

3 Community Consultation

Community consultation is an important component of the Flood Study, with one of the key objectives of the study to ensure that the community can clearly understand potential flood risks within the catchment. The NSW Government *Floodplain Development Manual* (2005) details a framework and process for implementing the Flood Prone Land Policy. Following the completion of the Flood Study, a Floodplain Risk Management Study and Plan is to be completed which reviews potential options for flood management and mitigation. The resultant Plan is a strategic framework for Council to implement policies and undertake works. Community involvement throughout the process is important to ensure the community's concerns are considered and for acceptance of the final recommendations of the process.

Primary components of the consultation process include a questionnaire and public exhibition period discussed further in this section.

3.1 Project Website and Mailout

Cardno assisted Council in establishing a project website that provided an overview of the objectives of the study and advised of upcoming consultation activities. A primary component of the consultation process for the Flood Study is the initial mailout that includes a guide to advise the objectives of the study and a questionnaire enquiring about a range of flood related issues. The community guide and questionnaire (included in **Appendix D**) were distributed to approximately 5,500 properties identified in a preliminary estimation of the catchment floodplain.

The nine Precinct Groups of the former Manly Council were also advised of the Flood Study.

3.2 Community Questionnaire

A questionnaire was distributed to the community to gain an understanding of flood awareness and experiences in the catchment. It comprised ten questions about flood experiences and was mailed to approximately 5,500 properties within the study area. The questionnaire was also available via a link to Survey Monkey (<https://www.surveymonkey.com/s/ManlyLGAFS>) published on the project website. A copy of the questionnaire is included in **Appendix D**.

A total of 204 responses were received during the four week reply period, 35 of which were completed online and 169 returned as hardcopies. This represents a response rate of 4%.

Responses received for the questions are summarised in the following sections.

3.2.1 Question 1 – Contact Details

Contact details for respondents were requested (but not essential) to enable correspondence to further discuss responses in detail and to facilitate future contact as the flood study progresses.

3.2.2 Question 2 – Property Type

What is the property type?

- Residential, commercial, industrial

Due to the high proportion of residential properties within the study area, over 99% of respondents described their property as residential.

3.2.3 Question 3 – Time at Residence

How long have you lived and worked at this property?

Table 3-1 lists the responses for the years that the respondent has lived / worked in the catchment. Time of residence is an important criterion for evaluation of the responses that follow. Specifically, a resident may have lived in the catchment for a couple of years and thus may not have experienced a flood event in the catchment due to no significant storms occurring within their relatively short time in the area.

Submissions for this question indicated that 31% of respondents have been in the catchment for less than five years which may have an effect on awareness of local flooding, with more recent arrivals to the area potentially not having an awareness of historical flood events. Notably, 25% have lived in the area for more than 20 years.

Table 3-1 Time of Residence

Period of Residence	Number of Responses	Percentage
0 to 5 years	64	31%
6 to 10 years	35	17%
11 to 15 years	26	13%
16 to 20 years	27	13%
More than 20 years	52	25%
<i>Total</i>	<i>204</i>	<i>-</i>

3.2.4 Question 4 – Property Occupancy

What is the status of the property?

- Owner-occupied, leased

Of the respondents, 85% identified that they were the owner of the property, while only 15% identified as tenants (**Table 3-2**). Seven respondents recorded their property as both owner and tenant occupied (i.e. apartment buildings).

It is noted that tenant occupied residences are in general less likely to have resided in the catchment for a long period and may have limited awareness of local flooding.

Table 3-2 Type of Occupancy

Period of Residence	Number of Responses	Percentage
Owner Occupied	178	85%
Tennant Occupied	31	15%
Other Occupied	0	0%
<i>Total</i>	<i>209</i>	<i>-</i>

3.2.5 Question 5 – Awareness of Flooding

What is your level of awareness of flooding having occurred in the study area?

- Aware / personal knowledge, some awareness, no prior knowledge

Responses to Question 5 regarding awareness of flooding are a guide for general flood exposure in the catchment. However, responses can be influenced by a resident's location and time in the catchment, as well as the period since the last major storm event. This information can be applied to the next stage of the Floodplain Management Process, where options are considered, such as the implementation of education campaigns to raise awareness of flooding both generally and in relation to specific hazardous locations in the catchment.

Of the respondents, 50% indicated they are aware of potential flooding in the catchment (**Figure 3-1**), which is an important objective of the study of defining flood behaviour to enable the community to be informed about potential risks. Based on analysis of the survey results, awareness of flooding in the catchment does not directly relate to the years residing in the catchment as it is also dependent on the respondent's location in the catchment and floodplain extent.

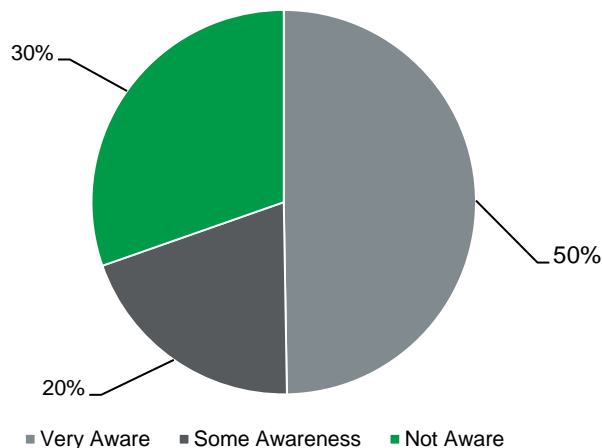


Figure 3-1 Flood Awareness of Respondents

3.2.6 Question 6 – Property Inundation

Have you ever experienced flooding at the address you specified above from streets, channels or creeks?

- Front or back yard, shed or garage, residential (below floor level), residential (above floor level), commercial (below floor level), commercial (above floor level), industrial

The degree of affectation by flooding at particular properties is relevant to the flood model calibration / validation process as it identifies the actual impact advised by the resident to compare to the flood model outcome. Responses to Question 6 also indicate the general exposure within the catchment to flood risk and property damage in particular areas.

The highest percentage of property inundation was in the front/backyard with 42% followed by residential (below floor) with 25% (**Figure 3-2**).

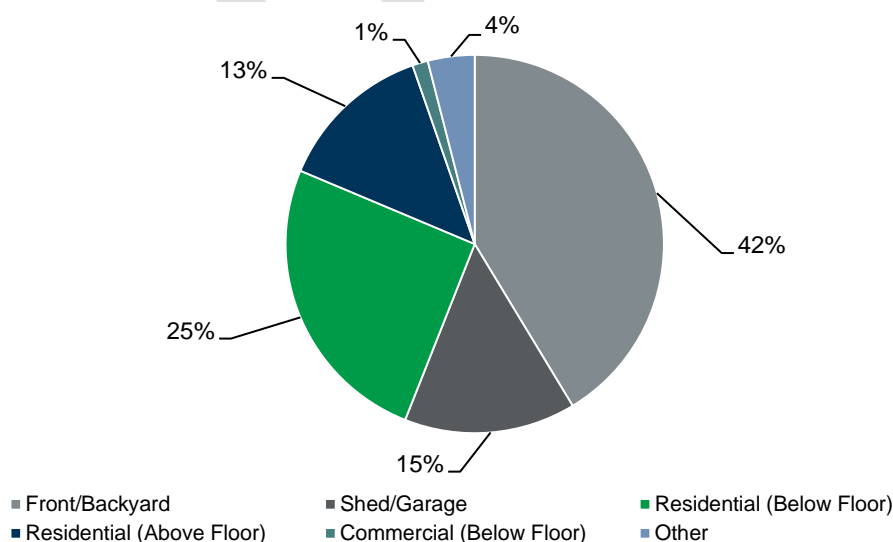


Figure 3-2 Property Inundation

Locations reported by residents as having previously experienced above-floor flooding included:

- College Street, Reddall Street, The Crescent and North Steyne in Manly;
- Battle Boulevard and Ponsonby Parade in Seaforth; and
- Monash Crescent in Clontarf and Gourlay Avenue in Balgowlah.

Approximate dates of inundation are listed in **Table 3-3**.

Table 3-3 Property Inundation Dates

Date of Flood Event
12-13 February 2010
March 2011
16 March 2012
11 June 2012
2 June 2013
28 October 2013
April 2014

Photographs or flood marks from previous storm events assist in the model calibration / validation process supplementing the descriptions provided. Photographs may also be relevant for local historians. Several photographs, reports and letters relating to specific flood events and the associated property damage were provided by survey respondents for use by the study team.

3.2.7 Question 7 – Flooding in the Catchment

If you have experienced flooding elsewhere in the study area, what other areas have you seen flooded?

- Residential or commercial areas, roads or footpaths, parks

This question provides an indication of flooding identified elsewhere within the catchment, such as roadways and other public open space areas that may be transited or otherwise used by members of the public. Similar to Question 6, this information is relevant for the flood model calibration / validation process, and it also assists in capturing data on issues with emergency management and evacuation. **Table 3-4** summarises the responses provided regarding other (non-residential) locations affected by flooding.

Table 3-4 Flooding in the Catchment

Area	Number of Responses	Locations Affected by Flooding
Residential/ Commercial	17	Bower St, Manly (2)
		Bonner Av, Manly
		Monash Cr, Clontarf
		Cove Av, Manly
		Smith St, Manly (2)
		Alan Av, Seaforth
		Pine St, Manly
		Addison Rd, Manly
		Beatty St, Balgowlah Heights
		Victoria Pde, Manly
		North Harbour St, Balgowlah
		Harbour View St, Clontarf
		Ashburner St, Manly
		Collingwood St, Manly
		Montpelier Pl, Manly

Area	Number of Responses	Locations Affected by Flooding	
Roads/Foot Paths	94	Addison Rd, Manly (7)	Lakeside Cres, North Manly
		Alexander St, Manly	Lauderdale Ave, Fairlight
		Allenby St / Holmes Ave Intersection Clontarf	Malvern Ave, Manly
		Ashburner St, Manly	Monash Cres, Clontarf
		Balgowlah Rd, Manly (3)*	North Steyne, Manly
		Belgrave St, Manly	Ogilvy St, Clontarf
		Bonner Ave, Manly (4)	Pacific Pde, Manly
		Campbell Pde, Manly Vale	Pacific St, Manly
		Carlton St, Manly	Pittwater Rd / Raglan St Intersection, Manly (7)
		Central Ave, Manly	Reddall St, Manly
		Collingwood St, Manly	Rolf St, Manly
		Collins Beach Rd, Manly	Seaforth Cres, Seaforth
		Condamine St, Balgowlah	Smith St, Manly
		Craig Ave, Manly	Sydney Road, Seaforth
		Denison St, Manly	Victoria Pde, Manly
		Golf Pde, Manly	Wentworth St / South Steyne Intersection, Manly
		Kangaroo Ln, Manly	Wilyama Ave, Fairlight
		Pittwater Rd Sports Grounds	Manly Oval
		North Harbour Reserve	Kangaroo Reserve
		Ivanhoe Park	Nolan Reserve*
Parks	24	Manly District Park	Keirle Park*
		Manly Golf Course*	Lagoon Park
Other	5	Clarence Street Waterfall, Balgowlah	Manly Centre, Manly
		Condamine St, Balgowlah (2)*	Kangaroo Ln, Manly

*indicates survey responses received that do not appear in the study area.

3.2.8 Question 8 – Flood Experience

Have you ever been inconvenienced by a flood event?

- Daily routine was affected, safety threatened, access to property was affected, property or contents were damaged, business unable to operate

Question 8 provides an indication of the impacts of flooding to residents in the catchment.

Flood experience responses are summarised in **Figure 3-3** and listed below:

- 51 respondents recorded that their daily routine was affected due to flooding;
- 7 respondents were concerned for their safety;
- 26 had access to their property affected;
- 24 respondents had their property damaged; and
- 1 experienced difficulties in operating their business.

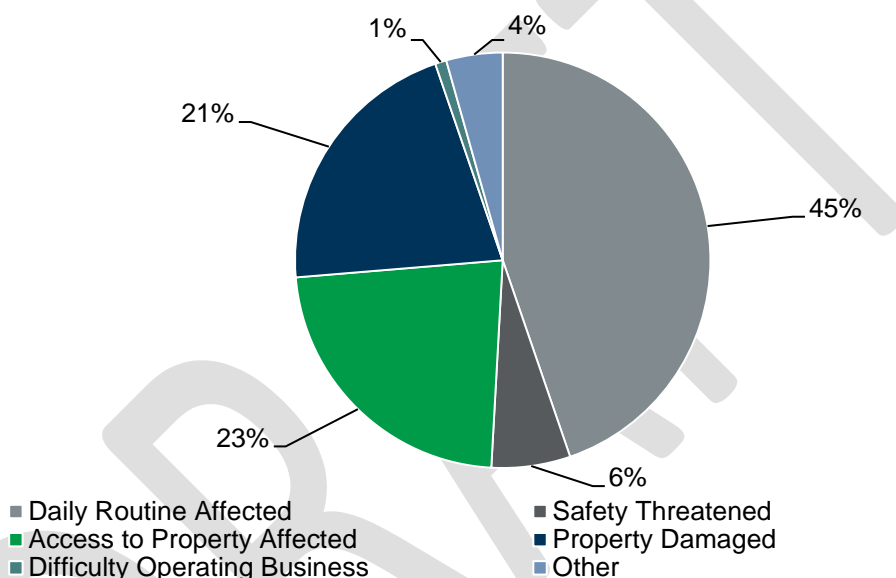


Figure 3-3 Flood experience

3.2.9 Question 9 – Drain and Culvert Blockage

Have you noticed any stormwater drains, creeks, channels, bridges and/or culverts blocked during a flood event?

- Yes, no (include details)

Responses to Question 9 serve several purposes. For model calibration / validation, residents may advise of flooding impacts worse than modelled which may be the result of blockage to stormwater inlets and conduits. The responses may identify particular locations requiring maintenance to remove debris or locations that are particularly susceptible to blockages during storm events.

A total of 101 respondents advised that drains or culverts were blocked (**Table 3-5**), generally by organic matter and rubbish.

Table 3-5 Blocked Drains / Culverts

Location	Comments
2 Battle Blvd, Seaforth	Drainage pit blocked 100%
36 Seaforth Cres, Seaforth	Culverts blocked 90%
4 Palmerstone Pl, Seaforth	Drains blocked 80%
40 Smith St, Manly	Drains blocked 100%
70 Seaforth Cres, Seaforth	Drains blocked 80%
Alan Ave, Seaforth	Drains blocked 80%
Balgowlah Rd, Manly	Drains blocked 50%
Balgowlah Rd / Rolf St, Manly*	Drains blocked 100%
Beatrice St, Clontarf	Drains blocked 100%
Belgrave St, Manly	Drains blocked 20%
Bower St, Manly	Drains blocked 20%
Central Ave / Raglan St Intersection, Manly	Drains blocked 80-100%
Central Ave / Sydney Rd Intersection, Manly	Drains blocked 50%
Condamine St / Lower Beach St, Balgowlah	Drains blocked 20%
Darley Rd, Manly	Drains blocked 20%
George St, Manly	Drains blocked 80%
Kangaroo Ln, Manly	Drains blocked 20-100%
Lauderdale St, Fairlight	Drains blocked 50-80%
Lower Beach St / North Harbour St Corner, Balgowlah	Drains blocked 80%
Malvern Ave, Manly	Drains blocked 20-50%
North Steyne, Manly	Drains blocked 80-90%
Ogilvy Road, Clontarf	Drains blocked 100%
Pacific St, Manly	Drains blocked 100%
Raglan St, Manly	Drains blocked 20%
Raglan St / Pittwater Rd Intersection, Manly	Drains blocked 80-100%
Sydney Rd, Manly	Drains blocked 20%

*indicates survey responses received that do not appear in the study area.

3.2.10 Question 10 – Additional Comments.

If you have any other information you would like to provide to inform the Manly LGA flood study, please provide details.

Respondents were asked if they wished to provide additional information to inform the Flood Study.

Responses identified the following issues of concern:

- Potential impact of flooding of the proposed car park under Manly Oval;
- The impact of high tides and rising sea levels on flooding; and
- Quality of stormwater runoff.

3.3 Flood Study Working Group

Council established the Flood Study Working Group in March 2015 to provide a forum for discussion and recommendation on matters relating to the Flood Study. The working group consists of a Councillor, Council staff, community representatives and state government agency representatives (including State Emergency Service).

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