

# Increasing the resilience of the Deaf Community in NSW to natural hazards

## Milestone 4 - Emergency Services Capacity Assessment (Final Results Report)

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**Fire &  
Rescue NSW**





# **Emergency Services Capacity Assessment Final Results Report - Milestone 4**

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This report was prepared as part of a project aimed at increasing the resilience of the Deaf Community of New South Wales to natural hazards.

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# Table of Contents

<b>ACKNOWLEDGEMENTS</b> .....	<b>II</b>
<b>LIST OF FIGURES</b> .....	<b>IV</b>
<b>LIST OF TABLES</b> .....	<b>IV</b>
<b>LIST OF BOXES</b> .....	<b>IV</b>
<b>LIST OF ACRONYMS</b> .....	<b>V</b>
<b>KEY TERMS AND CONCEPTS</b> .....	<b>VI</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>IX</b>
<b>1 INTRODUCTION</b> .....	<b>1</b>
<b>2 AIMS AND METHODS</b> .....	<b>5</b>
<b>3 OVERVIEW OF EMERGENCY POLICY AND PLANNING IN AUSTRALIA AND NSW</b> .....	<b>8</b>
<b>4 EMERGENCY SERVICES PROGRAMS TO SUPPORT DEAF AND HARD-OF-HEARING PEOPLE</b> .....	<b>14</b>
4.1 Fire and Rescue NSW .....	14
4.2 NSW Rural Fire Services .....	15
4.3 NSW State Emergency Services .....	17
<b>5 EVALUATION OF CURRENT EMERGENCY SERVICES COMMUNICATION TOOLS FROM A DEAF PERSPECTIVE</b> .....	<b>25</b>
5.1 Accessibility of current emergency services programs .....	26
5.1.1 Website navigation .....	31
5.1.2 Use of multimedia tools to disseminate preparedness information .....	33
5.1.3 Use of text, visual cues, and language .....	38
5.1.4 Availability of information in PDF and ‘print-friendly’ formats .....	42
5.1.5 Appropriate referencing to non voiced-based emergency contact numbers and information sources .....	43
5.2 Recommendations to increase accessibility for deaf people to current emergency services programs.....	46
<b>6 A REVIEW OF EMERGENCY SERVICES CAPACITIES</b> .....	<b>49</b>
6.1 Preliminary feedback on recommendations made to increase Deaf accessibility to current programs.....	57
6.2 Responses to preparedness solutions put forward by the Deaf Community .....	58
6.3 Facilitating shared responsibility in emergency management in NSW.....	63
<b>7 CONCLUSIONS</b> .....	<b>68</b>
<b>WITH THANKS:</b> .....	<b>69</b>
<b>REFERENCES</b> .....	<b>70</b>
<b>APPENDIX 1</b> .....	<b>74</b>

## List of Figures

Figure 1: Location of New South Wales, Australia and its regions .....	2
Figure 2: Four-step approach to strengthening disaster preparedness for Deaf people .....	3
Figure 3. Disaster cycle and examples of actions taken by emergency managers at each stage .....	10
Figure 4: A Quick Guide: Communicating with People with a Disability .....	13
Figure 5: Visual version of the NSW SES 132 500 magnet .....	18
Figure 6: Flood safety messages communicated in pictorial form .....	19
Figure 7: NSW SES <i>FloodSafe</i> homepage and its 'Deaf-friendly' features .....	28
Figure 8: An example of universal warning signs .....	39
Figure 9: Icons used in FR NSW's <i>Fire Safety for Deaf and Hard of Hearing People Factsheet</i> .....	44
Figure 10: TTY contact number icon .....	45
Figure 11: Screenshots of the <i>Fires Near Me</i> smartphone application .....	63

## List of Tables

Table 1: Emergency Services Capacity Assessment standard research methods summary .....	7
Table 2: Legislative and policy frameworks, plans, and strategies used to inform and coordinate emergency management in New South Wales .....	9
Table 3: Programs offered by Fire and Rescue NSW that support community fire awareness and preparedness in urban areas .....	20
Table 4: Programs offered by the NSW Rural Fire Service that support community bushfire awareness and preparedness .....	22
Table 5: Programs offered by the NSW State Emergency Services that support community flood awareness and preparedness .....	24
Table 6: Gap analysis of the accessibility of current NSW emergency services programs, activities and tools for deaf people .....	27
Table 7: Draft 'checklist' for analysing capacities and challenges for the emergency services .....	50
Table 8: Solutions to improve access to information identified by deaf people .....	59
Table 9: Mobile and landline telecommunication solutions to meet Deaf Community needs .....	59
Table 10: Internet, TV, TTY, and Fax solutions .....	60
Table 11: Capacity building and educational needs and actions .....	60
Table 12: Solutions for increasing support and information accessibility for Deaf people .....	61

## List of Boxes

Box 1: Emergency management approaches used to accommodate people with disabilities .....	11
Box 2: Promising natural hazard preparedness programs needing 'Deaf-friendly' adjustments .....	29
Box 3: Recommendations for improving website navigation .....	32
Box 4: Recommendations for increasing information access using multi-media tools .....	38
Box 5: Recommendations for increasing information accessibility through text and visual cues .....	41
Box 6: Recommendations for improving referencing to non voiced-based emergency numbers .....	45
Box 7: Recommendations for increasing accessibility to current emergency services programs .....	48
Box 8: Recommendations for facilitating shared responsibility in emergency management .....	66

## List of Acronyms

AEMI	Australian Emergency Management Institution
AIDER	Assist Infirm Disabled and Elderly Residents Program
ABC	Australian Broadcast Corporation
ABS	Australian Bureau of Statistics
Auslan	Australian Sign Language
BOM	Bureau of Meteorology
BRAC	Bush Fire Resilience in Aboriginal Communities
CAD	Computer Aided Dispatch
CALD program	Culturally and Linguistically Diverse Program
CFU	Community Fire Unit
COAG	Council of Australian Governments
COMDISPLAN	Commonwealth Government Disaster Response Plan
DEMC	District Emergency Management Committee
Displan	State Disaster Plan
EMQ	Emergency Management Queensland
ESO	Emergency Service Organisation
FR NSW	Fire and Rescue NSW
IFAP	The Intervention and Fire Awareness Program
LEMC	Local Emergency Management Committee
NDMP	National Disaster Mitigation Program
NRS	National Relay Service
NSW RFS	New South Wales Rural Fire Service
NSW SES	NSW State Emergency Services
NSW	New South Wales
QLD	Queensland
PPRR cycle	Prevention, Preparedness, Response and Recovery cycle
SABRE	Smoke Alarm Battery Replacement For The Elderly Program
SASS	NSW Smoke Alarm Subsidy Scheme
SEMC	State Emergency Management Committee
SLC	Sign Language Communications
TTYs	Teletypewriters
UNCRPD	Convention on the Rights of Persons with Disabilities

## Key terms and concepts

**Auslan:** Australian Sign Language

**Combat Agency:** The agency identified in the State Disaster Plan (Displan) (see definition below) as the agency primarily responsible for controlling the response to a particular emergency (Source: SERM Act).

**Australian Government Disaster Response Plan (COMDISPLAN):**The COMDISPLAN outlines the coordination arrangements for the provision of Australian Government physical assistance to states or territories or offshore territories in the event of a disaster (Australian Government Attorney's-General Department, 2011).

**Community:** In *Communicating with people with a disability - National Guide for Emergency Managers (Attorney General's Department, 2013a)*, four types of *communities* are identified: (i) geographic communities (bounded by space or location), (ii) communities of interest (shared interests/characteristics/attributes), (iii) virtual communities (connected online), and (iv) communities of circumstance (shared issue or disaster experience). In this project, we align ourselves most closely with 'communities of interest' i.e. groups of people who interact with each other based on shared interests, attributes, social networks, modes of expression and identity.

**Crisis:** A distinct yet unexpected and non-routine event (or series of events) that threatens the lives of stakeholders and the viability of the affected organisation or population, thereby creating spheres of uncertainty and unknown outcomes (Caywood and Stocker, 1993, Seeger et al., 1998). In doing so, crisis events demand urgent changes whilst simultaneously opening up opportunities for transformation (Farazmand, 2001).

**deaf:** Someone who is deaf (denoted by a small 'd') is physically deaf but does not use Auslan or identify with the Deaf Community (Schembri, 2010).

**Deaf:** Someone who is Deaf (with a capital 'D') belongs to the Deaf Community and uses Auslan as their main language. They consider themselves to be 'normal' and not 'impaired' by their inability to hear - their identity is drawn from their shared culture and language and not from their inability to hear. Deaf people rely mainly on their vision (Auslan and text) to communicate and cannot usually hear speech even when amplified by a hearing aid (Schembri, 2010).

**Deaf Community:** The Deaf community is a network of people who share a language, a culture, and a history of common experiences – similar to an ethnic community. The Deaf community is well organized with national, state and local networks of sporting, recreation, social, special interest and advocacy groups (Schembri, 2010).

**Disaster:** A disaster is a complex, place-oriented product of a hazardous event and the historical outcomes of socio-political and economic forces (distinct from environmental forces) that have shaped societal structures and society's capacity to respond effectively to the hazard (Wisner et al., 2004). Disasters occur when a significant number of vulnerable people experience a hazard (or series of hazards) that cause severe damage to livelihoods and overwhelm the system, making recovery improbable without external aid (Wisner et al., 2004).

**The State Disaster Plan (Displan):** The NSW Displan details emergency preparedness, response and recovery arrangements for New South Wales to ensure the coordinated response to emergencies by all agencies having responsibilities and functions in emergencies (Ministry of Police and Emergency Services, 2011b).

**Emergency:** An event, actual or imminent, which endangers or threatens to endanger life, property or the environment, and which requires a significant and coordinated response (Emergency Management Australia, 2004).

**Emergency management:** A range of measures to manage risks to communities and the environment (Emergency Management Australia, 2004).

**Emergency services organisation:** Government agencies in New South Wales that are charged (under the New South Wales State Disaster Plan) with the responsibility for managing or controlling an accredited rescue unit. These agencies include: the NSW Police, Fire and Rescue NSW, NSW Rural Fire Service, Ambulance Service, State Emergency Service, and Volunteer Rescue Association (State Emergency and Rescue Management Act 1989 No 165).

**Hard-of-hearing:** Those who define themselves as being hard-of-hearing or hearing-impaired see themselves as 'hearing' people with a hearing impairment or medical problem. This group of people usually prefer to use speech, listening (with the help of hearing aids) and lipreading to communicate over Auslan and do not identify with the Deaf Community (Macready, 2009, Schembri, 2010).

**Hazard:** A threat to humans and their welfare with the potential to cause loss (Smith, 1995).

**Mitigation:** In the context of disaster management, mitigation refers to structural and non-structural measures undertaken to limit the adverse impact of natural hazards (IFRC, 2012).

**Natural hazard:** Natural process or phenomenon that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage (UNISDR, 2007).

**Preparedness:** The process of ensuring that an individual, population or organisation (1) has complied with preventive measures, (2) is in a state of readiness to contain the effects of a forecasted disastrous event to minimize loss of life, injury, and damage to property, (3) can

provide rescue, relief, rehabilitation, and other services in the aftermath of the disaster, and (4) has the capability and resources to continue to sustain its essential functions without being overwhelmed by the demand placed on them (BusinessDictionary.com, 2012).

**Recovery:** Decisions and actions taken after a disaster with a view to restoring or improving the pre-disaster living conditions of the affected community or population, while facilitating necessary adjustments to reduce disaster risk to future events (IFRC, 2012).

**Resilience:** The capacity of a system, population or household to absorb disturbance and reorganise throughout volatile periods of change whilst retaining function, structure and identity (see Folke, 2006, Walker and Meyers, 2004).

**Risk:** The calculated likelihood of an event or change taking place and negatively impacting an exposure unit (individual, household or population) resulting from a decision or course of action (Smith, 2000).

**Vulnerability:** The degree to which an exposure unit [human groups, ecosystems and communities] is susceptible to harm due to exposure to a perturbation or stress, and the ability (or lack thereof) of the exposure unit to cope, recover, or fundamentally adapt (Kasperson and Kasperson, 2001).

## Executive Summary

The purpose of this report is to present the findings of the Emergency Services Capacity Assessment, which aims to:

1. Provide an overview of the policies and plans that shape emergency management in Australia and NSW;
2. Identify the current emergency response and longer-term recovery/preparedness protocols and plans, programs and strategies that the New South Wales State Emergency Service (NSW SES), Fire and Rescue New South Wales (FR NSW) and the New South Wales Rural Fire Service (NSW RFS) have that are either designed to support Deaf Community members specifically or may be used to better support cultural minorities like the Deaf Community;
3. Ascertain any challenges that the emergency services may have in delivering community programs (related to current levels of social, human, economic capital) including additional programs for Deaf/deaf and hard-of-hearing people;
4. Identify the different communication kits or tools currently used by the emergency services (taken from the review undertaken for *Objective B*) and evaluate their effectiveness in meeting the needs of Deaf people (sourced from the Deaf Community Needs Assessment) from the Deaf perspective; and
5. Explore possible communication and disaster preparedness options that both meet the needs of the deaf and hard-of-hearing communities and may be feasible/worth exploring given the emergency services current resource levels and practical constraints.

In providing answers to these questions, it also fulfils the requirements of Milestone 4 of the project as detailed in the original project work plan approved for funding.

### EMERGENCY MANAGEMENT APPROACHES IN AUSTRALIA

A review of Australia's emergency management system, along with the policies and plans that support this system, reveals that the system is highly top-down and reflects the country's constitutional arrangements, whereby the States and Territories have the constitutional responsibility for protecting the lives and property of their citizens. The laws, policies, and subsequent emergency response plans used to direct emergency management in NSW are linked directly to two Commonwealth directives: the *Australian Emergency Management Arrangements* and the *Disaster Response Plan* (COMDISPLAN). These two directives provide the foundations upon which the NSW state government policies and plans (the main one being the *State Disaster Plan or Displan*) are based. But response and recovery arrangements are graduated from the bottom up, beginning with the individual affected by the hazard and moving up to the emergency services (ascending from the local, district, state and national levels) only when the capacity of the individual to respond is overwhelmed. Emergency management in Australia is also a shared responsibility between all stakeholders - the emergency services, non-government organisations, volunteers, community members, and the private sector. This integrated and collaborative approach is reinforced in the *National Strategy For Disaster Resilience*.

Australia's emergency management approach to servicing the specific needs of people with disabilities is to **provide special services** and arrangements for people with impairments or disabilities. The review of the existing emergency response and recovery/preparedness policies and plans that influence the actions and response capabilities of emergency service organisations confirms this. There are no specific arrangements for Deaf/deaf or hard-of-hearing people included in the existing plans and policies. However, the introduction of a special set of emergency management guidelines for people with disabilities (*Communicating with People with Disability: National Guidelines for Emergency Managers*) that align with both the *National Strategy for Disaster Resilience* and the *National Disability Strategy* does indicate a shift towards a more inclusionary model. This revised approach facilitates wide-spread participation, community empowerment and stresses the need for clear communication of risk and appropriate responses. A Quick Guide has also been developed to immediately aid emergency managers in identifying ways to address the communication needs of community members who have a disability at each stage of the Prevention, Preparedness, Response and Recovery (PPRR) cycle.

### **EMERGENCY SERVICES PROGRAMS TO SUPPORT DEAF PEOPLE**

The NSW RFS, NSW SES and FR NSW offer a range of community programs aimed at educating the NSW population about the hazard risks that affect NSW and steps people need to take to better prepare for natural hazards before, during and after hazard events. The breadth of programs offered clearly shows that the NSW emergency services are highly conscious of and committed to communicating effectively with and supporting the very diverse NSW public. The NSW RFS, NSW SES and FR NSW do not currently have any natural hazard preparedness programs that specifically cater to the needs of Deaf people (the SASS and SABRE programs are aimed at housefire prevention and preparedness). However, there are 19 programs, strategies, and communication tools that are either the 'Deaf-friendly' or have elements that may be 'Deaf' appropriate. The most notable of these include:

- NSW SES's FloodSafe Program;
- The NSW RFS *Fires Near Me* smartphone and tablet; and
- The NSW RFS *Bushfire Survival Plan* smartphone and tablet app (being released in November 2013).

In light of this finding, we present a range of recommendations to make these existing programs more accessible to Deaf people. The key recommendations include:

1. Including a specific Deaf/deaf and hard-of-hearing webpage on emergency services websites (using the NSW SES *FloodSafe* webpage as a model) that includes clear visual icons, Auslan videos with captions, PDF brochures containing visual cues, and Deaf-accessible contact details;
2. ***Shift emphasis from the written word and text to visual cues (symbols, pictures, cartoons, common icons or photos) paired with basic English text to increase understanding and accessibility for a wide range of people including Deaf people and those whose first language is not English;***
3. Increase the use of both Auslan videos (with captions) and pictorial formats to better communicate with Deaf people. A balance of both formats - Auslan videos and pictorial

formats - would be best but if finances are lacking pictorial formats are a good (and in some cases a better) substitute as they are accessible to all; and

4. Produce an 'all hazards' DVD (based on the model used by Deaf Services Queensland's *Be prepared for natural disasters* DVD), disseminate this through public libraries, the emergency services and established Deaf/deaf and hard-of-hearing networks and support organisations. A joint emergency services road show run in partnership with the Deaf Society of NSW could also be used to promote the DVD.

### **EMERGENCY SERVICES CAPACITY TO IMPLEMENT DEAF-ACCESSIBLE PROGRAMS**

The creation and implementation of new and adjusted emergency and disaster risk management protocols, strategies, and tools cannot be done effectively without determining whether the institutions responsible for implementation have the resources (social, human, economic capital) they need to successfully operationalize changes. The emergency services in NSW are charged with the difficult task of balancing the priorities of multiple groups and making judgements on how best to use the finite resources they have to service the collective needs of a very diverse population. Consequently, the NSW RFS and NSW SES\* undertook a preliminary self-evaluation of their capacity to (i) action suggested changes to their current program and (ii) implement the range of resilience building strategies that the NSW Deaf Community proposed as part of the Deaf Community Needs Assessment.

Both organisations are largely supportive of the recommendations aimed at increasing Deaf people's accessibility to their current community programs and communication materials. However, actioning these changes will be subject to available resources. There is also scope to implement some of the Deaf Community resilience building strategies (see Section 6.2 for more details). However, this research has also identified a deeper issue that is affecting the Deaf Community's ability to effectively respond to natural hazards. There is much confusion amongst Deaf people concerning the responsibilities that emergency service organisations have in supporting the community. There is a potentially dangerous mismatch between what Deaf people expect emergency services to do for them in an emergency situation and the responsibilities emergency services are mandated to provide. This is not a Deaf-specific problem; it is mirrored in the wider NSW and Australian population. This mismatch not only causes misplaced frustration but also leaves people underprepared and highly vulnerable to future hazard events.

This finding clearly indicates that Australia's 'shared responsibility' approach to emergency management is not well understood by the Deaf Community in NSW or the general public, a point that needs redressing. *There is therefore a need for shifting the public's (conscious or unconscious) perceptions from being wedded to a state of dependence and reliance to one of participation and empowerment.* In light of this, we recommend seven strategies for facilitating shared responsibility in emergency management:

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\* Fire and Rescue NSW were unable to undertake the planned Institutional Capacity Assessment within the timeframe of the project. Instead, a self-assessment will be planned at a later date.

1. The NSW RFS, NSW SES and FR NSW to undertake regular natural hazard workshops for Deaf people in partnership the Deaf Society of NSW to improve hazard awareness and preparedness for deaf community members;
2. The Deaf Society of New South Wales to conduct regular Deaf awareness training exercises for emergency services personnel, first-responders and volunteers working on the ground during a hazard event, government officers with emergency management response responsibilities, and the general public to improve Deaf awareness levels;
3. Emergency services to train and appoint a Deaf Liaison Officer to work in partnership with emergency services and the Deaf Society of NSW;
4. Create a Deaf advisory committee to work with the emergency services (together or separately) and government on ways to increase disaster preparedness and resilience to natural hazard events and to discuss issues as they arise;
5. Create a formal link between the Deaf Society of NSW and the emergency service organisations (NSW RFS NSW SES and FR NSW) to build and strengthen institutional partnerships and facilitate collaborative initiatives designed to empower Deaf Community members;
6. Provide more Auslan interpreters during emergency events; and
7. Improve Auslan interpreter skills for emergency situations via training undertaken by the emergency service organisations (NSW RFS NSW SES and FR NSW) in partnership with Sign Language Communications (SLC) to help increase the effectiveness of communication during live events.

# 1 Introduction

New South Wales (NSW) (Figure 1) is affected by a range of natural hazards that take human life, cause injuries, and destroy private property and infrastructure. Risk management seeks to simultaneously increase the resilience and reduce the vulnerability of individuals and communities to the negative effects of natural hazards and their associated disasters. To achieve this, communities work together with local government authorities and emergency service organisations, but having the information needed to respond effectively before, during, and after an emergency or disaster event is crucial in determining a positive outcome.

During the January 2011 floods and Cyclone Yasi (February 2011) Queensland Premier Anna Bligh and Emergency Management Queensland (EMQ) used Australian Sign Language (Auslan) interpreters to communicate with the Deaf Community during live television conferences for the first time. This initiative was commendable but the power failed in relevant communities, causing TV broadcasts, Internet and telephone services to fail. This left the Deaf Community members with fewer means to receive emergency response information, leaving them vulnerable to on-going events. In NSW there is currently no state emergency strategy or process to effectively assess the needs of the Deaf Community in a disaster setting and provide them with the assistance they need prior, during, or after a hazardous event. To redress this oversight, this project aims to:

1. Increase the resilience of the Deaf Community to future natural hazards and disasters via improved access to and provision of emergency management information; and
2. Increase the effective resources of NSW emergency service organisations enabling them to deliver their core business (to the Deaf Community) and to improve Deaf awareness amongst staff and professional officers within those organisations.

The objectives used to fulfil each aim are to:

1. Undertake consultation workshops and to conduct face-to-face interviews with representative members (and stakeholders) of the Deaf Community to determine:
  - a. Current awareness of the Deaf Community to natural hazard and disaster risk in NSW;
  - b. Identify the current sources of information used by the Deaf Community to help prepare for emergencies and to respond appropriately in hazard/disaster situations;
  - c. Investigate the preferred forms of 'communication' that will meet the needs of the Deaf Community during live emergency situations in the future; and
  - d. Analyse existing capabilities of the NSW emergency service organisations (specifically, the NSW State Emergency Services, the NSW Rural Fire Services and Fire and Rescue NSW) to deliver risk information and warning messages to deaf people across NSW.

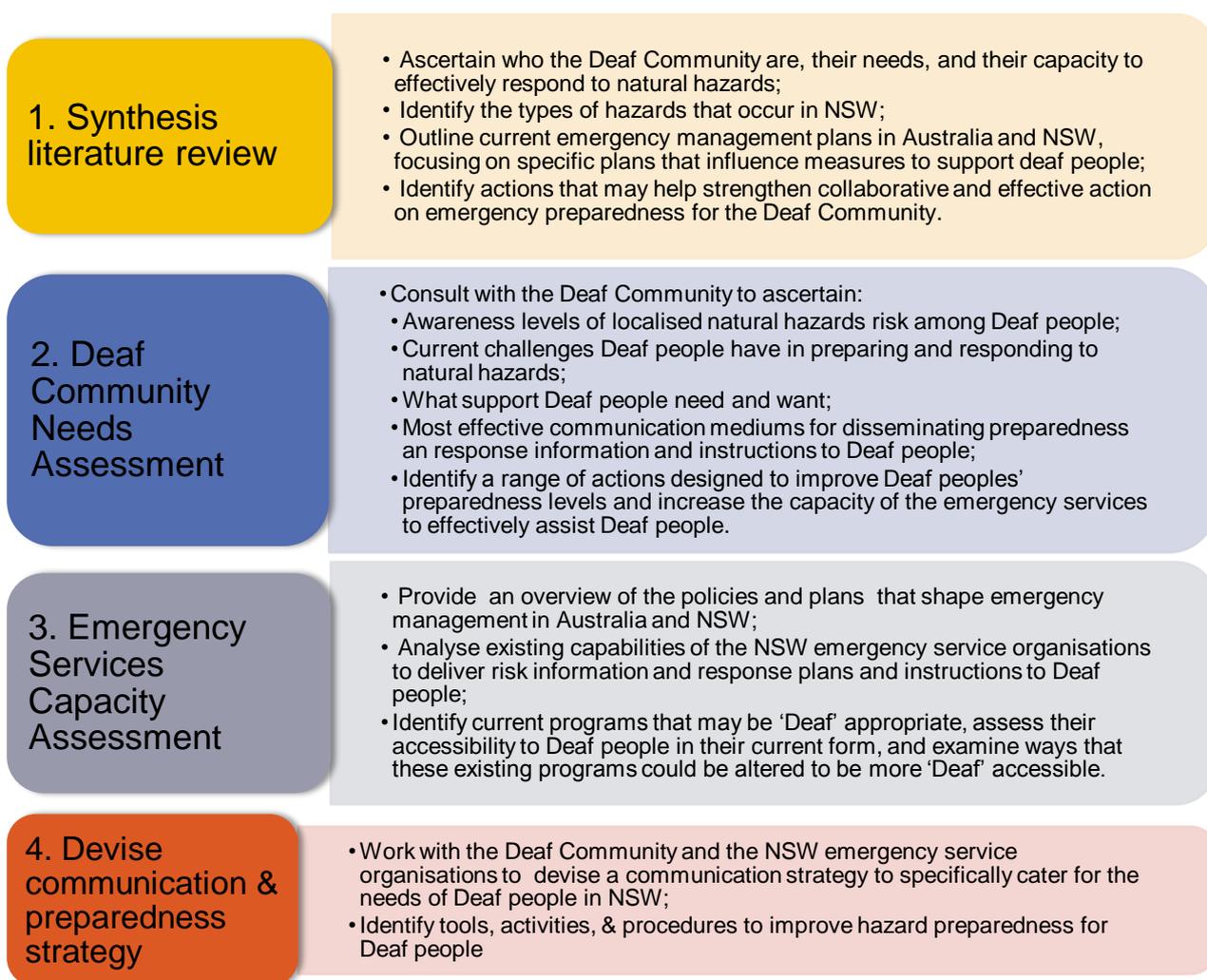


Figure 1: Location of New South Wales, Australia and its regions<sup>†</sup>

<sup>†</sup> Regions included in the study marked in red

2. Use the results generated from Objective 1 to devise a range of information communication sources/materials and strategies to meet the needs of deaf people in NSW;
3. Trial and test various communication and information sources for selected (high probability) hazard scenarios in NSW with deaf people in NSW; and
4. Assist the NSW State Emergency Services, the NSW Rural Fire Services and Fire and Rescue NSW devise and implement a communication strategy to specifically cater for the needs of deaf people in NSW.

Therefore, to fulfil the aims and objectives of this project, a four-step approach was needed (Figure 2). The purpose of this report is to present the findings of the Emergency Services Capacity Assessment. In doing so, it fulfils the requirements of Milestone 4 of the project (see Appendix 1).



**Figure 2: Four-step approach to strengthening disaster preparedness for Deaf people**

The remainder of the report is divided up into five sections. Section 2 outlines the aims of the Emergency Services Capacity Assessment and the methods employed to conduct the assessment. Section 3 presents an overview of emergency management in Australia and NSW. Section 4 takes the analysis to the next level by providing a review of current plans and programs

that the NSW State Emergency Services (NSW SES), the NSW Rural Services (NSW RFS) and Fire and Rescue NSW (FR NSW) have to support emergency and disaster preparedness for Deaf/deaf and hard-of-hearing community members. Section 5 presents a critique of current emergency services plans that help people better prepare and respond to natural hazards from the Deaf perspective. In this critique, we identify current programs that may be 'Deaf' appropriate, assess their accessibility to Deaf people in their current form, and examine ways that these existing programs could be altered to be more 'Deaf' accessible. Section 6 examines the current capacities of the NSW SES, NSW RFS and FR NSW to provide the type of support that Deaf people need to effectively prepare for, respond to and recover from emergencies and disasters. Conclusions drawn from this Emergency Services Capacity Assessment are presented Section 7.

## 2 Aims and methods

The purpose of the Emergency Services Capacity Assessment (hereafter referred to as *the Assessment*) is to analyse the existing capabilities of the NSW SES, NSW RFS and FR NSW to support and communicate with members of the Deaf Community during emergencies and disasters. Included in this Assessment are a policy and protocol analysis of emergency management in Australia (generally) and NSW specifically, and a skills and resource audit of NSW emergency services personnel (NSW SES, FR NSW, and NSW RFS) to identify current practices and capacity levels. The subsequent objectives of the Assessment are to:

- A. Provide an overview of the policies and plans that shape emergency management in Australia and NSW;
- B. Identify the current emergency response and longer-term recovery/preparedness protocols and plans, programs and strategies that the New South Wales State Emergency Service (NSW SES), Fire and Rescue New South Wales (FR NSW) and the New South Wales Rural Fire Service (NSW RFS) have that are either designed to support Deaf Community members specifically or may be used to better support cultural minorities like the Deaf Community;
- C. Ascertain any challenges that the emergency services may have in delivering community programs (related to current levels of social, human, economic capital) including additional programs for Deaf/deaf and hard-of-hearing people;
- D. Identify the different communication kits or tools currently used by the emergency services (taken from the review undertaken for *Objective B*) and evaluate their effectiveness in meeting the needs of Deaf people (sourced from the Deaf Community Needs Assessment) from the Deaf perspective; and
- E. Explore possible communication and disaster preparedness options that both meet the needs of the Deaf communities and may be feasible/worth exploring given the emergency services current resource levels and practical constraints.

Two complimentary methods were used to fulfil the aims and objectives of the Assessment: document analysis and unstructured interviews. These are 'standard research methods' used in human and policy relevant research (Bird et al., 2009). A summary of the methods used, the information obtained through the application of each method, and the main sources of the required information are provided in Table 1. The data was intermittently gathered over a six-month period between April and September 2013. Gathering the information needed for the Assessment required sustained dialogue with key personnel from the NSW SES, FR NSW and NSW RFS that each organisation assigned to work in collaboration with us on this project. The three main informants from the NSW SES, NSW RFS, and FR NSW are also on the project's advisory panel. In some instances where more details were needed on programs outside the expertise of the three assigned staff, we were referred onto relevant emergency services staff (snow-balling technique). The analysis of governmental and emergency services documents (policies and plans,

strategies and programs) provided the foundational knowledge for fulfilling *Objectives A, B, D* and *E*. More detailed information needed to answer *Objectives B, C, D* and *E* was obtained through a series of discussions (unstructured interviews) with key emergency services staff. The information obtained from the open-ended interviews was analysed using NVivo, a qualitative analysis software package (Dunn, 2005, Weitzman, 2000).

**Table 1: Emergency Services Capacity Assessment standard research methods summary**

Method	Objective (informational need)	Sources, Participants and Deployment	References
Document Analysis	<p>A. Provide an overview of the policies and plans that shape emergency management in Australia and NSW;</p> <p>B. Identify the current emergency response (short-term) and longer-term recovery/preparedness protocols and plans, programs and strategies that the NSW SES, FR NSW and NSW RFS have that are either designed to support deaf Community members specifically or may be used to better support cultural minorities like the Deaf Community;</p> <p>D. Identify the different communication kits or tools currently used by the emergency services (taken from the review undertaken for <i>Objective B</i>) and evaluate their effectiveness in meeting the needs of deaf people (sourced from the Deaf Community Needs Assessment) from the Deaf perspective;</p> <p>E. Explore possible communication and disaster preparedness options that both meet the needs of the deaf and hard-of-hearing communities and may be feasible/worth exploring given the emergency services current resource levels and practical constraints.</p>	<p><b>SOURCES:</b></p> <ul style="list-style-type: none"> <li>Emergency management policies and plans, programs and strategies used at the federal level in Australia and within NSW (including state, regional, district, and local policies and plans). Sourced from: government websites, websites of the emergency service partner organisations (NSW SES, NSW RFS, FR NSW), and directly from emergency service partner organisation staff.</li> <li>Emergency service organisation documents and summaries outlining the current programs and strategies used by the NSW SES, FR NSW and NSW RFS to support deaf and hard-of-hearing community members. Sourced from: websites of the emergency service partner organisations (NSW SES, NSW RFS, FR NSW), and from emergency service partner organisation staff.</li> <li>Communication tools and kits that the partner organisations (NSW SES, NSW RFS, FR NSW) use to communicate with deaf and hard-of-hearing people as well as those used to communicate with cultural minorities. Sourced from: websites of the emergency service partner organisations and from emergency service partner organisation staff.</li> </ul>	<p>Clark (1997); Creswell (2009); Hoggart et al.(2002); Kearns (2000); Neuman(2000); Winchester (2005).</p>
Unstructured Interviews	<p>B. Identify the current emergency response (short-term) and longer-term recovery/preparedness protocols and plans, programs and strategies that the NSW SES, FR NSW and NSW RFS have that are either designed to support Deaf Community members specifically or may be used to better support cultural minorities;</p> <p>C. Ascertain any challenges that the emergency service may have in delivering and monitoring effective community programs (related to current levels of social, human, economic capital) including additional programs for the deaf and hard-of-hearing;</p> <p>D. Identify the different communication kits or tools currently used by the emergency services (taken from the review undertaken for <i>Objective B</i>) and evaluate their effectiveness in meeting the needs of deaf people (sourced from the Deaf Community Needs Assessment) from the Deaf perspective;</p> <p>E. Explore possible communication and disaster preparedness options that both meet the needs of the deaf and hard-of-hearing communities and may be feasible/worth exploring given the emergency services current resource levels and practical constraints.</p>	<p><b>PARTICIPANTS:</b></p> <ul style="list-style-type: none"> <li>Key staff members of the NSW SES, NSW RFS, and FR NSW put forward by the partner organisations who work in communications and/or on relevant community-based programs within each of the partner organisations. The three main informants from the NSW SES, NSW RFS, and FR NSW are also on the project’s advisory panel.</li> </ul> <p><b>DEPLOYMENT:</b></p> <ul style="list-style-type: none"> <li>The informants from the NSW SES, NSW RFS, and FR NSW were contacted in the first instance via email and/or phone. Follow-up discussions were then undertaken in person, over Skype and via email to obtain more detailed responses or to get further clarity on points previously discussed.</li> </ul>	<p>Dunn (2005), May (2001)</p>

### **3 Overview of emergency policy and planning in Australia and NSW**

A review of Australia's emergency management system, along with the policies and plans that support this system, reveals that the system is highly top-down and reflects the country's constitutional arrangements, whereby the States and Territories have the constitutional responsibility for protecting the lives and property of their citizens (Emergency Management Australia, 2009). As detailed in Table 2, the laws, policies, and subsequent emergency response plans used to direct emergency management in NSW are linked directly to two Commonwealth directives: the *Australian Emergency Management Arrangements* and the *Disaster Response Plan* (COMDISPLAN). These two directives provide the foundations upon which the state and territory government policies and plans are based. But response and recovery arrangements are graduated from the bottom up. Initial responsibility for managing emergencies lies with individuals and households who are directly involved (NSW State Emergency Management Committee, 2003). It is only when the capacity of that individual to respond is overwhelmed that the emergency services step into to assist (beginning at the local level before moving to the district, state, and national levels when need be). This 'shared responsibility' approach to emergency management, however, is not well understood by the Deaf Community in NSW or the general public in Australia. Residents believe that the onus of responsibility for preparedness actions and ensuring their safety during live hazard events falls more to the emergency services and local councils than on themselves, indicating a fundamental mismatch between perceived responsibilities by community members and those stipulated by Australian emergency management mandates (Bohensky and Leitch, 2013, Box, 2013, Calgaro et al., 2013, Department of Premier and Cabinet, 2011, Leigh, 2006, Whittaker and Handmer, 2010).

Table 2: Legislative and policy frameworks, plans, and strategies used to inform and coordinate emergency management in New South Wales

Government level	Response plans & committees	Details and roles
Federal	Australian Emergency Management Arrangements	Overview of federal, state, territory, and local governments' collective response for emergency management that includes recovery
	Disaster Response Plan (COMDISPLAN)	Describes the coordination arrangements for Commonwealth physical assistance to states and territories in the event of disaster
	National Strategy For Disaster Resilience	Provides national guidelines to facilitate a shift from disaster management protocols and policies that focus responsibility on emergency management agencies toward a disaster resilience model that emphasises shared action and responsibility across the full spectrum of community stakeholders including government agencies, emergency services organisations, non-government organisations, volunteers, community members, and the private sector. Particular focus is placed on building communities that are well-informed about risk levels, self-reliant, function well while under stress, and benefit from high levels of social capital and robust networks to enable fast action and mobilisation.
State	State Emergency & Rescue Management Act 1989 No 165	Provides the legislative basis for the organisation and coordination of emergency management in New South Wales under the NSW Minister for Emergency Services. This includes planning, preparedness, operational coordination, and community participation in recovery. Specifically, the Act provides for: <ul style="list-style-type: none"> <li>Preparation of a State Disaster Plan (Displan) and subordinate plans to ensure a co-ordinated response for necessary operations</li> <li>Establishment of Emergency Management Committees at state, district and local Government levels that decide on how to utilise resources during all stages of the disaster/emergency cycle (planning &amp; preparedness, response, recovery, reconstruction, &amp; mitigation)</li> <li>Arrangements for controlling emergency operations</li> <li>Procedures for <i>State of Emergency</i> declarations (for 30 days maximum) by the NSW Premier, which gives the Premier control over all response agencies and resources</li> </ul>
	State Emergency Management Committee (SEMC)	Responsible for emergency management and planning at the state level. Main responsibilities include: <ul style="list-style-type: none"> <li>Formulate and monitor multi-scaled risk reduction and response plans for all agencies</li> <li>Provide advice to departments and agencies on mitigation policies and practices</li> <li>Establish and oversee all coordination and communication systems and networks between emergency services at all levels</li> <li>Formulate and monitor emergency management training policies and material for all response agencies</li> <li>Develop and implement Public Awareness Programs</li> <li>Maintain basic level of Civil Defence preparedness</li> </ul>
	State Disaster Plan (Displan)	Displan is activated in the event of any emergency and coordinates the response by all agencies charged with responsibilities and functions under the Displan. It: <ul style="list-style-type: none"> <li>Identifies the combat agency primarily responsible for responding to different types of emergencies</li> <li>If no combat agency has been assigned to a hazard event (e.g. earthquake), the Emergency Operations Controller at either the local, district, or state level will take control (all Controllers are from the police and each sits on their respective Emergency Management Committees). Controllers also assist combat agencies in coordinating support when requested by the Head of a combat agency</li> <li>Outlines the co-ordination of the activities of other agencies charged with supporting the combat agencies</li> <li>Specifies the tasks of all agencies in the event of an emergency</li> <li>Specifies the responsibilities of the Minister and the state, district, and local Emergency Operations Controller.</li> </ul> The main directives under the Displan are: <ul style="list-style-type: none"> <li>Responsibility for preparation, response (including response coordination), and recovery rests at the local level with agencies charged with that role. If local agencies and resources are overwhelmed, those at the District, State, and Commonwealth (in that order) augment them if the need arises;</li> <li>Combat agency controllers must keep Emergency Operations Controllers at the local, district, and state level informed of developments throughout emergency operations</li> </ul>
	NSW Flood Sub-Plan	Details the preparation, warning, response, recovery and mitigation arrangements for flooding in NSW and the responsibilities of agencies and organisations in implementing the arrangements. Combat agency: NSW State Emergency Service.
	Hawkesbury/Nepean Flood Emergency Sub-Plan	Outlines preparedness measures, the conduct of flood operations, and the establishment of coordination for recovery measures to deal with a Level 2 flood (when water level of the Hawkesbury-Nepean River is expected to exceed 15.0 metres on the Windsor Bridge gauge) in the Hawkesbury-Nepean Valley. Combat agency: NSW State Emergency Service.
	NSW Storm Sub-Plan	Specifies the damage mitigation, warning, preparedness, response and initial recovery arrangements for severe storm activity in NSW and the responsibilities of agencies and organisations in implementing the plan. Combat agency: NSW State Emergency Service.
	NSW Bush Fire Sub-Plan	Outlines arrangements and responsibilities for preparedness, prevention, mitigation, response to and recovery from bush fire events by combat, participating and support agencies in NSW. Combat agencies: NSW Fire & Rescue for urban fires, and (ii) NSW Rural Fire Services for all fires outside urban areas.
	NSW Heatwave Sub-Plan	Details the arrangements for the control and coordination of, the preparation for, response to and immediate recovery from heatwave events within NSW to reduce the risk or counter the effects on the community. Combat agency: State Emergency Operations Controller.
NSW Tsunami Emergency Sub-Plan	Specifies arrangements for the emergency management of tsunamis in NSW. The plan only covers pre-event preparedness, immediate response to tsunamis, and the initiation of recovery coordination arrangements following the impact of a tsunami. Combat agency: NSW State Emergency Service.	
District	District Emergency Management Committee (DEMC)	Responsible for developing district level plans for the disaster cycle (preparedness/planning, response, recovery, mitigation). Main activities include emergency risk management, multi--agency training, and supporting combat agency public education programs.
	District Disaster Plans	The District level Displan details the planning and operational arrangements to enable district level emergency response actors to effectively and efficiently prevent, prepare for, respond to and recover from emergencies. It also provides policy direction for the preparation of Local Displans, Local and District Supporting Plans and Local and District Sub Plans.
Local	Local Emergency Management Committee (LEMC)	Responsible for developing local level plans for the disaster cycle. Main activities include emergency risk management, multi--agency training, and supporting combat agency public education programs.
	Local Disaster Plan	The Local level Displan describes the planning and operational arrangements to enable local level emergency response actors to effectively and efficiently prevent, prepare for, respond to and recover from emergencies.

Sources: Attorney General's Department (2013a), Council of Australian Governments (2011b), Emergency Management Australia (2009), Ministry of Police and Emergency Services (2011a, 2011c), NSW State Emergency Management Committee (2003).

Disaster and emergency management in Australia is also highly integrated and collaborative, requiring planning, action and monitoring throughout the four integrated stages of the disaster cycle (Figure 3): mitigation, preparedness, response and recovery (Emergency Management Australia, 2004). For it to work effectively, it requires the involvement and cooperation of government agencies at all levels, non-government organisations, volunteers, community members, and the private sector (Emergency Management Australia, 2009). This approach to disaster management is reinforced in the *National Strategy For Disaster Resilience* that was adopted by the Council of Australian Governments (COAG) on 7 December 2009 (Council of Australian Governments, 2011b). This strategy is a whole-of-nation resilience-based approach to disaster management, which recognises that risk management, preparedness and response strategies are the joint responsibility of all stakeholders. Accordingly, the cooperation of all community stakeholders that share a united focus and sense of responsibility is needed to improve disaster resilience (Council of Australian Governments, 2011b). In the past, standard emergency management planning emphasised the documentation of roles, responsibilities and procedures (Council of Australian Governments, 2011b). The introduction of this strategy is an acknowledgement that proactive resilience strategies are needed in conjunction with existing emergency planning arrangements to: (i) identify differential risk patterns within and across communities, (ii) strengthen local capacity by placing greater emphasis on community engagement, and (iii) gain a better understanding of the diversity, needs, strengths and vulnerabilities within communities (Council of Australian Governments, 2011b).

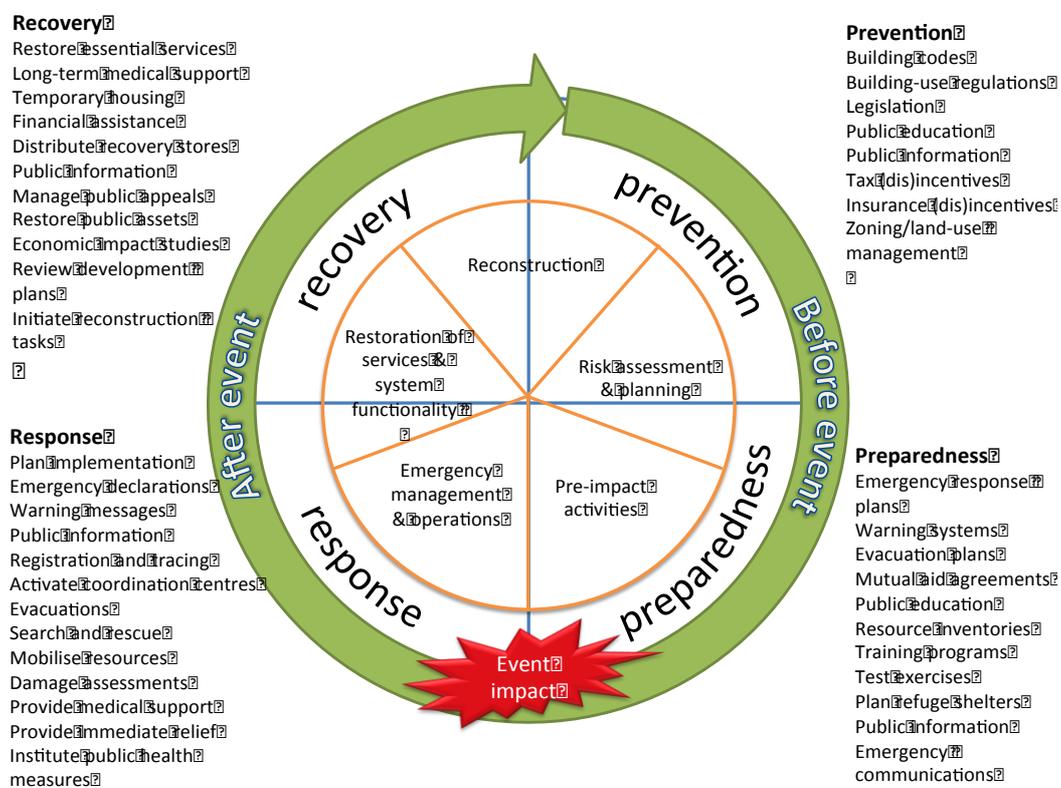


Figure 3. Disaster cycle and examples of actions taken by emergency managers at each stage

Australia's emergency management approach to servicing the specific needs of people with disabilities is to **provide special services** and arrangements for people with impairments or disabilities (Approach B - see Box 1). The review of the existing emergency response (short term) and recovery/preparedness (long term) policies and plans that influence the actions and response capabilities of emergency service organisations (Table 2) confirms this. There are no specific arrangements for deaf or hard-of-hearing people included in the plans listed in Table 2. However, there are indications of a shift toward a more inclusive approach (Approach C detailed in Box 1).

#### Box 1: Emergency management approaches used to accommodate people with disabilities

There are three main emergency management approaches when dealing with the needs of subsets of the community that have 'disabilities' or impairments (Wisner, 2003). These are:

- Approach A. **Do nothing**, whereby no additional actions are taken to specifically assist people with impairments or disabilities (most prevalent in situations where there are few resources and many needs);
- Approach B. **Provide special services** and arrangements for people with impairments or disabilities; and
- Approach C. **Participatory and inclusive approaches** that actively involve disabled people and their organisations in the process of assessing their vulnerability to harm and capability for self-protection in the face of hazards.

*Australia's current approach aligns closely with **Approach B**.*

Source: Wisner (2003).

This shift is evident in the introduction of a special set of emergency management guidelines for people with disabilities, entitled *Communicating with People with Disability: National Guidelines for Emergency Managers* (Attorney General's Department, 2013a). Introduced in February 2013, this national set of guidelines compliments both the *National Strategy for Disaster Resilience* (2011) and the existing state and territory policies and procedures. The *National Strategy for Disaster Resilience*, for example, specifically emphasises the important role communication plays in disaster preparedness and resilience - all community members need to have a clear understanding of their risks and what to do about them (Council of Australian Governments, 2011b). It is also in alignment with the *National Disability Strategy*, a rights-based strategy that endorses a societal model that is inclusive and enabling, providing equality and the opportunity for each person to fulfil their potential (Council of Australian Governments, 2011a). Whilst these emergency management guidelines are still technically an 'add-on' to existing arrangements, they embody a more inclusionary approach that recognises the communities' role in managing risk and the wealth of knowledge and resilience people with disabilities and their support networks have and can draw upon (if supported) to improve disaster preparedness and responses within communities (Attorney General's Department, 2013a).

The purpose of the national guidelines is to (i) help emergency managers and emergency services personnel across all levels of government and incident management better serve community members with disabilities, and (ii) promote mutual understanding and engagement between

people with disability, carers, representative bodies, and emergency managers. Specifically, they aim to (Attorney General's Department, 2013a):

- a. Improve understanding within emergency management organisations of the disability sector and people with disabilities;
- b. Outline the differing needs of people with disabilities;
- c. Present an overview of varied communication needs; and
- d. Provide examples of appropriate emergency management personnel responses needed to effectively support people with different types of disabilities (including those who are Deaf and hard-of-hearing).

The directive on Deaf and hard-of-hearing people acknowledges that the levels of deafness, experiences, communication styles, and subsequent needs of people with hearing disabilities are extremely diverse. The guidelines therefore present a list of communication-related points that emergency managers and first-line responders need to consider when interacting with and supporting Deaf and hard-of-hearing people with different hearing ranges. These include (Attorney General's Department, 2013a):

- When someone is lip reading it is important to face the person and keep your head still while talking. Ideally this should be done in a well-lit area;
- Signage for alerts and announcements need to be visually accessible at all times;
- Use visual cues to communicate instructions i.e. hand gestures, demonstrations or pictures;
- If the individual is unable to speak, give them a way to communicate by using flash cards (picture exchange communication) or pen and paper;
- For post-evacuation communication, ensure that the person has access to one or more suitable communication method(s). This may include an Auslan interpreter, SMS updates on a mobile phone, or someone assigned to relay information when they cannot hear;
- Many people can read and follow standard exit and directional signs and use any means of egress from a building. However, some may need assistance in areas of low or no light where their balance could be affected without visual references.

A Quick Guide has also been developed to immediately aid emergency managers in identifying ways to address the communication needs of community members who have a disability at each stage of the Prevention, Preparedness, Response and Recovery (PPRR) cycle (see Attorney General's Department, 2013b). As shown in Figure 4, the Quick Guide offers an overview of general principles for communicating with people with disabilities as well as a summary of specific directives for those with physical, hearing, vision, and generic disabilities.

# A QUICK GUIDE

## Communicating with People with a Disability: National Guidelines for Emergency Managers

### COMMUNICATION PRINCIPLES

- Always put the person before the disability
- Avoid using patronising or demeaning phrases, labels or stereo types
- Provide relevant information in a range of formats (e.g. Easy English, pictures, video and audio visual)
- Face and speak directly to the person, even if they have an interpreter or carer
- Make sure there is enough time for the person to absorb information and respond on their own
- Always respect the person's dignity, individuality and desire for independence
- Always ask before providing assistance

### PHYSICAL

- People with a mobility disability (inc. temporary), may find access to information and/or travel limited
- Provide information in multiple formats for example:
  - the Internet
  - radio
  - audio podcast
  - video / DVD or disk
- Consider accessibility issues, including at community meetings before a disaster, and evacuation / recovery centres

### HEARING

- Signage alerts, announcements and instructions need to be visually accessible and in well lit areas
- Provide information in multiple formats for example:
  - Auslan interpreters
  - SMS phone updates
  - Easy English versions
  - demonstrations
  - pictures
  - flash cards
  - picture exchange
  - communication whiteboards

### VISION

- Provide auditory announcements and instructions with some descriptive information to orientate someone who is vision impaired or blind, for example:  
"Please move towards the fire exits. These are located at the opposite end of the main corridor to the lifts on each floor."
- Provide information in Large Print versions

### GENERIC

- Only provide or send necessary and relevant information
- Use multiple formats
- Verbalise visual information, including phone numbers and web details
- Keep information consistent, accurate, short and sharp
- Use clear language and uncomplicated sentences
- Use pictures or simple photos to support written information
- Use positive or value-neutral language

Source: Attorney General's Department (2013b).

Figure 4: A Quick Guide: Communicating with People with a Disability

## 4 Emergency services programs to support deaf and hard-of-hearing people

The emergency services in NSW are dedicated to supporting the NSW populace to better prepare and respond to the various natural hazards that affect the state. The following sections outline the range of community programs and strategies that FR NSW, NSW RFS and NSW SES have to help them achieve this aim.

### 4.1 Fire and Rescue NSW

FR NSW has developed and delivers a range of community safety initiatives and prevention programs (Fire and Rescue NSW, 2012). The details of their community programs are presented in Table 3. FR NSW also provide information on fire and bushfire safety, fire awareness and preparedness, and recovery strategies (what to do after a fire event) via their website (<http://www.fire.nsw.gov.au>). However, the management of bushfires outside the urban environment fall outside their primary combat role, which is to respond to fires that occur in the built environment. In the event of a bushfire, FR NSW will play a supporting role to the NSW RFS.

Select fire safety factsheets (including factsheets on home bushfire preparation, home security and fire safety, total fire bans in NSW, and the SABRE factsheet) are also available on the FR NSW website in 27 languages. However, this does not currently include Auslan.

Information about FR NSW programs is publicised and distributed to target audiences through the following ways:

- a. A member of the public may approach the fire station for a 'visit'. During such visits, members of the public are informed about different programs that they show interest in or ask about by station crew or the commander. This includes where to find more detailed information;
- b. FR NSW personnel attend numerous community engagement events and activities. The attending 'fire crew' (with the Fire Truck) share information with the public through direct interaction on the day and the distribution of printed material on different programs to supplement the information given out verbally;
- c. Fire crew with their fire trucks also attend public fundraising events like 'McHappy Day' and will use these opportunities to speak directly to the public, to build rapport with their community, and disseminate information about FR NSW programs;
- d. Presentations of the 'Better Safe than Sorry' and 'Fire Prevention and Safety for Seniors' programs delivered in nursing homes that show interest and to Senior Citizens groups such as Probus, Rotary, Apex. These presentations are also conducted in partnership with local councils, targeting both the general populace and immigrant groups;
- e. FR NSW also works directly with home care workers from various agencies to help FR NSW deliver fire and safety messages to seniors living at home; and
- f. Material on each program is available on the FR NSW website ([www.fire.nsw.gov.au](http://www.fire.nsw.gov.au)).

FR NSW have some programs that they believe are beneficial for deaf and hard-of-hearing people. FR NSW's Senior Education program (Senior Ed) is an umbrella program that includes FR NSW's resources and programs aimed at improving the coordination and delivery of community engagement by fire officers to seniors (see Table 3). This fire awareness and preparedness education program is considered by FR NSW to be one of its best programs for increasing the resilience of deaf and hard-of-hearing people. The DVD has subtitles for those who are hard of hearing. There is also a version of the *Better Safe than Sorry, Fire Prevention and Safety for Seniors* DVD with Auslan translations, which are distributed to Deaf people by the Deaf Society of NSW.

FR NSW also work with the Deaf Society of NSW on two programs: the Smoke Alarm Battery Replacement For The Elderly (SABRE) Program and the NSW Smoke Alarm Subsidy Scheme (SASS). Both programs focus on the provision of Vibralarm's for the deaf and hard of hearing and are coordinated in partnership with the local FR NSW fire stations. However, both the SASS and SABRE programs focus on home alarm systems designed to detect home fires and not bushfires occurring outside the home.

Other community outreach initiatives that cater to the needs of those with disabilities include fire safety presentations. Last year, FR NSW made 110 fire safety presentations across NSW to people with disabilities who are considered to be at increased risk from fire. Choices about who to present to and where is consumer-driven - FR NSW responds to requests from members of the public or organisations interested in knowing more about fire safety in the home. The presentations are a collaborative effort between the appropriate portfolio Coordinator at FR NSW headquarters (who prepare background information on the target audience) and the local Fire Station. These presentations are not specialised 'Deaf' or 'disabled' programs. They are linked to FR NSW's broader community Fire Safety Campaigns that FR NSW run throughout the year to target seasonal awareness needs (e.g. Winter Home Fire Safety Campaign).

Fire stations who have deaf people living in their station area can request for the FR NSW's computer aided dispatch (CAD) system to be updated so when they turn up to the residence of a known deaf or hard of hearing person it can be noted at the time of the fire call on the turn out information. This can be said for other issues for example, Members of the public who are on renal machines at home, are noted on the CAD system.

## **4.2 NSW Rural Fire Services**

As the lead combat agency for bushfires in New South Wales, the NSW RFS has developed a number of key educational initiatives and community programs to increase bushfire awareness and preparedness. These are presented in Table 4. A number of these programs and activities are shared or adapted by other agencies, including FR NSW. The type of information in bushfire safety for residents and communities includes:

- The *Prepare. Act. Survive.* campaign including television advertisements, roadside billboards, newspaper advertisements, and radio announcements;

- The Bush Fire Survival Plan;
- Factsheets focussing on elements of the Bush Fire Survival Plan including bushfire risk, preparing your home, Leave Early or Stay and Defend strategies, fire danger ratings, bushfire alerts, keeping informed, total fire bans, and grass fires; and
- An online property assessment tool *Bush Fire Household Assessment Tool* (<http://bfhat.rfs.nsw.gov.au/>).

The NSW RFS is also responsible for development, assessment and planning relating to new buildings in bushfire prone areas. Extensive legislative and policy frameworks exist around development controls, most particularly through *Planning for Bush Fire Protection* ([http://www.rfs.nsw.gov.au/file\\_system/attachments/State08/Attachment\\_20070301\\_0A17F845.pdf](http://www.rfs.nsw.gov.au/file_system/attachments/State08/Attachment_20070301_0A17F845.pdf)).

The central point for delivery of NSW RFS information on fire and bushfire risk, safety, fire awareness and preparedness, and information about live bushfire events is the NSW RFS website (<http://www.rfs.nsw.gov.au/>). There are many key documents that are available in hard copy, including the Bush Fire Survival Plan and a series of factsheets. Selected bushfire safety factsheets are also available on the NSW RFS website in 22 languages. A project is currently underway to translate eight newly revised fact sheets on bushfire safety into 10 community languages. However, this does not currently include Auslan.

NSW RFS brigade volunteers undertake most of the community engagement activities aimed at informing residents about bushfire risk. Programs and activities by volunteers across the State are often localised using NSW RFS key documents and messages as a base, to most effectively relate to local residents and communities.

NSW RFS supports two programs led by FR NSW: the Smoke Alarm Battery Replacement For The Elderly (SABRE) Program and the NSW Smoke Alarm Subsidy Scheme (SASS). Both programs focus on the provision of Vibralarm's for the deaf and hard-of-hearing and are coordinated in partnership with the local FR NSW fire stations. However, both the SASS and SABRE programs focus on home alarm systems designed to detect home fires and not bushfires occurring outside the home. NSW RFS also adopted FR NSW's Community Fire Unit (CFU) Program five years ago, which is growing slowly. The programs have the same objectives (see Tables 3 and 4) and both programs run independently. However, the NSW RFS program is not as well publicised - there is no reference on the NSW RFS webpage and no public information that is readily available. People are informed about the project through the promotional effort of NSW RFS staff and volunteers.

### 4.3 NSW State Emergency Services

The NSW SES has a range of educational initiatives and community programs to increase community awareness and preparedness in responding to storms, floods, and tsunamis. An overview of their main programs and community initiatives is detailed in Table 5. The main programs that the NSW SES offers are its FloodSafe, StormSafe, and TsunamiSafe programs. The FloodSafe Program is the most comprehensive of the three programs. The NSW SES provides information on coastal erosion, tropical cyclones and what to do to better prepare and respond to both hazard types through its community safety webpage (<http://www.ses.nsw.gov.au/communitysafety/>).

Recognising the multicultural nature of the NSW population, the NSW SES is also highly committed to tailoring risk awareness, risk preparedness and hazard response advice and strategies to the specific needs of NSW community members that have diverse socio-cultural backgrounds and response capabilities (NSW State Emergency Service, 2011). This includes the provision of information on and resources for preparing for, responding to and recovering from floods, storms and tsunamis in multiple languages and different formats - written, auditory, and pictorial (NSW State Emergency Service, 2012). This information is currently available on the NSW SES website. The NSW SES also produces written versions of the FloodSafe, StormSafe and TsunamiSafe resources as detailed below.

#### *Information in the written form:*

- StormSafe and FloodSafe brochures, designed to assist people prepare for, respond to and recover better from floods and storms, are available in six languages. These include: Arabic, Chinese, Greek, Italian, Korean, and Vietnamese;
- Collaborations with the Victorian SES have enabled Floodsafe factsheets to be made available in 33 languages.
- The NSW SES has also recently developed an Indigenous Volunteering brochure.

#### *Auditory information:*

- Audio versions of the same Floodsafe factsheets are also available in 31 languages through cross-state collaborations with the Victorian SES.

#### *Information in pictorial form:*

- The SES 132 500 Magnet shown in Figure 5 was developed in collaboration with the Sydney Migrant Resource Centre to visually show the number to call for flood and storm emergencies. This version proved so popular that it was made available to all NSW community members;
- Cartoons depicting pictorial instructions on what people should do in the event of floods or severe storms feature on the NSW SES webpage. The Australian Emergency Management Institution (AEMI) developed these. The version created for communicating flood safety messages is shown in Figure 6; and
- NSW SES has also developed visual guides (post-cards) that offer people a step-by-step plan on what they should do to better prepare themselves for flood and storm events. These feature simple text and fact sheets with visual elements. The visual guides for Floods and Storms are featured on the NSW SES website (<http://www.stormsafe.com.au/uploads/ses->

[postcard-15868-v7web2.pdf](#) and [http://www.floodsafe.com.au/uploads/15/ses-8-tips-floodsafe-postcard\\_final-web-version.pdf](http://www.floodsafe.com.au/uploads/15/ses-8-tips-floodsafe-postcard_final-web-version.pdf)).

- Pictorial Guides are available in hard copy and are distributed to community members at face-to-face events and at community access points. There are links to the hard copy versions on the NSW SES website so that people can print them out.



Figure 5: Visual version of the NSW SES 132 500 magnet

Programs are publicised using a range of communication mediums including face-to-face community engagement events, radio, television, TV, web, social media, through partnerships with other community-based organisations, local councils, NGOs and emergency service organisations. Face-to-face community engagement events include community forums, street meetings, partnership activities, fairs, and displays at community hubs. Some face-to-face community engagement events are designed to specifically target people living in high-risk areas. Written program material is made available via a range of physical access points in the community. Members of the public can also contact NSW SES personnel and request specific information they are interested in.

The NSW SES also undertake a number of local projects with minority groups in accordance with their strategic objectives and needs. These local projects are aligned with larger NSW SES programs including the NSW SES's three flagship programs (FloodSafe, StormSafe and TsunamiSafe) and other broader multi-hazard programs that target specific community sub-groups (demographic groups or particular socio-cultural groups) that are a part of the wider NSW population i.e. rural programs and programs that target caravan parks, seniors, people with disabilities, and aged care providers.

# Flood



Source: NSW State Emergency Service (2012)

Figure 6: Flood safety messages communicated in pictorial form

The NSW SES has two specific communication strategies for Deaf people. First, deaf people whose first language is Auslan, can contact the NSW SES on the 132 500 number using the National Relay Service (NRS). Second, the NSW SES has produced six Youtube videos in partnership with the NSW Deaf Society that outline the safe actions to take at each stage of a flood, namely:

- Simple things you can do now (before a flood) to prepare your home and family;
- What to do when a Flood Watch is issued;
- What to do when a Flood Warning is issued;
- What you can do to prepare to evacuate when an Evacuation Warning is issued;
- What to do when an Evacuation Order is issued;
- What to do after a flood.

These are available on the NSW SES' floodsafe website at <http://www.floodsafe.com.au/dea-and-hearing-impaired>.

Table 3: Programs offered by Fire and Rescue NSW that support community fire awareness and preparedness in urban areas

Program/strategy	Target community	Details of the programs and strategies
<b>NSW Smoke Alarm Subsidy Scheme (SASS)</b>	Deaf, deaf/blind and hard-of-hearing people	<p><b>Aim:</b> to provide those with a hearing impairment with smoke alarms at home that have a flashing light and/or vibrating device to wake them in the event of a fire.</p> <p><b>Details:</b></p> <ul style="list-style-type: none"> <li>– A joint initiative between the Deaf Society of NSW and Fire &amp; Rescue NSW, SASS provides funding for 3,500 of these special alarms;</li> <li>– The alarms are fully subsidized but an application fee of \$50 does apply. Funding for 3,500 of these special alarms has been made available;</li> <li>– Fire and Rescue NSW's <i>Better Safe than Sorry DVD</i> was also translated into Auslan to educate SASS recipients about home fire safety.</li> </ul>
<b>Fire Education (Fire Ed)</b>	Kindergarten and Year 1 primary school students in NSW.	<ul style="list-style-type: none"> <li>▪ A fire safety education program aimed at providing a clearly defined program structure with supporting resources to make Fire Safety education in primary schools both effective for student learning and easy to deliver for firefighters and teachers.</li> <li>▪ Main activities include: <ul style="list-style-type: none"> <li>– firefighters visiting schools (after a request from the school is made - consumer-driven) and presenting the Fire Ed program to students;</li> <li>– Students, teachers and parents carrying out selected Fire Safety activities after the firefighter presentation, and</li> <li>– Teachers and parents providing feedback to the FR NSW on the level of success of the program with respect to student learning and Fire Ed in general.</li> </ul> </li> <li>▪ To date, Auslan interpreters have not been provided for school visits (there is no knowledge of specific requests being made for the need of such a service).</li> </ul>
<b>Senior Education (Senior Ed)</b>	People aged over 65	<ul style="list-style-type: none"> <li>▪ An umbrella program that includes FR NSW's resources and programs aimed at improving the coordination and delivery of community engagement by fire officers to seniors;</li> <li>▪ Engagement is increased through fire safety presentations and displays;</li> <li>▪ Education in fire prevention and preparedness is delivered through; <ul style="list-style-type: none"> <li>▪ 'Fire Safety for Seniors' toolkit - a speaker tool-kit featuring a DVD with an interactive multimedia presentation, a session plan and a facilitator guide; and</li> <li>▪ (ii) 'Better Safe than Sorry' film - a short public safety film which outlines essential fire safety steps seniors should take around their homes.</li> </ul> </li> </ul>
<b>Smoke Alarm Battery Replacement For The Elderly Program (SABRE)</b>	<ul style="list-style-type: none"> <li>▪ NSW residents who have limited domestic support that are living on their own in FR NSW fire district;</li> <li>▪ Frail people aged over 65</li> <li>▪ People with disabilities</li> <li>▪ People who are already receiving community assistance and services.</li> </ul>	<p><b>Aim:</b> To increase safety awareness, education and confidence in regards to fire and other safety issues across NSW (linked to the Senior Ed program).</p> <p><b>Key objectives:</b></p> <ul style="list-style-type: none"> <li>– Increase the awareness and adoption of preventative measures in vulnerable communities;</li> <li>– Ensure that socially isolated community members have the opportunity to benefit from the SABRE program through stakeholder participation; and</li> <li>– Develop community networks that promote awareness and adoption of preventative measures in at risk communities.</li> </ul> <p><b>Actions:</b></p> <ul style="list-style-type: none"> <li>– Many fire stations have established SABRE programs with agencies or community services in their area;</li> <li>– These services have been alerted or advised of the SABRE program and have 'self-assessed' their client for referral to FR NSW;</li> <li>– Firefighters from local fire stations visit eligible participants in their home to provide smoke alarm advice, assist them in installing battery operated smoke alarms, or replace existing smoke alarm batteries (both supplied by the resident) at no installation cost.</li> </ul>
<b>Aboriginal Communities Program</b>	Indigenous population of NSW (an estimated 172,620 people)	<p><b>Aim:</b> To engage and build relationships with Aboriginal communities to assist them in developing programs to improve indigenous housing safety, reduce fires and other emergencies, and generally increase their preparedness for, and resilience to fires and other emergencies.</p> <p><b>Actions:</b></p> <ul style="list-style-type: none"> <li>– Undertake safety promotions through the indigenous media including press (such as the Koori Mail), radio and TV;</li> <li>– Involvement in a range of Aboriginal community events including running displays and giving out safety materials and promotional items;</li> <li>– The establishment of six Aboriginal Community Fire Units (CFUs) in locations with substantial indigenous communities;</li> <li>– Use of traditional fire stories to assist in communicating respect and understanding of fires to younger members of indigenous communities.</li> </ul>
<b>The Intervention and Fire Awareness Program (IFAP)</b>	<ul style="list-style-type: none"> <li>▪ Children up to 17 years of age who exhibit firesetting or fireplay behaviour;</li> <li>▪ Parents or caregivers of the above children;</li> <li>▪ Schools with students who exhibit firesetting or fireplay behaviour;</li> <li>▪ Specific geographical areas identified as having a disproportionate higher number of fires set by juveniles.</li> </ul>	<p><b>Aim:</b> To reduce the frequency and severity of fires lit by juveniles by increasing community awareness, education and confidence pertaining to juvenile firesetting issues.</p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>– To research, develop, implement and coordinate an Intervention and Fire Awareness Program within the Fire &amp; Rescue NSW;</li> <li>– To provide a structured program to assist firefighters and other agencies who encounter a child engaged in unsafe fire related activities;</li> <li>– To provide support (information, advice and educational resources) to people who are affected by a child in their care playing with fire.</li> </ul> <p><b>Actions:</b></p> <ul style="list-style-type: none"> <li>– Coordination of the program across New South Wales;</li> <li>– Provision of fire safety advice by phone and in some instances face to face and sends educational packages to all IFAP clients;</li> <li>– Monitoring and regular reporting of IFAP progress to relevant stakeholders.</li> </ul>
<b>Culturally and Linguistically Diverse Program (CALD)</b>	<ul style="list-style-type: none"> <li>▪ CALD community members that have limited or no English skills;</li> <li>▪ Newly arrived migrants that may be unaware of fire risks within NSW;</li> <li>▪ Senior citizens from CALD communities that are currently unaware of how to communicate with the emergency services;</li> <li>▪ Specific geographical areas that have been identified as having a disproportionately high number of CALD residents.</li> </ul>	<p><b>Aim:</b> To reduce both the frequency and severity of fires in the homes of culturally diverse community members' homes by increasing community education, safety and confidence in culturally diverse communities across NSW.</p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>– To coordinate a Cultural and Linguistically Diverse Communities program within the FR NSW;</li> <li>– To provide a structured approach using a range of services that assist firefighters and other agencies in educating culturally diverse community members in fire safety principles;</li> <li>– To provide FR NSW firefighters with communication strategies to overcome difficulties with cross-cultural interactions and improve engagement with CALD community members;</li> <li>– To increase CALD community awareness, education and confidence in regards to fire safety issues.</li> </ul> <p><b>Actions:</b></p> <ul style="list-style-type: none"> <li>– A CALD Coordinator works with CALD communities and community leaders to effectively deliver FR NSW fire safety messages;</li> <li>– Regular presentations on fire safety education to CALD communities are undertaken, which includes broad fire and community safety advice;</li> <li>– Translation services are made available through radio communications 24/7;</li> <li>– Provision of program participants with support material, advice and where necessary, details of other suitable agencies.</li> </ul>

Program/strategy	Target community	Details of the programs and strategies
<b>Community Fire Units</b>	<ul style="list-style-type: none"> <li>▪ NSW residents 16 years of age or older</li> </ul>	<ul style="list-style-type: none"> <li>▪ A Community Fire Unit (CFU) is a team of local residents living in urban areas close to bush land who are supported by FR NSW to enhance their safety and resilience to bushfires;</li> <li>▪ Volunteer CFU members learn how to prepare themselves, their families, and their communities ahead of the bushfire season;</li> <li>▪ Volunteer CFU members do not fight fires, nor are they firefighters. Being a CFU member is about preparation, prevention and protection from bushfires;</li> <li>▪ CFU members undertake property preparation and protection, actively manage spot fires and ember attacks, and assist with recovery operations within their area of activity. Each CFU is supplied with a standard set of equipment and a fixed or mobile hose post (FHP/MHP) that is used to store equipment.</li> </ul>

Sources: Australian Bureau of Statistics (2013) and Fire and Rescue NSW (2012).

Table 4: Programs offered by the NSW Rural Fire Service that support community bushfire awareness and preparedness

Program/strategy	Target community	Details of the programs and strategies
<b>Prepare. Act. Survive. Campaign</b>	People aged 25-54 across NSW	<ul style="list-style-type: none"> <li>▪ The NSW RFS has launched a major new public awareness campaign, warning people against complacency during bush fire seasons. The campaign's simple message is "Planning to make a plan is not a plan". Main activities in the campaign include: <ul style="list-style-type: none"> <li>– <b>Television advertisements</b> on all major networks in all NSW television markets;</li> <li>– <b>Television features</b> such as reports on Better Homes &amp; Gardens and information spots;</li> <li>– <b>Print advertisements</b> in major newspapers across the state;</li> <li>– <b>Print features</b>, providing preparation advice and editorial support;</li> <li>– <b>Online advertising</b> on major websites such as Ninemsn, Yahoo7 and other media organisations;</li> <li>– Out-of-home advertising including <b>billboard advertisements</b> carrying messages about Bush Fire Survival Plans, and targeted messaging relating to the increased risk of grass fires;</li> <li>– Out-of-home <b>petrol pump advertising</b> at service stations across NSW carrying targeted messages about bush fire and grass fire risk;</li> <li>– A series of <b>radio advertisements</b> on radio stations across NSW;</li> <li>– <b>Information spots</b> using local spokespeople on major radio stations across the state;</li> <li>– Print and radio advertisements in a <b>range of community languages</b> to target culturally and linguistically diverse audiences. Auslan (specifically, videos in Auslan) is not one of these.</li> </ul> </li> <li>▪ The Prepare.Act.Survive Campaign also includes detailed information and strategies that community members are recommended to follow to better prepare and respond throughout the 4 stages of the disaster cycle - mitigation, preparedness, response, and recovery.</li> </ul> <p><b>Dissemination:</b>The Prepare.Act.Survive Campaign is delivered across multi-media platforms, primarily during the bush fire season. This includes television, radio, outdoor billboards, and newspapers. NSW RFS staff and volunteers use campaign materials in additional localised campaigns.</p>
<b>Prepare. Act. Survive. Program</b>	General NSW populace	<p>A comprehensive step-by-step program that provides community members with advice and strategies on how best to prepare and respond from bushfire hazards. The information is available through the NSW RFS website (<a href="http://www.rfs.nsw.gov.au">http://www.rfs.nsw.gov.au</a>). From this website, specific plans and factsheets can be downloaded. Select factsheets (covering bushfire safety, home fire safety, recreation and leisure safety, fire safety information for businesses, and fire safety information aimed at teachers and students) are also available in 23 languages. Auslan (specifically, videos in Auslan) is not one of these.</p> <p><b>Prepare information, strategies, and tools:</b></p> <ul style="list-style-type: none"> <li>– Online <i>Household Assessment Tool</i> (<a href="http://bfhat.rfs.nsw.gov.au/">http://bfhat.rfs.nsw.gov.au/</a>) designed to help any householder make an informed decision regarding their 'Leave Early or Stay and Defend' choice for this bush fire season (does not apply for fires categorized as <i>catastrophic</i> where the advice is 'to leave'). It enables people to identify whether their property is at risk from bushfire, the extent of the risk, and courses of action that may be taken to address that risk i.e. 'Leave Early or Stay and Defend';</li> <li>– <i>Bush Fire Survival Plan</i> is one of the program's key tools to help improve the safety of individuals and households before the impact of, or during a bush fire;</li> <li>– <i>Prepare your house checklist</i> helps people prepare their property against the threat of a bush fire or ember attack regardless of people's decision to Leave Early or Stay and Defend;</li> <li>– <i>Emergency Survival Kit</i> - guidelines to help people identify and prepare the things they need easy access to assist them in surviving a bush fire or other natural disaster.</li> </ul> <p><b>Act information, strategies and tools:</b></p> <ul style="list-style-type: none"> <li>– <i>Fire Danger Ratings</i> - the Fire Danger Ratings are to be used as the key indicator for people in deciding what part of the Bush Fire Survival Plan they need to activate. The Fire Danger Ratings document (available at <a href="http://www.rfs.nsw.gov.au/file_system/attachments/Attachment_FireDangerRating.pdf">http://www.rfs.nsw.gov.au/file_system/attachments/Attachment_FireDangerRating.pdf</a>) provides an explanation of the 6 fire categories included in the fire danger rating spectrum and outlines the potential fire behaviour, impact potential and recommended actions for people to take when responding to each of the 6 fire rating categories. It also gives an explanation of and rules to abide by when total fire bans are declared;</li> <li>– <i>Stay up-to-date</i> information - a central webpage resource on the NSW RFS website (<a href="http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=2734">http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=2734</a>) where people can find information (and links) on the different ways they can stay informed and get access to the most up-to-date information during a fire event. Included here is information on/links to: Fire Danger Ratings, Bushfire Alert system, current incidents page, major fire updates section, Bushfire Survival Plan, Hazard Reduction Advisory page, and the national Emergency Alert System.</li> </ul> <p><b>Survive information, strategies and tools:</b></p> <ul style="list-style-type: none"> <li>– <i>Bush Fire Alert Levels</i> system - during a bush fire the RFS uses this alert system to indicate current fire threats levels and appropriate actions to take for each of the 3 levels, <i>Advice, Watch and Act</i> and <i>Emergency Warning</i>;</li> <li>– <i>Leave Early or Stay and Defend</i> - 2 distinct plans for people to choose between when faced with a bushfire threat. These are included in and linked to the Bushfire Survival Plan;</li> <li>– <i>Neighbourhood Safe Places</i> - information on public places where people can escape to in a bushfire emergency situation;</li> <li>– <i>Emergency Survival Kit</i> - guidelines for putting together an emergency survival kit are reiterated in the <i>Survive</i> component of the program;</li> <li>– <i>Know what to wear during a fire</i> - information on what to wear to protect people from the heat generated from a bushfire, the smoke and embers to give people the best chance of survival;</li> <li>– <i>Stay up-to-date</i> information - the need to stay informed during an event is again reiterated and links to the NSW RFS webpage repeated.</li> </ul> <p><b>Recovery after a fire information:</b></p> <p>Whilst not technically part of the <i>Prepare. Act. Survive. Program</i>, the RFS also provides information on actions people need to consider after a fire has taken place to assist them in getting their life back to normal. This is listed as the final step in the Bushfire Survival Plan (see <a href="http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=1001">http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=1001</a>).</p> <p><b>Dissemination:</b>All opportunities are taken in the PAS campaign, documents and media activity to direct residents at risk to the NSW RFS website to download the Bush Fire Survival Plan. NSW RFS staff and volunteers deliver PAS program messages and activities locally to residents at risk primarily through brigade activities.</p>
<b>Bushfire Hazards Awareness</b>	General NSW populace	<p>Information on Bushfire Hazards is available on the NSW RFS website (<a href="http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=1008">http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=1008</a>). Included here is information on/links to: what a bushfire hazard is, procedures for reporting a bushfire hazard, bush fire hazard reduction advice, and bushfire risk management planning strategies.</p>
<b>Assist Infirm Disabled and Elderly Residents (AIDER) Program</b>	<ul style="list-style-type: none"> <li>▪ Older people;</li> <li>▪ People with disabling conditions;</li> <li>▪ People who are already receiving community assistance and services.</li> </ul>	<ul style="list-style-type: none"> <li>▪ A one-off free service, supporting vulnerable residents to live more safely and confidently in their home on bush fire prone land;</li> <li>▪ AIDER services can be provided to vulnerable people who have limited domestic support available from family, relatives, friends or other services;</li> <li>▪ AIDER services include clearing gutters, thinning vegetation, removing leaf and tree debris, trimming branches from around the home, or cutting long grass.</li> </ul> <p><b>Dissemination:</b>Program factsheets are locally distributed to service providers and individuals. Local staff and volunteers meet with service providers (e.g. Community Care) who pass on program information onto their clients. NSW RFS also collaborates with peak agencies and organisations (e.g. Vision Australia) to distribute information about AIDER to their members.</p>

Program/strategy	Target community	Details of the programs and strategies
<b>Hotspots Fire Project</b>	Rural landholders and managers	<ul style="list-style-type: none"> <li>A hands-on training program that provides landholders and managers with the skills and knowledge to actively participate in fire management for the protection of life and property while at the same time ensuring healthy productive landscapes in which biodiversity is protected and maintained;</li> <li>Regional teams work directly with communities to specifically tailor the program to the needs of each community.</li> </ul> <p><b>Dissemination:</b> NSW RFS staff work with program partners and stakeholders such as NSW RFS District Offices and Brigades, NSW Nature Conservation Council and Catchment Management Authorities to identify potential sites for Hot Spots.</p>
<b>NSW Smoke Alarm Subsidy Scheme (SASS)</b>	Deaf, deaf-blind & hard-of-hearing people	<ul style="list-style-type: none"> <li>This FR NSW Program is described in Table 3;</li> <li>Recipients of the SASS Scheme may reside outside FR NSW areas, and the support of the NSW RFS can occasionally be sought in delivering or fitting the smoke alarm.</li> </ul> <p><b>Dissemination:</b> Information about the SASS scheme has been distributed internal to NSW RFS staff and volunteers.</p>
<b>Community Fire Units</b>	NSW residents 16 years of age or older	<ul style="list-style-type: none"> <li>The majority of Community Fire Units have been established and are supported by FR NSW (see Table 3);</li> <li>The same Community Fire Unit program is now being offered by NSW RFS.</li> </ul>
<b>Schools Program</b> (overarching program)	Schools in NSW	<ul style="list-style-type: none"> <li>The RFS has produced a series of key teacher resources – being Fire Safe (for K-6) (<a href="http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=1155">http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=1155</a>) and Fire Science (Yr7-12) (<a href="http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=1155">http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=1155</a>);</li> <li>Lesson plans and presentation resources have been created for K-Year 3 in the Fire Wise for Kids Program. The <i>Fire Wise for Kids</i> Schools Program aims to increase community resilience through educating children about home fires and bush fires, the risks associated with these different hazard types, and what children and their communities can do to better prepare themselves before an event, how best to respond during an event, and what they can do after an event;</li> <li>The RFS is also participating in a national network project through the Federal Attorney General’s Department (DRASEN Disaster Resilient Australia School Education Network);</li> <li>The Li'l larrikins animated series of bush fire messages for K-Year 6 is in final development by the Australasian Fire and Emergency Service Authorities Council. The bush fire picture board is in development by the Federal Attorney General’s Department, which will complete the natural hazard series.</li> </ul> <p><b>Dissemination:</b> Fire Safe and Fire Science are available in hardcopy form and are also downloadable. Typically, volunteers deliver <i>Fire Wise for Kids</i> through their local schools.</p>
<b>BRAC (Bush Fire Resilience in Aboriginal Communities)</b>	32 discreet Indigenous communities	<p><b>Aim:</b> To engage and build relationships with Aboriginal communities to assist them in recognizing bush fire risks, managing hazard reductions, and developing programs to reduce fires and other emergencies, and generally increase their preparedness for, and resilience to fires and other emergencies.</p> <p><b>Actions:</b></p> <ul style="list-style-type: none"> <li>Identify hazards and risks. Work with communities to identify solutions. Facilitate and support actions to reduce risk;</li> <li>Establish Community Fire Units (CFUs) where appropriate;</li> <li>Dissemination: direct engagement with identified communities, in collaboration with community elders and other stakeholders.</li> </ul>
<b>Fires Near Me smartphone &amp; tablet app</b>	Residents & those travelling	<ul style="list-style-type: none"> <li>The <i>Fires Near Me</i> smartphone app provides information on bush fire incidents in NSW;</li> <li>Fires Near Me includes maps, and links back to the NSW RFS website information about Major Fire updates.</li> </ul>
<b>Culturally and Linguistically Diverse Program (CALD)</b>	CALD community members that have limited or no English skills	<p>Factsheets are available to inform people from culturally diverse communities about the risk of bushfires where they live, or where they travel.</p> <p><b>Dissemination:</b> Factsheets aimed at CALD communities are available via the NSW RFS website. Prepare. Act. Survive. Campaign advertisements and videos have also been translated and disseminated via notices in major community newspapers.</p>
<b>Bushfire Survival Plan smartphone &amp; tablet app</b>	Residents and those travelling	<ul style="list-style-type: none"> <li>The <i>Bush Fire Survival Plan</i> document is being converted into an app for smartphones and tablets to assist residents in devising their own bushfire survival plan that will be available to them on their phone wherever they are;</li> <li>It is expected to be completed and launched in late 2013.</li> </ul>
<b>Bushfire Information Line</b>	Any householder in NSW	<ul style="list-style-type: none"> <li>The Bush Fire Information Line (1800 NSW RFS, 1800 679 737) is a 24/7 telephone information service about general bushfire issues, and emergency bush fire information;</li> <li>The number of call takers can be ramped up in times of emergencies and high traffic loads;</li> </ul> <p><b>Dissemination:</b> While the NSW RFS website and Fires Near Me attract the most traffic in emergencies, all opportunities are taken in media activity etc to advise residents of the option to call the Bush Fire Information Line. NSW RFS staff and volunteers deliver the Bush Fire Information Line message locally to residents through brigade activities.</p>

Sources: NSW Rural Fire Services (2013)

Table 5: Programs offered by the NSW State Emergency Services that support community flood awareness and preparedness

Program/strategy	Target community	Details of the programs and strategies
<b>FloodSafe Program</b>	General NSW populace	<ul style="list-style-type: none"> <li>▪ The NSW SES FloodSafe program is a comprehensive flood awareness and preparedness program made available through the NSW SES FloodSafe website (<a href="http://www.floodsafe.com.au">http://www.floodsafe.com.au</a>);</li> <li>▪ The website is available in 71 languages via the <i>Google Translate</i> function at the top of the screen. <b>The translations are only available in written form meaning that Auslan cannot be included as it has no written form;</b></li> <li>▪ Information available through the FloodSafe website includes: <ul style="list-style-type: none"> <li>– Flood risk information including details on floods types and hazards associated with floods;</li> <li>– Recommended resilience-building actions community members can take before, during, and after a flood;</li> <li>– Instructions for preparing an emergency kit;</li> <li>– Detail on how community members may be warned about flood hazard events;</li> <li>– Local flood event information;</li> <li>– Specific FloodSafe information for different community groups. These include: families, children, schools, those with pets and animals, seniors, businesses (including a free online business FloodSafe toolkit), councils, those living in rural areas, those living in urban areas, those with mobility impairments, Deaf and hard-of-hearing people, those with intellectual impairments, and people with vision impairments.</li> </ul> </li> <li>▪ The NSW SES is also in the process of developing an interactive online Home Emergency Plan for floods.</li> </ul>
<b>StormSafe Program</b>	General NSW populace	<ul style="list-style-type: none"> <li>▪ Mirroring the FloodSafe Program, the NSW SES StormSafe is a comprehensive storm awareness and preparedness program made available through the NSW SES StormSafe website (<a href="http://www.stormsafe.com.au">http://www.stormsafe.com.au</a>);</li> <li>▪ The website is available in 71 languages via the <i>Google Translate</i> function at the top of the screen. <b>The translations are only available in written form meaning that Auslan cannot be included as it has no written form;</b></li> <li>▪ Information available through the StormSafe website includes: <ul style="list-style-type: none"> <li>– Storm risk information including details on storm types and hazards associated with storms;</li> <li>– Recommended resilience-building actions community members can take before, during, and after a storm;</li> <li>– Instructions for preparing an emergency kit;</li> <li>– Detail on how community members may be warned about storm hazard events;</li> <li>– Local storm event information;</li> <li>– Specific StormSafe information for different community groups. These include: families, children, schools, those with pets and animals, seniors, businesses, those living in rural areas, those living in urban areas, those with mobility impairments, Deaf and hard-of-hearing people, those with intellectual impairments, and people with vision impairments.</li> </ul> </li> <li>▪ The NSW SES is also in the process of developing an interactive online Home Emergency Plan for storms.</li> </ul>
<b>TsunamiSafe Program</b>	General NSW populace	<p>The TsunamiSafe Program is the least developed of the three main hazard-specific programs. The TsunamiSafe website (<a href="http://www.ses.nsw.gov.au/communitysafety/tsunami">http://www.ses.nsw.gov.au/communitysafety/tsunami</a>) contains information on:</p> <ul style="list-style-type: none"> <li>– The nature of tsunami hazards in NSW, their causes, risk levels, and details on the three threat levels identified by the Bureau of Meteorology (<i>No Threat, Marine and Immediate Foreshore Threat and Land inundation Threat</i>);</li> <li>– Actions to take at each of the three identified threat stages (<i>No Threat, Marine and Immediate Foreshore Threat and Land inundation Threat</i>);</li> <li>– Actions to take after a tsunami event;</li> <li>– Website links to Tsunami Awareness Information brochures (<a href="http://www.em.gov.au/Publications/Pages/AustralianTsunamiWarningSystemPublications.aspx">http://www.em.gov.au/Publications/Pages/AustralianTsunamiWarningSystemPublications.aspx</a>) that are available in different formats (as a word document, PDF, Easy Print, audio version, and available in 10 languages);</li> <li>– Link to <i>Tsunami Information in Different Languages</i> website page that features the Tsunami Awareness Information brochures in the 10 available languages (<a href="http://www.ses.nsw.gov.au/communitysafety/communitylanguageresources2/tsunamiinformationindifferentlanguages">http://www.ses.nsw.gov.au/communitysafety/communitylanguageresources2/tsunamiinformationindifferentlanguages</a>);</li> <li>– Web link to TsunamiSafe Guide for Lord Howe Island (<a href="http://www.ses.nsw.gov.au/content/documents/pdf/49992/lhitsunamisafe">http://www.ses.nsw.gov.au/content/documents/pdf/49992/lhitsunamisafe</a>).</li> </ul>
<b>Schools Program</b> (overarching program)	Schools in NSW	<ul style="list-style-type: none"> <li>▪ The NSW SES Schools Program aims to increase community resilience through educating children about floods, storms, and tsunamis, the risks associated with these different hazard types, and what children and their communities can do to better prepare themselves before an event, how best to respond during an event, and what they can do after an event.</li> <li>▪ NSW SES Units visit schools to educate school children about: <ul style="list-style-type: none"> <li>– risk levels and best awareness and preparedness practices;</li> <li>– the role the NSW SES plays in the event of a hazards event and emergencies; and</li> <li>– the equipment they use to best assist the community in emergency and disaster situations.</li> </ul> </li> <li>▪ Specific FloodSaferesources are available for Primary School children (Lil Iarrikins National Program for K-Year 6 developed by the Australasian Fire and Emergency Service Authorities Council, Flood Safety Resource Package for K-Year 2, and information on the NSW SES volunteer mascot -Paddy Platypus and his friend Prime Possum) and High School students (Year 9 geography broadsheets and Year 9 geography kit topography map questions);</li> <li>▪ Specific StormSafe resources are available for Primary School children (Lil Iarrikins National Program for K-Year 6 developed by the Australasian Fire and Emergency Service Authorities Council, and multiple information resources and activities under the StormSafe Kids Program) and High School students (programs and activities for Year 9 geography students).</li> </ul>
<b>'All hazards' Emergency Kit</b>	General NSW populace	<ul style="list-style-type: none"> <li>▪ This is a multi-hazard program that provides information on how to create an 'all hazards' emergency kit;</li> <li>▪ Information is available on the NSW SES website (<a href="http://www.ses.nsw.gov.au/news/2012/emergency-kit-education">http://www.ses.nsw.gov.au/news/2012/emergency-kit-education</a>).</li> </ul>

Source: NSW State Emergency Service (2012), NSW State Emergency Service (2013b), NSW State Emergency Service (2013a), NSW State Emergency Service (2013c)

## 5 Evaluation of current emergency services communication tools from a Deaf perspective

The findings from the Deaf Community Needs Assessment (Step 2 in Figure 2) suggest that the main barrier deaf people face in accessing risk and hazard response information is that the information is not available in accessible forms (Calgaro et al., 2013):

- a. Information dissemination mediums used in hazard response strategies are largely audio-based - radio, phone, TV broadcasts without captions, messages broadcast over loudspeakers in public places - and therefore inaccessible. Deaf people now favour communication through their mobile phones (via SMS);
- b. Language barriers are common - Auslan is the preferred language for many deaf people, with English often being their second language. Auslan interpreters are not systematically included in TV broadcasts and Auslan videos (preferably with captions) giving hazard preparedness advice and instructions are rare in NSW (one notable exception being the Auslan videos recently introduced on the NSW SES's FloodSafe website);
- c. Not all deaf people can lip-read, many cannot speak clearly, and English skills are not always well-developed amongst the Deaf populace, making it difficult for deaf people to communicate effectively with hearing people via common mediums including the written text; and
- d. Deaf people are very visual (particularly those who are less literate). Therefore, the use of pictures or other visual cues to either communicate key preparedness messages or clarify the meaning of basic text in written forms of communication is needed to make it easier for deaf people to understand. Using pictorial formats also has the advantages of being cheaper to produce than Auslan videos and quicker to read, making it an economical yet effective communication tool.

To improve emergency services communication models and strategies, it is therefore important to evaluate current emergency services plans that help people better prepare and respond to natural hazards from the Deaf perspective. This will help in the design of new emergency services communication materials and strategies that both meet the needs of Deaf people and take advantage of innovation and communication capacities that the emergency services already have. Here we present the findings of this critique, which focuses on:

- a. Identifying current emergency programs that may be 'Deaf' appropriate;
- b. Assessing their accessibility to Deaf people in their current form; and
- c. Examining ways that these existing programs could be altered to be more 'Deaf' accessible.

In doing so, we fulfil *Objectives B, D and E* of this Assessment.

## 5.1 Accessibility of current emergency services programs

The review of current emergency services programs designed to increase natural hazard preparedness levels (summarised in Tables 3, 4 and 5 in Section 4), identified 19 programs/strategies as either being the most 'Deaf' appropriate or having elements that may be 'Deaf' appropriate. The accessibility of 17 of these programs (listed along the top of Table 6) to Deaf people was evaluated against 16 attributes that either aid or inhibit effective communication with deaf people (taken from the Deaf Community Needs Assessment and discussions with our Deaf Research Assistants). Two programs that are considered to be very 'Deaf' appropriate were left out of Table 6: (i) the NSW RFS *Fires Near Me* smartphone and tablet app; and (ii) the NSW RFS *Bushfire Survival Plan* smartphone and tablet app. The reasons are two-fold. First, they are tools and not full programs. Second, *Bushfire Survival Plan* smartphone and tablet app is yet to be released. The NSW RFS *Fires Near Me* smartphone and tablet app is discussed further in Section 6.2.

The most accessible emergency service program for deaf people is the NSW SES's FloodSafe Program. The reasons are three-fold:

- a. The website's homepage (shown in part in Figure 7) has pictorial links to (i) a Deaf and hearing impaired page (*FloodSafe for people living with deafness and hearing impairments* under *What FloodSafe means for you*) and (ii) a page dedicated to people who do not speak English, making it easier for deaf people to navigate the website and find information they need in accessible forms;
- b. The Deaf and hard-of-hearing (<http://www.floodsafe.com.au/dea-and-hearing-impaired>) link provides Deaf and hard-of-hearing people with information on how to prepare for a flooding event (preparedness strategies) and what to do during and after a flood event in an accessible form - via six Auslan videos with captions;
- c. The website's non-English speakers page contains pictorial safety messages (in cartoon form) advising people what to do when faced with floods - perfect visual tools to help non-English speakers (including Auslan users) access and digest instructions quickly. It also includes a link to the Australian Emergency Management website (<http://www.em.gov.au/Emergencymanagement/communityengagement/Pages/Communitysafetyactionguides.aspx>) containing downloadable versions of the pictorial instructions for floods and other natural hazards (cyclones, earthquakes, heatwaves, lightning storms, and severe storms).

These elements of the *FloodSafe* website greatly increase information accessibility for deaf and hard-of-hearing people with internet access and provide good examples of effective ways to disseminate information to deaf or hard-of-hearing people. The gap analysis also shows that all programs featured in Table 6 include elements that increase Deaf accessibility. Box 2 identifies those programs that are deemed to have the greatest potential (judged on their current form) to be important natural hazard preparedness resources for deaf people following some alterations. Detailed explanations of how well the reviewed programs fulfil key 'Deaf accessibility' criteria and what can be done to improve their accessibility is presented in the following sub-sections.

Table 6: Gap analysis of the accessibility of current NSW emergency services programs, activities and tools for deaf people

KEY: ✓ Meets criterion ⇔ Partially meets criterion - Does not meet criterion

Emergency Services Programs	Fire and Rescue NSW (FR NSW)						Rural Fire Service NSW (RFS NSW)					NSW State Emergency Service (NSW SES)				All agencies
	SASS <sup>§</sup>	FireEd	SeniorEd	SABRE <sup>§</sup>	CALD	CFU	Prepare.Act. Survive Campaign	Prepare.Act. Survive Program	Bushfire Hazard Awareness	AIDER	Hotspots	FloodSafe	StormSafe	Tsunami Safe	All hazard emergency kit	National Emergency Alert system
Availability of Auslan Videos/Auslan interpreter frames	-	-	✓	-	-	-	-	-	-	-	-	⇔	-	-	-	✓
Availability of Auslan Videos with captions	-	-	-	-	-	-	-	-	-	-	-	✓	-	-	-	✓
Availability of Auslan Videos with captions and visual examples	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓
Non Auslan Videos with Captions	-	-	✓	-	-	✓	✓	✓	-	-	-	-	✓	-	-	✓
Easy to navigate website	⇔	⇔	⇔	⇔	⇔	⇔	⇔	⇔	⇔	⇔	⇔	⇔	⇔	⇔	⇔	✓
Website sections specifically for Deaf/Hard-of-hearing	✓	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-
<b>Text-heavy webpages</b>	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	⇔	✓	✓	✓	✓	-
Basic language used in descriptions <sup>‡</sup>	⇔	⇔	⇔	⇔	⇔	⇔	-	-	-	⇔	⇔	⇔	⇔	⇔	✓	⇔
<b>Advanced language used in descriptions<sup>‡</sup></b>	⇔	⇔	⇔	⇔	⇔	⇔	✓	✓	✓	⇔	⇔	⇔	⇔	⇔	-	⇔
Information available in PDF or printable versions	✓	-	✓	-	-	✓	-	✓	-	✓	✓	✓	✓	✓	✓	✓
Webpages that are highly visual	-	-	⇔	-	-	-	✓	⇔	-	-	⇔	✓	⇔	-	-	-
Provision of visual emergency preparation information	-	-	⇔	-	-	-	⇔	⇔	-	⇔	-	⇔	⇔	-	-	-
Inclusion of Pictorial Action Guide	-	-	-	-	-	-	-	⇔	-	⇔	-	✓	-	-	-	-
Emergency contact number that is not voice based (email, fax, TTY)	✓	-	-	-	-	-	-	-	-	-	✓ via email	-	-	-	-	-
Channels of information dissemination via non-internet based channels (TV, billboards, radio, in person).	-	-	⇔	-	-	⇔	⇔	-	-	-	⇔	-	-	-	-	✓ TV campaign
Delivery of emergency information via smartphone & tablet apps, SMS and websites	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓

<sup>‡</sup> Attributes that are italicised and shown in bold inhibit effective communication with deaf people whilst those in plain text aid effective communication.

<sup>§</sup> Both the SASS and SABRE programs focus on home alarm systems designed to detect home fires and not bushfires occurring outside the home. Therefore, their inclusion here is to acknowledge that deaf-specific programs do currently exist and to highlight their merits from a communication perspective.

<sup>‡</sup>The level of language used (advanced or basic) was the hardest to decipher. The language used on most websites to explain the different programs was a mixture of words and phrases that Deaf people would and would not understand. Accordingly, we used the "meets some of the criterion" option for both advanced and basic language use to indicate this mix.

Learn more about floods

Search...

Translate:

Find us at:

Simple things you can do:

How you might be warned about flooding

Local flood information and events

What FloodSafe means for you

Home Emergency Plan

Business FloodSafe Toolkit

Information for Schools

Information for Councils

How NSW SES plans for floods

StormSafe

NSW SES

NSW SES Apps

Links

Contact Us

**Make a Business FloodSafe Toolkit**

You can make a plan in case floods affect your business

Click here to make a plan

**Welcome to NSW SES FloodSafe**

For everything you need to know about staying safe from floods.

**Simple things you can do**

**BEFORE** it floods

**DURING** flooding

**AFTER** flooding

Refer a friend

Play

**Local flood information and events**

Select your region

Enlarge

Enter your suburb or postcode... Submit

**What FloodSafe means for you**

Icons representing various user groups: family, person with backpack, person at whiteboard, person with dog, person with cane, person with briefcase, person with house, person with building, person in wheelchair, person with hand, person with head, person with eye.

Don't speak English? Go to our non-English speaking page

**NSW Weather and Warnings Summary**

Issued 11:10AM on Tue 17 Sep 2013

Figure 7: NSW SES *FloodSafe* homepage and its 'Deaf-friendly' features

## Box 2: Promising natural hazard preparedness programs needing 'Deaf-friendly' adjustments

### PROGRAMS LED BY FR NSW

**FireEd** - Deaf and hard-of-hearing children, from both oral and signing programs could greatly benefit from visual and hands on educational activities and seminars offered under this program. The dissemination of basic fire safety information to children is particularly important for children from families with non-English speaking backgrounds. However, questions of accessibility remain: (i) are these programs offered in deaf schools?; (ii) are mainstreamed deaf children provided with interpreters or communication support?; and (iii) does FR NSW know where deaf students are so that they can service their needs? If not, deaf students would not be able to participate.

**SeniorEd** - Deaf seniors - who are highly dependent on hearing children or others close to them to help them - are very keen to gain more independence through learning how to protect themselves. This program has the potential to provide deaf seniors with this knowledge. However, information delivery needs to be done face-to-face in Auslan. This could be achieved via community workshops offered in partnership with the Deaf Society of NSW offices.

**CALD (partner with NSW RFS)** - The CALD program matches well with deaf needs on two grounds: (i) set up to assist people from diverse cultural and linguistic backgrounds (Deaf people are a cultural and linguistic minority), people working with CALD have experience in running cross-cultural programs and activities; and (ii) it caters to people with limited or no English. However, programs and activities would need to be delivered in Auslan (via Auslan Youtube videos or through community workshops) and information would need to be highly visual.

**Community Fire Units** - Deaf people would like to have (and become) *Deaf Liaison Officers* - individuals trained by and working for the main emergency service organisations - who can act as knowledgeable liaisons between the Deaf Community and the emergency services. These officers could work closely with Community Fire Units. However, questions about deaf participation have been raised: (i) in light of Auslan interpreter shortages in rural areas, would it be possible to access interpreters for the training?; and (ii) who will cover the interpreter expenses?

### PROGRAMS LED BY NSW RFS

**Prepare.Act.Survive Campaign and Program** - This campaign and program - including tools like the *Household Assessment Tool*, *Prepare a Bushfire Survival Plan*, *Fire Danger Ratings*, *Bush Fire Alert Levels System* - have all the information one needs to prepare for a bushfire. However, the language used needs to be simplified and the information needs to be presented in a more visual way (pictures and videos). Auslan videos also need to be added to the *Multilingual Safety Information* webpage ([http://www.rfs.nsw.gov.au/fact\\_sheets/non\\_english.cfm](http://www.rfs.nsw.gov.au/fact_sheets/non_english.cfm)).

**Bushfire Awareness Program** - This program contains the information needed to better educate deaf people on hazards, what disasters are, and how people can better prepare themselves. However, the presentation of the information is heavily text-based and the language is too advanced for people with limited English or low literacy levels to understand. Delivering this material via a Natural Hazards workshop (undertaken in Auslan) would also be highly beneficial for Deaf people.

**AIDER Program** - This program would be very beneficial to seniors and those with disabilities but it is not well publicised within the Deaf Community. So, many people do not know about it but there is great interest in it.

**Hotspots Program** - This would greatly benefit deaf people in rural areas but questions have been raised regarding the acceptance of Deaf people by hearing neighbours and problems in sourcing Auslan interpreters in rural areas to enable Deaf people to participate.

**Community Fire Units** - the NSW RFS CFU program has great potential (see comments under FR NSW above). The biggest problem is that there is *no* public information available on it. Hence, its complete exclusion from Table 6.

### NSW SES PROGRAMS

**StormSafe Program** - Mirroring the features of the *FloodSafe* program, *StormSafe's* accessibility for deaf people is heightened by its home webpage having clear pictorial links to separate webpages for deaf people and non-English users on its website. Its non-English speakers page also contains pictorial safety messages (in cartoon form) advising people what to do when faced with severe storms. Missing, however, are the Auslan videos (with captions) on the Deaf and hearing impaired page. These need to be added to make the information more deaf-friendly.

**TsunamiSafe Program** - Being the least developed of the three *Safe* programs, the *TsunamiSafe* program does have the potential to be a valuable resource if the *FloodSafe* model and tools were adopted. Currently, the *TsunamiSafe* website is too text-based and the language is too advanced for many deaf people.

**All Hazards Emergency Kit** - The kit could be very useful in helping Deaf Community members create their own emergency kit. The Emergency Kit Magnet is a great way to remind people to do this. To improve accessibility, two alterations are suggested. The kit is highly text-based but the language is simple enough for people to understand. The inclusion of Auslan videos and/or a pictorial brochure would work best to reach out to all community members (Deaf or hearing) with varying levels of English comprehension skills.

Another initiative that is very 'Deaf friendly' is the national *Emergency Alert* system (<http://www.emergencyalert.gov.au/>). *Emergency Alert* is the automated telephone warning system that is used by *emergency services in all states* to send voice messages to landlines and text messages to mobile phones within a defined area, about likely or actual emergencies such as fire, flood, or extreme weather events. People do not sign up, nor can they opt-out. *Emergency Alert* has been set up so all landlines and mobile phones are automatically registered, regardless of carrier. The mobile version is an excellent way for Deaf people to access live information about all natural hazard threats in their area. Mobile phone information is based on the billing address, landlines are based on the location of the handset. For the mobile version, the system automatically sends a text message to all mobiles (using Telstra, Optus and Vodafone) with a registered service address within the warning area. Since December 2012, the system has the capability to send a text message to mobile phones active on Telstra's networks with a last known location within the warning area. From November 2013, this service will be available for mobile phones on Optus and Vodafone networks from November 2013 (Ministry of Police and Emergency Services, 2012).

It is publicised through numerous online channels including:

- a. Through the *Emergency Alert* website (<http://www.emergencyalert.gov.au/>), which features both videos and links to a factsheet on mobile options available to help prepare for natural hazards;
- b. Multiple YouTube videos offered in 33 languages accessible via the *Emergency Alert* website. Two of these videos are Deaf Accessible:
  - An *Emergency Alert* video with Auslan frames, open captions, and with lost of visual prompts (<http://www.youtube.com/watch?v=QkYu5qX7XR4>) but its 7 minutes long;
  - A shorter 31-second *Emergency Alert* campaign video with open captions is available ([http://www.youtube.com/watch?feature=player\\_embedded&v=1imOL13hEy8](http://www.youtube.com/watch?feature=player_embedded&v=1imOL13hEy8)) but it is more of a promotional tool requiring the viewer to seek put more information on the *Emergency Alert* website (<http://www.emergencyalert.gov.au/>).

This system, however, is not well-known within the Deaf Community, flagging a need for it to better publicised within the Deaf Community.

The gap analysis also shows that all programs featured in Table 6 include elements that increase Deaf accessibility. Box 2 identifies programs that are deemed to have the greatest potential to be important natural hazard preparedness resources for deaf people once some alterations are made. Detailed explanations of how well the reviewed programs fulfil key 'Deaf accessibility' criteria and what can be done to improve their accessibility is presented in the following sub-sections.

### 5.1.1 Website navigation

Details of the critiqued programs were available on the respective emergency services websites (NSW SES, NSW RFS, and Fire and Rescue NSW). The easiest websites to navigate are the NSW SES's *FloodSafe* and *StormSafe* websites. As noted in Section 5.1, navigation is made easier by the inclusion on their homepages of pictorial links to two deaf-relevant pages: (i) the *FloodSafe for people living with deafness and hearing impairments* webpage (<http://www.floodsafe.com.au/dea-and-hearing-impaired>) dedicated to deaf-specific content and home to six Auslan videos explaining what to do before, during and after a flood event; and (ii) the *Non English Speaking* webpage (<http://www.floodsafe.com.au/non-english-speaking>). These simple features (visual cues) are easy to recognise and understand irrespective of English literacy levels or dominant cultural backgrounds.

One way to improve the sites further is to include a link on the *FloodSafe/StormSafe for people living with deafness and hearing impairments* webpage to the *Non English Speaking* webpage and vice versa. For example, the *Non English Speaking* webpage's link to the deaf and hard-of-hearing FloodSafe page could be listed under the *Flood information in different languages* subheading. It is, however, recognised that the text explaining the content of this subsection would need altering to allow this.

Navigating through the FRNSW and the NSW RFS webpages is harder and requires one to be well versed in using the Internet and have strong literacy skills. The FR NSW website consists of multiple links that are not always clear, causing some confusion. There are instances where users are taken to similar types of information via multiple links. The rationale makes sense in that not all people will look for the same key words. However, confusion rises when the user does not find identical information using the numerous pathways. This is confusing for literate people but the confusion is greater for those with weaker. For example, the *Factsheets* link (<http://www.fire.nsw.gov.au/page.php?id=206&quicklinks>) and the *Home Fire Safety* menu (both on the homepage <http://www.fire.nsw.gov.au/index.php>) take the users to overlapping yet different information on smoke alarms.

The FR NSW's webpage does have one page dedicated to deaf-related material but the link to it is not easy to find: The *Smoke Alarms for the Deaf and Hearing Impaired* webpage (<http://www.fire.nsw.gov.au/page.php?id=629>), which informs people about vibrating alarms available through the SASS project is accessible through the following links: [Home](#)>>[Home Fire Safety](#)>>[Fire Safety Products](#)>>[Smoke Alarms for the Deaf and Hearing Impaired](#). This page also has a link to *Factsheet No. 31 – Fire Safety for Deaf and Hard of Hearing People* that informs people about the availability of special smoke alarms for Deaf and hearing impaired people and the steps hearing impaired people need to take to contact the emergency services via the National Relay Service (#106). Streamlining these linkages and using visual cues or simple icons to better direct users to the information they are looking for could improve navigation of the FR NSW webpage.

The RFS NSW Prepare.Act.Survive site([http://www.rfs.nsw.gov.au/dsp\\_content.cfm?cat\\_id=2709](http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=2709)) is easier to navigate than the FR NSW site. One downside to the website is that it contains too many links (many of which are to different websites) that can make it hard for the user to find information. For example, under the *Prepare. Act. Survive. for bush fire season* section on the left side column of the RFS homepage ([http://www.rfs.nsw.gov.au/dsp\\_content.cfm?cat\\_id=2709](http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=2709)), clicking on the “*Prepare*” link takes the user to a list of multiple links, all of which open separate pages using new tabs. Once so many pages are open, it’s easy to get lost that makes it harder to find the information the user is looking for.

In light of these findings, we offer five recommendations (Box 3) on how the emergency services websites can be improved to make navigation for deaf and hard-of-hearing people easier.

### Box 3: Recommendations for improving website navigation

#### **6 WAYS TO MAKE EMERGENCY SERVICES WEBSITES MORE DEAF-FRIENDLY**

1. Include clear pictorial links to deaf-relevant content on the homepages of websites
2. Include one website section specifically for Deaf and hard-of-hearing people on all emergency services organisation websites that includes different links to specific information that is relevant to this group
3. Group material in a way that requires users to use less hyperlinks to get access to related material. For example, the *FloodSafe* website has many Deaf-friendly attributes but it can be improved by linking the *FloodSafe/StormSafe for people living with deafness and hearing impairments* webpage to the *Non English Speaking* webpage and vice versa
4. The NSW SES, NSW RFS and FR NSW to provide embedded links between their website pages that specifically provide information for deaf and hard-of-hearing people to help group hazard information together. For example, the NSW SES site (which covers storms and floods) has a link on their *FloodSafe/StormSafe for people living with deafness and hearing impairments* webpage that says “want to know about fire? – click this link...” which takes them directly to corresponding pages on the NSW RFS and FR NSW sites.
5. The *FloodSafe* website’s use of Auslan videos and simple visual cues are easy to recognise and understand irrespective of English literacy levels or dominant cultural backgrounds. Accordingly, this presents as a good model for the NSW RFS and FR NSW to follow
6. The Deaf Society of NSW to have a direct web link on their homepage that links Deaf users to all relevant NSW state emergency service organisations to make it easier for Deaf people to locate emergency and natural hazard information

## 5.1.2 Use of multimedia tools to disseminate preparedness information

The NSW SES, the NSW RFS and Fire and Rescue NSW all use multimedia tools (videos and interactive online tools) to disseminate preparedness information. Video clips are the most popular multimedia tool. All three organisations use videos on their websites (see Table 6) to help disseminate preparedness information to varying levels of success.

### NSW SES

The NSW SES is the only organisation to use Auslan videos. However, these only feature on its *FloodSafe* webpage; the *StormSafe* and *TsunamiSafe* program websites do not have videos and largely rely on the written word to disseminate knowledge. The six Youtube videos on the *FloodSafe* website outline the safe actions to take at each stage of a flood (<http://www.floodsafe.com.au/dea-and-hearing-impaired>). This medium is the most accessible for Deaf people who have access to the Internet. The Auslan videos are also captioned, making the videos accessible to hard-of-hearing people and Deaf people who may not be fluent in Auslan. The addition of these Auslan videos is an exciting advancement for deaf people.

Deaf users, however, believe that these tools could be further improved by (i) adding more visual examples of key points or instructions to help deaf people quickly grasp the topic of discussion and (ii) shortening the length of video clips (ideally to no more than a maximum length of 2 minutes). Detailed suggestions for improving each video feature below:

1. **Prepare Now videoclip** - the information is detailed but comprehension of the main messages would be increased by incorporating some visual examples throughout the video i.e. show a picture of a first aid kit, torch, bottle of water to help those with limited English skills connect with the information being shown. A good example of how this can be done is Deaf Services Queensland's *Be prepared for natural disasters* DVD (designed to increase Deaf risk awareness and preparedness in Queensland), where visual examples of what a house in a flood zone environment looks like (such as a farm situated on a low ground or a home next to a water canal during a storm) effectively gets the message across. The video length is also too long at 6.21 minutes long.
2. **Flood Watch video** - the video needs to pictorially show what the Bureau of Meteorology (BOM) is (a picture of the BOM's website). Other visual examples include: showing what happens when a car attempts to drive through the flood, or when people cross floodwaters; and where the floodwatch is issued from (TV or website).
3. **Flood Warning video** - visual examples are needed to show: (i) what valuables and electronic items people should stack on benches or tables to avoid getting damaged from floods; (ii) the need to tie floatable items down; (iii) examples of what chemicals and toxic items to place on higher ground away from flood water; (iv) pictures showing where people can access FloodSafe plan (give links or name of places).
4. **How to prepare for evacuation just in case there is an Evacuation Warning** - include pictures showing: (i) someone receiving an evacuation warning; (ii) receiving instructions on what to

pack. This will help deaf and hard of hearing individuals visualise what to expect if a situation like this happens to them.

5. **What to do when an Evacuation Order is issued** - this video offered examples of how people may receive an evacuation order and what to do afterwards but there were no visuals to go with the descriptions. It would be helpful to have visuals included.
6. **What to do after a flood** - again visual examples are needed to show people the various actions/steps they need to take after the flood has passed in order to increase understanding.

Auslan videos would also be an effective way to communicate basic information on flood and storm events on the *FloodSafe* and *StormSafe* websites. The Deaf Community Needs Assessment revealed that many deaf people do not know what natural hazards are and the types of risk they face. The inclusion of short (1-2 minute) videos on the *FloodSafe* and *StormSafe* websites could help solve this awareness problem. The videos could be linked to the following links that appear on the left hand side of the *FloodSafe* and *StormSafe* website homepages:

- About floods/storms;
- Types of floods/Storm types;
- Floodwater dangers/Storm hazards;
- Simple things you can do.

The NSW SES also uses an online interactive tool in its *FloodSafe Home Emergency Plan* (<http://www.seshomeemergencyplan.com.au/>) to aid people in setting up their own emergency plan in 14 clear steps. This is a great tool for hearing people who are used to using online tools. However, there are a few steps within the exercise that make it less useful for Deaf users: (<http://www.seshomeemergencyplan.com.au/step-8.php>):

STEP 6: In this step users are asked 'Are there people living in your household that may require additional assistance in an emergency (including yourself)?' Deaf users select the 'people with disability' and 'hearing disability';

STEP 8: This step instructs users to be aware of weather conditions likely to affect them and those they are responsible for. However, the advice given on where to access updates includes listening to local radio stations (an inaccessible medium for deaf and hard-of-hearing people) and websites. This shows that information provided in Step 6 is not necessarily linked to recommendations provided in Step 8 - there is no mention of alternate information sources in Step 8 for people who cannot use audio mediums and do not have access to the internet. Internet access may not be possible due to people not having access to a computer at home or access may be temporarily halted due to power outages or the telecommunication networks failing.

This issue in Step 8 also demonstrates a wider problem with disseminating natural hazard information during live events - the need for an alternative source of emergency information (other than the radio) that is accessible to deaf people even when telecommunication networks fail.

## FR NSW

FR NSW have four videos on how to use the 000 correctly and effectively and three videos publicising key winter fire safety messages (available at <http://www.fire.nsw.gov.au/page.php?id=613>). However, these videos are inaccessible to deaf and hard of hearing people because: (i) they rely on audio voiceovers to provide the message and (ii) have no accompanying captions.

FR NSW's Seniors Fire Safety website link (<http://www.fire.nsw.gov.au/page.php?id=955>) provides users access to six video chapters that cover home fire safety messages. All of their videos are captioned but the language used is considered to be too advanced for deaf and hard of hearing people with limited English skills to understand. Mirroring the comments made on the SES videos, deaf users suggest including visual cues and shortening the length of some of the videos to 2 minutes long (maximum) to make them more accessible:

- Each video demonstrates what should and shouldn't be done around the home to avoid house fires but all that information is being explained via captions. Deaf people would like to see more visual cues indicating good or safe practice (✓) and bad or dangerous (✗) practices. For example, the dangerous practice of drying flammable clothing next to a heater could be marked with an ✗ to indicate danger. This method may be easier to understand for a wide range of users - Deaf/deaf, hard-of-hearing, native English users, and non-English users.
- The length of the videos varies between 1.5 minutes and 5 minutes. Deaf users reported that their attention wandered after 1.5 minutes, after which they became restless and lost interest. This necessitates the shortening of videos to no more than 2 minutes duration.

## RFS NSW

The Prepare. Act. Survive Program ([http://www.rfs.nsw.gov.au/dsp\\_content.cfm?cat\\_id=2709](http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=2709)) offers numerous videos explaining different aspects of the program, three of which have captions:

1. [http://www.rfs.nsw.gov.au/dsp\\_content.cfm?cat\\_id=2709](http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=2709): this 1-minute video covers bush fire preparation tips. It shows examples of what you can do to protect your home from damage caused by a bushfire;
2. [http://www.rfs.nsw.gov.au/dsp\\_content.cfm?cat\\_id=4073](http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=4073): this 30-second video under the Bush Fire survival plan warns people what could happen if they do not have an emergency plan, focusing on how property could be affected in a bushfire. The video shown on the website is small and the captions are tiny, making it unreadable;
3. [http://www.rfs.nsw.gov.au/dsp\\_content.cfm?cat\\_id=2726](http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=2726): this 2.5-minute video covers information on grass fires. It explains the impacts of grass fire on farms and country areas and what is needed to prepare for before, during, and after a bush fire. The video shown on the website is small, just like the Bush Fire Survival Plan video so you have to click on the video title, "Prepare Act Survive-Grass Fire" and it will zoom up through the YouTube website. The captioning is very good but the length of the video (2.5 minutes) is a bit too long for many deaf people;

4. [http://www.youtube.com/watch?v=azasXj8Uq1E&list=PLjkbG8HSLuoW4yZmkmpIVQ94e5HODPQ\\_K](http://www.youtube.com/watch?v=azasXj8Uq1E&list=PLjkbG8HSLuoW4yZmkmpIVQ94e5HODPQ_K): there are a series of several *Planning to have a Plan is not a Plan* videos that are a mixture of TV advert clips, informational videos advising people of the importance of having a bushfire plan, and videos showing interviews of people who have been affected by bushfires. Some of these have written messages that feature throughout the video in question but they do not have captions;

Whilst highly commendable, the English used in the videos with captions is too advanced for deaf people with lower English literacy levels. They are also difficult to find on the website. The videos could be improved by simplifying the English and including Auslan frames. The Bush Fire Safety information is also made available in several different languages but not Auslan. Auslan videos therefore need to be added to this list ([http://www.rfs.nsw.gov.au/fact\\_sheets/non\\_english.cfm](http://www.rfs.nsw.gov.au/fact_sheets/non_english.cfm)). This includes the inclusion of an Auslan video (or a video with captions) that advises deaf people when a total fire ban has been put in place during the summer months.

The Prepare.Act.Survive Program ([http://www.rfs.nsw.gov.au/dsp\\_content.cfm?cat\\_id=2709](http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=2709)) includes three videos with captions:

5. [http://www.rfs.nsw.gov.au/dsp\\_content.cfm?cat\\_id=2709](http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=2709): this 1-minute video covers bush fire preparation tips. It shows examples of what you can do to protect your home from damage caused by a bushfire;
6. [http://www.rfs.nsw.gov.au/dsp\\_content.cfm?cat\\_id=4073](http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=4073): this 30-second video under the Bush Fire survival plan warns people what could happen if they do not have an emergency plan, focusing on how property could be affected in a bushfire. The video shown on the website is small and the captions are tiny, making it unreadable;
7. [http://www.rfs.nsw.gov.au/dsp\\_content.cfm?cat\\_id=2726](http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=2726): this 2.5-minute video covers information on grass fires. It explains the impacts of grass fire on farms and country areas and what is needed to prepare for before, during, and after a bush fire. The video shown on the website is small, just like the Bush Fire Survival Plan video so you have to click on the video title, "Prepare Act Survive-Grass Fire" and it will zoom up through the YouTube website. The captioning is very good but the length of the video (2.5 minutes) is a bit too long for many deaf people.

Whilst highly commendable, the English used in the captions is too advanced for deaf people with lower English literacy levels. They are also difficult to find on the website. The videos could be improved by simplifying the English and including Auslan frames. The Bush Fire Safety information is also made available in several different languages but not Auslan. Auslan videos therefore need to be added to this list ([http://www.rfs.nsw.gov.au/fact\\_sheets/non\\_english.cfm](http://www.rfs.nsw.gov.au/fact_sheets/non_english.cfm)). This includes the inclusion of an Auslan video (or a video with captions) that advises deaf people when a total fire ban has been put in place during the summer months.

The NSW RFS's Household Assessment Tool (<http://bfhat.rfs.nsw.gov.au/>) is very useful online interactive tool that allows any householder to identify whether their property is at risk from bush fire, the extent of the risk, and courses of action that may be taken to address that risk. However, it

is highly text-based (no pictures or symbols) making it less accessible to Deaf people who are less literate or who are overwhelmed by a lot of English text.

### **Examples of good practice outside NSW and suggested recommendations**

1. *Queensland Fire and Rescue Services*: Queensland Fire and Rescue Services provides a series of 10 video clips to educate the community about fire safety in and around the house in English and Auslan (<http://www.youtube.com/watch?v=GQFPHA87Cyl&list=PL4575E0D2B096DF82>). Their videos are fantastic because they include visual demonstrations, English captions, and an Auslan interpreter. The feedback we received on this contained two drawbacks: (i) the length of the video (averaging between 2-5 minutes) and (ii) the fingerspelling the Auslan interpreter had to use for some of the terminologies. Those with no English skills are not able to catch all the information shared when there's fingerspelling involved. As an alternative solution to this, using the green checks (✓) and red "x" marks (✗) would be more accessible to those with no English skills.

2. *Deaf Services Queensland*: Deaf Services Queensland have produced a DVD called *Be prepared for natural disasters*, which is designed to increase risk awareness and preparedness amongst Deaf community members in Queensland. The DVD:

- a. Explains what a natural disaster is and how they may affect individuals, households, and community members in QLD;
- b. Identifies six types of natural hazards that affect the state of Queensland;
- c. Advises DVD users how to:
  - Contact emergency services;
  - Ring people using technology (mobile phones & the internet);
  - Develop an emergency plan in three steps including an escape plan - this information is also presented in a booklet that accompanies the DVD.
- d. Introduces informative internet sites that Deaf people can use to obtain more detailed information and tools needed to increase disaster preparedness; and
- e. Advises Deaf users of the various emergency and disaster alerts that are available to people.

The DVD is a very good resource for Deaf people. The best feature of the video is the use of visual examples to explain what natural hazards are and which natural hazards affect Queensland. The presentation of the different types of natural hazards that affect Queensland - pairing background images of each natural hazard the presenter is talking about with a more detailed description given in Auslan - is very clear and effective. We therefore recommend that this style of explaining what natural hazards are and how they can affect people should be emulated in any future DVDs.

That said, the DVD does have some detractors:

- a. The DVD did not include captioning for Deaf and Hard of Hearing people who rely on English over Auslan;
- b. The presenter's 'walk through' guide of the Emergency Preparedness Pamphlet helps Deaf people know what the presenter is referring to but it is too long and may cause Deaf people to lose interest;

- c. The level of Auslan used by the presenter is very English-based and therefore may not be understood by a wide range of people (those relying on spoken English, learning Auslan, those that are illiterate, and others that are from overseas). We would have to tailor our signs to the basics and in visual/gestural format to make the information understood by all.
- d. The emergency contact information is not complete and is sometimes confusing. For example, there is no reference to an SMS based number Deaf people can use - to contact emergency services or to contact regional offices of Sign Language Communications (SLC). Given how much Deaf people use the SMS function, this is an oversight. The order of contact numbers given for *Policelink* begins with a number that only hearing people can access instead of the SMS contact number. Reordering on the numbers to feature the SMS number first makes more sense given the target audience. Finally, the pamphlet explaining access to the National Relay Service (NRS) does not include the option of contacting the NRS online.

We therefore present seven recommendations (Box 4) that will better utilise current multi-media technology to meet the information and communication needs of Deaf people.

#### Box 4: Recommendations for increasing information access using multi-media tools

##### **7 WAYS TO INCREASE INFORMATION ACCESS USING MULTI-MEDIA TOOLS**

1. Use Auslan videos with captions on all emergency service organization websites to explain what people need to do in the event of different hazards
2. Add more visual examples of key points or instructions to video clips to help deaf people quickly grasp the topic of discussion
3. Shorten the length of video clips (ideally to no more than a maximum length 2 minutes)
4. Ensure that information delivered via interactive online tools is relevant and appropriate for all users. This requires better links between individual specifications and subsequent advice and suggested actions
5. Create an 'all hazards' DVD that presents what natural hazards and natural disasters are, which natural hazards affect NSW and what people should do the better prepare themselves and respond to future events (including who to contact and how to contact them). Information needs to be presented in Auslan with captions (using basic English) and accompanied by corresponding pictures and visual examples to ensure accessibility for a wide range of Deaf/deaf and hard-of-hearing people. These DVDs should be distributed through public libraries, the emergency services and established Deaf/deaf and hard-of-hearing networks and support organisations
6. The Deaf Society of NSW and the NSW emergency service organisations (NSW SES, NSW RFS and FR NSW) to apply for joint funding from the state of federal government for the development and dissemination of YouTube videos, the 'all hazards' DVD and any accompanying pamphlets or written material
7. The Deaf Society of NSW and the NSW emergency service organisations (NSW SES, NSW RFS and FR NSW) to apply for joint funding from the state of federal government to undertake a state wide "Roadshow" to present the DVD to the community and increase awareness and preparedness of Deaf/deaf people and their families

### 5.1.3 Use of text, visual cues, and language

Deaf people are highly visual and many do not have strong English skills(Calgaro et al., 2013). The pairing of simple language (basic English) with visual cues is, therefore, the most effective way to communicate information on paper or on websites. Deaf people need to be shown visuals (pictures, common icons or photos) of what specific equipment or resources are needed to increase their preparedness. Adding arrows pointing to specific things such as the water hose or fences or flywire screens can also help deaf people make connections between key instructions and points.

The use of visual cues and pictorial formats in emergency and hazard preparedness material also has clear benefits over the use of Auslan videos. Auslan videos are expensive to produce and are only suitable for online content. Furthermore, many Deaf people lose interest in Auslan videos that exceed two minutes in length. The investment in producing these tools can therefore be wasted. Simple visual pictures that are universal and can be easily understood by everyone - regardless of education and literacy levels, languages used or cultural backgrounds - and are cost-effective. This point is illustrated by Figure 8.



Source: <http://azmega.com/vector/warning-signs-vector.html>

Figure 8: An example of universal warning signs

Whilst the diagram is in Chinese, non-Chinese speakers can easily understand the symbols. The use of these types of symbols would make it easier for Deaf people with limited literacy skills or basic English reading and writing skills to understand and could help increase response times in an emergency situation.

There are some very good examples of pictorial formats being used by the emergency services to effectively disseminate information to a wide range of people including those from cultural minority groups who may not have a good grasp or understanding of English (including Deaf people). For example, as noted in Section 4.3, the NSW SES use magnets, cartoons depicting pictorial instructions on what people should do in the event of floods or severe storms, and visual guides (post-cards) that offer a step-by-step visual tool to advise people what steps they should take to better prepare themselves for flood and storm events. These feature simple text and fact sheets with visual elements.

That said, a review of written and web-based material included in the various emergency services programs reveals one common flaw - information is often highly-text based and the language is too complex, making it inaccessible to many Deaf people who either cannot read well or feel overwhelmed by large amounts of text in a language (English) that is often their second language. *A widespread shift away from a reliance on text toward the use of pictorial formats and visual cues is therefore needed to make existing programs and information accessible to deaf people.*

Information on the NSW SES's *StormSafe* and Tsunami Safe Programs is largely text-based and would benefit from the inclusion of more visual cues to accompany more simple text. These observations also apply to the *StormSafe*'s dedicated Deaf and hard-of-hearing webpage (<http://www.stormsafe.com.au/deaf-and-hearing-impaired>), which features text only.

The language used in many of the FR NSW Factsheets (<http://www.fire.nsw.gov.au/page.php?id=206>) is too advanced and too dense. The *Smoke Alarms for the Deaf and Hearing Impaired* webpage (<http://www.fire.nsw.gov.au/page.php?id=629>), and the linked Factsheet (*Fire Safety for Deaf and Hard of Hearing People*) are also dominated by lots of text and pictures or visual cues are largely absent.

Many of the RFS NSW keystone community programs rely heavily on text to disseminate information and the language used is only accessible to a highly literate audience. More visual aids are therefore needed to accompany the text. This was found to be most problematic in their *Prepare. Act. Survive Program* (and many of its sub-programs) and *Bush Fire Hazard Awareness Program*. The language used in the *Prepare a bushfire survival plan* ([http://www.rfs.nsw.gov.au/file\\_system/attachments/Attachment\\_BushFireSurvivalPlan.pdf](http://www.rfs.nsw.gov.au/file_system/attachments/Attachment_BushFireSurvivalPlan.pdf)) and on the Total Fire Ban webpages ([http://www.rfs.nsw.gov.au/dsp\\_content.cfm?cat\\_id=1108](http://www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=1108)) is simpler than some of the other RFS material. This makes it more accessible to younger generation deaf people with better English skills but not for seniors or those with more basic levels of education.

The length of some of the hazard awareness and preparedness information produced by the NSW emergency services also presents a challenge for deaf people. For example, the NSW RFS's *Prepare. Act. Survive Survival Plan* Booklet is 26 pages long ([http://www.rfs.nsw.gov.au/file\\_system/attachments/Attachment\\_BushFireSurvivalPlan.pdf](http://www.rfs.nsw.gov.au/file_system/attachments/Attachment_BushFireSurvivalPlan.pdf)).

Some Deaf users lost interest after reading through the first few pages. This information could be made more digestible for people with lower English literacy levels by inserting a mini 'fold-out' *Prepare.Act.Survive Survival Plan* Booklet packet that illustrates the plan in a numerical or step-by-step order. That way, the main booklet can be provided for those who have capability of understanding the language use whilst the mini packet can be used by those who are either uneducated, non-English users, and deaf people.

Box 5 details recommendations on how text and visual cues can be used to increase information accessibility and understanding.

#### **Box 5: Recommendations for increasing information accessibility through text and visual cues**

##### **7 WAYS TO INCREASE INFORMATION ACCESSABILITY THROUGH TEXT AND VISUAL CUES**

1. There needs to be a widespread shift away from a reliance on text toward the use of pictorial formats and visual cues to make existing programs and information accessible to deaf people
2. Use visual cues (pictures, common or universal icons, photos) and pictorial formats in emergency and hazard preparedness material as much as possible
3. Use visual cues (particularly icons) consistently across all emergency and disaster preparedness material produced by the NSW SES, NSW RFS and FR NSW to avoid confusion for Deaf people. To do this, the emergency service organisations need to work with members of the Deaf Community to ascertain exactly what signs and symbols work best for them to communicate specific messages and pieces of information, an action point that will require co-ordination across the three organisations.
4. Add numbering or clear steps to text boxes and/or pictorial formats to make it easier for people to follow
5. Simplify text as much as possible
6. When using text, pair simple language (basic English) with visual cues as much as possible. Include pictures of the resources people need to be better prepared for natural hazards, use green checks (✓) and red "x" marks (✗) to demonstrate good practices and bad practice and add arrows to help deaf people understand connections between key instructions and points
7. Create mini 'fold-out' versions of larger preparedness documents (e.g. the *Prepare.Act.Survive Survival Plan* Booklet) that illustrates the plan in a numerical or step-by-step way. The main booklet can be provided for those who have capability of understanding the language use whilst those who are Deaf, less literate, or non-English users can use the mini booklet.

#### 5.1.4 Availability of information in PDF and 'print-friendly' formats

Ten of the programs features in the gap analysis have information available in PDF or in a printable form. Reflecting the findings presented in Section 5.1.3, the best PDF examples feature one or more of the following elements:

- a. Clear visual cues (pictures, diagrams, photos) that supplement text e.g.  
FR NSW's *Fire Safety and Prevention Plan for Seniors* ([http://www.fire.nsw.gov.au/gallery/files/pdf/brochures/NSWFB\\_seniors\\_fire\\_safety.pdf](http://www.fire.nsw.gov.au/gallery/files/pdf/brochures/NSWFB_seniors_fire_safety.pdf)).  
The diagrams showing a green check (✓) and a red 'x' (✗) is a fantastic way to show those who are illiterate or non-English readers what is recommended and what's not. Nice to see this be offered in several different languages and whilst Auslan isn't on the list, the visual pictures makes up for the English text. Surprisingly, the *FR NSW's Factsheet for Deaf and Hard of Hearing People* is highly text-based making it inaccessible to many deaf people ([http://fire.nsw.gov.au/gallery/files/pdf/factsheets/31%20Fire%20Safety%20for%20Deaf%20and%20Hard%20of%20Hearing\\_Ver06.pdf](http://fire.nsw.gov.au/gallery/files/pdf/factsheets/31%20Fire%20Safety%20for%20Deaf%20and%20Hard%20of%20Hearing_Ver06.pdf)).
- b. Use of numbered text or steps to make it easier for people to follow e.g.  
FR NSW's *Prepare Your Home To Prevent Fire Factsheet* ([http://www.fire.nsw.gov.au/gallery/files/pdf/factsheets/BePrepared\\_plan.pdf](http://www.fire.nsw.gov.au/gallery/files/pdf/factsheets/BePrepared_plan.pdf)).  
The numerical order for each room makes it easy to follow for those who are literate. Unfortunately the specifics for each room are text based, making it a challenge for those who are illiterate. The NSW RFS also successfully use numbering and text-blocking in their *Before You Light That Fire* PDF to better communicate their main messages ([http://www.rfs.nsw.gov.au/file\\_system/attachments/State08/Attachment\\_20120824\\_635\\_CF0D2.pdf](http://www.rfs.nsw.gov.au/file_system/attachments/State08/Attachment_20120824_635_CF0D2.pdf)). However, it is still too text-based. Exchanging the text blocks with step-by-step visual diagrams (paired with small amounts of simple text if needed) would increase its accessibility.
- c. Text that is written in Basic English. This is a desired element that was not found in current examples. However, the FR NSW's *Prepare Your Home To Prevent Fire Factsheet* is one of the better examples.

The RFS NSW Fire Danger Ratings Brochure is a noteworthy example to learn from as it marries many different types of visual cues (photos, maps, diagrams, and pictures) with text to communicate a lot of information in a printable form ([http://www.rfs.nsw.gov.au/file\\_system/attachments/Attachment\\_FireDangerRating.pdf](http://www.rfs.nsw.gov.au/file_system/attachments/Attachment_FireDangerRating.pdf)).

However, it requires the following alterations in order to make this more accessible to deaf people:

- a. Fire Danger Rating section (page 2): a fire danger rating scale is shown with a brief explanation of what this is and differences between a low-moderate and catastrophic fire event. Understanding differences in danger levels might be made easier if photos were provided to give people a visual example to connect with. The NSW RFS is currently looking at ways to simplify these messages. They are also considering an option that describes Fire Disaster Ratings in videos by showing fires at different rating levels.

- b. Rules During Total Fire Bans section (page 2): visual cues (photos, symbols) are needed to either replace much of the written text or supplement the written text. The text also needs simplifying. For example, in national parks, you often see signs where they have symbols that tells you if animals, fires, camping, eating/picnic areas are permitted or not. These signs are understood by many people (foreigners, locals, educated, non-educated) and their use would help facilitate a greater understanding.



- c. The graphic illustration on page 3 has too much text and will overwhelm deaf people trying to read and understand the information provided. Again, visual photos and diagrams would work best to compliment the text shown. The fire danger index column may also be misinterpreted as a thermostat showing actual temperatures instead of being a pictorial cue for the Fire Danger Index.

### **5.1.5 Appropriate referencing to non voiced-based emergency contact numbers and information sources**

The websites and emergency preparedness material produced by all three organisations (NSW SES, the NSW RFS and FR NSW) includes instructions on how best to contact them using different communication mediums. However, many of the contact numbers and mediums provided are auditory and therefore are not easily accessible to deaf people.

There are three main ways that the NSW RFS use to inform the public about bushfire threats and live events:

- a. Via the organisation's website (<http://www.rfs.nsw.gov.au>) which is referenced on NSW RFS printed material;
- b. Contacting the NSW RFS's Bush Fire Information Line 1800 NSW RFS (1800 679 737) - this is publicised widely on the back of the NSW RFS's Bushfire Survival Plan and on the organisation's website (<http://www.rfs.nsw.gov.au>); and
- c. Via the NSW RFS's *Fires Near Me* smartphone and tablet app, which provides the same public information that would be available via the website or by ringing Bush Fire Information Line. *Fires Near Me* also provides web links to Emergency Warnings.

Deaf people can access the Bush Fire Information Line by contacting the National Relay Service (NRS) but this can be slow. The Internet and *Fires Near Me* smartphone app are the best options for deaf people ('Deaf' and 'deaf') as they are an alternative to non voice-based information systems. The *Fires Near Me* app is particularly good because it enables people access to this

information wherever they. However, access to both the website and *Fire Near Me* are dependent on people having telecommunication reception. Telecommunication network reception can be patchy in some areas of NSW, particularly if people are using networks other than Telstra that has the best coverage. Furthermore, these services would be inaccessible if the telecommunication networks fail. This points to a wider problem. Hearing people have access to Australian Broadcast Corporation (ABC) radio if the telecommunication networks fail but deaf people don't.

FR NSW's *Factsheet No. 31 – Fire Safety for Deaf and Hard of Hearing People* ([http://fire.nsw.gov.au/gallery/files/pdf/factsheets/31%20Fire%20Safety%20for%20Deaf%20and%20Hard%20of%20Hearing\\_Ver06.pdf](http://fire.nsw.gov.au/gallery/files/pdf/factsheets/31%20Fire%20Safety%20for%20Deaf%20and%20Hard%20of%20Hearing_Ver06.pdf)) features the red '000' telephone emergency symbol (Figure 9). Not only is this inaccessible for deaf and hard of hearing people, but it can lead to confusion of whether this means to call via voice, SMS, or TTY the 000 emergency number.



Figure 9: Icons used in FR NSW's *Fire Safety for Deaf and Hard of Hearing People Factsheet*

The NSW SES emergency contact 132 500 magnet (Figure 5) is a popular visual tool to remind people who they should contact in the event of a flood or storm. The visual concept is great for deaf people but the number is not accessible to deaf people in all situations. Mobile phones have largely replaced the need for TTY machines and landline phones, both of which are slow and require you to be in a fixed location. Mobile phones can be used anywhere where reception is good. Deaf people consequently prefer to SMS or communicate over Skype (or similar proprietary voice-over-Internet Protocol services).

References to the TTY Emergency Call number '106' on the NSW RFS and Fire and Rescue NSW websites and preparedness material are also problematic and can cause confusion. For example, the picture shown in Figure 10 features on the FR NSW's *Smoke Alarms for deaf and hard of hearing people* webpage (<http://www.fire.nsw.gov.au/page.php?id=629>). The term 'TEXT EMERGENCY CALL' can be easily misinterpreted as being the number that people can use to send an emergency SMS instead of the TTY. Even though the symbol above the 106 number indicates a TTY, people who are less familiar with the out-dated TTY technology and related services could wrongly assume that the symbol refers to a telephone. We recommend that the term "TEXT" be modified to "TTY". We also recommend that a new icon be created for the new SMS emergency number using the same style i.e. the new SMS emergency call icon should include a symbol of a mobile phone accompanied by the term "000 SMS EMERGENCY CALL". This new icon should then be added to all emergency services material.



Figure 10: TTY contact number icon

Despite lower usage levels of TTY's, there is still support for keeping references to the TTY 106 service to cater to those who still use their TTY's. There is also some support for replacing written instructions on how to use the TTY 106 service found on the FR NSW and NSW RFS websites with an Auslan video. Queensland Fire and Rescue Services series of 10 video clips includes one on how to use the 106 TTY number and making emergency calls through NRS (<http://www.youtube.com/watch?v=GQFPHA87Cyl&list=PL4575E0D2B096DF82>). NSW counterparts could use this as a good model to follow.

In light of these findings, we offer five recommendations for improving referencing to non voiced-based emergency numbers (Box 6).

#### Box 6: Recommendations for improving referencing to non voiced-based emergency numbers

##### **5 WAYS TO IMPROVE REFERENCING TO NON VOICED-BASED EMERGENCY NUMBERS**

1. Reference all deaf accessible emergency contact mediums (and corresponding numbers, email addresses, NRS Skype usernames) on websites and printed/printable material to enable deaf people to choose which medium they prefer i.e.:
  - o by TTY - dial 106
  - o by internet relay and ask for Triple Zero (000)
  - o by SMS relay – text 0423 677 767
  - o by video relay – login to Skype and contact NRS via contact details provided
2. Make sure that any references to the 106 emergency contact number is solely a TTY number and not a SMS based service
3. Replace the term 'TEXT EMERGENCY CALL' used on the TTY contact icon on FR NSW's *Smoke Alarms for deaf and hard of hearing people* webpage with 'TTY EMERGENCY CALL' to ensure that people do not confuse this number with the SMS number
4. Create a new icon for the new SMS emergency number and add this icon to all emergency services websites and disaster preparedness material where appropriate i.e. the new icon should include a symbol of a mobile phone accompanied by the term '000 SMS EMERGENCY CALL'.
5. Produce a version of the popular NSW SES 132 500 magnet that includes the new emergency SMS number that deaf people can contact

## **5.2 Recommendations to increase accessibility for deaf people to current emergency services programs**

The review of the existing emergency services community programs and the presentation of supporting emergency and disaster preparedness information and material clearly shows that the NSW emergency services are highly conscious of and committed to communicating effectively with the very diverse NSW public. This includes deaf and hard-of-hearing people. We also acknowledge that this is a very difficult task given on-going human and economic constraints. Box 7 summarises the main recommendations we make to help improve existing communications methods and mediums used by the NSW SES, NSW RFS and FR NSW and make them more accessible to deaf people. To this we add four overarching recommendations that would further increase deaf people's accessibility to and usage of disaster preparedness information and strategies:

### **1. Inclusion of a specific Deaf and hard-of-hearing webpage on emergency services homepages**

Using the NSW SES website as a starting point, we recommend that all emergency services include a webpage on their website(s) that is dedicated to the specific needs of Deaf and hard-of-hearing people. Homepages should have a clear icon link to this page, making access easier. This one central page should include links to specific information (presented in the most accessible ways) that is relevant to this group. Types of things to include on this Deaf and hard-of-hearing page are: Auslan videos with captions; PDF brochures containing visual diagrams with check (✓) or 'x' symbols (✗) indicating what's safe and what's not; and appropriate contact information via SMS, email, or TTY number. This will make navigation easier for those who have limited English skills or are technologically challenged.

### **2. A shift from text to visual cues to increase understanding and accessibility**

There needs to be a widespread shift away from a reliance on text toward the use of pictorial formats and visual cues to make existing programs and information accessible to a wide range of people including Deaf/deaf people. We have presented numerous ways this can be achieved - the wider use of cartoons or pictorial presentations of what to do during a flood or storm event (see Figure 6), visual cues (symbols, pictures, common icons or photos) included in written material and the increasing use of multi-media tools (videos in Auslan with captions, DVDs) are just a few examples.

### **3. Usage of Auslan videos versus pictorial formats**

Auslan videos are an effective way to present information to Deaf people for two reasons: it's their dominant language and deaf people are highly visual. Deaf Community members would therefore like to see the following material be presented in Auslan:

- Basic information explaining what natural hazards are, the types of hazards that exist (fires, different types of storms, tsunamis, different types of flooding, heatwaves etc), and simple actions people can take to prepare themselves;

- Urgent emergency information and hazard warnings (including announcements on total fire bans during the summer months) presented on websites and TV - live emergency warnings or broadcasts that have been shown on TV could be taped and then uploaded on the deaf and hard-of-hearing webpages linked to the emergency services webpages. Given the increasing use of smartphones amongst both hearing and deaf people, the uploading or live streaming of emergency warning or broadcasts onto central websites could increase accessibility for all even if power outages occur. However, for best results the emergency services webpages (or a chosen central emergency alert webpage) would need to support mobile versions of their webpages.

There are, however, downsides to using Auslan videos to disseminate information: (i) they are costly to produce; (ii) can sometimes take too long to watch (depending on the length and subject matter); and they only cater to the needs of Auslan users.

The use of pictorial formats (supplemented by simple text) is cheaper to produce and is accessible to a wider range of people including those who are deaf or hard-of-hearing, hearing and non-hearing people from different cultural backgrounds, those with limited English skills, and those from different generations (including children). Materials in pictorial formats can be provided electronically via emergency services websites and in print. Many Deaf people advised that they would prefer to have access to emergency and disaster preparedness information in pictorial formats rather than Auslan videos for the following reasons:

- Pictorial information is quicker to read and sometimes easier to than a 2-5 minutes video;
- Pictorial brochures can be accessible to those with no internet access;
- Pictorial information can be printed out and posted on the walls or kitchen fridge for easy access in the event of an emergency;
- Easily understood by those with high, limited, and no English comprehension levels; and
- Hearing people from diverse cultural and linguistic backgrounds can benefit from this too.

A balance of both formats - Auslan videos and pictorial formats - would therefore be optimal. However, if resources are not available for the production of Auslan videos, pictorial formats are a good (and in some cases a better) substitute.

Given that the emergency services and the government have finite resources (human and economic capital), pictorial formats are the most universally accessible solution. A wide range of people - hearing people and deaf people - can understand pictorial formats and messages. The usage of pictorial formats will not only save NSW emergency service organisations and the government money (as they are cheaper than Auslan videos), they are also accessible to all.

#### **4. Educational activities to promote risk awareness and preparedness**

To increase risk awareness and preparedness the Deaf Society of NSW and the NSW emergency service organisations (NSW SES, NSW RFS and FR NSW) to secure joint funding from the state or federal government to undertake a state wide "Roadshow" to present the 'all hazards' DVD to community members and increase risk awareness and preparedness of Deaf/deaf people and their families.

## Box 7: Recommendations for increasing accessibility to current emergency services programs

### WEBSITE NAVIGATION

- Include one website section specifically for deaf and hard-of-hearing people that includes different links to specific information that is relevant to this group. This includes cross-links on the NSW SES, NSW RFS and FR NSW pages to each other's deaf and hard-of-hearing pages
- Include clear pictorial links to deaf-relevant content on the homepages of websites
- Group material in a way that requires users to use less hyperlinks to get access to related material
- The Deaf Society of NSW to have a direct web link on their homepage that links Deaf users to all relevant NSW state emergency service organisations to make it easier for Deaf people to locate emergency and natural hazard information

### USAGE OF MULTIMEDIA TOOLS

- Use Auslan videos with captions on all emergency service organization websites to explain what people need to do in the event of different hazards
- Add more visual examples of key points or instructions to video clips to help deaf people quickly grasp the topic of discussion
- Shorten the length of video clips (ideally to no more than a maximum length 2 minutes)
- Create an 'all hazards' DVD that presents what natural hazards and natural disasters are, which natural hazards affect NSW and what people should do the better prepare themselves and respond to future events (including who to contact and how to contact them). Information needs to be presented in Auslan with captions (using basic English) and accompanied by corresponding pictures and visual examples to ensure accessibility for a wide range of Deaf/deaf and hard-of-hearing people. These DVDs should be distributed through public libraries, the emergency services and established Deaf/deaf and hard-of-hearing networks and support organisations

### USAGE OF TEXT, VISUAL CUES AND LANGUAGE

- Use visual cues (pictures, common or universal icons, photos) and pictorial formats in emergency and hazard preparedness material as much as possible
- Use visual cues (particularly icons) consistently across all emergency and disaster preparedness material produced by the NSW SES, NSW RFS and FR NSW to avoid confusion for Deaf people, an action point that requires co-ordination across the three organisations and community consultation
- Add numbering or clear steps to text boxes and/or pictorial formats to increase understanding
- When using text, pair simple language (basic English) with visual cues as much as possible. Include pictures of the resources people need to be better prepared for natural hazards, use green checks (✓) and red "x" marks (✗) to demonstrate good practices and bad practice and add arrows to help deaf people understand connections between key instructions and points
- Create mini 'fold-out' versions of larger preparedness documents (e.g. the *Prepare.Act.Survive Survival Plan* Booklet) that illustrates the plan in a numerical or step-by-step way. The main booklet can be provided for those who have capability of understanding the language use whilst those who are Deaf, less literate, or non-English users can use the mini booklet

### REFERENCING TO NON VOICED-BASED EMERGENCY CONTACT NUMBERS

- Reference all deaf accessible emergency contact mediums (and corresponding numbers, email addresses, NRS Skype usernames) on websites and printed/printable material to enable deaf people to choose which medium they prefer i.e.:
  - by TTY - dial 106
  - by internet relay and ask for Triple Zero (000)
  - by SMS relay – text 0423 677 767
  - by video relay – login to Skype and contact NRS
- Make sure that any references to the 106 emergency contact number is solely a TTY number and not a SMS based service
- Create a new icon for the new SMS emergency number and add this icon to all emergency services websites and disaster preparedness material where appropriate i.e. the new icon should include a symbol of a mobile phone accompanied by the term "000 SMS EMERGENCY CALL".
- Produce a version of the popular NSW SES 132 500 magnet that includes the new emergency SMS number that deaf people can contact

## 6 A review of emergency services capacities

The creation and implementation of new and adjusted emergency and disaster risk management protocols, strategies, and tools cannot be done effectively without determining whether the institutions responsible for implementation have the resources (social, human, economic capital) they need to successfully operationalize changes (Tan-Mullins et al., 2007). Action (including non-action) on natural hazard and disaster preparedness taken by households, communities, businesses and institutions are influenced by the availability of finite resources, priorities (including short-term priorities versus longer-term adjustments) and calculated trade-offs (Adger and Kelly, 1999, Pelling, 2003, Wisner et al., 2004). The emergency services in NSW are therefore charged with the difficult task of balancing the priorities of multiple groups and making judgements on how best to use the finite resources they have to service the collective needs of a very diverse population. Recognising this, the NSW RFS, NSW SES and FR NSW were asked to:

- a. Review both the resilience building strategies presented in the Deaf Community Experience, Knowledge and Needs Assessment (Calgaro et al., 2013) and the recommendations made in Section 5.2; and
- b. Advise which of these solutions they deemed feasible given their current capacities, commitments and priorities.

Fire and Rescue NSW have been unable to dedicate time and resources to the planned Institutional Capacity Assessment due to staffing changes, time constraints, and internal structural issues. In time, FR NSW can undertake a self-assessment of their existing capacities, skills, best practice approaches together with what they see as the constraints, challenges, opportunities and potential solutions for going forward. To aid in this process we have drawn up a draft 'check list' to help FR NSW think through, identify and document their strengths, current resources, and the challenges they face in designing and implementing community engagement programs and activities that are aimed at supporting Deaf populations (specifically) and Culturally and Linguistically Diverse communities (generally). Table 7 presents the Institutional Capacity Assessment Check-list. It is hoped that this tool can assist in effectively implementing community engagement programs and activities aimed at assisting the Deaf Community going forward.

The NSW RFS and NSW SES were also prevented from undertaking a full Institutional Capacity Assessment within the timeframes of this project. However, they have provided a very useful preliminary evaluation of the strategies and recommendations made in this report (Section 5.2) and Deaf Community Experience, Knowledge and Needs Report. The following sections outline the outcomes of that review and subsequent discussions.

**Table 7:** Draft ‘checklist’ for analysing capacities and challenges for the emergency services

Task/action/issue	Existing or problematic issues faced by FR NSW in assisting the Deaf and Hard-of-hearing in relation to the “PPRR” stages of the disaster cycle				Notes
	PREVENT	PREPARE	RESPOND	RECOVER	
<b>1. Definitions and structural frameworks for long-term community engagement (governance)</b>					
Definition of Community Engagement					
Is Community Engagement promoted through the institutional mission statement?					
Is Community Engagement and programs acknowledged as an essential component of service or practice?					
Overarching coordinating structures for Community Engagement (committees, integrated teams, centres)					
Policy & internal structural frameworks in place to enable Community Engagement program design					
Policy & internal structural frameworks enabling CALD program design (that includes Deaf Community)					
Policy & internal structural frameworks enabling long-term Community Engagement program implementation, monitoring, evaluations & improvements					

Policy & internal structural frameworks enabling long-term CALD program implementation, monitoring, evaluations & improvements (that includes Deaf Community)					
Administrative support for Community Engagement (from all levels of staff - Commissioner → Community Engagement/CALD officers)					
Policy & internal structural frameworks enabling Community Engagement/CALD staff to participate in research projects/collaborative initiatives					
Are there institutional structures and frameworks to evaluate the impact of Community Engagement/CALD initiatives?					
Are there mechanisms in place to disseminate Community Engagement/CALD program results?					

Task/action/issue	Existing or problematic issues faced by FR NSW in assisting the Deaf and Hard-of-hearing in relation to the “PPRR” stages of the disaster cycle				Notes
	PREVENT	PREPARE	RESPOND	RECOVER	
<b>2. Community support/involvement in Community Engagement Initiatives (partnerships)</b>					
Are there policy & internal structural frameworks in place to enable community involvement (community support organizations, groups or individuals) in Community Engagement program design and implementation?					
Are there existing Community Engagement partnerships in place?					
Nature and extent of Community-Institutional Partnerships					
Do community groups have access to institutional resources/shared resources to support collaborative efforts (financial, human capital)?					
Are there structures in place to enable and effectively support the involvement of Deaf and hard-of-hearing individuals in institutional activities (as volunteers or as Deaf Community Liaison Officers)?					

Task/action/issue	Existing or problematic issues faced by FR NSW in assisting the Deaf and Hard-of-hearing in relation to the “PPRR” stages of the disaster cycle				Notes
	PREVENT	PREPARE	RESPOND	RECOVER	
<b>3. Financial resources (economic capital)</b>					
Budget allocated to Community Engagement					
Budget allocated to CALD programs (including Deaf Community)					
Is there a sufficient budget to fund dedicated Community Engagement staff to work with and support Deaf and hard-of-hearing communities long-term?					
Is there a sufficient budget to fund dedicated CALD staff to work with and support CALD groups long-term?					
Is there a sufficient budget to fund Community Engagement/CALD staff to participate in research projects/exploratory initiatives?					
Is there a sufficient budget to fund dedicated CALD staff to develop further materials for Deaf/hard-of-hearing people?					
Is there sufficient funds to support collaborations between community support organisations/groups and the emergency services?					

Task/action/issue	Existing or problematic issues faced by FR NSW in assisting the Deaf and Hard-of-hearing in relation to the “PPRR” stages of the disaster cycle				Notes
	PREVENT	PREPARE	RESPOND	RECOVER	
<b>4. Access to human resources and knowledge (human capital)</b>					
Are there dedicated staff to oversee the design, implementation, and monitoring of Community Engagement programs?					
Are there dedicated staff to oversee the design, implementation, and monitoring of CALD programs?					
Do we have Deaf Awareness training within our organization (regular sessions with updates for new staff/volunteers)?					
Do we have access to fluent Auslan speakers?					

Task/action/issue	Existing or problematic issues faced by FR NSW in assisting the Deaf and Hard-of-hearing in relation to the “PPRR” stages of the disaster cycle				Notes
	PREVENT	PREPARE	RESPOND	RECOVER	
<b>5. Current Community Engagement/CALD plans and challenges to implementation</b>					
Is there an overarching strategic plan for advancing the institution’s community engagement?					
Are there any Community Engagement/CALD plans that specifically cater to the needs of Deaf and hard-of-hearing people?					
Nature and extent of these current plans					
Are there mechanisms in place to assess & monitor community needs (what are they & how often do they run)?					
Are there any challenges to implementing & monitoring current Community Engagement/CALD programs (structural, financial, human, socio-cultural challenges)?					
Do we have existing education/communication materials and tools for Deaf/hard-of hearing people?					
Are these existing education/communication materials & tools effective in communicating with Deaf/hard-of-hearing people?					

Are there mechanisms in place to evaluate the effectiveness of current communication tools used to communicate with CALD groups (including Deaf Community)?					
Are there any challenges in communicating with Deaf/hard-of-hearing people (from the perspective of the NSW SES, RFS, FR NSW)?					
What measures have been taken to address any identified challenges?					

## 6.1 Preliminary feedback on recommendations made to increase Deaf accessibility to current programs

The NSW RFS and NSW SES have reviewed the recommendations put forward in Section 5.2 and the preliminary results of this review are detailed below.

### 1. Inclusion of a specific Deaf and hard-of-hearing webpage on emergency services homepages

The NSW SES already have their *FloodSafe for people living with deafness and hearing impairments* (<http://www.floodsafe.com.au/dea-and-hearing-impaired>) and *StormSafe for people living with deafness and hearing impairments* (<http://www.stormsafe.com.au/deaf-and-hearing-impaired>) webpages. Both are dedicated to deaf-specific content and the *FloodSafe* version is home to six Auslan videos explaining what to do before, during and after a flood event. They also have a *StormSafe* equivalent but this lacks the Auslan videos (<http://www.stormsafe.com.au/deaf-and-hearing-impaired>) at this stage. Adding Auslan video content to the *StormSafe for people living with deafness and hearing impairments* webpage and creating a Deaf and hard-of-hearing webpage for the *TsunamiSafe* program are options currently under consideration. The NSW RFS are supportive of making their website more accessible to people with a range of disabilities and special needs, including the needs of the Deaf Community. They are currently in the process of reviewing their website - in terms of content, look and feel - and are considering different options on how they can make it more accessible to a wide range of audiences. They will therefore take our recommendations under consideration as part of their review process.

There is also the belief that the Ministry of Police and Emergency Services are working on (or considering) the creation of one central website that will include content on:

- What natural hazards are, the types of hazards that exist (fires, different types of storms, tsunamis, different types of flooding, heatwaves etc), and simple actions people can take to prepare themselves; and
- Urgent emergency information and hazard warnings in multiple formats.

### 2. A shift from text to visual cues to increase understanding and accessibility

The NSW RFS support a shift from text toward a greater use of visual cues to increase understanding and accessibility of material presented in their documentation. However, they cannot prioritise any one document or webpage at this stage.

### 3. Usage of Auslan videos versus pictorial formats

The NSW SES's *FloodSafe for people living with deafness and hearing impairments* (<http://www.floodsafe.com.au/dea-and-hearing-impaired>) webpage features six Auslan videos explaining what to do before, during and after a flood event. The *StormSafe* and *TsunamiSafe* webpages do not have Auslan videos at this stage. However, adding Auslan video content to the *StormSafe for people living with deafness and hearing impairments* webpage and *TsunamiSafe* program's webpage are options that are currently under

consideration. The NSW RFS also support greater usage of Auslan videos and pictorial formats to improve accessibility.

#### 4. Educational activities to promote risk awareness and preparedness

The NSW RFS are supportive of a 'Roadshow' but outside funding would need to be found to action this. The NSW SES is supportive in principle but do not have the resources (time or finances) to undertake this initiative at this time.

## 6.2 Responses to preparedness solutions put forward by the Deaf Community

Deaf Community participants recognise the need to take full advantage of a wide range of communication and telecommunication options mediums to effectively disseminate information about natural hazard risk levels, warnings, and instructions on what to do (Calgaro et al., 2013). They also recognize the important role social networks play in assisting them in times of need and the need to capitalize on existing strengths to further improve these linkages within and across communities. Consequently, the Deaf Community members in NSW have proposed a wide range of strategies they believe will increase their risk awareness and help them better prepare and respond to future natural hazards. The strategies and desired tools are grouped into four categories (see Calgaro et al., 2013 for details):

- a. Improving access to information (Table 8);
- b. Telecommunication needs (Table 9);
- c. Capacity building and educational actions (Table 10); and
- d. Strategies for building social and institutional capital (Table 11).

A review of these strategies and solutions reveals that many of these fall outside the jurisdictions (and therefore control) of the NSW emergency service organisations (abbreviated to ESOs for ease in Tables 8-11) and the Deaf Society of NSW - the partner organisations of this project. This is particularly the case with regard to the mobile and landline telecommunication solutions (Table 9) and the Internet, TV, TTY, and Fax solutions (Table 10) that the NSW Deaf Community has put forward. Accordingly, Table 12 lists those solutions that are the responsibility of the emergency services, the Ministry of Police and Emergency Services and the Deaf Society of NSW as the Deaf Community representative body. These solutions are the focus of this review \*\*. Some of the suggestions that feature in Table 12 are already in place (either fully or in part). These are highlighted using ***bold italics***. More details about the preparedness solutions that are already in place and preliminary responses to some of the new solutions listed in Table 12 are now discussed in more detail.

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\*\* The solutions and recommendations that are not included in Table 12 will be revisited at a later date with the appropriate organisations and government departments.

**Table 8: Solutions to improve access to information identified by deaf people**

Rank	Improving access to information	Response organisations
1	More visual hazard warning signs in public areas	NSW RFS, NSW SES, FR NSW
2	Central register system administered by emergency services/local councils for all those with disabilities to register contact details& needs	NSW RFS, NSW SES, FR NSW
3	More interpreters (Auslan & deaf-blind) during emergencies	Shared between ESOs and Deaf Society of NSW
4	Door-to-door updates by the emergency services or Deaf Liaison Officers during hazard events	NSW RFS, NSW SES, FR NSW
5	Access to GPS system that tracks weather conditions, road blocks and provides alerts on approaching natural disasters	NSW RFS, NSW SES, FR NSW
6	Need for plain text with pictures for written material	NSW RFS, NSW SES, FR NSW
7	Car radio services with scrolling hazard captions	To be investigated
8	Regular newsletters and pamphlets on natural hazard risk, preparedness, and response from councils/emergency services or Centrelink	NSW RFS, NSW SES, FR NSW
9	Deaf support organisations to disseminate natural hazard and emergency information	Deaf Society of NSW
10	Laser lights of updates for Hazards shown on wind-screens in cars	To be investigated
11	Visual hazard signs that state “if you see a bushfire or floods, please call this #” - would like the same in SMS format	NSW RFS, NSW SES, FR NSW

**Table 9: Mobile and landline telecommunication solutions to meet Deaf Community needs**

Rank	Mobile and landline telecommunication solutions	Response organisations
1	Establish a direct SMS “000” emergency contact number (no 3rd party - NRS or VRS)	Federal government
2	Receive SMS Emergency Warning Alerts from NSW emergency services	NSW RFS, NSW SES, FR NSW
3	Video Relay Service (VRS) to contact Emergency Services	NSW RFS, NSW SES, FR NSW
4	Access to SMS severe weather updates from weather bureaus	Bureau of Meteorology
5	Smartphone apps like Silent Tweets, RFS NSW Fires Near Me app	NSW RFS, NSW SES, FR NSW
6	Improve reception for mobiles especially in rural areas	Federal government
7	SMS “000” two way conversation contact number, not one way	Federal government
8	Government to subsidise or provide smartphones	Federal government
9	Improve affordability of better mobile and landline services (Telstra)	Federal government
10	Faster responses from NRS and VRS	Federal government
11	Training on use of smartphone and applications	To be investigated
12	Alert icon App that knows where you are if emergency situations	NSW RFS, NSW SES, FR NSW
13	24/7 VRS	National Relay Service
=14	131 500 transport line # for SMS	Transport for NSW
=14	“Chat” SMS app to emergency ‘000’ service like MSN	Federal government
=14	Bush telegraph via SMS	Federal government
17	Special information line # via SMS	Federal government

**Table 10: Internet, TV, TTY, and Fax solutions**

<b>Rank</b>	<b>Internet, TV, TTY, and Fax solutions</b>	<b>Response organisations</b>
1	All live TV news reports to have Auslan interpreting (that show full view of interpreter)	TV stations & Federal government
2	TV reports to have standardised & reliable captioning	Federal government
3	Central website providing emergency information for all disasters and hazards (in simple, plain English)	Ministry for Police & Emergency Services
4	Increase access to emergency Information through the Internet (Auslan videos, captioned videos)	NSW RFS, NSW SES, FR NSW
5	One central government emergency service website for people with disabilities	Ministry for Police & Emergency Services in partnership with NSW RFS, NSW SES, FR NSW
6	Use of social media through Internet (Facebook, Twitter)	NSW RFS, NSW SES, FR NSW
7	Have direct emergency numbers for TTY and/or fax as an alternative to phone and internet services	Federal government
8	24/7 specific TV channel with constant captions and Auslan interpreters for Deaf (good for people who do not have TTY, fax, or mobile phones)	Federal government
9	“Google” glasses to be used for relaying emergency information	To be investigated
10	Free or cheaper Internet Plans for Deaf People (half price discount)	Telecommunication networks
11	Foxtel to have newsflashes with captions and Auslan	Foxtel
12	Compulsory captioning on all public TV and public transportation screens (such as electronic screens in train stations)	Transport for NSW
13	Improve internet speeds in rural areas	Federal government
14	State based digital emergency notices through Tele-text and TV (such as Channel 46 NSW) and twitter feeds	Ministry for Police & Emergency Services (?)
15	Improve TV reception in rural areas for clearer picture on TV	Federal government
16	All TV news accessible online in Auslan and captions	Federal government
17	Information 131 500 line in pre-recorded video format to be made available online	Transport for NSW

**Table 11: Capacity building and educational needs and actions**

<b>Rank</b>	<b>Capacity building and educational needs</b>	<b>Response organisations</b>
1	Deaf Awareness Training for emergency services & public	Deaf Society of NSW in partnership with all ESOs
2	Regular hazard workshops for Deaf people	Deaf Society of NSW in partnership with all ESOs
3	Train emergency services on how to receive NRS calls from Deaf consumers	Deaf Society of NSW in partnership with all ESOs
4	Emergency Services to train Deaf people to work as ‘Deaf Liaison Officers’	All ESOs in partnership with the Deaf Society of NSW
5	Deaf Awareness Training for CEO’s and Politicians, TV news teams	To be investigated
6	Improve interpreter skills (via training) for emergency situations	Sign Language Communications (SLC) in partnership with all ESOs
7	Provide training for deaf people (particularly seniors) on how to access information on the Internet	Deaf Society of NSW with community organisations
8	Deaf Society of NSW needs more staff and provide 24/7 emergency support	Deaf Society of NSW
9	Train older generations on how to use smartphones and apps	To be investigated

**Table 12: Solutions for increasing support and information accessibility for Deaf people**

<b>Improving access to information</b>	<b>Response organisations</b>
More visual hazard warning signs in public areas	NSW RFS, NSW SES, FR NSW
Central register system administered by emergency services/local councils for those with disabilities to register contact details& needs	NSW RFS, NSW SES, FR NSW
More interpreters (Auslan & deaf-blind) during emergencies	Shared between ESOs and Deaf Society of NSW
<b>Door-to-door updates by the emergency services</b> or Deaf Liaison Officers during hazard events	<b>NSW RFS, NSW SES, FR NSW</b>
<b>Access to GPS system that tracks weather conditions, road blocks and provides alerts on approaching natural disasters</b>	<b>NSW RFS, NSW SES, FR NSW</b>
Need for plain text with pictures for written material	NSW RFS, NSW SES, FR NSW
Regular newsletters and pamphlets on hazard risk, preparedness, and response from councils/emergency services or Centrelink	NSW RFS, NSW SES, FR NSW
Deaf support organisations to disseminate natural hazard and emergency information	Deaf Society of NSW
Visual hazard signs that state “if you see a bushfire or floods, please call this #” - would like the same in SMS format	NSW RFS, NSW SES, FR NSW
<b>Mobile and landline telecommunication solutions</b>	<b>Response organisations</b>
Establish a direct SMS “000” emergency contact number (no 3rd party - NRS or VRS)	Federal government
<b>Receive SMS Emergency Warning Alerts from emergency services</b>	<b>NSW RFS, NSW SES, FR NSW</b>
Video Relay Service (VRS) to contact Emergency Services	NSW RFS, NSW SES, FR NSW
<b>Smartphone apps like Silent Tweets, RFS NSW Fires Near Me app</b>	<b>NSW RFS, NSW SES, FR NSW</b>
Alert icon App that knows where you are if emergency situations	NSW RFS, NSW SES, FR NSW
Central website providing emergency information for all disasters and hazards (in simple, plain English)	Ministry for Police & Emergency Services
Increase access to emergency Information through the Internet (Auslan videos, captioned videos)	NSW RFS, NSW SES, FR NSW
One central government emergency service website for people with disabilities	Ministry for Police & Emergency Services in partnership with NSW RFS, NSW SES, FR NSW
Use of social media through Internet (Facebook, Twitter)	NSW RFS, NSW SES, FR NSW
State based digital emergency notices through Tele-text and TV (such as Channel 46 NSW) and twitter feeds	Ministry for Police & Emergency Services (?)
<b>Capacity building and educational needs</b>	<b>Response organisations</b>
Deaf Awareness Training for emergency services & public	Deaf Society of NSW in partnership with all ESOs
Regular hazard workshops for Deaf people	Deaf Society of NSW in partnership with all ESOs
Train emergency services on how to receive NRS calls from Deaf consumers	Deaf Society of NSW in partnership with all ESOs
Emergency Services to train Deaf people to work as ‘Deaf Liaison Officers’	All ESOs in partnership with the Deaf Society of NSW
Improve interpreter skills (via training) for emergency situations	Sign Language Communications (SLC) in partnership with all ESOs
Provide training for deaf people (particularly seniors) on how to access information on the Internet	Deaf Society of NSW with community organisations
Deaf Society of NSW to provide 24/7 emergency support	Deaf Society of NSW

## *Deaf Community solutions for improving access to information*

**Central register system:** The Deaf Community are highly supportive of having a central register enabling them to directly inform emergency services of their location and contact information and their specific needs so that emergency services and first line responders will know in advance the resources they need to effectively assist Deaf people in emergency situations (Calgaro et al., 2013). As argued in the Synthesis Report (see Figure 2), ascertaining the number and location of Deaf people in a given area is a key challenge for emergency services, making it difficult for them to allocate the resources needed to support Deaf populations (Nick et al., 2009, Calgaro and Dominey-Howes, 2012). Having a register would help alleviate this problem.

There is a version of this proposed system currently operating in Victoria. It is highly specific and managed through the Victorian Department of Human Services in partnership with local councils. The NSW RFS and NSW SES have indicated that this type of system has been considered in the past but it is very difficult to implement and keep updated. Problems occur when the system is not updated and/or records (particularly addresses) are wrong. Those people who believe that they are registered will expect assistance that may never come due to missing or incorrect entries in the register making them more vulnerable to hazards. Therefore, there is little support from the NSW RFS and NSW SES for this initiative at this time.

**Provision of interpreters:** This could be a shared responsibility between the NSW SES, NSW RFS, FR NSW and the Deaf Society of NSW. However, further discussions are needed to explore how a shared arrangement would work and how it would be funded.

**Access to GPS system that tracks weather conditions, road blocks and provides alerts on approaching natural disasters:** Both the NSW RFS and NSW SES have GPS systems in place. For example, the NSW RFS's *Fires Near Me* smartphone and tablet application allows users to source information on and track fire incidents near them and across NSW (NSW Rural Fire Service, 2012). *Fires Near Me* also provides web links to Emergency Warnings.

**Need for plain text with pictures for written material:** As noted in Section 6.1, the NSW RFS support a shift from text toward a greater use of visual cues to increase understanding and accessibility of material presented in their written material.

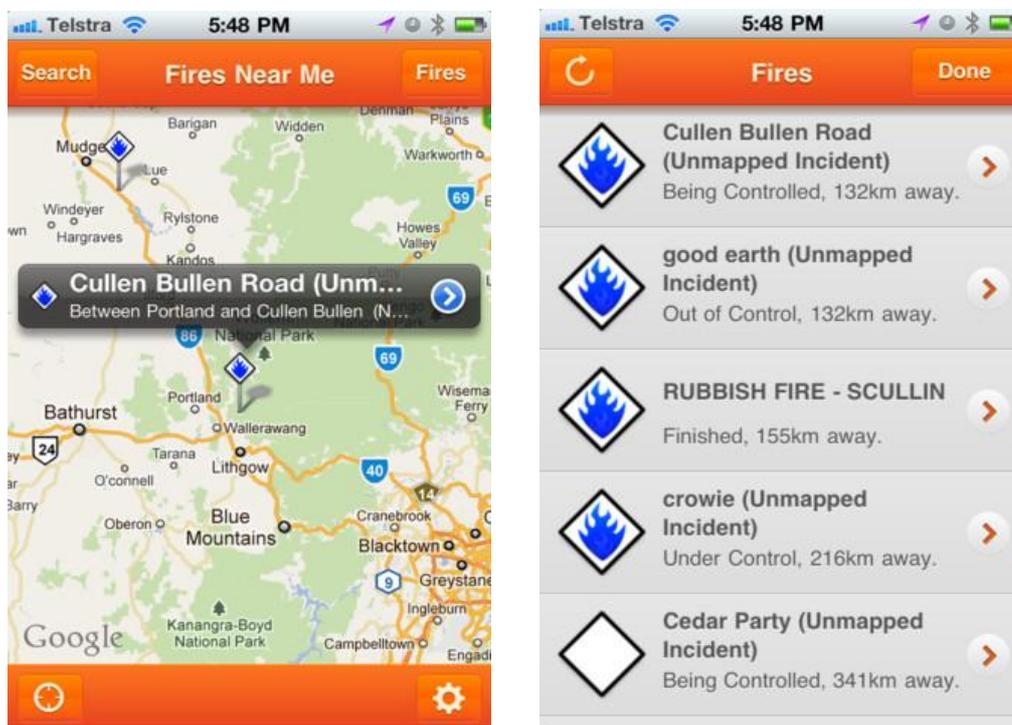
## *Mobile and landline telecommunication solutions to current needs*

**Access to SMS severe weather updates from weather bureaus:** It is understood that the Bureau of Meteorology are currently developing a smartphone application that will fulfill this need.

**Smartphone apps like *Silent Tweets* and RFS NSW *Fires Near Me* app & *Alert icon app that knows where you are if emergency situations*:** The NSW RFS have their *Fires Near Me* app (see Figure 11) and are considering introducing 'push' notifications for this app. In November 2013, the NSW RFS will also be launching the *Bushfire Survival Plan* smartphone & tablet app. This application is designed to assist residents in devising their own bushfire survival plan that will be available to them on their phone wherever they are.

**Increase access to emergency information through the Internet (Auslan videos, captioned videos):** As noted in Section 6.1, the NSW SES's *FloodSafe* Program does feature six Auslan videos explaining what to do before, during and after a flood event (<http://www.floodsafe.com.au/dea->

and-hearing-impaired). The *StormSafe* and *TsunamiSafe* webpages do not have Auslan videos at this stage. However, adding Auslan video content to the *StormSafe* for people living with deafness and hearing impairments webpage and *TsunamiSafe* program's webpage are options that are currently under consideration. The NSW RFS also support greater usage of Auslan videos and pictorial formats to improve accessibility.



Source: © NSW Rural Fire Service (2011)

Figure 11: Screenshots of the *Fires Near Me* smartphone application

### 6.3 Facilitating shared responsibility in emergency management in NSW

One of the main aims of this project was to increase the resilience of the Deaf Community to future natural hazards and disasters by improving access to and provision of emergency management information. Recommendations made in Section 5.2 (with particulars given in Box 7) and Table 12 (derived from the Deaf Community Experience, Knowledge and Needs Report) signify a significant step toward this goal. However, this research has also identified a deeper issue that is affecting the Deaf Community's ability to effectively respond to natural hazards. There is much confusion amongst Deaf people about what the emergency service organisations in NSW do and whose responsibility it is to assist them in the event of a natural hazard (Calgaro et al., 2013). As argued in Section 3, there is a potentially dangerous mismatch between what Deaf people expect emergency services to do for them in an emergency situation and the responsibilities emergency services are mandated to provide under the *NSW Disaster Plan* (Displan) and related national protocols (most notably the *Australian Emergency Management Arrangements* and the *Disaster*

*Response Plan or COMDISPLAN*). Many Deaf people believe that it is the responsibility of emergency services to ensure their safety and attend to them personally in the event of a natural hazard. Australian emergency management protocols stipulate the opposite. The mismatch between people's expectations for others to come to their aid in times of crisis and the mandated roles of community service organisations (most notably emergency services) not only causes misplaced frustration but also leaves people underprepared and highly vulnerable to hazard events. They will be waiting for assistance that might never come.

This passive position and expectation is also mirrored in the wider NSW population (Bohensky and Leitch, 2013, Box, 2013, Calgaro et al., 2013, Department of Premier and Cabinet, 2011, Leigh, 2006, Whittaker and Handmer, 2010). Those affected by natural hazards, however, are never simply passive victims; they are active agents who make choices based on multiple factors including risk perceptions, expectations, personal experiences, and cultural norms (Fordham, 1999, McLaughlin and Dietz, 2008). This finding clearly indicates that Australia's 'shared responsibility' approach to emergency management is not well understood by the Deaf Community in NSW or the general public, a point that needs redressing. ***There is therefore a need for shifting the public's (conscious or unconscious) perceptions from being wedded to a state of dependence and reliance to one of participation and empowerment.*** This shifted emphasis also aligns strongly with both the *National Strategy For Disaster Resilience* (Council of Australian Governments, 2011b) and Articles 9 and 11<sup>††</sup> of the United Nations' *Convention on the Rights of Persons with Disabilities* (UNCRPD) that Australia is a signatory of (Hans and Mohanty, 2006, United Nations Secretariat for the Convention on the Rights of Persons with Disabilities, 2006).

Effective risk communication and disaster preparedness strategies are inclusionary, decision-relevant, two-way, and they foster trust, awareness, mutual understanding (of both the issues and needs of different stakeholders) and motivation to act (Atman et al., 1994, Council, 1989, Kasperson et al., 2003, Ng and Hamby, 1997). Facilitating a shift from dependence and reliance to one of shared responsibility and empowerment requires an inclusive and multi-faceted approach that focuses on:

- Educating Deaf Community members on natural hazard risk in NSW and all aspects natural hazard risk management and their role in that shared process;
- Improving Deaf awareness amongst emergency services staff and professional officers through regular Deaf Awareness Training exercises. This aligns with both the second key aim of this project (see Section 1) and key recommendations made by Deaf Community members (see Table 11);

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<sup>††</sup> Article 9 of the United Nations' *Convention on the Rights of Persons with Disabilities* (UNCRPD) stipulates that signatories (which includes Australia) shall "take appropriate measures to ensure to persons with disabilities access, on an equal basis with others...to information and communications... [including] ...emergency services" (Hans & Mohanty, 2006). Article 11 of the UNCRPD states that signatories are required to "take...all necessary measures to ensure the protection and safety of persons with disabilities in situations of risk" (United Nations Secretariat for the Convention on the Rights of Persons with Disabilities, 2006).

- Building rapport, understanding, and trust between the Deaf Community and Emergency Services; and
- Building stronger linkages between Deaf support organisations (most notably the Deaf Society of NSW) and NSW emergency services in order to facilitate greater institutional cooperation and joint ownership of emergency management between emergency managers, community support organisations and community members at risk.

Drawing upon the collective recommendations made by Deaf Community members (see Table 12 and Calgaro et al., 2013) and emergency services personnel, we propose seven actions that are listed Box 8. Two of the key recommendations are discussed in more detail below.

#### *Appointment of a Deaf Liaison Officer*

The idea of having a Deaf Liaison Officer is well supported. The NSW SES are supportive of having Deaf community representatives working with them in some capacity (i.e. Deaf Liaison Officers) as this recommendation acknowledges that emergency management is a shared responsibility requiring active cooperation between emergency service organisations and the communities that they are charged to support (but not take sole responsibility for). This would also help Deaf Community members become active agents in emergency management.

The NSW RFS are supportive of this suggestion in principle but are not currently in a position to host a 'Deaf Liaison Officer' at the NSW RFS because of other priorities that they are already committed to. The NSW RFS have proposed an alternative solution that might better fit in to current emergency services structures and modes of operation. The proposal offers a two-step solution: begin with establishment of the Deaf advisory committee or 'reference group' and then move onto training a Deaf Liaison Officer in collaboration with the NSW SES and FR NSW.

#### *Deaf support organisations to act as intermediaries between emergency services and the Deaf Community*

Deaf Community members and the emergency services partners strongly support the strengthening of institutional linkages and cooperation between the emergency services and Deaf support organisations (particularly the Deaf Society of NSW). Lessons taken from the past experiences of Deaf people in coping with hazards suggest that Deaf/deaf support organisations are well placed to help facilitate greater access to the resources Deaf people need to cope with the impacts of the events and recover afterwards.

## Box 8: Recommendations for facilitating shared responsibility in emergency management

### IMPROVING HAZARD PREPAREDNESS FOR DEAF COMMUNITY MEMBERS

- **Regular natural hazard workshops for Deaf people** (presented in Auslan) to be provided throughout NSW by the emergency services (NSW RFS, NSW SES, FR NSW - working together) with support from the Deaf Society of NSW and Deaf Liaison Officers (see below). Content to include: identification of natural hazard risk in NSW, the roles and responsibilities of emergency service organisations (within the context of the Australia's emergency management policies and practices), and the steps people need to take to better prepare and respond to future hazard events (see Calgaro et al., 2013 for more details).

### INCREASING DEAF AWARENESS AMONG EMERGENCY SERVICES STAFF AND SUPPORT PERSONNEL

- **Regular Deaf Awareness Training** for emergency services personnel, first-responders and volunteers working on the ground during a hazard event, government officers with emergency management response responsibilities, and the general public. To be provided by Deaf Society of NSW in partnerships with emergency services (NSW RFS, NSW SES, FR NSW - working together) and Deaf Liaison Officers (see Calgaro et al., 2013 for more details).

### BUILDING RAPPORT AND TRUST BETWEEN DEAF COMMUNITY MEMBERS AND EMERGENCY SERVICES

- **Emergency services to train and appoint a Deaf Liaison Officer** to work in partnership with emergency services and the Deaf Society of NSW to improve Deaf people's access to and comprehension of emergency and disaster preparedness information and resources. This person would be a trusted and culturally sensitive liaison that could successfully link the Deaf Community and the emergency services and build much needed trust, mutual understanding and rapport. This position could be for a shared officer (either between NSW RFS, NSW SES and FR NSW only or between all three ESOs and the Deaf Society of NSW. For specifics on possible roles see Calgaro et al. (2013);
- **Create a Deaf advisory committee** to work with the emergency services (together or separately) and government on ways to increase disaster preparedness and resilience to natural hazard events and to discuss issues as they arise. Emergency services personnel could meet with this committee twice a year, for example, before and after bush fire season.

### BUILDING INSTITUTIONAL PARTNERSHIPS AND CAPACITY

- **Create a formal link between the Deaf Society of NSW and the emergency service organisations** (NSW RFS NSW SES and FR NSW) to build and strengthen institutional partnerships and facilitate collaborative initiatives designed to empower Deaf Community members to be active agents in their own preparedness. Possible roles for the Deaf Society could include:
  - Being a conduit between NSW emergency services and the Deaf Community to facilitate appropriate channels of communication using established networks and client lists;
  - Hosting a webpage on their website (or a link to either an external 'all hazards' preparedness website or individual ESO websites) that provides Deaf people with information and advice in Deaf-accessible formats on: how to prepare and respond to different hazard events; who to contact to get access to resources people need during and after hazard events; and providing contact details of the Deaf Liaison Officer (if appointed);
  - Work with the emergency services to ensure that emergency services and first responders have the resources they need (e.g. access to interpreters or Deaf counsellors if needed) to properly support Deaf people during and after live events.
- **Provision of more Auslan interpreters during emergency events.** This could be a shared responsibility between the NSW emergency services and the Deaf Society of NSW. However, further discussions are needed to explore how shared arrangements would work and funding sources;
- **Improve Auslan interpreter skills for emergency situations.** This could be a collaborative effort between Sign Language Communications (SLC) and all three the emergency services organisations

Following the Christchurch earthquakes in 2011 and 2012, Deaf Aotearoa (New Zealand's principal Deaf/deaf support organisation) took the following actions in cooperation with emergency services to ensure deaf people received the support they needed (Calgaro et al., 2013):

- Established a list of deaf people in the affected areas and contacted these people on a regular basis to ensure that they were okay;
- Organised counselling for Deaf Community members;
- Scheduled specific consultation times (via SMS) when Deaf people could communicate with emergency services personnel via a team of Deaf Aotearoa interpreters about the state of and availability of basic services (water, sewage), where the emergency centres were located, and what to do in the event of aftershocks and how to prepare for future events; and
- Partnered with the emergency services in providing Deaf people with constant updates as the event unfolded (including the supply of interpreters in media broadcasts) and during the initial stages of the recovery process. This ensured people could receive information updates and instructions on what to do and how to better prepare themselves.

These actions demonstrate the important role Deaf/deaf advocacy and support organisations can have in creating spheres of safety, trust and providing effective support for deaf people in emergency situations. They possess intimate knowledge of the Deaf culture, deaf people's needs, and often have access to established Deaf and hearing networks and organisations that can help source social, human, and financial resources that people need to cope and recover. They are a natural facilitating link between Deaf/deaf individuals and the services (deaf-specific or general) and resources that deaf people need to effectively cope and respond to natural hazards. The actions of Deaf Aotearoa could be used as a model for NSW Deaf/deaf advocacy and support organisations to follow. Other humanitarian NGOs like the Red Cross also distributed donations and emergency provisions in the immediate aftermath of the disaster<sup>19</sup>.

The Deaf Society of NSW, as the main support organisation for Deaf people in NSW, is a prominent source of information and assistance for the community it serves. Community members therefore feel that it (like other Deaf support organisations) is well-placed to be a source for preparedness information and support for them during live natural hazard events - Deaf people already naturally turn to them for help. The Deaf Society could email material to those on its existing client lists.

## 7 Conclusions

In this Assessment we have examined the capacity of the NSW emergency services (NSW RFS, NSW SES and FR NSW) to effectively communicate key natural hazard risk and preparedness messages to Deaf people and provide appropriate support to help them respond to events. To do this we used a 3-step approach. We:

- a. Undertook a brief review of emergency management policies and plans to provide the structural context within which NSW emergency service organisations operate;
- b. Reviewed the existing community programs and tools that the NSW RFS, NSW SES and FR NSW have to ascertain how accessible these are to Deaf people; and
- c. Assessed the capacity of the emergency services to:
  - Action our recommendations (presented in Section 5.2) aimed at improving the accessibility of their current community risk preparedness programs and tools; and
  - Implement the range of resilience building strategies that the NSW Deaf Community proposed as part of the Deaf Community Needs Assessment (Calgaro et al., 2013).

The review of Australia's emergency management system, along with the policies and plans that support this system, reveals that the system is highly top-down and reflects the country's constitutional arrangements, whereby the States and Territories have the constitutional responsibility for protecting the lives and property of their citizens (Emergency Management Australia, 2009). But response and recovery arrangements are graduated from the bottom up, beginning with the individual affected by the hazard. That said, emergency management in Australia is also a shared responsibility between all stakeholders (emergency services, government community representative groups, the private sector and the public) and requires participation and cooperation to fully function. There are no specific arrangements for Deaf/deaf or hard-of-hearing people. However, the introduction of a special set of emergency management guidelines for people with disabilities (*Communicating with People with Disability: National Guidelines for Emergency Managers*) does indicate a shift towards a more inclusionary approach that facilitates wide-spread participation, community empowerment and stresses the need for clear communication of risk and appropriate responses.

Our review of the existing emergency services community hazard risk and preparedness programs clearly shows that the NSW emergency services are highly conscious of and committed to communicating effectively with and supporting the very diverse NSW public, which includes the Deaf Community. Whilst the NSW RFS, NSW SES and FR NSW do not currently have any natural hazard preparedness programs that specifically cater to the needs of Deaf, there are 19 programs and communication tools that are either 'Deaf-friendly' or have elements that may be Deaf appropriate. This creates a solid platform for producing communication materials and strategies that both meet the needs of Deaf people whilst taking full advantage of innovation and communication capacities that the emergency services already have.

Preliminary outcomes of the Institutional Capacity Assessments undertaken by the NSW RFS and NSW SES also indicate that both organisations are largely supportive of the recommendations aimed at increasing Deaf people's accessibility to their current community programs and communication materials (Section 5.2). Encouragingly, there is also tentative support for some of the resilience building strategies that the Deaf Community identified in the Deaf Community Needs Assessment.

However, this research has also identified a deeper issue that is affecting the Deaf Community's ability to effectively respond to natural hazards. There is much confusion amongst Deaf people concerning the responsibilities that emergency service organisations have in supporting the community. There is a potentially dangerous mismatch between what Deaf people expect emergency services to do for them in an emergency situation and the responsibilities emergency services are mandated to provide. This is not a Deaf-specific problem; it is mirrored in the wider NSW and Australian population. This mismatch not only causes misplaced frustration but also leaves people underprepared and highly vulnerable to future hazard events. This finding clearly indicates that Australia's 'shared responsibility' approach to emergency management is not well understood by the Deaf Community in NSW or the general public, a point that needs redressing. *There is therefore a need for shifting the public's (conscious or unconscious) perceptions from being wedded to a state of dependence and reliance to one of participation and empowerment.* In light of this, we have also included several strategies for facilitating shared responsibility in emergency management in NSW in our list of recommendations presented here.

That said, we would like to stress that the recommendations made in this report and the dialogue that contributed to the formation of these recommendations only marks the start of a longer process. Building community resilience to natural hazards requires mutual understand, trust, strong cooperative partnerships and sustained engagement between the emergency services, Deaf support organisations and Deaf Community members. We hope that the information here provides a solid platform for future discussions and progress in generating greater cross-cultural understanding and advancing resilience within the Deaf Community.

### **With thanks:**

We would like to thank the Deaf Society of NSW, the NSW State Emergency Service, Fire and Rescue NSW, and the NSW Rural Fire Services for their generous advice, guidance, and input in the design and implementation of this collaborative project. We would also like to thank the NSW State Government for supporting this initiative.

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## Appendix 1



**UNSW**  
THE UNIVERSITY OF NEW SOUTH WALES

### PROJECT WORK PLAN

**TITLE:** Increasing the resilience of the Deaf Community in NSW to natural hazards and disasters

**PROJECT PARTNERS:** The Deaf Society of NSW (DSNSW), the NSW State Emergency Service (NSW SES), the NSW Rural Fire Service (NSWRFS), the Fire Rescue NSW (FR NSW) and the ATNHRL, UNSW

In order to successfully deliver this project, a detailed work plan is required. This plan takes account of the stated aims and objectives of the proposal and the available timeline and budget. The aims and objectives of the project are provided followed by 'step-by-step' work tasks, description of methods, reference to who completes the work, the milestones and the deliverables.

#### **AIMS:**

*1 - increase the resilience of the Deaf Community to future natural hazards and disasters via improved access to and provision of emergency management information; and*

*2 – increase the effective resources of NSW emergency service organisations enabling them to deliver their core business (to the Deaf Community) and to improve the deaf awareness for staff and professional officers within those organisations.*

The aims will be achieved via the successful delivery of the following objectives:

#### **OBJECTIVES:**

1 – to undertake consultation workshops and to conduct face-to-face interviews with representative members (and stakeholders) of the Deaf Community to determine:

- (a) present awareness of the Deaf Community to natural hazard and disaster risk in NSW;
- (b) to identify the current sources of information used by the Deaf Community to help prepare for emergencies and to respond appropriately in hazard/disaster situations;
- (c) to investigate the preferred forms of 'communication' that will meet the needs of the Deaf Community during live emergency situations in the future; and
- (d) to analyse existing capabilities of the NSW emergency service organisations (specifically, the NSW SES, the NSW RFS and FR NSW) to deliver risk information and warning messages to deaf people across NSW.

(a) to (d) constitute the fundamental research questions of this project.

2 – to use the results generated from Objective 1 to devise a range of information communication sources/materials and strategies to meet the needs of deaf people in NSW;

3 – to trial and test various communication and information sources for selected (high probability) hazard scenarios in NSW with deaf people in NSW; and

4 – to assist the NSW SES, the NSW RFS and the FR NSW devise and implement a communication strategy to specifically cater for the needs of deaf people in NSW.

***Step-by-step Tasks, Project Timeframe, Methods, Milestones and Deliverables:***

In order to successfully deliver the project, it is divided into a sequence of steps with associated 'Tasks'. The tasks will be completed within specific timeframes. Appropriate methods and tools will be applied to the relevant steps/tasks and particular deliverables will be produced at specific milestones in the project. These are detailed in the text that follows and graphically illustrated in the accompanying Table.

1 – Establishment of an Advisory Committee (Co-Chaired by a representative of the NSW SES and the Deaf Society of NSW) to guide the project. The committee should be manageable in size and comprise appropriate representatives of all relevant stakeholder organisations. The Committee should be able to adequately meet on a regular basis (e.g., monthly) and guide the research to keep the project on track and ensure it meets its objectives;

2 – Appointment of a suitably qualified Research Fellow with experience in mixed methods, quantitative and qualitative social science and human geography research using questionnaire survey instruments, face-to-face interviews (in-depth, open and closed questions, semi-structured), leading workshops/forums and with appropriate statistical and other (e.g., qualitative coding software – Nvivo, Chi squared, t-test, parametric and non-parametric statistics etc) analytical techniques. A strong knowledge of social processes, human geography, hazard, risk and vulnerability sciences and the principles of emergency risk management are fundamental requirements. Knowledge of Auslan would be a distinct advantage (or capacity/willingness to learn). The ideal candidate will have a PhD in a relevant discipline field. The UNSW Enterprise Agreement conditions state that for such a position, appointment at Level A, step 6 is most appropriate. This salary scale (and its Year 2 incremental rise to step 7 (plus planned 6% pay rise for that step)) are reflected in the budget requested. Hereafter, this person will be referred to as the "Research Fellow (RF)";

3 – RF to undertake a detailed background literature review to examine existing literature and policy context and official protocols in relation to communicating risk management information to the Deaf Community. This should focus on both the domestic situation in Australia (with a particular focus on NSW and other State emergency service organisations) and internationally (e.g., US weather service etc). This will provide a benchmark of existing ‘best practice’;

4 – RF to develop appropriate social survey questionnaires (open and closed question for quantitative and qualitative analyses) for interviewing participants about existing hazard and risk awareness in NSW and sources of risk management information. Questionnaire development (and testing/trialling) to take account of latest best practice and knowledge of risk management social surveying (e.g., Bird, 2009). Project to consider use of on-line free questionnaire survey tools (e.g., Survey Monkey) and hosted on the NSW SES and DSNSW web sites to increase total number of surveys. The interviewing will take place in two forms: (1) community consultation forums (multiple persons participating). There will be eight such community forums (3 in the Sydney metro region) and 5 in the regions and rural areas. The exact locations of these community forums will be guided by the distribution of existing Deaf Society of NSW regional areas (together with their local networks) and the NSW SES regions. This will ensure efficiency and congruence between Deaf Society of NSW offices and NSW SES regions/units. From the forum participants, *circa* 200 people will be asked to participate in detailed one-on-one, face-to-face interviews with the RF to obtain more detailed qualitative knowledge relevant for supporting evidence based decision making and policy development and implementation. The results of the forum and face-to-face interviews will be added to the results of surveys completing using the on-line Survey Monkey questionnaire increasing the overall number of participants consulted;

5 – RF (together with Auslan interpreters) and a Deaf Society of NSW Deaf Facilitator to undertake community consultation forums and face-to-face interviews with deaf participants. Results to be collated, coded and analysed using quantitative (statistical) techniques for pattern identification and qualitative techniques (e.g., Nvivo) to provide rich, contextual information on hazard awareness, information needs, current information access protocols and preferred forms of communication;

6 – RF to prepare document/report detailing preferred communication types/styles and protocols (preferred by the Deaf Community) for receiving official warnings and other risk management information during emergencies;

7 – RF in partnership with emergency service organisations, to undertake analysis of existing capabilities of those organisations to communicate with members of the Deaf Community during crises and emergencies. This will include policy and protocol analysis, skills audits and alike to identify current practices and gaps in capacity;

8 – Develop and trial various emergency communication strategies for selected hazard/disaster scenarios.

## Timeframe of project, work tasks, methods and management

Work tasks	Timeframe					Comments & Notes	Deliverables & Milestones
	0 – 6 months	6 – 12 months	12 – 18 months	18 – 24 months	24 months onwards		
Project Management						Management to occur throughout project supported by Research and Finance Managers at the ATRC-NHRL, UNSW. All project partners to be consulted on major project decisions	Project to be completed on time and to budget
Establishment of project Advisory Committee						All project partners have already committed to membership of this Advisory Committee. Should be Co-Chaired by NSW SES and Deaf Society of NSW	Project to be completed on time and to budget
Appointment of suitably qualified Research Fellow						As soon as possible after project funds awarded. (At UNSW Level A, step 6)	To lead the research and to develop products, reports, publications and materials
Synthesis of previous work (including literature review, policy and practice synthesis)						Standard literature review of available materials and previous work – to also take account of NSW SES, NSW RFS and FR NSW policies	Deliverable = “ <b>Synthesis Report</b> ” Milestone 1 = @ 6 months
Develop, test and implement questionnaire survey via consultation forums and face-to-face interviews (plus analysis of results)						This achieves Objective 1a, b & 1c	Deliverable = “ <b>Questionnaire survey and question bank</b> ” Milestone 2 = @ 6-9 months  Deliverable = “ <b>Preliminary results Report</b> ” Milestone 3 = @ 12 months
Undertake emergency service organisation capability assessment in relation to communication with Deaf Community						In reality, this task to be completed by about 15 months in to project and commences soon after RF appointed This achieves Objective 1d	Deliverable = “ <b>Capability Report</b> ” (confidential for benefit of sponsoring organisations)  Milestone 4 = @ 15 months
Develop, trial and evaluate alternative communication materials and strategies						This achieves Objectives 2 & 3	Deliverable = “ <b>Hazard scenarios &amp; communication materials</b> ”  Milestone 5 = @ 18 months
Develop emergency service organisation communication protocols, materials and strategies (e.g., with NSW SES etc)						This achieves Objective 4	Deliverable = “ <b>Strategies &amp; Protocols</b> ”  Milestone 6 = @ 24 months
Project write-up							Deliverable = “ <b>Final Report</b> ”  Milestone 7 = @ 24 months
Results dissemination and communication to the wider community (including all emergency service organisations in NSW and Australia) & the Deaf Community						Project successfully completed	Deliverables = “ <b>Knowledge notes, Communication Briefs, Newsletters, journal publications etc</b> ”  Milestone 8 = as appropriate