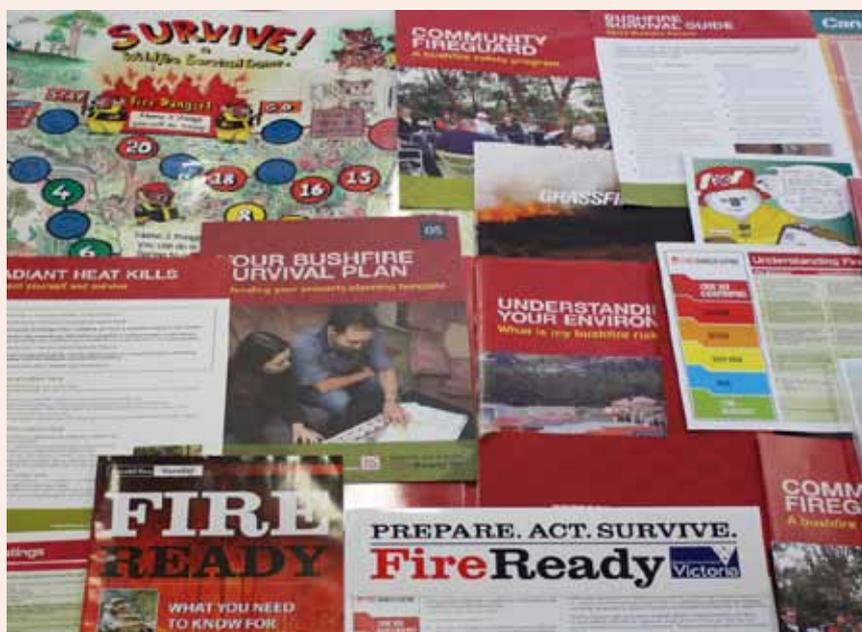


# FIRE NOTE

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## MAKING KNOWLEDGE VISIBLE COLLECTING AND COLLATING BUSHFIRE COMMUNICATION PRODUCTS



▲ Communications products that have been collected from Western Australia, Victoria, Tasmania and New South Wales.

### SUMMARY

This *Fire Note* explains the importance of a knowledge management system for the analysis and future development of bushfire communication products. It shows the potential that such a system offers to fire agencies, and outlines how the creation of a knowledge management system supports the *Effective Communication: Communities and Bushfire* project and broader bushfire research.

### ABOUT THIS PROJECT

The *Effective Communication: Communities and Bushfire* project is part of the Bushfire CRC *Communicating Risk* program. The project explores community networks to analyse how they may facilitate the understanding of, and response to, bushfire communication.

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### DEFINITION

Bushfire communication products are all forms of communication between agencies and residents in regard to bushfire.



### BACKGROUND

Communication products are significant assets to an organisation. One of the aims of the *Effective Communication: Communities and Bushfire* project is to investigate and assist in shaping communication strategies, as well as educational programs, key messages and delivery modes to help increase bushfire preparedness. Part of the research to fulfil this aim has been the collection and analysis of bushfire communication products from a variety of agencies across Australia.

Initially, the collection of products took place during fieldwork in Victoria. During interviews and field visits, agencies provided samples of material that had been distributed to residents. Residents interviewed as part of the case studies also pointed to the bushfire preparedness material they had received from agencies, and gave accounts of the sources of their knowledge. The collection process also captured letters from a State Premier and the Fire Services Commissioner. This collection of bushfire communication products reflected the form of public engagement and circumstances in which the communication products were usually deployed.

The range of communication products identified included DVDs, information pamphlets, bumper stickers, refrigerator magnets and presentations during public meetings. This initial research provided a snapshot of the broad range of bushfire communication products in use. Following the success of the Victorian pilot study, a systematic approach was developed to collect bushfire communication products across Australia. This extension has allowed for a more complete collection process and allowed for the comparison of materials across agencies and localities.

## Data collection

The methods used in the data collection process involved: directly approaching agencies; collection during fieldwork visits; and searches of newspapers and agency websites. As the case studies are based in Western Australia, Victoria, Tasmania and New South Wales, communications products were mainly collected during field research in these localities. This field based approach had the advantage that it identified both the formally endorsed products of the agencies and the informal products that might have been tailored within a local area.

Outside the four selected states, collection of the communication material was achieved by approaching agencies. Therefore, the collection of materials for localities outside the selected states contains only the structured agency products, rather than any informally developed products.

The importance of collecting and collating bushfire communication products has been highlighted during interviews with agency personnel conducted by the project team. It was determined, with significant input from the project's lead end user John Schauble of the Fire Services Commissioner's office (Victoria), that the collection and collation of communication products would form not only the basis for further research, but could potentially provide a useful repository for agencies to more easily compare and contrast the approaches of colleagues in other areas.

## Engaging agencies in data collection

Agencies approached for their communication products included the Country Fire Authority in Victoria, the Department of Fire and Emergency Services in Western Australia and the New South Wales Rural Fire Service. State governments, local governments and government-run health services were also approached. Agencies expressed positive responses to the project and willingly provided materials, although some jurisdictions noted that collecting materials was a time consuming task, demonstrating the amount of material available.

Interestingly, the collection of the products included out-dated material, a situation that arises because many local brigades store bundles of printed material and use these when the opportunities arise. Even though new versions of the text may be issued, it was often seen as a waste to throw out the old (out-dated) material. The circulation of out-dated material may also be compounded by the use of products that commonly do not carry a date stamp or formal unique identification to assist in version control. It is hoped the identification of these issues and development of a more formal repository for bushfire communications products may help to address this.



▲ An example of some of the communication products collected.

## DEVELOPMENT OF A COMMUNICATIONS REPOSITORY – THE GRID

The collection of a range of bushfire communications products in 2011 has led to the establishment of a repository to house and catalogue the materials. Details of the communication products were maintained initially using a Microsoft Excel spreadsheet. Hard copies of the communication products were scanned and stored electronically and where the product was too large for scanning, a photograph was taken. The spreadsheet provides a basic system of indexes; each entry was linked to the relevant communication product. In effect, this provides a rudimentary document management system using the spreadsheet headings as categorisation tools or metadata. This allows for tagging of products with specific themes and will enable more useful and targeted searching of the tool in the future. To indicate the spreadsheet and collection of materials is now more than just a database, it is known as 'The Bushfire Communication Grid' (the Grid).

From this coding it is clear the Grid not only allows users to see the content of the communication products, but also provide documentation of inter-agency cooperation and development of content and key messages. The Grid also shows the history of the development of bushfire preparedness messages and the evolution of a communication strategy.

The Grid is highly significant to the *Effective Communication: Communities and Bushfire* project because the research team believes

these communication products form the backbone of an effective communication campaign. This is the case whether the products are sent to residents, or used as part of an on-going community development process such as a Bushfire Ready Action Group or Community Fireguard. The collection of products also gives insight into the organisational processes that underpin the development of the messages and the products. The research has shown that this process differs across states and territories and may range from the well-coordinated to the inadequately resourced.

## Categorising and analysing the collection

The communication products were indexed and classified using the following categories (metaheadings):

**Campaign:** identifies products that are used in significant communication programs. The most common were the 'Prepare, Act, Survive' branded products, which since 2009 have been used in the wider media campaign with the same slogan.

**Scheme:** is used where products are deployed in sub-campaigns, under a parent or overarching campaign. This classification came about where communication products were packaged and distributed at a local level, such as a local schools initiative, or 'Farm Firewise'.

**Originating agency:** identifies the agency/s associated with the products, in terms of visible branding. Often, this would be the lead fire agency in conjunction with the relevant state government. Other notable originating agencies were the Victorian Department of

Human Services (Preparing Your Mind to Deal with the Bushfire Season) and NSW Health (Inhalation of Bush Fire Smoke Safety Fact Sheet).

**Target audience:** is used to identify instances where material was developed for specific demographic groups, e.g. women in South Australia's Firey Women program, or older and disabled residents in the New South Wales program Assist Infirm Disabled and Elderly Residents and Queensland's Senior and Safer programs.

**Form (mode/media):** is used to identify the form or mode of delivery, which included printed text, radio, television, DVD, CD, telephone, agency websites, social media, community meetings, bumper stickers, game boards and even local puppet shows.

### USING THE GRID FOR RESEARCH PURPOSES

The digitised collection of communication products were also imported into the NVivo program, which provided researchers a more sophisticated platform for data analysis. The main advantage of using NVivo over a spreadsheet is that it allows more in-depth data analysis and coding. The analysis and development of a coding framework leads to a hierarchy of meaningful codes that may be used in a term taxonomy or a thesaurus in a knowledge management system. In the parlance of social networking environments, these codes or terms would be known as 'tags'.

The result of the data collection is a significant repository that the research team believes is the first extensive and systematic assembly of bushfire communication products across Australia. This will enable a thorough analysis and overview of bushfire communication in Australia and will help to form the background and context for the educational package component of this project.

### ANALYSIS AND EVIDENCE OF COLLABORATION IN THE DEVELOPMENT OF COMMUNICATION PRODUCTS

The bushfire communication products and participant interviews from the case studies provided insight into how communication programs are developed. Historically, communication products were developed separately by individual jurisdictions with little cross-pollination of ideas between various states and territories. Since the formation of the Australia Fire and Emergency Services Authorities Council (AFAC) in 1993, there has been a notable increase in collaboration across jurisdictions, facilitated through AFAC groups and general professional relationships between subject matter experts across agencies. This has culminated in the overt convergence to the



▲ Figure 1: Analysis of the Digitised Communication Products.

### END USER STATEMENT

While essentially a by-product of the research process, the collection of a data set of communications tools and artefacts on this scale has never been undertaken before in the context of bushfire – or possibly any other community safety context. The Grid is potentially a rich resource for both researchers and practitioners seeking to understand how communities learn about fire and how governments and agencies can and do shape that dialogue.

– John Schauble, Manager Policy and Planning, Fire Services Commissioner, Victoria

'Prepare, Act, Survive' material – a process driven initially through a national workshop. Complementary to this national initiative, individual agencies develop and produce their own communication products tailored to their specific jurisdictional needs.

Through the use of the Grid, the Fire Ready Victoria Strategy (2004-2007) was identified as a worthwhile example of collaboration in the development of bushfire communication products.

From 2004 onwards, the CFA, the Department of Sustainability and Environment, and the Metropolitan Fire and Emergency Services Board, led by the Fire Ready Executive Group, were brought together through the Fire Ready Victoria Strategy to provide joint education and information programs, as well as contributing their own education and information activities.

On another level, recognising the range of other agencies with an interest in bushfire

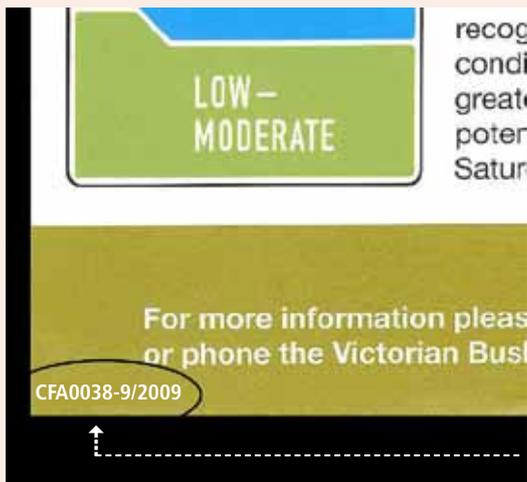
preparedness and communication, the Victorian Fire Communications Taskforce was initiated, coordinated by the Strategic Communications Branch of the Department of Justice. The purpose of the Fire Communications Taskforce was explained during research interviews as:

“... bring[ing] together all of the agencies across government's communications people that were putting out messages to sort of say, let's have a handle on what messages you're putting out there.” (Interview data, VIC, 2011).

As demonstrated in this example, there are different priorities between strategic communications and the communication of information and education messages designed to effect long-term changes in community behaviour and these may be reflected in different approaches to inter-agency collaboration. While the Victorian case study showed how a multi-agency communication program was formed, there was also the uptake of the lessons learnt from one state to another.

The process of knowledge discovery across the states primarily occurs through the AFAC Community Education or Community Safety Groups. Here agency representatives from around the country meet and discuss best practice and formulate agreed positions. The Grid will hopefully further facilitate this process. The team's research indicates that this process is not yet supported by a centralised index of available documents and text, and that documents remain in individual archives or libraries, where they are often hidden and inaccessible. This shared knowledge may not be available to communication teams.

There were, however, some examples of informal comparison and collaboration,



## UNIQUE IDENTIFICATION FOR DOCUMENTS

One of the major capabilities offered by the use of a knowledge management system would be to ensure that documents are version controlled, thereby enabling outdated text to be tracked, marked as deprecated or recalled. An example of this may be seen in Figure 2, taken from a particular bushfire communication product found in the collection.

◀ **Figure 2: Agency specific unique identification.**

across jurisdictions, within the team's interview data. For instance, one respondent explained how some of their agency's communication products were developed:

“So I did a bit of an environmental scan with all the other fire agencies around their publications and then we chose ours to be modelled around Tasmania's. Then we looked at - okay well this is Tasmania. What are the gaps we know about, what's the research telling us, what's come out of the Royal Commission that people were asking for?” (Interview data, WA, 2011).

Again, it is hoped that the Grid will further facilitate this kind of work and enable agency personnel to more easily access and compare existing communication strategies and products across all states and territories.

### FUTURE DIRECTIONS

The Grid is a valuable resource for both agencies and researchers, capturing a snapshot of historical and current bushfire communication products. The range of information and the modes of delivery are extensive and the knowledge base on which this rests should never be lost.

Through a content and knowledge management system, agencies would be

able to effectively manage this significant asset in the form of their communication products. Through content tagging, or metadata, agencies that produce this information may capture and highlight the context that led to the development of a particular product and the circumstances under which it was deployed. In a historical sense, the release of the communication products may be evaluated against other incident repositories on a longitudinal basis, providing further information on the success of a program and the accompanying communication material. Designers of the

products may also capture aspects of the campaign such as lessons learnt or even failures and successes in behaviour change.

It is envisaged that the ability to tag communication products will provide the capacity to identify or tag documents or text with issues being addressed, e.g. gender, community. Bushfire safety concepts may be identified by tagging the text with concepts such as 'neighbourhood safer place', 'cleaning' or 'maintenance'. End users would be able to capture the program specific data such as the release of the text through campaign tags, e.g. 'Prepare, Act, Survive'.

The feedback regarding the time imposition of the collection process for agencies may further indicate the need for the greater uptake of content and knowledge management practice in the development and management of communication products. With the use of knowledge and content management tools, such as the Grid, information about what is in circulation and what has been produced can be made readily available. This helps to make knowledge visible and provides a useful basis on which to build further communication strategies for bushfire preparedness.

### FURTHER READING

Bos N, Zimmerman A, Olson J, Yew J, Yerkie J, Dahl E and Olson G, 2007, From Shared Databases to Communities of Practice: A Taxonomy of Collaboratories, *12, Journal of Computer-Mediated Communication*, 652–672.

Diniz V, Borges M, Gomes J, Canos J, 2005, Knowledge management support for collaborative emergency response, proceedings of the Ninth International Conference on Computer Supported Cooperative Work in Design, Coventry, United Kingdom.

Hernández J and Serrano J, 2001, Knowledge-based models for emergency management systems, (20) 2, *Expert Systems with Applications*, 173–186.

Macgregor G and McCulloch E, 2006, Collaborative Tagging as a Knowledge Organisation and Resource Discovery Tool, (55) 5, *Library Review*, 291–300.

Mohanty S, Panda B, Karelia H, Issar R, 2004, Knowledge management in disaster risk reduction: The Indian approach, an initiative under the Government of India-United Nations Development Programme, Disaster Risk Management Program.

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AFAC is the peak representative body for fire, emergency services and land management agencies in the Australasia region. It was established in 1993 and has 35 full and 10 affiliate member organisations.