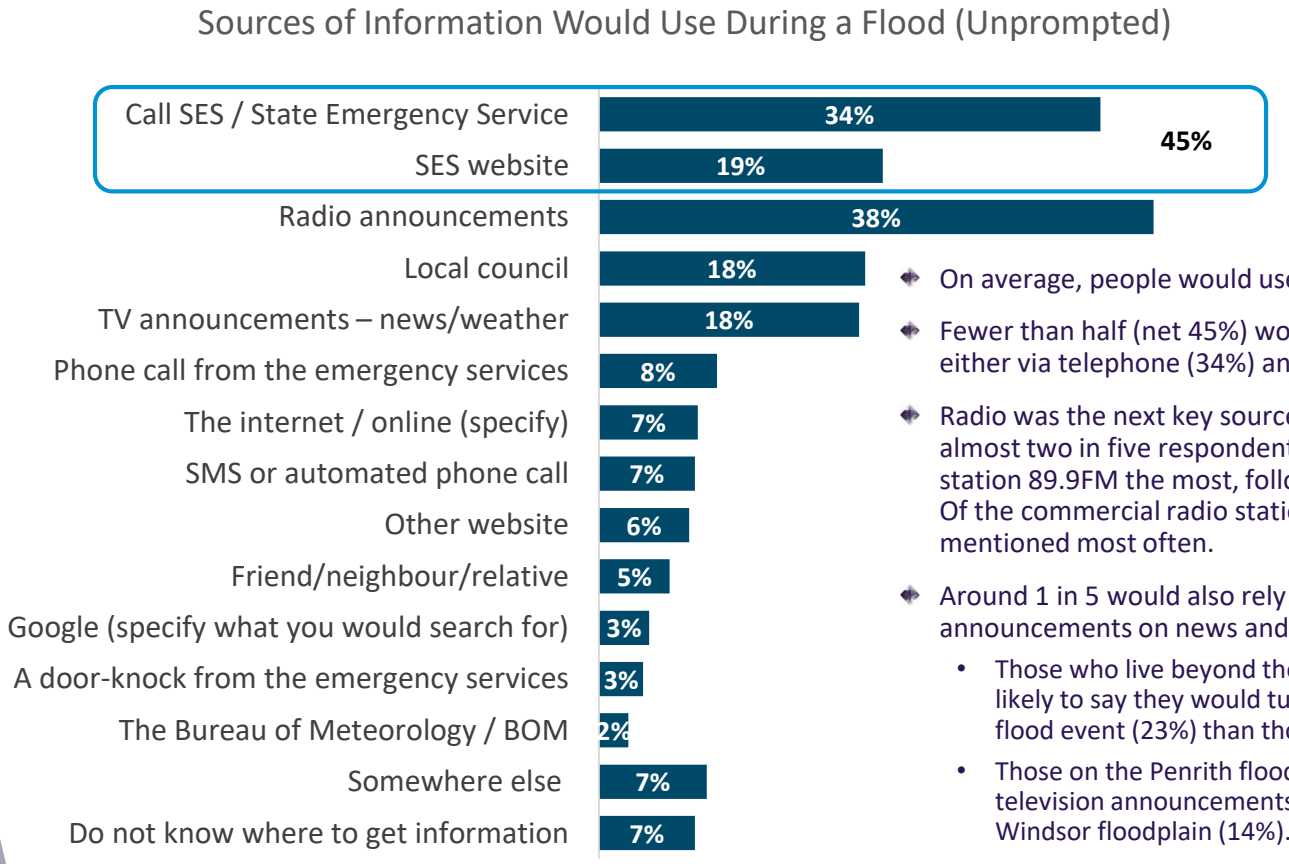


Base: All Respondents (n=400). NB: Responses less than 3% not shown.
Q33. Thinking now about flood related information in general and not during a flood… In what ways would you prefer to receive general information about how you can prepare for a flood and what to do in a flood? MULTIPLE RESPONSE

- In line with the qualitative research, by far the most preferred source for general information about floods via mail (51%).
  - Contrary to preferences often seen among older people, those aged 65+ were far less interested in receiving information in the mail than those aged under 65 (32% compared with 61% respectively); perhaps reflecting the lower perceived flood risk among older people in the HNV, where a mail out would imply a degree of importance in the information.
  - Those within the 1 in 100 year flood zone were also more likely to prefer information in the mail than those beyond this area (60% vs. 45%).
- Radio advertisements were a distant but still important second preference for general information about floods to be promoted, at 19%.
  - Radio was more preferred by those aged 65+ (29% vs. 13% of others).
  - Those living beyond the 1 in 100 year flood risk zone were more inclined to rely on radio (24%) than those within this area (12%).
- Preference for television advertisements and SMS were both at 14%, followed by advertising in newspapers or magazines (12%), email (11%), or a phone call from the SES or an emergency service (11%).
  - Television advertising was more preferred by people with disabilities (29%) than those in households without anyone with a disability (11%).
  - Email was most preferred by those aged under 45 years (24%) when compared with older respondents (9%), and those beyond the 1 in 100 year flood risk zone (14%) versus those who live within this area (7%).
  - Those aged 65+ were also more interested in a phone call from the SES or emergency services (21% vs. just 6% of those aged under 65 years).
- Those who preferred to receive information from elsewhere (7%) largely referred to local councils, suggesting they should provide information via calls, letters, visits, booklets, maps. Some also expressed a wish for information they could refer to later e.g. fridge magnets, documents, letters or books, which we know from the qualitative research was also quite popular when examples were shown.

Sources of Information Would Use During Flood

SES is the number one source for information during a flood, then radio

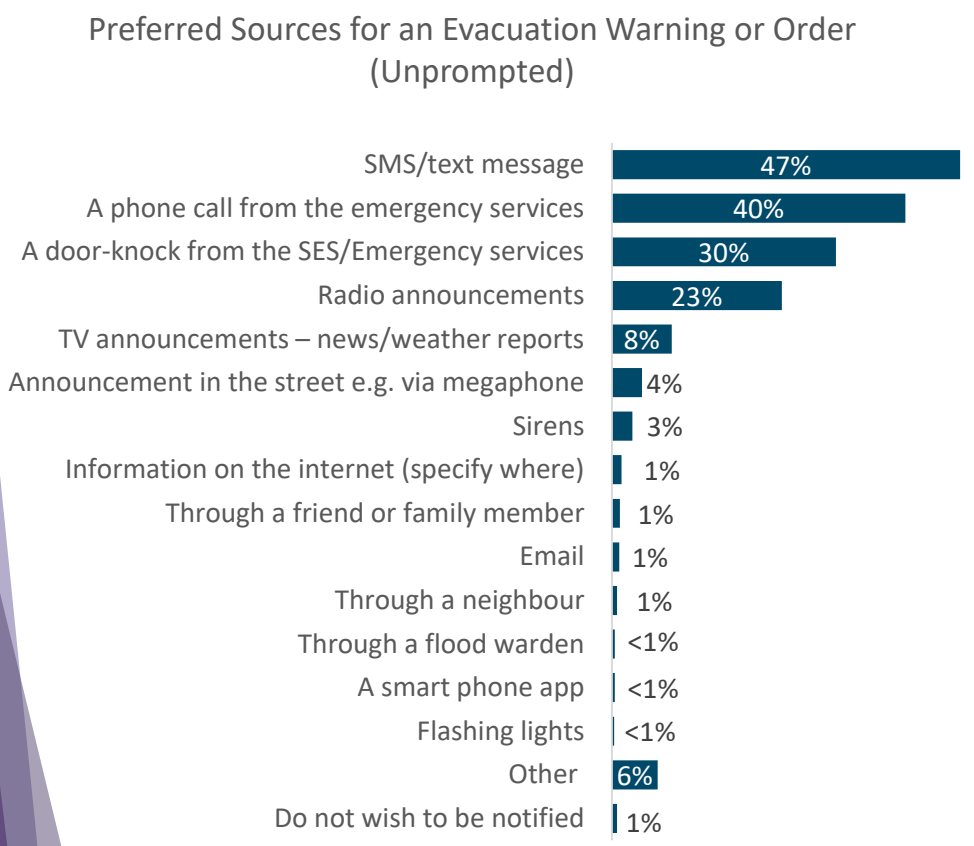


- On average, people would use 1.8 information sources during a flood.
- Fewer than half (net 45%) would go to the SES for information during a flood – either via telephone (34%) and/or through its website (19%).
- Radio was the next key source for information and updates, mentioned by almost two in five respondents (38%). Participants named Hawkesbury radio station 89.9FM the most, followed by the generic 'local radio', then the ABC. Of the commercial radio stations, Radio 2GB and 101.1 WSFM were mentioned most often.
- Around 1 in 5 would also rely on local councils (18%) and/or TV announcements on news and weather bulletins (18%).
  - Those who live beyond the 1 in 100 year flood risk zone were much more likely to say they would turn to their local council for information during a flood event (23%) than those within the 1 in 100 year area (10%).
  - Those on the Penrith floodplain said they would be more likely to turn to television announcements (23%) compared with those on the Richmond Windsor floodplain (14%).
- It is worth noting that smartphone apps were not mentioned as an information source here *without prompting*, but we know from the qualitative research that some people thought an app would be useful during a flood, reflecting on their experiences using an app during the 2013 bushfires.

Base: All Respondents (n=400).
Q21. Where or from whom would you get information during a flood in your local area? Where else would you go for information? MULTIPLE RESPONSE

Preferred Source of Evacuation Warning or Order

A strong expectation for direct delivery of warnings or orders



Base: All Respondents (n=400).
Q35. And what would be the best way for you to get an evacuation warning or order? A warning means an evacuation is likely and an order means you need to evacuate the area? MULTIPLE RESPONSE

- Respondents would most prefer to receive a direct message to evacuate either via SMS (47%), a phone call from the emergency services (40%) or through doorknocking by the SES or other emergency services (30%).
- SMS was more commonly preferred by the following:
  - Those with children in the home (65% vs 43% of those without kids).
  - Working people (60%) compared with retirees (30%).
  - Those who have no people with disabilities in their home, compared with those who do (52% vs.21%).
  - Those who had experienced bushfire (52% vs. 40% of those who had not).
  - Those aged under 64 years (62% vs. just 21% of residents aged over 65).
- Around a quarter (23%) wanted to hear an evacuation message via radio. While radio has a strong supporting role, also found in the qualitative research, this suggests it could be better promoted to raise awareness of this channel and why it is important.
- Fewer than one in ten (8%) would rely on TV announcements on the news or weather reports.
- As shown in this chart, very few (<1%) thought a smartphone app would be the best way to get an evacuation warning / order. It is important to keep in mind that this was an unprompted question and we know from the qualitative findings that apps are appealing as a source of information about flood risk, predicted flood extent during a flood, and to assist in preparation, but this result suggests that an app would not be relied upon as a channel specifically for an evacuation warning or order to be delivered (at least certainly not at this stage).

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