COMMUNICATING AND WARNING: GETTING THE MESSAGE ACROSS MORE EFFECTIVELY

Andrew Richards – NSW State Emergency Service
Andrew Gissing – Bushfire and Natural Hazards CRC, Risk Frontiers
Tony Jarrett – NSW Rural Fire Service
Prof Kevin Ronan – Bushfire and Natural Hazards CRC, CQUniversity
Fiona Dunstan – Country Fire Service South Australia
Prof Vivienne Tippett – Bushfire and Natural Hazards CRC, Queensland University of Technology
Julie Fielder – Horse SA
Dr Mel Taylor – Bushfire and Natural Hazards CRC, Macquarie University
ANDREW GISSING, CRC RESEARCHER, RISK FRONTIERS
### Australia’s top five natural hazard killers

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Period of coverage</th>
<th>Fatalities</th>
<th>High Risk States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extreme heat(^1)</td>
<td>1900-2011</td>
<td>4,555</td>
<td>Vic, NSW, SA</td>
</tr>
<tr>
<td>Flood(^2)</td>
<td>1900-2015</td>
<td>1,859</td>
<td>Qld, NSW (NT)</td>
</tr>
<tr>
<td>Tropical cyclone(^4)</td>
<td>1900-2015</td>
<td>1,216</td>
<td>WA, NT, Qld</td>
</tr>
<tr>
<td>Bushfire(^3)</td>
<td>1900-2011</td>
<td>825</td>
<td>Vic, NSW, SA</td>
</tr>
<tr>
<td>Wind storm(^4)</td>
<td>1900-2015</td>
<td>525</td>
<td>NSW, Vic, Qld</td>
</tr>
</tbody>
</table>

\(^1\) Coates et al., 2014  
\(^2\) Haynes et al., 2016  
\(^3\) Blanchi et al., 2014  
\(^4\) Recent updates to PerilAUS (May)
Flood fatalities from 1900...
ANDREW RICHARDS, NSW STATE EMERGENCY SERVICE AND LEAD END-USER
A costly decision.
In more ways than one...

By Tom.
TONY JARRETT, NSW RURAL FIRE SERVICE AND END-USER

AND

PROF KEVIN RONAN, CRC PROJECT LEADER, CQUNIVERSITY
ST IVES NORTH PUBLIC SCHOOL
INCORPORATING THE KU-RING-GAI UNIT FOR GIFTED & TALENTED
NSW RFS working in schools communities

We had massive ideas!
Students finding solutions to bush fire problems.
FIONA DUNSTAN, COUNTRY FIRE SERVICE SA, END-USER

AND

PROF VIVIENNE TIPPETT, PROJECT LEADER, QUEENSLAND UNIVERSITY OF TECHNOLOGY
CRC 1:

MAXIMISING IMPACT - RISK AND WARNING COMMUNICATIONS
# Transdisciplinary Research

<table>
<thead>
<tr>
<th>Communication, risk and behaviour</th>
<th>Law</th>
<th>Emergency management</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Dr Dominique Greer</td>
<td>• Prof Sharon Christensen</td>
<td>• Prof Vivienne Tippett</td>
</tr>
<tr>
<td>• A/Prof Amisha Mehta</td>
<td>• Prof Bill Duncan</td>
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<tr>
<td>• Dr Paula Dootson</td>
<td>• A/Prof Amanda Stickley</td>
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</tbody>
</table>
CRC1: PROBLEMS AND OPPORTUNITIES

- Evidence-based communication
- Compliance v deviance
- Decision-making
- Diverse audiences
MULTIMETHOD APPROACH

• Close End-user consultation
• Social media traffic analysis
• Community focus groups
• Message compliance experiments
• Eye tracking studies
• Business owner focus groups
MESSAGE COMPLIANCE EXPERIMENTS
KEY FINDINGS

- Emergency messages can be optimised
  - Be very specific with instructions, avoid operational and technical terms
  - Assume preparation begins in the response phase & adjust instruction timing accordingly
  - Stylised messages increase intent for desirable protective actions
  - Message order matters
  - High gaze reference to further information section
  - Images can assist but must be congruent

- Social Media can be effective
  - Facilitates extra precision to updates/instructions
  - Introduce #official to indicate a trusted source
  - Facilitates ground truthing

- Responsibilities for specific community subsets eg: business’s
  - How to best ‘cascade’ information for these users
CRC 2: BUILDING ON THE EVIDENCE

- Trust
- Multi-agency messages
- Ambiguity
- Readiness to act
FIONA DUNSTAN, COUNTRY FIRE SERVICE, END-USER
SA CFS MESSAGES

- National Framework Scaled Advice and Warnings
- Regional Public Information and Warnings
- Messages generated through CRIIMSON
- Pushed to multiple outputs
  - CAP-AU compliant
  - CFS website
  - Social Media
  - Emails
  - RSS feeds
  - Alert SA website and App
SACFS COMMISSIONED RESEARCH

• BNHCRC Research
• McGregor Tan
• SA Fires
  • 2013-2014 Rockleigh Fires (x 3)
  • 2014 Bangor Fire
  • 2014 Eden Valley Fire
  • 2015 Sampson Flat Fire
  • 2015 Pinery Fire

• QUT research - Message Comprehension
REVIEW – MESSAGE COMPREHENSION

Message Type

Issued for ... towns ...

Critical call to Action

Map

More detailed actions

Next message update

For more information
Warning Message

Bushfire Watch and Act Message

Message ID: 0000951
Time Message Issued: 16:37
Date Message Issued: 17/01/2017

Fire Origin / Fire Name: WATERLOO

Issued for Waterloo

CFS advises that the bushfire burning at Waterloo in the Mid North, East of Waterloo and West of Robertstown, near Quinns Gap Rd, River Source Rd, Tothill Belt Rd, Ngapala Rd, Mollers Gap Rd, Webbs Gap Rd and Exchange Rd may change direction and threaten your safety.

If you are in this area you are in danger. The situation is changing quickly. There is a risk to your life and property.

Check and follow your Bushfire Survival Plan. If you are not prepared, leave now.

CFS expects a change in the wind direction between now and 6 pm. This may cause the fire to change direction and move towards the area North East of Waterloo near Tothill Belt Rd, Ngapala Rd, Mollers Gap Rd, Webbs Gap Rd and Exchange Rd.

You should not enter this area as the roads may not be safe.
Shapes on this map image indicate the Warning Area to which this message applies. **BLUE**: Advice Message; **YELLOW**: Watch and Act Message; **RED**: Emergency Warning

Well prepared and actively defended homes can offer safety.

Stay tuned to your local ABC on a battery-powered radio for updates.

For information about bushfires, check the CFS website [www.cfs.sa.gov.au](http://www.cfs.sa.gov.au) or call the Bushfire Information Hotline on 1300 362 361.

Message Ends

**This message will be updated once the situation changes or by:** Jan 17 2017 18:29
SAMPLE CONTENT

Stay informed

Look and listen for information on television, radio, internet, mobile phones and by speaking with neighbours.

- CFS website www.cfs.sa.gov.au
- Bushfire Information Hotline 1300 362 361
- For hearing or speech impaired users, phone 1300 555 727 then ask for 1300 362 361
- For teletype service TTY 133 677 then ask for 1300 362 361.
- Alert SA app
- CFS on Facebook or Twitter
- On local ABC radio, FIVEaa, or one of our other Emergency Broadcast Partners
- Alert SA website www.alert.sa.gov.au

Do not rely on a single source for emergency warning information.
JULIE FIEDLER, HORSE SA, END-USER

AND

DR MEL TAYLOR, PROJECT LEADER, MACQUARIE UNIVERSITY
MANAGING ANIMALS
IN DISASTERS
ANIMAL EMERGENCY MANAGEMENT IN AUSTRALIA

An audit of current legislation, plans, policy, community engagement resources, initiatives, needs, and research dissemination.

EXECUTIVE SUMMARY

Dr Neil Walker**, Greg Eltman**, and Megan McCullough*

* Macquarie University
** RSPCA Queensland
* Western Sydney University
* Bushfire and Natural Hazards CRC
Your voice, their lives.

Animals in Emergencies Survey
Blue Mountains & surrounding areas
Managing Animals in Disasters
MAiD

Horse SA
Advocate- Communicate-Educate

A non-profit community organisation established in 1999.

Working with and for horse owners and organisations on a wide range of common interest topics including horse keeping, community facilities, biosecurity, welfare, emergency preparation.
How the research has helped Horse SA

Like a signpost:

To grow understanding about the interface between people and animals in relation to disasters

To gather evidence, which is in turn, utilised for government advocacy and grant submissions

To give direction to our future work, including how to ‘shape’ messages, with animals becoming the trigger to take action
For example:

That there has been some success with the number of horse owners undertaking bushfire planning, but education needs to continue. Education partners include CFS, SES.

Advocacy/submissions: PIRSA for the ‘Animals in Emergencies’ planning

Build case for investment into horse owners education e.g. My Horse Disaster Plan and soon to come, online awareness course for horse owners related to large animal rescue.
Large Animal Rescue

‘LAR is clearly a ‘big deal’ to animal owners, emergency response personnel. The management of large animals during disasters creates difficult operational environments that present several challenges to emergency responders.’

“As a fire service our priority is people’s life and obviously many people have significant bonds to animals, which cause A LOT of stress and angst during incidents like fire and floods”.

• ‘while large animals present challenges to rescue due to their size and weight, planning and co-ordination can be of more use than brute force and urgency’

• ‘while responders may be in leadership positions during rescues, the rescue can be effected by their communication style and approach with owners and veterinarians’

Helping Hands, Hurting Hooves: Large Animal Rescue

What’s the Big Deal? Responder Experiences of Large Animal Rescue in Australia
Contact:
Julie Fiedler
Executive Officer
Horse SA
C/o Adelaide Hills Business Centre
82 Onkaparinga Valley Road
Woodside South Australia 5244
Email: horsesa@horsesa.asn.au
www.horsesa.asn.au
Mob: 0402 488 306

‘Wilson’
Kirsty Dudley
ANDREW RICHARDS, NSW STATE EMERGENCY SERVICE AND LEAD END-USER

• Where to now?
• What does the future hold?