FLOOD RISK COMMUNICATION RESEARCH INTO PRACTICE BRIEF 5 APRIL 2020

Evaluation of flood risk communication materials

A scoping review of recent campaigns and an analysis of public recall of flood risk communication campaigns

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Statement of purpose: The Research into Practice Brief series provides concise summaries of research findings for end-users and practitioners. This brief provides a summary of two research activities; an online scan of recent flood risk communication campaigns, and analysis of questions relating to flood risk messaging and the perceived effectiveness of communications, from a nationally representative survey of the Australian general public.

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BACKGROUND

In the second phase of the Bushfire and Natural Hazards CRC project *Flood risk communication* the research team has been evaluating and reviewing flood risk communication materials. These activities are supporting the co-development of a set of public communication guidelines with the AFAC SES Community Safety Group, due for completion in mid-2020.

This Research into Practice Brief provides a summary of two research activities. The first is an online scan of recent flood risk communication campaigns, focussed primarily on Australian-based resources. The second is an analysis of data from a national survey conducted in 2018/19 which included evaluation of the Australian public's awareness of flood risk communication campaigns and messages.

The aim of the online scan was to identify flood risk communication campaigns focused on the Australian public in recent years. This also enabled some comparison of approaches to floodwater risk communication being used across jurisdictions. In addition, this scan also helped provide context to interpret data collected in the public survey regarding the campaign sources of the messages being recalled.

The public survey, see Research into Practice Brief 4, collected data about experiences of entering floodwater – both playing and driving, and it also included a section about the recall of communication campaigns and messages. Responses to this latter section of the survey are included in this Research into Practice brief. The aim of this part of the survey was to assess public recall of floodwater risk communication campaigns and messaging, to ask about the media sources from which these messages were received, and to ask about the perceived effectiveness of these messages for raising awareness and influencing behaviour. Given that information was collected on the demographics of respondents, e.g. age, gender, location and their experiences of entering floodwater, it was also possible to explore links between awareness of messaging and behaviour, albeit in very general terms.

FLOOD RISK COMMUNICATION CAMPAIGNS IN AUSTRALIA

Online searches were conducted to identify flood risk campaigns in Australia. A range of search terms were used to identify potentially relevant material, such as "flood risk" and "floodwater AND driving" as well as jurisdiction-specific emergency service groups (e.g., NSW SES). The campaigns identified included video advertisements, webpages, and documents. Examples of the campaigns from emergency services are shown in Figure 1, page 2. Most of these campaigns focused on the risks or dangers associated with driving into floodwater. The key advice conveyed was to never enter floodwater, and less information was provided about what drivers should do instead of driving into floodwater (e.g., find another route, turn around, delay travel).

Public survey

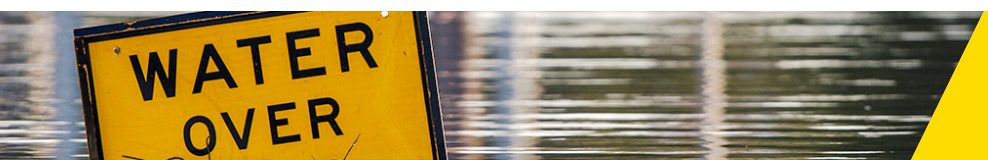
The survey was distributed online by Qualtrics Research Services, between December 2018 and January 2019. The sample was constructed to be proportionally representative of the adult Australian general population by state, and balanced for age and gender. There were eight main sections of the survey, which included driving details; demographics; experiences of entering floodwater, either on land or in flooded rivers; willingness to drive through water on roads; experience of driving into floodwater; experience of turning around in floodwater; general attitude to risks; and recall of floodwater risk communication. A total of 2,184 people took part in the survey and 2,109 respondents completed the final section on floodwater risk communication. This brief summarises data provided by these 2,109 respondents.

Recall of floodwater risk communication campaigns and messages

The survey found that 40 per cent of respondents (n=844) reported that they could recall at least one official campaign aimed at preventing people driving or playing in floodwater. Figure 2, page 3, shows the overall reported ability to recall a campaign, broken down by respondents within each jurisdiction.

[Note, survey sampling was proportional to the population sizes of each state and territory, and therefore numbers of respondents in NT, ACT and TAS are small in state-based breakdowns and should be interpreted with caution.]

In terms of a link between recalling a floodwater risk campaign and behaviour, it appeared that those who recalled a campaign were more likely to have (ever) driven through floodwater. Overall, 56 per cent of the sample had driven through floodwater. Of those who had seen a campaign, 60 per cent had driven through floodwater, compared to 53 per cent of those



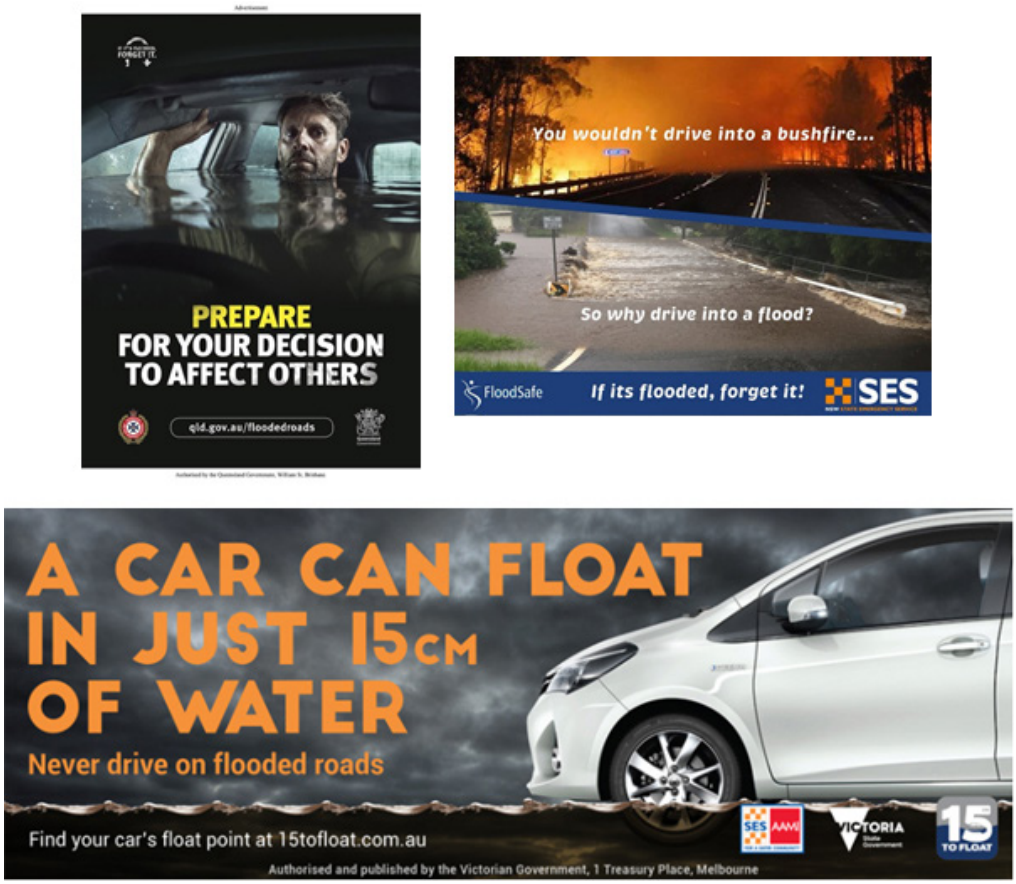


Figure 1: Examples of flood risk campaigns from Queensland, New South Wales, and Victoria.

who hadn't seen a campaign. When looking to see if there was a relationship between how many times respondents had driven through floodwater in the last five years, there was no difference between those who had or had not seen a campaign.

Generally, those who could recall a campaign were older (typically 45+) (42-48 per cent across older age groups), drove utes (51 per cent) or medium/large cars (43 per cent), had taken an advanced driving course (49 per cent), and were from QLD (68 per cent) or NT (64 per cent).

Respondents provided their postcode and from these data their location type was identified using the Accessibility and Remoteness Index of Australia (ARIA). This analysis indicated that those in outer regional areas (more rural/remote areas) were also more likely to have seen a campaign (49 per cent) compared to those from inner regional areas (41 per cent) and those from urban areas (33 per cent).

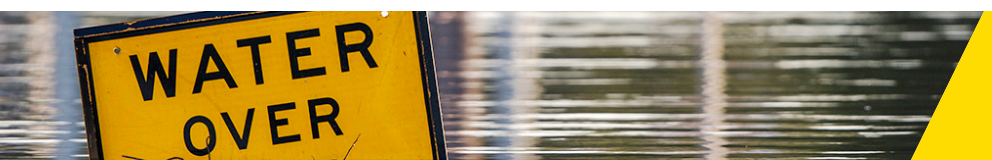
Overall campaign awareness for the sample was quite low, at 40 per cent. Notable exceptions were those in the sample from QLD and NT with recall around or above 65 per cent. Respondents living in urban areas had the lowest awareness of campaigns overall (33 per cent).

Recall of campaign messages

Of the 844 who reported recalling one or more campaigns, when prompted to recall a main message or something from a campaign, only 33 per cent (n=278) could recall any aspect of the content (13 per cent of the total sample).

The most frequently recalled message, by 16 per cent (n=135) of people who could recall an official campaign, related to the general campaign message "If it's flooded, forget it". Not all 135 respondents accurately recalled the full message. This count includes those who provided sufficient written responses that conveyed the general meaning of this campaign, i.e. that you should not enter floodwater. This included phrases such as "forget it", "don't do it".

Some example responses to this question are shown below, these include phrases that could be linked to known campaigns, such as "15 to float" (VICSES), "Safe pipes and drains" (NT), "Know the dangers" (QFES), and the "If it's flooded forget it" campaign used by multiple jurisdictions, as well as a range of other campaigns.



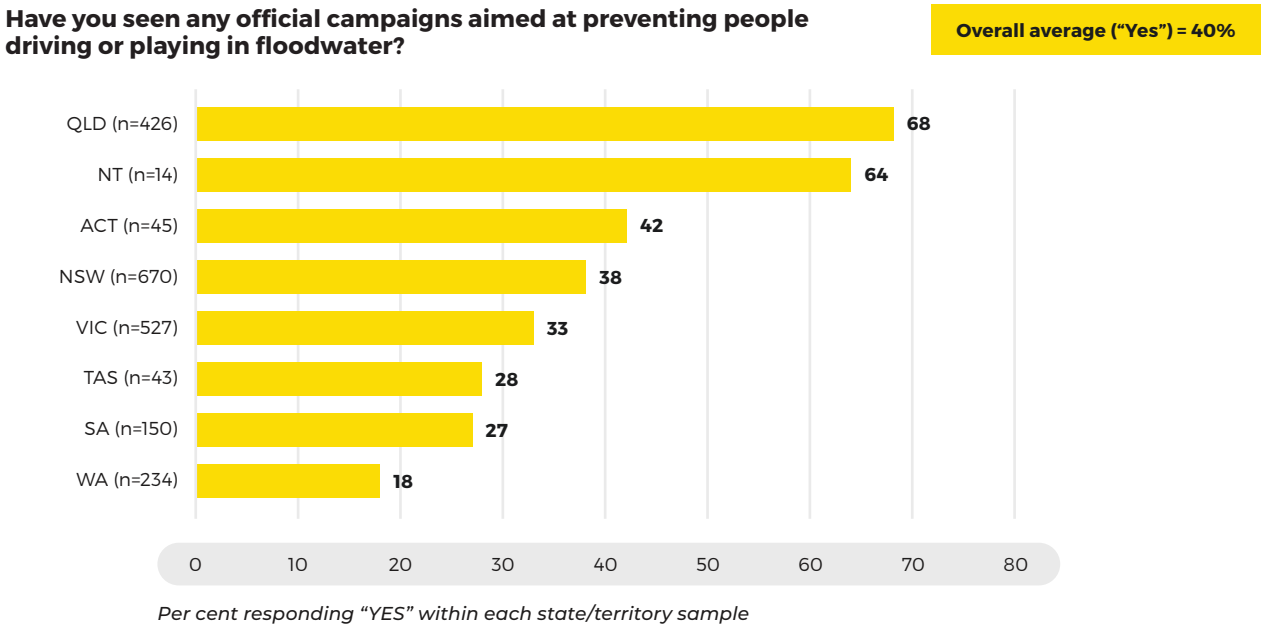


Figure 2: Recall of floodwater risk campaign by state/territory (n=2109).

"A car can float in 15cm of water." "Only a small amount of water can float a car." "More than 10cm can wash your car away."

"Things might be submerged." "You can't see what's under the water." "There could be hidden dangers."

"Not driving or riding in floodwater." "Don't walk through floodwaters." "If it's flooded, don't do it."

"It's not worth the risk." "Stay out of floodwaters." "Consider the people who have to rescue you." "Don't swim in flooded creeks or rivers." "Keeping children out of floods and not getting stuck in drains."

Where were campaigns seen/heard?

Respondents were asked where they had seen or heard the campaigns. Most respondents reported they had seen/heard campaigns on the television (50 per cent) or the radio (13 per cent). This was followed by social media (7.4 per cent), signs and billboards (6.8 per cent) and newspapers or magazines (6.4 per cent).

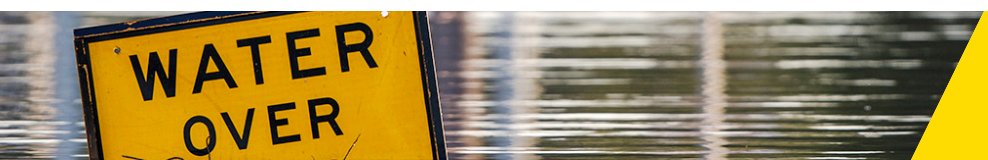
Looking across states and territories we investigated the types of media sources that respondents reported seeing/hearing campaigns on (note, these were multiple response questions, so respondents could mention more than one type of media). Television was most frequently cited as a source in QLD (88 per cent), radio in QLD and NT (26 per cent and 25 per cent, respectively). Social media was most frequently cited as a source by those in ACT and WA (24 per cent and 17 per cent, respectively), signs and billboards in QLD and NSW (16 per cent and 10 per cent, respectively), and newspaper/magazines in the NT, TAS, and ACT (25 per cent, 17 per cent and 12 per cent, respectively). Around a fifth of respondents from VIC and WA could not recall any sources for the campaign messages they recalled (21 per cent and 19 per cent, respectively).

Perceived effectiveness of campaigns

Respondents were asked how effective they thought the campaigns were at raising awareness of the risks and how effective they were at discouraging people from entering floodwater. These responses are summarised in Figure 3, page 4.

As can be seen in Figure 3, page 4, campaigns were generally rated favourably, with their ability to raise awareness generally being rated higher than their ability to influence behaviour. The perceived effectiveness of campaigns was investigated by jurisdiction; these data are shown in Figure 4, page 4.

Respondents from QLD, NT and NSW were slightly more positive about the effectiveness of campaigns although, overall, perceptions of effectiveness were favourable.



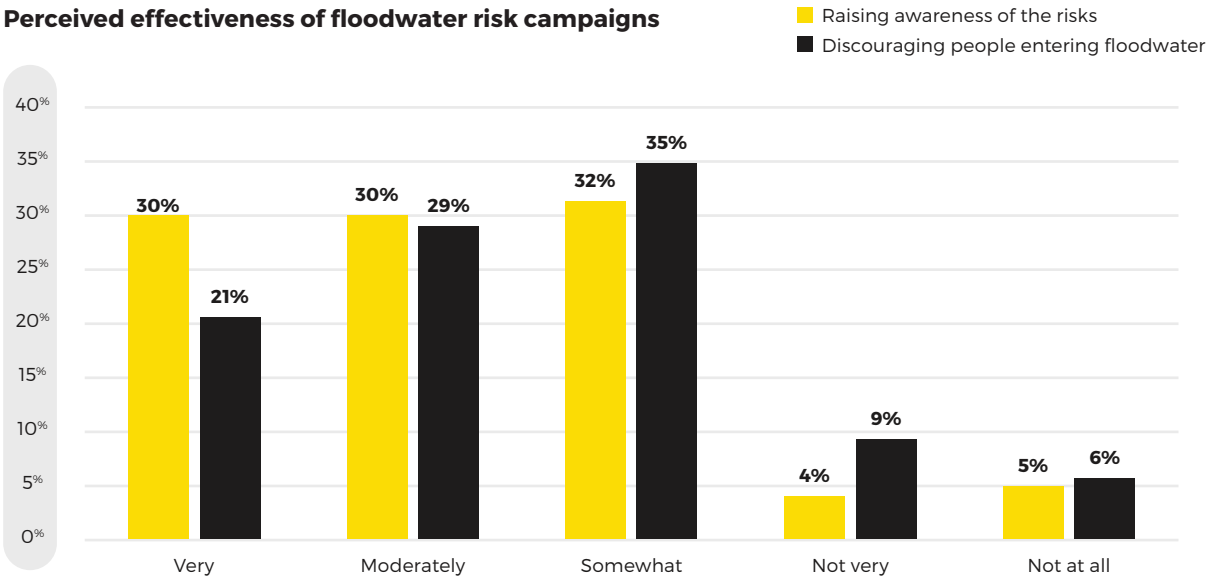


Figure 3: Perceived effectiveness of floodwater risk campaigns (n=844).

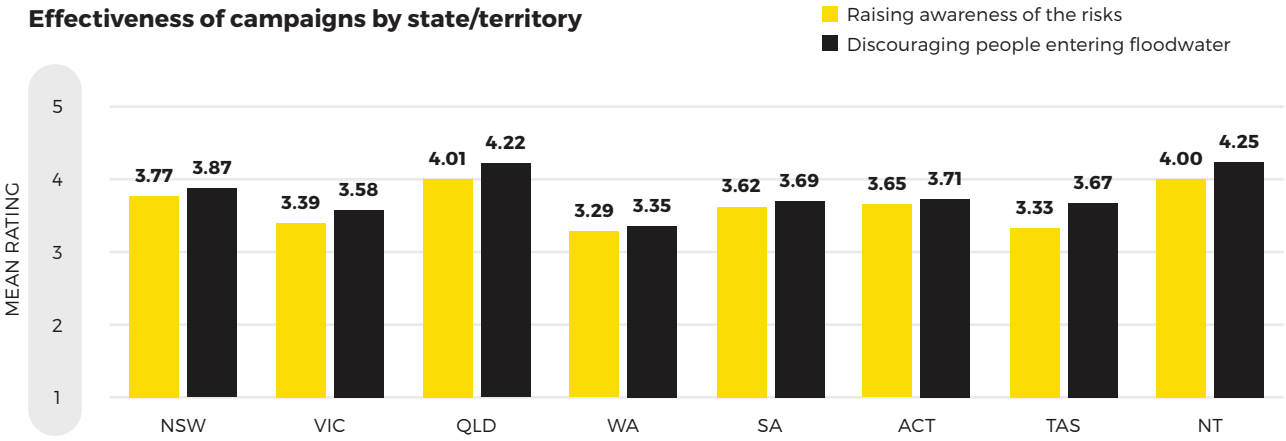


Figure 4: Mean ratings of perceived effectiveness (n=844). (1 = not at all effective, 5 = very effective).

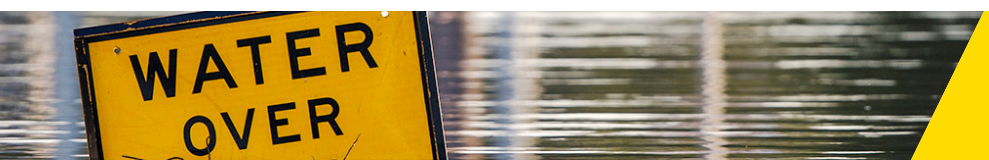
Approaches to discourage driving through floodwater

In the final section of the questionnaire, respondents were presented with a list of options that could be taken to discourage people from driving through floodwater. They were asked how useful they felt each would be. The scale ranged from 1 = not at all useful, to 5 = extremely useful. Mean ratings are shown in Figure 5, page 5.

Physical interventions were felt to be most useful, with signage, barriers, lights, and more depth indicators topping the list. More accurate and timely warnings and mandatory education in driver training were the next most favoured approaches. Punishments (fines, points, disqualifications), advertisements on social media and in newspapers, and public events, like roadshows and workshops were felt to be the least effective.

STRENGTHS AND LIMITATIONS

This study provides useful feedback to end-users on a proportionally representative national sample of the Australian public's recall of campaigns and campaign messages and their perceptions about the effectiveness of these campaigns and the usefulness of a range of approaches to discouraging people from driving through floodwater. Overall this was a large and robust sample, although due to the proportional nature of the sample, breakdowns by states and territories need to be interpreted with caution for the small groups. This brief presents simple comparisons



Usefulness of approaches to discourage driving through floodwater

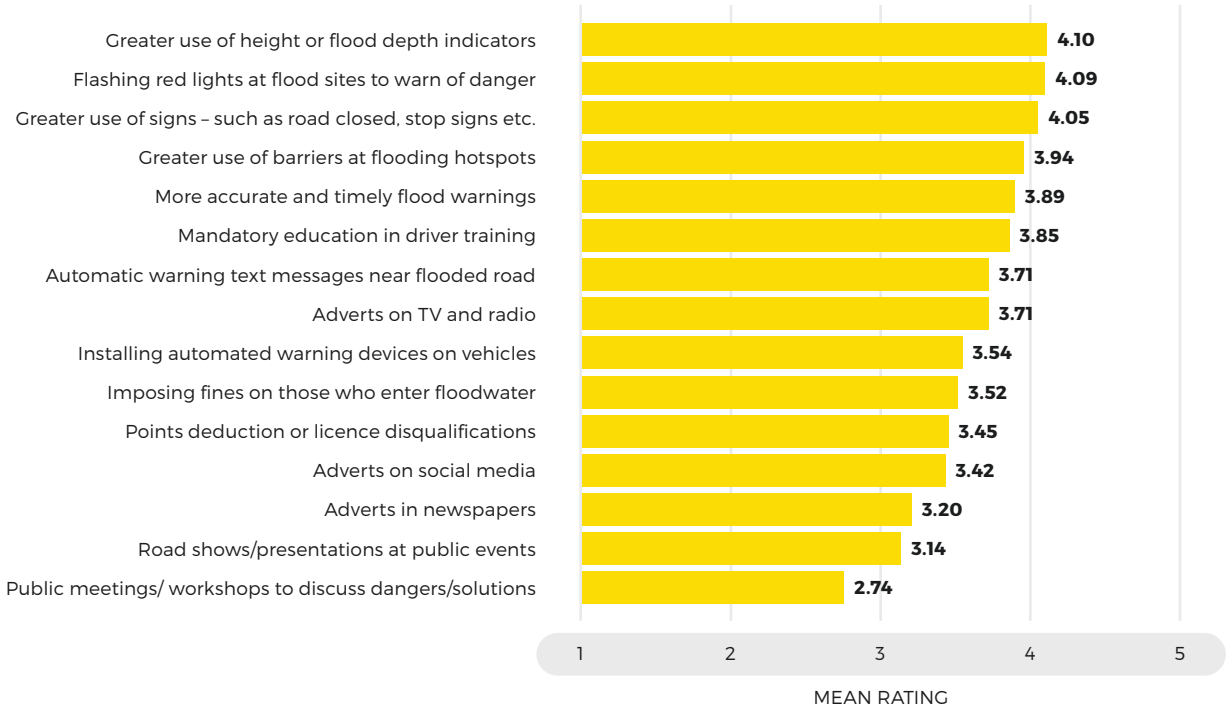


Figure 5: Mean ratings of perceived usefulness of a range of approaches to discourage people from driving through floodwater (n=2019).

between states for information and further analysis of the broader survey data is ongoing.

IMPLICATIONS

Despite quite a number of public campaigns in recent years, this study found there was generally fairly poor levels of awareness of campaigns and recall of messages. In investigating links between awareness of campaigns and reported behaviour around floodwater, there did not appear to be a positive link between campaign awareness and lower levels of risk taking.

Differences between recall of campaigns were found between respondents from different states and territories, with respondents in QLD and NT reporting higher recall. As we don't have independent data about roll-out of campaigns across states it is not clear if this is finding is due to more active campaigning in these states in recent times, or more salient campaign content.

Respondents were generally positive about the impacts of communication campaigns on raising awareness of risks and on discouraging people from entering floodwater, however general findings about reported behaviour in floodwater from this survey indicate that more than half of respondents had driven through floodwater.

FLOOD RISK COMMUNICATION

This research is funded by the Bushfire and Natural Hazards CRC and is led by Dr Mel Taylor. This project will develop an understanding of the motivations, beliefs, decision making processes and information needs of at-risk groups for flood fatalities, specifically those who drive or recreate in floodwater.

For more information, please see: www.bnhcrc.com.au/research/floodriskcomms

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