

Flood risk communication to reduce vehicle-related flood fatalities

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Aim: To develop a better understanding of the motivations, beliefs, decision-making processes, and information needs of at-risk groups for flood fatalities.

Goal: To use this knowledge to improve flood risk communication and education that will lead to a reduction in vehicle-related flood rescues and human fatalities.

PROJECT INTRODUCTION

This project commenced in July 2017 and comprises two phases:

1. Understanding behaviour in and around floodwater, and
2. Evaluating and adapting flood risk communication materials.

Based on the findings of an earlier BNHCRC project *An analysis of building losses and human fatalities from natural disasters* we are focusing on the two behaviours most frequently associated with flood fatalities

1. Driving into floodwater in a motor vehicle, and
2. Recreating in floodwater.

The focus will be on the at-risk groups identified from this earlier research¹ including young male drivers, and children and young adults who play in floodwater.

Year 1 Activities

- Understanding propensity to drive into water on the road (novice drivers, traffic offenders, emergency services personnel, flood experts)
- Encountering floodwater at work (emergency services personnel)
- National survey – encountering floodwater (general population)
- Initial planning for dynamic group decision making research - driving into floodwater and playing in floodwater (young males, children, families)

Reference

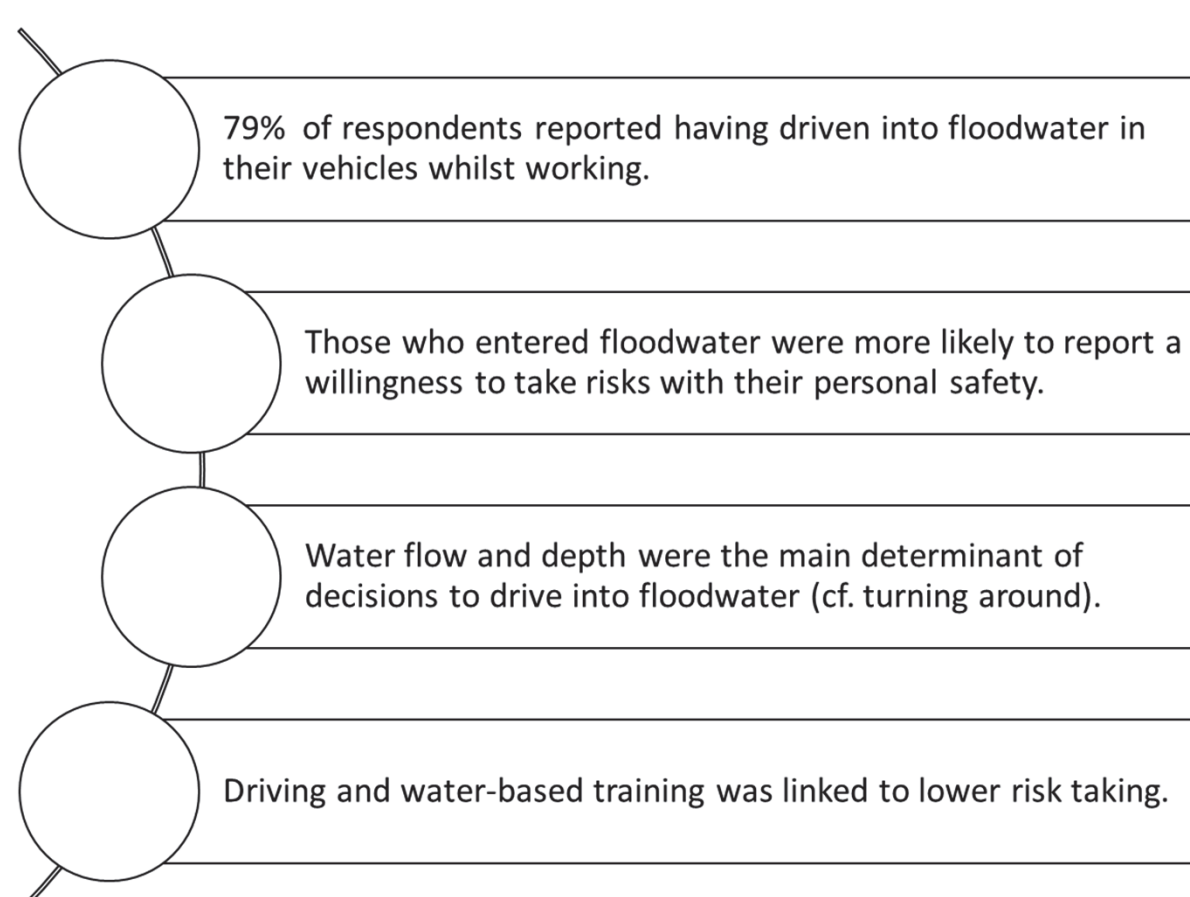
1. Haynes, K., et al., (2017). Exploring the circumstances surrounding flood fatalities in Australia—1900–2015 and the implications for policy and practice. *Environmental Science and Policy*, 76, 165-176.

EMERGENCY SERVICES PERSONNEL ENCOUNTERING FLOODWATER AT WORK



In the first six months of the project we undertook initial survey research with 230 personnel from three NSW-based emergency services agencies about their experiences of driving into, and turning around from, floodwater when at work.

Key findings



Following these preliminary findings we have expanded this research across a number of SES jurisdictions.

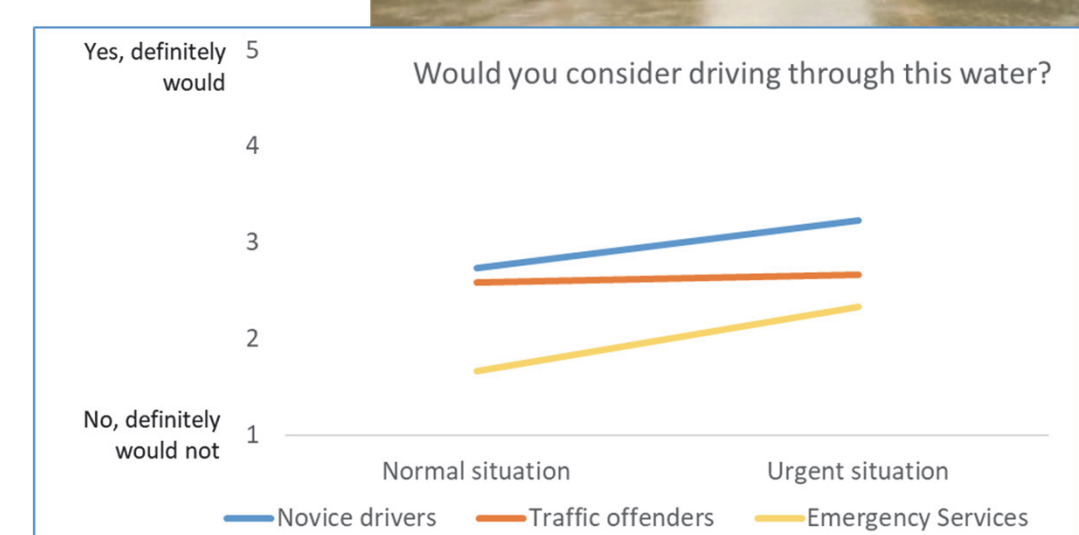


WATER ON THE ROAD – PUBLIC DEFINITION OF FLOODWATER AND PROPENSITY TO DRIVE THROUGH IT

The main goal of this project is to improve flood risk communication. To understand how to communicate better, we first need to understand what the public perceives to be a 'flooded road'.

If imagery in public risk communication always presents a fast flowing, clearly dangerous body of water, how do we expect drivers to behave when faced with more benign-looking water on the road? The official message is still the same – 'if it's flooded, forget it'.

In this research, through testing with 250+ people, we have reduced an initial set of 44 photographs of water on the road to a group of four images that discriminate well between participants, when asked whether they would consider driving through the water.



We are using this image set within our surveys to provide a context-relevant risk propensity measure.

In addition, we have been asking participants whether they consider the road 'flooded'. This research is enabling us to identify subtleties in how the public identifies, or discounts, this risk, providing useful insights for risk communication and engagement.