A Qualitative Research Report on:

CFA WARNINGS

Reference No. 18942 • September 2009

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Background

The recent bushfire tragedy has prompted the CFA to re-evaluate the information it sends out to the community. An important focus of this re-evaluation is the CFA's bushfire warning system, and the messages that are conveyed at various levels of bushfire risk.

To inform the development of a new bushfire warnings system, research was required to test the perceptions, attitudes and behaviours of people in bushfire prone areas. The research was required to explore people's current use of bushfire warnings, and investigate responses to warning levels, numbers, names, messages, and associated behaviours/actions. The research will enable the CFA to gain an in-depth understanding of how a new bushfire warnings system would be received and used by the community.

Along with the community engagement research we are conducting for the CFA, Sweeney Research is very pleased to be involved with this important project.

The following pages outline the findings from the five fire warnings groups across Victoria...

The Research Objectives

The overall aim of the study was to explore...

How people interpret, use and respond to the new warnings system

The specific objectives were...

Language	• Community understandings of the language associated with bushfire warnings
Immediacy	• Interpretations of the immediacy of different fire warnings - in terms of the level of risk and type of fire (e.g. slow onset versus fast travelling)
Information	• The depth of information provided in bushfire warnings – is there too much information for there to be a clear message take out?
Actions	• The actions people take in response to bushfire warnings

Research Methodology

A series of 5 focus group discussions was conducted in Cockatoo, Mount Macedon, Cann River, Beech Forest and Woodside between 18th August 2009 and 26th August 2009. The structure of the sessions was as follows...

Location	Group Structure	Total
Urban Interface Area – Cockatoo and Mount Macedon	▪ Mix of males and females ▪ Mix of ages ▪ Mix of fire experience	**2 Groups**
Heavily Vegetated Area – Beech Forest and Cann River	▪ Mix of males and females ▪ Mix of ages ▪ Mix of fire experience	**2 Groups**
Rural and Farming Area – Woodside	▪ Mix of males and females ▪ Mix of ages ▪ Mix of fire experience	**1 Group**
	TOTAL:	**5 groups**

The Detailed Findings

Constraint

Focus group discussions evolve creative ideas and generate hypotheses. They are not intended to be a precise and definitive index of what happens in the marketplace. This report should be interpreted with that constraint in mind.

The Challenge for Warning Systems

Across the various regions included in this study we were struck by the challenge of communicating warning messages effectively to all Victorians for three reasons...

1. **Because people vary greatly in terms of...**

- Their willingness to be kept informed

- Their experience in living of the bush, and with bushfires

- The extent to which they feel a sense of personal responsibility to plan, prepare and take action

- Their personal circumstances...

  - Where they live
  - The topography of their block
  - The defendability of their home
  - The number of escape routes from their home
  - Whether or not they have children, a partner, animals, elderly relatives/neighbours
  - How connected they are to their neighbours and to the general area

- The extent to which they are prepared...

  - Whether they have a plan
  - If they do have a plan, the extent to which it is specific or general
  - Whether they have one or several plans. We found that very often people had different plans for different days – stay and defend under certain conditions, leave early in others
  - Plan B and C... after Black Saturday many felt that they needed a plan for a last minute safe haven to retreat to when it was too late to evacuate. This was equally a requirement for those whose plan it was to stay and defend, and for those whose plan it was to leave, but who were unable to do so safely

2. **Because of the changing nature of fire and weather conditions and the need and ability to be kept up to date with these changes**

3. **And because people's ability to process information varies greatly. There is a need to balance a system which is simple enough to be understood by the uneducated, illiterate and unwilling; and which also provides to those who seek it more detail to inform their decision making**

> All of the above impact on what information is delivered and when and how it is delivered.

It was not necessarily the risk level of their area that influenced how prepared they were – we talked to very well prepared residents in lower-risk areas and very unprepared residents in high risk areas – this unpredictability in fire preparedness further increases the challenge for CFA in its communication.

Requirements and Expectations from Warnings

Facilitating the Decision to Stay or Go

A great deal of discussion took place in each group about what information is wanted, and when and how it should be provided, but ultimately the requirement for this information comes down to providing information to empower people to make and enact the decision to stay or to leave.

Let's examine what information is needed for each of these decisions.

The Nature of the Decision

In each group we found that whether or not people had a plan to stay or go was very often not a black and white issue. It was a decision made up of shades of grey.

Those with the clearest plans were those whose decision it was to leave early. But this is clearly not a simple plan to implement. There is a need to balance the desire for personal and family safety with the practicalities and responsibilities of day to day life.

> "I'm really embarrassed by this because I've been a seasoned fire ready person. It was a really hot, windy day. I'm fell asleep in my house. I had my dogs in the house, I had the fans going. Couldn't hear anything. There was a fire and I ran around in circles… I wasn't packed for an evacuation at the time."

Leaving

The Decision to Leave

We saw a strong philosophical commitment to the importance of allowing competent adults the right to choose to stay, however, the majority of respondents reported a view that it was the responsible thing to do to leave early.

> "I would get dogs and get in car and go to Apollo Bay."

> "My policy is to get out if I can."

Whilst there were those very committed to staying and defending, overwhelmingly we sensed a general shift since Black Saturday towards leaving early. However, what is somewhat concerning is people's definition of 'early', with many still thinking that 1-2 hours pre-impact of fire in 'plenty' of time to spare.

Those who were inclined to leave early regarded it as the safest option for them and their family. Invariably these people also felt that it was also the safest option for most members of the community.

> "I think you should leave. Don't believe you should be there."

The old CFA line "people protect houses, houses protect people" was often spontaneously raised and criticised as giving people a false sense of confidence in their ability to stay and defend.

Even once this philosophical decision to leave 'early' has been made there is a need for information to facilitate when to leave. This is seen as a largely localised decision (where information for their immediate area is required: which roads, which direction to drive, where to go…) for all but the most extreme days (Black Saturday, Ash Wednesday) for which state wide alerts were thought appropriate.

> **"A lot of the people who died in Black Saturday didn't get the warning so had planned to leave but it was too late and had no plan B."**

Most say that it is simply not practical to leave town early (i.e. the night before) every Total Fire Ban day, because…

1. They have jobs to go to

2. Children have school to attend

3. There is a cost in seeking accommodation elsewhere: either a financial cost if seeking accommodation in a hotel or the like or a personal cost if calling on the generosity of friends or family in the city or suburbs of Melbourne or other non-fire risk areas

4. Pets need be considered

5. And because there is a level of emotional fatigue and complacency which comes from evacuating unnecessarily too often

For many, leave early still means when they see fire.

> **They require information from the new warning system which will empower them to make the decision to leave based either on…**
> 1. The forecast conditions
> 2. Actual fires burning nearby

Let's examine how the information provided in these two scenarios will be used…

1. The Leavers' Need for Fire/Weather Forecasts (Before a Fire is Burning)…

For those planning to leave early, the information on the day's conditions become most pertinent on days of total fire ban. The information they require as to the day's expected conditions is needed to facilitate the following decisions…

1. Is it forecast to be so severe that I should **leave the day before**?

2. **Or** do I simply need to **be prepared to leave** on the day, before the threat is too close, and…

- Stay by the phone

- Avoid travelling too far from home

- Stay by the radio

- Speak to the school

- Discuss the plan amongst the family

- Plan the place to go to, and how to get there

- Know where all members of the household will be and how to get in touch with them

- Pack a box of irreplaceable nostalgic items, and practical living essentials (if not already packed)

- Check on neighbours

- Notify others of intentions

> At this stage the target audience are at their most connected. They are relatively more likely to receive news alerts via radio and TV, to receive calls to their mobile and/or landline and to have access to the internet (if connected at home) and to be in touch with neighbours.

2. The Leavers' Need for Information if a Fire is Burning

Once the decision to leave early has been made triggered by fires burning somewhere deemed by themselves to be a potential threat (and this will vary from individual to individual – from 20 km away, too 100km to 1km), the need for information shifts to:

- Where exactly is the fire and how fast is it moving?

- What is the wind direction?

- Which roads have been closed?

- Which roads are under threat of closure?

- Which communities are under threat?

- And for some: is it controllable? (for others this is too changeable to be relied upon on the day)

"You only get 10-15 minutes warning."

From this they will determine...

1. Whether it is safe to leave

2. Which route to take

3. If they can make it to their pre-determined evacuation place (well out of the area) or whether they need to consider another evacuation place closer to home because of dangers on the road, such as Community Shelters

> This target's ability to receive information is unpredictable because of the number of variables affecting where they are and what time of day or night the threat emerges. Their ability to receive warning messages is also affected by variances in their sense of personal responsibility to actively seek out information. They may be at work, or at home or in the car, at the local shops, the school or visiting others. They may be listening to local ABC radio, or to commercial radio or nothing at all. They may or may not be watching TV. They may or may not have mobile phone coverage. They may or may not have internet connectivity. They may be asleep. They may have their mobile phone switched off or on silent. Some will belong to a phone tree, many will not.

Staying

Factors Impacting on the Decision to Stay and Defend…

Amongst those in our study who stated that their plan was to stay and defend we saw those who appeared to be extremely well prepared to those who were clearly overwhelmingly unprepared, whose approach to staying and defending was alarmingly laissez-faire. The 'stayers' in the groups were almost always men.

It was a decision which appeared to be based on a combination of rational and emotional factors…

- Primal urge to protect what is theirs

- The financial desire to save their property and possessions

- A belief that evacuation is too difficult because of where their home is located (eg on a mountain with only one road in/out that can be too easily blocked)

- Inability to take their animals with them in the case of an evacuation

- The financial/emotional/socio investment they have made in preparing their home for defence

- Machismo

Amongst these respondents there were those with a dogged determination to stay to the end, and those with a more pragmatic approach which allowed for evacuation if the conditions were too extreme.

The Stayers' Need for Fire/weather Forecasts (before a fire is burning)…

For those planning to stay and defend their home, the information on the day's conditions also becomes most pertinent on days of total fire ban. The information they require as to the day's expected conditions are needed to facilitate the following decisions:

- Is it so severe that I should abandon my plan to stay and defend? And if so, when is the last possible moment I can change my mind and leave?

- Should I evacuate my family and stay on my own?

- Should I arrange to stay at home from work or cancel other commitments?

- Should I lay out my pumps, hoses and generators?

- Should I buy extra supplies?

- Should I contact neighbours and discuss their plan to stay or go?

> At this stage the target audience are at their most connected. They are relatively more likely to receive news alerts via radio and tv, to receive calls to their mobile and/or landline and to have access to the internet (if connected at home) and to be in touch with neighbours. However, amongst this group there are those on extremely remote properties — without mobile phone or internet coverage and in some cases without a landline. Some will belong to a phone tree, many will not.

The Stayers' Need for Information once a Fire is Burning…

Once the fire is burning, they too are primarily concerned with finding out where it is burning, which direction and with what expected ferocity.

- Where exactly is the fire?

- What is the wind direction?

- Which roads have been closed?

- Which roads are under threat of closure?

- Which communities are under threat?

- How controllable/ferocious is it?

- Are there any expected changes in wind direction which could impact on its path?

- How far ahead of the main fire are ember attacks?

- Is it crowning in the trees?

- How fast is it moving?

- Where is smoke being experienced?

- Are well prepared homes defendable in its path?

- Are there any other peculiarities about the fire which could impact on a decision to abandon the plan to stay and defend?

From this they will determine…

1. Whether to abandon their plan to stay and defend (and when it is still safe to leave!)

2. If not at home, whether they should return home to prepare to defend their property

3. Which route to take to go home/leave

4. Whether or not to evacuate their children/partner/others in their care, if so, by which route

5. When to turn on sprinklers and fill gutters

6. Where to place hoses, mops, buckets and the like

7. Whether to work with neighbours or work independently

8. Whether they are likely to be able to access their backup location if they find themselves unable to defend or escape (e.g. a potato field, a damn, a creek, a reservoir, a wombat hole, a bunker) and when they should retreat to this place.

> For those in the latter stages of this preparation receiving warning messages is particularly difficult because they too may or may not be home. However if they are at home they are likely to outside if genuinely concerned and preparing. They are unlikely to hear/receive a call to a landline. They are unlikely to hear/be close enough to a radio (although some acknowledge that battery or wind up transistor radios are feasible in these conditions, it was our sense that many simply have not prepared to this extent). They may or may not receive calls or texts on their mobile phones.

Reactions to the Proposed New Fire Danger Ratings

Overview

Respondents across the state supported the notion of a new system for fire warnings.

There was a common concern that information – in particular since Black Saturday which has acted as a catalyst for many in these fire prone areas to actively seek information – is too difficult to find and too difficult to act on.

What they told us time and again in developing a new system is…

1. Keep it simple

> *"It needs to be fairly basic, with not too much information. Just enough info so people can get the gist of it."*

2. Be clear and unambiguous

3. Provide information relevant to local areas

4. Make every effort to make warnings apparent to everyone – even the ignorant or naive

5. Provide clear and simple information for all, and make more information available to those who wish to seek it out

6. Give careful consideration to how the new warning systems will fit within declarations of Total Fire Ban days. These being the current trigger to considering action, which is largely regarded as too blunt an instrument. There is a need for two-three categories of Total Fire Ban day

Moreover there is a need to clarify the difference between the type of warning message:

The predicted fire conditions for the day. The term 'Fire Danger Rating' created confusion as it was often assumed to be a description of an actual fire as it is burning, as opposed to fire conditions.

Warning Messages once fires are burning. 'Warnings' was generally seen as an appropriate term.

> *"I could envisage seeing the rating on the weather or nightly news, and having updates if conditions change."*

The Wheel

When shown this proposed new fire rating almost all respond with a sense of familiarity (although in Cann River there seemed to be less familiarity). It is not immediately apparent it is new. The addition of categories at the upper end of the scale becomes clear only after having studied it for a moment or two.

The sense of familiarity comes from the fact that almost all are used to seeing this style of warning on road signs in or around their local town or village.
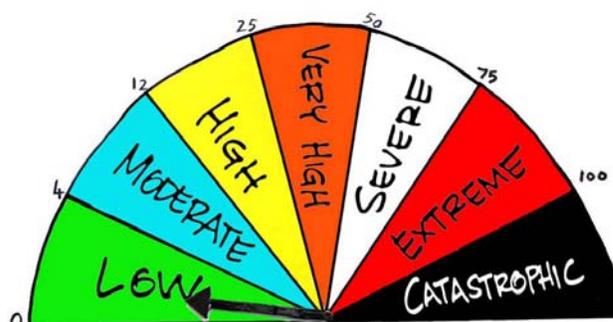
Crucially they have become conditioned to ignore it. This occurs for a number of reasons …

- It sits on the highest rating throughout summer when the need for updates is most acute

    "I never pay attention to them. I didn't think it was still used, so it's not really an accurate measurement."

- It requires someone to manually change it, and most therefore expect that it is not changed, even when conditions change

- The arrow is often removed or tampered with

    "Half the time when you drive past them, the arrow isn't even on there, or it's hanging upside down."

Additionally the semiotic value of the semi-circle is problematic. It implies that there is an upper limit which is fixed and cannot be passed. Black Saturday proved this assumption to be untrue. A number of respondents in different locations spontaneously suggested that the rating should be represented in a linear fashion.

    "The thermometer system is good as it combines colours with numbers and it's more new for people. If it's new for people, if it's up near the top – you know it's bad."

Having categories within it of equal size also infers something about the relative severity of each level which the numbers accompanying it contradict.

The result is a combination of confusion and distrust.

In relaunching a new fire warning system we recommend that a new graphic device be developed to help in communicate the change.

The Number of Categories

Having three new fire categories is seen to have some merit. The additional categories at the higher end of the scale certainly goes some way to addressing the target's need for more information on days of higher fire danger.

However, most also feel that seven categories is too many. There were widespread concerns that they would not be able to be recall and understand the differences between each such that they are able to make the decisions they need to make when the warnings are issued. Particularly as this is likely to be in periods of extreme stress and where there is little time or opportunity for clarification.

> **"I think just add one extra level that says 'tune into your radio – its serious'. The more you add on there, the less you take seriously. Good but too many categories."**

There was particular concern with the upper categories, because it was on these days that they felt the need to make significant life and death decisions based on the issuing of warnings.

There was an assumption that the lower categories are of little relevance because they (assumedly) relate to the periods where there is little fire threat and therefore which do not require any action on their behalf, over winter and perhaps spring/autumn. The exception to this was the extent to which it was safe to burn off.

Whilst it is not the role of the research to prescribe how many ratings should be provided for the new warning system, what we did find was that the target feel that they can only reasonably cope with 3 levels of high fire danger, and possibly an additional two levels of low fire danger: safe or not to burn off.

The Colours of Categories

The use of colour *per se* was seen to make sense in the context of the existing semi-circle device.

However the specific colours used in the proposed seven-category wheel were problematic a number of reasons…

- They did not follow a logical sequence

- Some colours could not be easily and consistently described
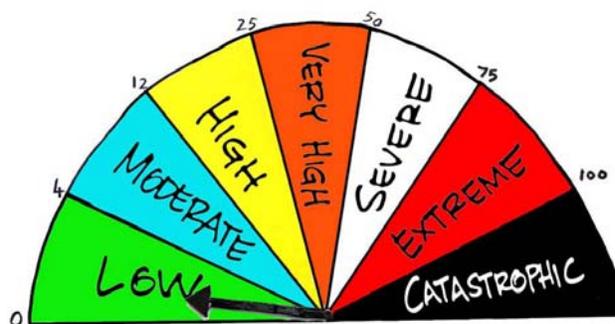
- Some colours were too similar (orange/red)

- And because of concerns for how the colour blind would process the colours.

> **"I'm not a fan of colours because I'm colour blind as are a lot of males – colours are irrelevant to me."**

We believe that colours do have merit for communicating the different categories, if they can be developed along the following guidelines…

1. They can be easily and consistently named

2. They follow a universally accepted sense of logic – e.g. Traffic light colours of Green, Amber, Red, or a gradient of colours from innocuous to extreme

We recommend that experts in colour and their associated coded meanings be consulted if colour is to be used as a foundation for the new warning system.

We did note that black, possibly because it has been used in naming Black Saturday (and Black Friday) has the potential to be known to be the most extreme rating.

> **"Black stands out – you know you're in trouble."**

The Names of Categories

The existing four names of categories for the incumbent warning system were widely accepted…

Low

Moderate

High

Very High

These were seen to be logical and easily differentiated.

However, the use of names beyond this were more problematic…

Severe

Extreme

Catastrophic

… created confusion, alarm and even panic when the target were faced with the hypothetical scenario of having to make life-or death decisions based on an announcement of which category they were faced with.

"Severe" and **"Extreme"** were often seen to be synonyms. They were used interchangeably by many in their use of the English language. It wouldn't be easy to remember which is 'worse'.

"Extreme doesn't seem severe enough."

"Catastrophic" was clearly differentiated. However it was a word associated by most with a doomsday scenario. An event so extreme that it was often felt to be beyond the scope of the individual to effectively fight against it. Whilst it certainly captures attention it has the potential to create panic and fear, and to immobilise rather than galvanise.

"Catastrophic means it's already burnt your house down."

Moreover, it is a word commonly associated with a past event rather than a predicted one. Events are catastrophic; conditions are not.

Respondents attempted to come up with their own words to replace severe, extreme and catastrophic and failed to do so with any real success. The best they could come up with was 'like Black Saturday' as a replacement for Catastrophic; or 'leave' or 'evacuate'.

The problem appears to lie with the subjectivity of the interpretation of language. For this reason we recommend against building a warning system of fire rating days based on named categories. Rather, simple, discrete conditions should be used to support a more unambiguous rating system based on numbers or colours

The Numbers Relating to the Categories

We presented the wheel with the numbers around the outer rim. The numbers intrigued people because numbers seemed like quite an un-ambiguous way of understanding the risk. The numbers gave them an objective, easy to understand way of visualising and comprehending the risk ("so, Black Saturday was a level 180 fire; the last one I saw here was a level 76 fire…now I know what the differences are and how "bad" each level is…") – and they also bring up other natural disasters that use numbers: earthquakes, cyclones etc.

However, what they often couldn't grasp is that the word/colour related to the weather conditions and thus the risk of a fire occurring and the predicted intensity of a fire should one break out.

The numbers used in this example were confusing for some people to understand. To educate the public on this is, we believe, possible but would require significant time and investment to do so.

We are also mindful that if this number rating is to be used by other departments (eg. the Department of Meteorology) that a different number rating should not be developed for the Fire Danger Ratings.

Describing each category

Overview

In describing each category there was a desire for…

- Each to be simply defined… less is more
- Consistency in what is conveyed and how it is conveyed
- And no room for ambiguity

What to include	Examples	Why
Description of expected fire behaviour on the day	*Explosive and erratic crown fire, long distance spotting* *Fire behaviour is mild, very low flame height*	Tangible and impacts on the decision to stay or go
How controllable fire would be	*Fire control unlikely* *Fire control is possible* *Fires uncontrollable*	Tangible and impacts on the decision to stay or go
Description of wind	*Winds likely to be strong* *Severe winds*	Tangible and impacts on the decision to stay or go
Consider also description of humidity and temperature		Tangible and impacts on the decision to stay or go
Defendability of homes – but err on the side of caution and consider including only in the negative for the most extreme days	*Well designed homes likely to be undefendable*	Impacts on the decision to stay or go

What not to include	Examples	Why
Estimates of loss of life	*Lives very likely to be lost* *Chance of loss of life*	Considered too difficult to predict and give false sense of security or hopelessness Seen as surplus to the above
Estimates of loss of property	*Chance of property loss* *Loss of property may occur* *Homes will be lost*	Too ambiguous and difficult to predict Seen as surplus to the above
Impact to the environ and infra	*Local and infra impact*	Not understood Detracts rather than adds to understanding

Language to avoid	Examples	Why
Ambiguous language	*Lives may be lost* *Fully prepared and defended homes may be survive*	Easy to dismiss Can give false sense of security
Downplaying the risk	*Loss of life unlikely (Very High)*	Can give false sense of security or lead to under preparedness

Reactions to the Example Warning Messages

A matrix of warning messages was briefly introduced, as show below:

Existing Fires

TRIGGER MATRIX

FDR	FDI	Flame Ht/ Rate of Spread	<2 hrs	2-6 hrs	6-12 hrs	12-24 hrs	24+ hrs
				Time to Impact			
Catastrophic	100+		EW8	EW7	EW6	WA14	WA13
Extreme	75-100		EW5	EW4	WA12	WA11	WA10
Severe	50-74	VARIABLE	EW3	EW2	WA9	WA8	WA7
Very High	25-49		EW1	WA6	WA5	WA4	A13
High	12-24		WA3	WA2	WA1	A12	A11
Moderate	5-11		A10	A9	A8	A7	A6
Low	1-4		A5	A4	A3	A2	A1

Message Type

(red)	Emergency Warning
(orange)	Watch and Act
(yellow)	Watch and Act
(blue)	Advice

Specific messages were then explored in the research (in escalating order of severity). These were as follows:

FIRE ADVICE

Kallista, The Patch

11 August 2009 - 4.30 PM

Information:

- Planned burning is currently being conducted in the Sherbrooke Forest Park, near Kallista and The Patch.
- You may notice smoke and ash in these areas. There is no risk to life and property.
- Stay informed: www.cfa.vic.gov.au - 1800 240 667 – check local radio.

WATCH AND ACT - FIRE

Kallista, The Patch

11 August 2009 - 4.30 PM

Incident Information:

- This fire is burning in the Sherbrooke Forest Park, towards the townships of Kallista and The Patch.

- There is a chance that lives and homes in these areas will be lost in the next 24 hours.

What to do:

- **Protect life – yours, family & neighbours:** Review your bushfire plan with your household.

- **If your plan is "Prepare, Stay, Defend":** Get your home fire prepared. Protect from radiant heat by wearing protective clothing consisting of long-sleeved shirts, long pants, sturdy boots and a broad brimmed hat. Synthetic material does not provide adequate protection – wool is ideal. Close all doors and windows and stay inside the house if you can. Stay alert, extinguish any small fires and if necessary, move outside to burnt ground once the fire has passed. Stay informed: www.cfa.vic.gov.au - 1800 240 667 – check local radio.

- **If your plan is to leave or you don't have a plan:**   Get yourself fire prepared. If you are not prepared you should leave. Stay informed: www.cfa.vic.gov.au - 1800 240 667 – check local radio.

WATCH AND ACT - FIRE

Kallista, The Patch

11 August 2009 - 4.30 PM

Incident Information:

- This fire is burning in the Sherbrooke Forest Park, towards the townships of Kallista and The Patch.
- There is a limited risk to lives and homes in these areas within the next two hours.

What to do:

- **Protect your life:** Activate your bushfire plan now.
- **If your plan is "Prepare, Stay, Defend":** Defend your home. Protect from radiant heat by wearing protective clothing consisting of long-sleeved shirts, long pants, sturdy boots and a broad brimmed hat. Synthetic material does not provide adequate protection – wool is ideal. Close all doors and windows and stay inside the house if you can. Stay alert, extinguish any small fires and if necessary, move outside to burnt ground once the fire has passed. Stay informed: www.cfa.vic.gov.au - 1800 240 667 – check local radio.
- **If your plan is to leave or you don't have a plan:** Leave now for a safer place if the path is clear. If you get caught on the road, don't get out and run:
    - ο Pull to the side, preferably in an area clear of tall trees and long grass.
    - ο Put your hazard lights on and close the windows and vents.
    - ο Cover any yourself with a woollen blanket and get down as low as possible.
    - ο Only when the fire has passed, get out and move to safety.
- **If you are away from home**: do not try to return to the area as the roads may not be safe.

EMERGENCY FIRE WARNING

Kallista, The Patch

11 August 2009 - 4.30 PM

- This fire is **uncontrolled** and is burning within the Sherbrooke Forest Park. Lives and homes in these areas are in danger of being lost in the next two hours.
- **It's too late to leave your home.** Take shelter - move to a safer place only if the path is clear.
- Stay informed as conditions will change rapidly.

EMERGENCY FIRE WARNING

Uncontrollable fire burning near Kallista. It's too late to leave your home**.** www.cfa.vic.gov.au 1800 240 667 check local radio

From the discussion around these warnings we can report the following…

The Trigger Matrix

Whilst The Trigger Matrix itself is not intended to be shared with the public, during the groups we briefly explored the notion of receiving different types of warning messages. These messages varied as a function of the fire rating or category, and the location of the fire.

- There was general acceptance of the idea for different warnings based on location and severity of the fire – it enabled people to be informed of the incidents and understand what the best course of action would be. The graduated severity/levels was also seen as a useful information tool.
- Take care to avoid giving a definitive 'time to impact' – this was taken literally and does not allow for fires which appear without any warning. It can encourage people to defer the decision to leave. Furthermore, many people still assume that two hours is "plenty" of time to leave.
- Similarly take care to avoid creating an expectation of predictable, linear fire behaviour once fires are burning.
- A primary concern is that many simply don't believe that anyone can tell them that the fire is 6 hours away versus 8 hours away…the "time to impact" was not seen as something that could be accurately predicted.
- Take care to avoid introducing an additional colour/number or naming system (Advice, Watch and Act, Emergency Warning or EW8). Used as anything other than an internal trigger it will create likely confusion. We realise that the labels of Advice, Watch and Act, Emergency Warning were only planned to be used internally, but we note that it could lead to confusion if used in the public messages. The messages themselves – and their increasing urgency – have potential to be very helpful, but the internal trigger matrix labels tended to confuse. Having two "watch and act" categories was confusing (albeit, we understand this is an internal document).

The Warning Messages…

The messages in each level of the warning matrix had varied impact…

- Some messages were seen as useful, motivating, action-oriented, specific and very helpful in informing residents of what to do and when to do it (e.g. "if unprepared, leave now" "commence final check of pumps, water supply and equipment").
- It was seen as positive that there was an understanding of how some people would not be prepared or have a plan ("if your plan is to leave, or if you don't have a plan, leave now").
- Other messages were seen as useless, not action-oriented, passive vague/ambiguous or even contradictory and not very helpful in informing residents of what to do and when to do it (e.g. "protect your life" "keep informed" "it's too late to leave…move to a safer place").

Some more detailed issues to consider around these messages are as follows...

If messages are clear and unambiguous – AND clearly tell people WHAT they should be doing and WHEN they should do it – people can feel empowered to be able to do something. Basically, these messages can act as a trigger for action. People currently often don't know when to do what, but these help address that concern.

Fire advice: alerts them to the fact there may be smoke, but not to worry. Alleviates any concern they might have and thus is very useful to know. They can imagine hearing this on the radio/TV news, but they could also imagine getting this as an SMS. It was felt that some of the action points in the Watch & Act messages could be utilised at this stage to help with preparation.

Watch and act yellow: for a Watch and Act level, the words "chance lives will be lost in the next 24 hours" felt a little out of place (almost too severe for a "watch and act" low level – and in fact, it sounds more severe than "limited risk to lives and homes" which is used in the next level of warning). "Get your home fire prepared" didn't seem to be specific enough – but the detail in the 'stay and defend' section was useful and action-oriented (e.g., wear protective clothing, close doors). The "move to burnt ground once fire has passed" didn't seem to "fit" at this level because they have been told fire is 24 hours away. It was well received that the message included the text "if you are not prepared you should leave." However, it needs to be clarified whether the intention is for them to leave NOW or to get ready for the possibility of leaving soon.

Watch and act orange: "limited risk to lives and homes in the next two hours" in some way felt "less" severe than the previous level of "chance lives will be lost in the next 24 hours." The detail in the 'stay and defend' section was useful and action-oriented (e.g., wear protective clothing, close doors). It was well received to have a specific directive of "if your plan is to leave or if you don't have a plan, leave now" – but the use of the term "safer place" is confusing: is it a designated/specific "Safer Place" or just anywhere that is safer than where they are now? And which roads are the best route to leave? Which routes should they avoid?...some more specific advice of how to leave would be helpful to them and this is where they require local level knowledge around which roads are best to use to leave, which roads are blocked, what is the best direction to leave in...all these things that they need to know once they get in their car to leave – essentially, "where do I go?" The list of actions to carry out if stuck in a car was helpful, as was the specific instruction of "if you are away from home, don't try to return." As we have continually seen, information that is specific and objective is the mot helpful to people in terms of actually motivating them in to action.

Emergency fire warning: This fell short of their expectations. The other warnings had – generally – been seen as clear, specific and helpful...but this was seen to have a "there's nothing you can do" tone and feel. It was seen as contradictory to say "it's too late to leave...move to a safer place" – this just confuses them. The SMS was seen as "panic" at the start "uncontrollable fire burning near Kallista. It's too late to leave your home" but then "casual" and unhelpful at the end "www.cfa.org.au 1800 240 667 check local radio" – their web access is likely to be gone, so too their mobile phone – this makes them feel they'd be immobilised with fear and that they wouldn't know what to do – rather than thinking there is anything they can do. We understand that they would have received a number of warnings by the time they receive this one, but it would be more helpful to the recipient if this message followed the general pattern of the previous messages – specific information on the fire and specific information on what to do. In fact, the behaviours mentioned in some of the previous messages – how to deal with radiant heat, what to do if trapped in a car, moving to burnt ground once you can

– are even more useful at this "crisis" point. All the other messages were clearly structured as "this is what is happening. This is what you should do. This is when you should do it" - a sense of coping, doing, surviving. This last one was not – if it was restructured to reflect that order and ingredients of information and "doing" words/behaviours, it will be more helpful to people.

The Standard Emergency Warning i.e. A siren or phone message to trigger people to seek out further information

There was broad appeal for the use of the sirens and phone messages for this type of warning. The key will be to balance the potential for over using this system and in so doing create complacency; and under using such that those affected will not receive a message until too late.

Relaying the Warnings and Messages – The Role of Channels

Overview

Throughout the sessions respondents focussed on the importance of relaying messages through a number of channels.

> *"I think there should be a whole range of options. Any form of communication...carrier pigeon...I think we need to look at every way to communicate"*

The status quo of information being delivered solely through ABC Radio was seen as a major failing of Black Saturday and universally there was a support for as many channels being used simultaneously as possible.

The reasons for this span the following…

- Not everyone accepts the view that it is their responsibility to keep informed all day, everyday throughout the fire season

- Because people move about … tourists come into fire prone areas unaware of the need and ability to stay tuned, people are in an out of their homes, cars, work places, meetings

- Not all have autonomy of which radio, if any, to listen to whilst at work

- Mobile phone coverage has black spots

- Mobile phone towers burn down

- Not everyone has a mobile phone

- Power supplies fail in days of extreme temperature and when affected by fire

- As do internet connections

- People do not have internet connections at their home or place or business

- Some people lack technical ability or experience to use computers

- People turn off phones, radio and TV while watching DVDs

- People sleep

- There are delays in posting information on websites

- There are members of the community who are frail, disabled, illiterate and who do not speak English

- Help/information lines jam in times of high usage

- Misinformation spreads fast in times of panic

The mantra throughout the groups was use every possible channel and every possible piece of technology – low and high-tech to ensure that the most number of people can be reached with warnings.

ABC Radio/774

Across the groups, the general sentiment was that the ABC radio station is the default information source that people tune into throughout the high fire season. Classed as a 'major source of information' in the event of a fire, people hold this station in high regard compared to other information sources. This was clearly heightened on days where there have been severe fire warning, and for some, it acted as some form of lifeline...

> *"If there is a warning, you listen to the radio religiously; you listen to the radio and have everything packed."*

> *"The ABC radio is the only lifeline you feel you have."*

It tended to be held in highest regard, and used most consistently, by those who were the most prepared. These people find comfort in the fact that they can continue to listen if the power is down by having a battery operated or wind-up radio. It can also be heard on the radio in their car.

However, as already mentioned, it can be difficult to stay constantly tuned into the radio, and some mention that the station continues on high alert throughout the high fire season, which can lead to a level of complacency.

It is also important to remember that the downside to this station is that it can be delayed with getting out information and warnings, and some mention that there was no coverage within their area when there was a fire close by.

> *"ABC radio is a bit delayed with getting out information and warnings."*

Some residents, often those who were less prepared, resented the fact that they were required to listen to ABC radio in order to stay informed. The rest of the content of this station (outside of being the emergency broadcaster), is not to everyone's taste. Younger people were particularly critical and the least likely to listen to ABC.

Commercial Radio

Commercial radio was seen to be an underutilized medium for warning messages. It has many of the same benefits of ABC – accessible, potentially local, and reliable in times of power shortage.

However, the problem with commercial radio stations is that not everyone is aware of the frequencies that they operate, particularly if they are new to the area. There was also a concern that in some areas, the reception is such that only national stations from elsewhere in the region are picked up and therefore people could miss valuable information...

> *"I get South Australian radio... [to pick up our local station] I have to sit in my car in a particular spot."*

Sirens

There was broad support for a more focused use of sirens as a medium for alerting residents to actual fires in the area, rather than as a means of the CFA communicating to volunteers.

> **"There should be separate sirens for fires because they use them for everything that the CFA get called out for and sometimes you don't even hear them."**

The key strength of the siren is that it has the potential to alert all in the community who hear it. As to a fire within their area. Many quote the blitz in London as a good point of reference for this simple low tech channel.

However, the use of a siren also raises a number of questions…

▪ It cannot communicate any detail of the fire

▪ Some people wouldn't know what they had to do if the siren was to go off…

> **"There has to be a backup of what to do when we hear a siren, there has to be a plan of what to do."**

▪ And many people live too far from a fire station to be able to hear it

▪ Others still may live close to a station but not hear all message because of wind direction

> **"Why can't they send helicopters over people's houses and blast a siren or message from that?"**

> **"They were talking about a siren…but we are so spread out, it's hard."**

Mobile Phones & Text Messages

The majority support the use of this medium to alert them to the need to seek out further information. It is a portable medium likely to be on a person wherever they are. Those who have them are also accustomed to reading messages as soon as they arrive. There were several positive references to test messages received earlier in the year. However, this was balanced by concern by those who did not get the message and who live in remote areas, that they would be left out of any warning system if their phone failed…

> **"The mobile phone warning is instantaneous and everybody reads their text messages…but a lot of older people don't know how to read their messages…"**

> **"…but if you have older people in your street, you would make sure you told them."**

There was also some indication that if a mobile phone was registered to another area (i.e. if visiting the area, or if using a work phone), a text message wouldn't get through and information would be missed or in periods of high usage, the system could jam.

TV

Television was seen as an obvious and currently under-utilised channel for relaying warnings. It is a channel that many people used on a nightly basis. It was also considered a feasible source for relaying fire warnings. E.g. forecast alerts on the weather channel as a part of the day's weather, or simply running along the bottom of the news screen…

> **"A combination of TV, radio, SMS, and internet would get the message out, then people would hear from at least one source."**

However, a power cut means this resource cannot be relied upon during an actual fire. Further, in some locations, TV signals are so obscure that interstate TV is only picked up.

Phone Trees/Word of Mouth

Phone trees were used by the most prepared, connected and community-minded residents in different locations. Interestingly, this seemed to relate more to the attitude/idiosyncrasies of the individual rather than the area. For those who use them, phone trees work as a valuable, reliable information source.

> **"Really, the only reliable information you are going to get is if you know someone in the CFA."**

> **"The plan also includes telephone tree of 30-40 residents in street and ring each other if any concerns. And inform if you're clearly leaving or staying, so after they'll know they're not looking for you. And that knowledge needs to be with the CFA."**

Community members talked about the success of phone trees in the past but many do not actively participate in any now. This can be through a lack of organisation within communities. There is also concern that any wrong information can spread fast in small towns.

Phone trees or word of mouth is a valuable resource that could be more actively promoted and facilitated by the CFA.

Newspapers

At a local level, people see newspapers as being able to relay good information to the local community. This is particularly true of the local newsletters. Many local 'rags' have a strong readership within their areas and can reach the breadth of the community…

> **"Everyone reads the paper. Not everyone has access to websites."**

Newspapers also don't have to rely on power and they are a medium that even the computer illiterate have access to.

Daily newspapers tends to suit promotion of Danger Ratings, but not warnings themselves, because of the delay in printing and distributing. They certainly play a major role in promoting local CFA events and education messages.

Signage Around Town/Outside CFA

Response to signs around town were mixed. Certainly it is a low tech medium which is likely to be seen by even those who do not use technology such as phones and computers. Currently it seems to be an under-utilised medium. We recommend investigation of a range of new sign options which incorporate Danger Ratings and Warnings, including some electronic ones which update centrally and frequently.

For communicating community meetings, fire advice, or any other fire related information, a community notice board is a popular medium.

Websites

Websites were a preferred channel for many in each of the groups because...

- There is a hope (if not always the reality) that they can contain up-to-the-minute information

- There is potential to convey a lot of information to those who seek it

- It can be accessed from home or work easily

Websites quoted as being used over the fire season included...

- CFA
- DSE
- ABC

It provides scope to provide education, and alerts

However, the number of people to regularly use websites was no more than half in any one group.

Non-users (which included those without access and those without the technical ability/a computer) can be concerned by the CFA's/Government's over-reliance on this channel.

Bushfire Information Line

There was support for this easily-accessible low-tech channel throughout the regions covered and a desire for greater investment to ensure against the failures experienced on Black Saturday.