



**Victorian 2009 Bushfire
Research Response**

**Household Mail
Survey**

January 2010

Bushfire CRC

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**Research Results from February 7th Victorian Fires
Second Report on:**

Human Behaviour & Community Safety

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Acknowledgements and Disclosure

We acknowledge with gratitude the participation in this research of the residents of the bushfire-affected areas, many of whom had suffered major losses.

This project has many debts. Numerous people contributed to the research, including in the field, in logistics, intellectual support, leadership and countless other ways. Our sincere thanks go to all who contributed, including those not named below.

The project began a few days after the February 7th bushfires. The first part of the project involved interviews with more than 600 residents who were affected by the February 7th fires. Field interviewers were drawn from agencies and groups across Australia, including from: Terramatrix; the Tasmania Fire Service; NSW Rural Fire Service; SA Country Fire Service; CFA; DSE; CSIRO; and RMIT and La Trobe universities. The 'Human Behaviour' team worked collaboratively and productively with the 'Building and Planning Issues' team, led by Justin Leonard of CSIRO. Our sincere thanks are due to all who worked in our teams or who collaborated with us, in particular to Sarah McCaffrey who joined us from the US Forest Service and provided valuable advice at the critical, early stage.

There were many teams in the field at fire sites across Victoria at any one time. Coordination of such large numbers of people in terms of logistics was a major task undertaken by the Bushfire CRC and AFAC. We thank these organisations sincerely for their leadership, patience and capabilities, in particular Lyndsey Wright, overall manager of the post-fire research program, Duncan Maughan of Terramatrix, who coordinated the fieldwork, and Richard Thornton, who oversaw the process. They were supported by staff from the CFA, DSE, OESC and elsewhere. The individuals who contributed are too numerous to mention, but include Alison Stone of DSE, Gary Morgan of the Bushfire CRC, Naomi Brown of AFAC, John Gledhill of the Tasmania Fire Service, Euan Ferguson of the SA Country Fire Service, Neil Bibby of the CFA and Bruce Esplin of the OESC.

The 'Householder response to the February 7th bushfires' survey was developed from the initial field interview research. In addition to the individuals and groups mentioned above, many of whom contributed directly to the survey's development, we would like to thank Michael Black of Spatial Vision, and Robert Pascale and Stephen Pittman of Datatime Services Pty Ltd.

Finally, we acknowledge with appreciation our home institutions, which have supported the research and accepted that, for the moment, our priorities lie elsewhere.

Disclosure

This work was undertaken under the auspices of the Bushfire CRC, a research body established under the Federal Government's CRC program. The Bushfire CRC has members who contribute financially to the centre; these include fire and land-management agencies as well as research partners such as universities, CSIRO and others. In particular, the CFA and DSE are members of the Bushfire CRC.

This report and the survey it describes were conducted as part of a major research response to the Victorian February 7th Bushfires; this research was funded by the Victorian Government through the CFA, DSE and OESC contributing cash, with other fire services and research providers providing in-kind resources. The research direction, however, was determined by the Bushfire CRC and its researchers and not dictated by the agencies involved.

Executive Summary

On Saturday February 7th, 2009, Victoria experienced the worst bushfires in Australia's recorded history. One hundred and seventy three people lost their lives and more than 2000 homes were destroyed, in addition to substantial economic and environmental impacts.

In response to these events, the Bushfire CRC established a Research Taskforce to undertake research for the fire and land management sector and the fire research community in Australia and internationally. The Research Taskforce covered three key areas:

- Fire Behaviour
- Human Behaviour and Community Safety Issues
- Building (infrastructure) and Planning Issues

This is the second report of the 'Human Behaviour and Community Safety Issues' team. It presents preliminary findings from a survey of approximately 6000 households in fire-affected areas. There were 1350 completed surveys returned from households that were affected by the February 7th bushfires. The findings presented in this report are based on an analysis of 1104 of these completed surveys. Those surveys returned after the first round of data entry was completed were not included in this analysis. The full dataset will be available for subsequent analysis.

A response rate of approximately 25% was obtained. This is generally considered sufficient to avoid sampling bias. This figure excludes 699 uncompleted surveys that were returned to the RMIT University's Centre for Risk & Community Safety, the vast majority of which were undeliverable. It is also possible that a number of other residents did not receive the survey.

Despite the apparently small response rate (25%), the results are statistically valid but, like any survey, these results should be read in the appropriate context, *viz.*:

- owing to time and resources, the survey was not Victoria-wide, so it would be inappropriate to assume the responses reflect the broader Victorian community;
- the survey is not longitudinal, so we cannot yet compare changes in attitude over time; however, there is obvious scope and opportunity to pursue similar longer-term and ongoing surveys to build a meaningful picture of attitudinal change over time;
- there was no 'control group' of non-fire affected respondents to compare these results with; and
- like any survey, the results are affected by normal bias (e.g. the benefits of 'hindsight' in reporting fire planning, or those severely affected by fire may not have responded).

This report presents the basic frequencies and percentages for each question contained in the survey. A comprehensive statistical analysis of trends and correlations within the data is beyond the scope of this report. As such, the preliminary findings detailed within this report should be considered indicative and preliminary. Key preliminary findings from the survey are as follows:

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Section 1: How the bushfire affected you and your property

- Approximately one-third (32%) of respondents reported that their house was destroyed in the bushfires. Rates of house destruction were significantly higher among respondents in the Murrindindi (46%), Churchill (38%) and Kilmore East (32%) fire complexes.
- The vast majority of respondents (88%) reported that their household was adversely affected by the bushfires.
- Thirteen respondents (1%) reported that a member of their household had perished in the fires. A total of seven per cent of respondents reported that a household member was injured in the fires.
- Almost two-thirds of respondents reported that a household member had felt more sad or depressed (64%) and/or more nervous or anxious than usual (60%). More than one-third of respondents (39%) reported increased strain between members of their household as a result of the fires.
- A significant proportion of respondents indicated that they had experienced financial strain due to job loss or loss of livelihood (29%) and/or a lack of insurance (20%). A small number of respondents (4%) reported that they did not have insurance.

Section 2: Information and warnings

- Almost all respondents (99%) reported that they were aware that February 7th was a day of Total Fire Ban.
- The majority of respondents (72%) expected to receive an official warning if there was a bushfire in their town or suburb.

Note: the survey did not include newspapers as a potential source of 'official warning'.

- Almost two-thirds (63%) reported that they did not receive an official warning. A majority of respondents in Kilmore East (73%), Bendigo (61%) and Murrindindi (56%) reported not receiving an official warning.
- More than two thirds (68 %) of those who reported that they received an official warning reported having had 'ample' or 'just enough' time to respond safely.
- Almost two-thirds of respondents (63%) reported that they received information and warnings about the fire from a family member, friend or neighbour.
- Respondents most commonly became aware of the fire through: sensory cues from the environment (i.e. smoke, embers, fire; 49%); a warning from family, friends or neighbours (28%); or a radio announcement (8%).
- The survey did not directly ask respondents whether they lost power and/or phone services during Black Saturday; such losses would have had obvious effects on respondents accessing the web, TVs and some phones to receive 'official warnings'.

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Section 3: Before the bushfires

- The majority of respondents (69%) claim to have had a firm plan about what to do if a bushfire occurred before February 7th. It is relevant to note that the qualitative analysis of interviews with residents found considerable variation in the quality of people's plans and that a considerable amount of 'last-minute' planning and preparation occurred on the day.
- A greater proportion of respondents from Bendigo (60%) and Horsham (49%) had not considered or decided what they would do if a bushfire occurred, or had decided that they didn't need to do anything. Similarly, the proportion of respondents from Bendigo (29%) and Horsham (24%) that reported having a firm fire plan was significantly lower than in areas such as Beechworth–Mudgegonga (77%), Churchill (77%) and Kilmore East (75%). This is consistent with the finding presented in the first report of the team¹ that many interviewees living in more suburban locations had not planned or prepared for bushfires because they did not consider themselves at risk.
- Half of all respondents (50%) reported that, at the beginning of last summer (2008), they intended to stay and defend their house or property from bushfires. A total of 19% reported their intention to leave, including 17% who planned to leave as soon as they knew a fire was threatening and 2% who planned to leave on all days of high fire danger. Significantly, more than a quarter of respondents (26%) reported that they were effectively undecided, including those who planned to stay and defend but leave if threatened by fire (17%) and those who intended to see what the fire was like before deciding whether to stay or leave (9%).
- The majority of respondents (78%) reported discussing their intended response with members of their household. More than two-thirds (68%) had thought about what each member of the household would do. Significantly, fewer respondents had considered how things could change if some members of the household were not at home during a fire (41%) or written down important things to do and remember (26%).

Section 4: During the bushfires

- The majority of respondents (53%) reported that they stayed to defend their homes and properties from the February 7th bushfires. A total of 11% of these respondents left when they felt the danger was too great to stay, and 2% did not encounter fire on their properties. Almost half (44%) of respondents left their homes or properties either before or when the fires arrived in their town or suburb. A small proportion (4%) reported that they sheltered inside a house, in a structure other than a house, in a vehicle, or somewhere outside during the fire.
- Half of the respondents (51%) who left their homes and properties before or when the fires arrived considered themselves to have left 'Late' or 'Very late'. A significant proportion of respondents (47%) left because they felt it was too dangerous to stay and protect their house. In addition to seeing or smelling fire nearby, advice from

¹ *Victorian 2009 Bushfire Research Response Final Report*, October 2009, Bushfire CRC, ISBN: 978-0-9806759-8-6 (<http://www.bushfirecrc.com/research/taskforce2009.html>)

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relatives, friends or neighbours (26%) and the need to remove household members or visitors from danger (25%) were significant factors in motivating people to leave.

- A significant proportion of respondents reported experiencing difficulties associated with leaving late, including: smoke (44%); poor visibility (26%); traffic (24%); embers (22%); flames (17%); and fallen trees (12%).
- The majority of respondents (83%) who stayed with their house or property during the bushfire did so to protect their house, property and/or livestock. A significant proportion (12%) stayed because they felt it was too late to leave, or failed in their attempt to leave.
- One-third (33%) of respondents who stayed with their house or property reported leaving at some stage during the fire. The most commonly cited reason for leaving was that it was too dangerous to stay and defend (46%). Other commonly cited reasons were: there were flames in the immediate vicinity of the property (33%); to remove household members or visitors from danger (27%). One quarter of these respondents (25%) reported leaving because utilities or equipment failed and/or because their house caught fire (15%).
- The majority of respondents (77%) who left their homes and properties before or when the fires arrived stated that they would leave again if there was a similar fire in the future. A similar proportion (78%) of those who stayed with their homes and properties declared their intention to stay and protect their homes and properties from future bushfires.

Section 5: Household information

- The survey revealed a marked disparity in respondents reporting their insurance levels compared with evidence presented to the Victorian Bushfires Royal Commission and in the media. Less than 5% reported having no insurance. The survey did not ask whether residents were under-insured.
- The survey revealed a significant number of respondents whose actions were influenced by their responsibilities to dependents (i.e. elderly, children, disabled)
- The survey respondents appear to have a below-normal distribution of younger adults (<1% of respondents); this is possibly the result of this being a household survey, not an individual survey, and while there may be many young adults living in the area, they may be living in the homes of older residents.

1. Introduction

On Saturday February 7th, 2009, Victoria experienced the worst bushfires in Australia's recorded history. A total of 173 people lost their lives and more than 2000 homes were destroyed, in addition to substantial economic and environmental impacts.

In response to these events, the Bushfire CRC established a Research Taskforce to undertake research for the fire and land management sector and the fire research community in Australia and internationally. The initial scope of the Taskforce was determined by the Bushfire CRC, CFA and DSE on February 11th, 2009. It was agreed that the research would cover three key areas:

- Fire Behaviour
- Human Behaviour and Community Safety Issues
- Building (infrastructure) and Planning Issues

The Taskforce was led by a team of experienced bushfire researchers from Australia, New Zealand and the USA. These researchers, supported by a large number of trained field staff from fire agencies throughout Australia, gathered and collated as much information as was possible in a time-critical period to support the process of learning lessons from the fires.

More details of the initiation and the broader outcomes of this work can be found in the Bushfire CRC Final Report available on the Bushfire CRC website.²

All aspects of the research considered the question: 'Was the impact of the fires of 7th February consistent with established knowledge or was this the result of previously unidentified behaviours or factors?' Owing to the scale of the events and the limited time-frame, this was not a forensic investigation of any individual event, occurrence, location or structure, but rather a consideration of the patterns evident as a result of these events.

This is the second report of the 'Human Behaviour and Community Safety Issues' team (hereafter referred to as the 'Human Behaviour' team). It presents preliminary findings from a quantitative analysis of surveys mailed to households that were affected by the February 7th bushfires. For this report, 1104 of the completed surveys were analysed.

The following sections outline the purpose and limitations of the research and the methods that were used to conduct it. The report then turns to the key quantitative findings, which are presented for each section of the survey:

- Section 1: How the bushfires affected you and your property
- Section 2: Information and warnings
- Section 3: Before the bushfires
- Section 4: During the bushfires

² *Victorian 2009 Bushfire Research Response Final Report*, October 2009, Bushfire CRC, ISBN: 978-0-9806759-8-6 (<http://www.bushfirecrc.com/research/taskforce2009.html>)

2. Purpose and Limitations

This is the second report of the post-fire research into human behaviour and community safety issues during the February 7th bushfires. It presents preliminary findings from a quantitative analysis of surveys mailed to households that were affected by the February 7th fires. It is important to recognise that results or statements that are in the report are indicative and preliminary. This is the case for a number of reasons:

- The preliminary findings presented in this report are based on an analysis of 1104 of approximately 1350 surveys that were returned. Those surveys not included in this analysis represent those returned after the first tranche of data entry was completed. There is no apparent geographic pattern in the later returns. The full dataset will be available for subsequent analysis.
- Time constraints and the need to deliver preliminary results to stakeholders meant that only a very basic analysis of survey data was possible. This report presents basic frequencies and/or percentages for each survey question. For key questions, results have been cross-tabulated and presented by fire complex. Future research should explore connections and correlations within the data, including within fire complexes.
- Responses are likely to have been influenced by ‘hindsight effects’ involved in making judgements about the causes of events in the past with the knowledge of results from the present.³ In particular, participants’ responses to the survey may have been influenced by the extensive media publicity and public discussion arising from the 2009 Victorian Bushfires Royal Commission hearings and associated developments. These include, for example, changes to Government and agency policies concerning vegetation clearing and community warnings, and criticism of fire agencies and the ‘Prepare, stay and defend or leave early’ policy.
- This report presents only the preliminary findings of the *quantitative* research. Findings from the qualitative component of the research are reported in the Report on Human Behaviour and Community Safety in the Bushfire CRC Research Response Final Report, hereafter referred to as the ‘first report’.

³ For example: Pohl, R. F. (2004). Hindsight bias. In R. F. Pohl (ed.), *Cognitive illusions: a handbook on fallacies and biases in thinking, judgement and memory* (pp. 363–378). New York: Psychology Press.

3. Methodology

As noted in the first report, the research was designed with distinct qualitative and quantitative components. The present report presents findings from an analysis of the quantitative data. The qualitative component of the research entailed interviews with approximately 600 residents who were affected by the February 7th bushfires. Details of the qualitative research, including findings relating to human behaviour and community safety issues, can be found in the first report.

3.1 Survey rationale

The purpose of the first report was to provide qualitative insights into human behaviour and community safety issues arising from the February 7th bushfires. Semi-structured interviewing was selected as the primary data collection method for the first phase of the research as it enabled participants to freely share their experiences and thoughts about the bushfires. This approach was sensitive to survivors' needs to share and have their experiences heard, but also enabled researchers to identify important issues and themes that may not have been previously considered. The mail-out survey, which is the primary focus of the present report, was developed to gather quantitative data on the Taskforce research questions and the issues and themes that emerged from the qualitative component of the research.

3.2 Survey design

The 'Householder response to the February 7th bushfires' survey was developed from previous post-fire surveys and research needs arising from the 2009 fires. Researchers from the Centre for Risk & Community Safety, RMIT University, drafted a long list of questions for possible inclusion in the survey. Based on internal assessment and informal discussions with stakeholders, the list was redrafted before it was presented to the Bushfire CRC and stakeholders for formal feedback. The survey was then revised to include a number of additional questions requested by the stakeholders and was restructured to achieve a clearer and more logical layout. The survey was divided into five sections (see Appendix A for a copy of the survey):

- **Section 1: How the bushfires affected you and your property**
A series of questions about: the age and construction of respondents' homes; whether their homes were damaged or destroyed by fire or wind; and how members of the household were affected by the fires.
- **Section 2: Information and warnings**
A series of questions about: general information people received about bushfires prior to February 7th, such as information about how to plan and prepare for bushfires; warnings about potential fire danger on February 7th; and information and warnings received during the February 7th bushfires.
- **Section 3: Before the bushfires**
A series of questions about householder planning and preparation for bushfires prior to and on February 7th.
- **Section 4: During the bushfires**
A series of questions about householder responses to the February 7th bushfires. The first part of this section was intended for respondents who left their home or property either before or when the fire arrived in their town or suburb (and did not initiate defence). The second part of this section was intended for respondents who stayed with their home or property for some or all of the fire. This includes

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respondents who: stayed and defended throughout the fire; initiated defence but left once the danger was too great; and those who did not initiate defence but sheltered inside the house or elsewhere on the property.

- **Section 5: Information about you and your household**

A series of questions about the respondent's: gender; age; type and tenure of property; length of residence; insurance; household composition; and membership of CFA and Community Fireguard groups.

The survey was again distributed to colleagues at RMIT University and the Bushfire CRC, as well as to a number of contacts in high-fire risk areas, to gain feedback on its content and layout. It was then pre-tested with ten Kinglake residents to ensure that respondents' interpretations of the questions were consistent with that intended in the research design and that the issues covered were considered salient by respondents. As the survey was based on issues identified from the semi-structured interviews and questions were phrased using the language and terms used by respondents, only minor amendments were necessary.

3.3 Survey sample

Surveys were mailed to approximately 6000 addresses in areas affected by the February 7th bushfires. Addresses that physically fell within the 'burnt area', as defined by DSE, were extracted from the Vicmap database. Residents of fire-affected areas who did not receive a copy of the survey were invited to participate through a series of press releases and radio announcements advising them to contact the Centre for Risk & Community Safety for a copy of the survey. An online version of the survey was also made available through the Bushfire CRC's website.

A response rate of approximately 25% was obtained. This is generally considered sufficient to avoid sampling bias. This figure excludes 699 uncompleted surveys that were returned to the Centre for Risk & Community Safety, the vast majority of which were undeliverable. It is also possible that a number of other residents did not receive the survey.

The 1104 surveys included in this report were received from more than 30 postcode areas across Victoria. These are located in each of the major fire complexes, including Beechworth–Mudgegonga, Bendigo, Bunyip, Churchill, Horsham, Kilmore East, and Murrindindi. Just over half (53%) the respondents were female. Most respondents (76%) were aged between 35 and 64.

Fire complex	Postcodes
Beechworth–Mudgegonga	3737, 3738, 3749
Bendigo	3550, 3551, 3555, 3556
Bunyip	3816, 3818
Churchill	3840, 3842, 3844, 3873
Horsham	3400, 3401
Kilmore East	3099, 3658, 3717, 3757, 3758, 3761, 3763, 3764
Murrindindi	3711, 3714, 3778, 3779, 3799
Other	3171, 3340, 3568, 3660, 3673, 3691, 3767, 3878
Invalid postcode	5638, 5818

Table 1: Postcodes grouped into fire complexes

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Further demographic and other information about the households represented in the survey sample can be found in the Results section of this report.

3.4 Ethics and fieldwork risks

Ethics approval for the research was obtained from RMIT University's Human Research and Ethics Committee. The surveys were conducted and data were managed in accordance with the Committee's requirements. The main ethical issue facing the survey research was the need to engage sensitively with research participants, who may have suffered trauma as a result of their experiences.

The survey form that was mailed to households included a brief introductory letter and a more detailed Project Information Statement that explains the purpose of the research, the parties undertaking it, and the benefits and risks of participating. These documents clearly state that participation in the survey is voluntary (see Appendix A). Residents were informed that their address had been randomly selected from a list of fire-affected properties compiled using fire maps and government records, and that their names had not been obtained. The Project Information Statement also states that only members of the household over the age of 18 should complete the survey. Respondents were advised that recalling the events of February 7th may cause distress and were provided with contact details for free counselling and support services. Respondents were informed that their responses to the surveys will remain anonymous and that only the researchers undertaking the analysis will have access to the raw data. Importantly, the Project Information Statement also includes a statement about how the information collected will be used to improve community bushfire safety.

The Project Information Statement provides respondents with contact details for researchers should they have any concerns or questions about their participation in the research. Contact details are also provided for the Executive Officer of the RMIT Human Research Ethics Committee should respondents have complaints about their participation in the research. A number of residents made contact with researchers to request copies of the survey and to discuss their responses.

3.4 Data collection and analysis

A data entry company was contracted to enter the survey data. The statistical analysis software *SPSS* (Version 17) was used to analyse the data. The analysis is being coordinated by RMIT University's Centre for Risk & Community Safety. Handling and use of the dataset is subject to strict privacy and ethical considerations.

As discussed in the 'Purpose and Limitations' section of this report, the findings presented in this report are based on an analysis of 1104 of approximately 1350 returned surveys. This report presents basic frequencies for each survey question, with cross-tabulations for key questions. Please note that owing to time and financial constraints, analysis of qualitative fields ('Other – please specify' and text-box questions) has not been undertaken for this report. Future research should employ more sophisticated statistical techniques to examine connections and correlations within the entire survey dataset.

4. Results

Section 1: How the bushfire affected you and your property

This section presents basic frequencies and percentages for a series of questions relating to the impacts of the February 7th bushfires on surveyed households.

Q1. What is the postcode of your bushfire-affected house or property?

In the table below, postcodes responses have been grouped into the main fire complexes using the fire progression maps presented in the Interim Report of the 2009 Victorian Bushfires Royal Commission. The large proportion of surveys returned from the Kilmore East and Murrindindi fire complexes reflects the large size of these fire complexes and their populations.

	Frequency	Percent	Valid Percent
Beechworth-Mudgegonga	30	2.7	2.8
Bendigo	38	3.4	3.5
Bunyip	52	4.7	4.8
Churchill	102	9.2	9.5
Horsham	38	3.4	3.5
Kilmore East	650	58.9	60.2
Murrindindi	158	14.3	14.6
Other	11	1.0	1.0
Total	1079	97.7	100.0
Missing	25	2.3	
TOTAL	1104	100.0	

Q2. If known, in what year or decade was the house built? (e.g. '1962' or '1960s')

	Frequency	Percent	Valid Percent
Pre-1900	14	1.3	1.4
1900-1919	17	1.5	1.7
1920-1939	37	3.4	3.6
1940-1949	28	2.5	2.7
1950-1959	46	4.2	4.5
1960-1969	89	8.1	8.7
1970-1979	177	16	17.3
1980-1989	304	27.5	29.8
1990-1999	164	14.9	16.1
2000-2009	145	13.1	14.2
Total	1021	92.5	100
Missing	83	7.5	
TOTAL	1104	100	

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Q3. What is/was your bushfire-affected house made of?

	Frequency	Percent
a. Timber	481	43.6
b. Cellulose cement	69	6.3
c. Brick (other than mud brick)	443	40.1
d. Mud brick	113	10.2
e. Aluminium	21	1.9
f. PVC siding	6	0.5
g. Other	118	10.7
h. Don't know	0	0.0

Percentages do not add up to 100%. Respondents were invited to tick all that applied. Figures have been calculated for each option from the total response rate of 1104.

Q4. Was your house damaged or destroyed during the bushfire?

	Frequency	Percent	Valid Percent
a. Not damaged (Go to Q7)	448	40.6	41.3
b. Minor damage	258	23.4	23.8
c. Major damage	29	2.6	2.7
d. Destroyed	350	31.7	32.3
Total	1085	98.3	100.0
Missing	19	1.7	
TOTAL	1104	100.0	

Almost one-third (32.3%) of respondents reported that their home was destroyed in the fires. It is noteworthy that relatively few houses impacted by the fires survived with **major** damage (<3%). This is also consistent with past findings from the building assessment teams where houses are usually found with minor damage or completely destroyed, as a result of the presence or absence of people at the time of attack by the fire.⁴

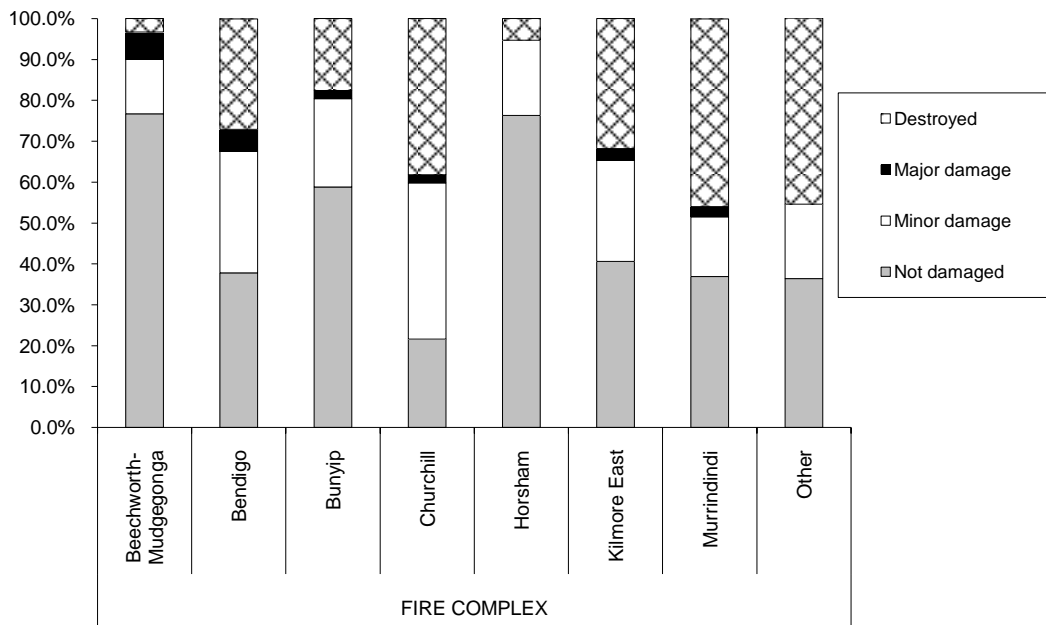
The table and chart below display proportions of house destruction and damage for each of the fire complexes represented in the survey sample. The number of respondents reporting property damage was lowest in Beechworth–Mudgegonga and Horsham, with just 10% and 5% of properties, respectively, being destroyed or sustaining major damage. Major property damage and destruction was greatest in Murrindindi (48%, n = 76), Churchill (40%, n = 41), and Kilmore East (35%, n = 221).

	Beechworth-Mudgegonga	Bendigo	Bunyip	Churchill	Horsham	Kilmore East	Murrindindi	Other
a. Not damaged	76.7% (23)	37.8% (14)	58.8% (30)	21.6% (22)	76.3% (29)	40.6% (259)	36.9% (58)	36.4% (4)
b. Minor damage	13.3% (4)	29.7% (11)	21.6% (11)	38.2% (39)	18.4% (7)	24.8% (158)	14.6% (23)	18.2% (2)
c. Major damage	6.7% (2)	5.4% (2)	2% (1)	2% (2)	0.0% (0)	2.8% (18)	2.5% (4)	0.0% (0)
d. Destroyed	3.3% (1)	27.0% (10)	17.6% (9)	38.2% (39)	5.3% (2)	31.8% (203)	45.9% (72)	45.5% (5)
TOTAL	100% (30)	100% (37)	100% (51)	100% (102)	100% (38)	100% (638)	100% (157)	100% (11)

Total response rate for this table is 1064. Missing data = 40 respondents.

⁴ See transcript of evidence of Mr Justin Leonard to Victorian Bushfires Royal Commission 2009 (<http://www.royalcommission.vic.gov.au/Hearing-Schedule-and-Transcripts>)

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Q5. If known, how did the bushfire FIRST ignite your house? Please select ONE only.

	Frequency	Percent	Valid Percent
a. Embers blew onto or into the house and set it on fire	107	9.7	18.6
b. Flames burnt up to the house and set it on fire	72	6.5	12.5
c. Other buildings or structures near the house caught fire and it spread to the house	37	3.4	6.4
d. Trees or bushes near the house caught fire and it spread to the house	63	5.7	10.9
e. The bushfire did not ignite the house	103	9.3	17.9
f. Other	57	5.2	9.9
g. Don't know	137	12.4	23.8
Total	576	52.2	100.0
Missing	528	47.8	
TOTAL	1104	100.0	

Consistent with findings from previous studies, the most common cause of house ignition was ember attack (19%). The large number of 'Don't know' and missing responses (~60%) is possibly due to many respondents leaving their homes before the fire impacted (see Q35 and Q37).

Q6. Was the house damaged by wind at any time during the bushfire?

	Frequency	Percent	Valid Percent
a. Yes, before the fire arrived	14	1.3	2.2
b. Yes, as the fire passed over the property	71	6.4	11.2
c. Yes, after the fire passed	3	.3	.5
d. No	363	32.9	57.3
e. Don't know	183	16.6	28.9
Total	634	57.4	100.0
Missing	470	42.6	
TOTAL	1104	100.0	

Bushfire CRC

Despite the many accounts of strong winds on February 7th, the majority of residents (57.3%) reported that their house was not damaged by wind. The large number of 'missing' responses is due to 448 respondents who reported that their house was not damaged or destroyed (Q7) and were directed to skip this question.

Q7. To what extent do you think that the following factors influenced how the fire affected your home and/or property? Please rate each factor.

		Not at all	To some extent	To a moderate extent	To a great extent	TOTAL
The actions I took to prepare before Feb 7	No / minor damage	12.5% (84)	16.5% (110)	18.0% (120)	53.0% (354)	100% (668)
	Major / destroyed	61.5% (195)	14.8% (47)	10.1% (32)	13.6% (43)	100% (317)
My actions on the day	No / minor damage	20.2% (132)	11.1% (73)	9.2% (60)	59.5% (390)	100% (655)
	Major / destroyed	69.0% (221)	10.0% (32)	6.3% (20)	14.7% (47)	100% (320)
The help of family, friends or neighbours on the day	No / minor damage	34.3% (222)	14.0% (91)	10.6% (69)	41.0% (266)	100% (648)
	Major / destroyed	80.6% (256)	7.6% (24)	2.8% (9)	9.0% (29)	100% (318)
The construction of my home	No / minor damage	35.5% (219)	18.5% (114)	18.6% (115)	27.4% (169)	100% (617)
	Major / destroyed	43.1% (137)	16.7% (53)	16.0% (51)	24.2% (77)	100% (318)
The position of my home	No / minor damage	14.0% (89)	19.7% (125)	21.1% (134)	45.1% (286)	100% (634)
	Major / destroyed	38.6% (127)	19.8% (65)	12.8% (42)	28.9% (95)	100% (329)
Fire agencies' firefighting activities	No / minor damage	72.1% (453)	7.6% (48)	4.9% (31)	15.3% (96)	100% (628)
	Major / destroyed	81.7% (250)	4.9% (15)	3.3% (10)	10.1% (31)	100% (306)
Fire agencies' fuel reduction activities	No / minor damage	87.7% (542)	5.5% (34)	2.9% (18)	3.9% (24)	100% (618)
	Major / destroyed	73.1% (228)	6.7% (21)	1.3% (4)	18.9% (59)	100% (312)
Fuel (e.g. trees, bushes, leaves on the ground, etc.)	No / minor damage	20.7% (130)	23.9% (150)	19.3% (121)	36.1% (227)	100% (628)
	Major / destroyed	24.4% (82)	22.3% (75)	14.9% (50)	38.4% (129)	100% (336)
Topography / landscape (e.g. hills, valleys, rivers, etc.)	No / minor damage	18.1% (109)	23.1% (139)	26.9% (162)	32.0% (193)	100% (603)
	Major / destroyed	22.2% (72)	21.6% (70)	15.7% (51)	40.4% (131)	100% (324)
Temperature	No / minor damage	11.2% (68)	5.4% (33)	8.1% (49)	75.2% (455)	100% (605)
	Major / destroyed	1.4% (5)	1.4% (5)	4.5% (16)	92.6% (327)	100% (353)
Wind	No / minor damage	5.6% (35)	6.3% (39)	7.4% (46)	80.7% (502)	100% (622)
	Major / destroyed	1.7% (6)	1.4% (5)	2.6% (9)	94.3% (329)	100% (349)
Luck or chance	No / minor damage	14.4% (91)	24.9% (157)	14.9% (94)	45.8% (289)	100% (631)
	Major / destroyed	31.0% (88)	14.1% (40)	11.6% (33)	43.3% (123)	100% (284)

Note that this table contains two sets of responses for each factor: the upper set is from respondents whose house was **not** damaged or sustained **minor** damage only; the lower set is from respondents whose house was **destroyed** or sustained **major** damage.

Bushfire CRC

It is noteworthy that a large majority of both groups of respondents judged that the efforts of fire agencies on the day were largely unrelated to the outcomes; and a majority of both groups judged that the high temperatures and wind strengths were important determinants of how the fire affected respondents' homes. Those whose houses were destroyed or sustained major damage were rather more likely to report the high temperatures and winds as contributing 'to a great extent' (an external cause attribution) compared with those whose houses survived.

In particular, judgements reported about the first two factors ('The actions I took to prepare before Feb 7'; and 'My actions on the day') appear to be strongly related to whether the house survived (with minor damage), or was destroyed or sustained major damage. Those whose house was destroyed or sustained major damage reported that both of these two factors were less influential in determining the impact of the fire on the house compared with those whose house survived or sustained only minor damage. Such a difference is consistent with a reasonably robust finding from social psychology: when actions are followed by negative outcomes, responsibility for the negative outcome is more likely to be attributed to external factors rather than personal endeavours.⁵ Similar processes probably affected respondents' answers to the 'Fire agencies' fuel reduction activities' factor — respondents whose house was destroyed or sustained major damage were more likely to regard this factor as a significant influence on how the fire affected their home.

Q8. Have members of your household experienced any of the following as a result of the fires? You may select more than one.

	Frequency	Percent
a. A member of my household perished in the fires	13	1.2
b. A member of my household was injured in the fires	78	7.1
c. My household has experienced financial strain because of job loss or loss of livelihood	319	28.9
d. My household has experienced financial strain due to a lack of insurance	220	19.9
e. Relationships between members of the household have been more strained than usual because of the fires	428	38.8
f. A member of the household has felt more nervous or anxious than usual because of the fires	661	59.9
g. A member of my household has felt more sad or depressed than usual because of the fires	703	63.7
h. A member of my household has suffered health problems because of the fires	335	30.3
i. Other	57	5.2
j. None of the above	131	11.9

Percentages do not add up to 100%. Respondents were invited to tick all that applied. Figures have been calculated for each question from the total response rate of 1104.

Only a small proportion of respondents (12%) reported that their household was not affected in some way by the bushfires — through death or injury, financial strain, emotionally, or health-wise. Clearly, adverse emotional responses, in the form of anxiety and depression, were very common, with almost two-thirds of respondents reporting a household member or members being affected emotionally.

⁵ For example: Malle, B. (1999). How people explain behavior: a new theoretical framework. *Personality and Social Psychology Review*, 3, 23–48.

Bushfire CRC

Q9. Please use the box below if you would like to add anything about the effects of the fires on your household.

This was an open-ended question, the analysis of which is beyond the scope of this report.

Section 2: Information and warnings

This section presents basic frequencies and percentages for a series of questions relating to bushfire information and warnings. This includes questions on general information, such how to plan and prepare for bushfires, and specific information and warnings about the February 7th bushfires.

Q10. In the 12 months before the February 7th bushfire, did you get any information about how to prepare your household for bushfires from any of the following sources? You may select more than one.

	Frequency	Percent
a. ABC Radio	380	34.4
b. Other Radio	71	6.4
c. Emergency Personnel	177	16.0
d. Family, friends or neighbours	260	23.6
e. CFA Website	182	16.5
f. CFA Community meetings	339	30.7
g. CFA Community Fireguard	197	17.8
h. CFA Living in the Bush workbook	360	32.6
i. DSE website	78	7.1
j. Victorian Bushfire Information Line	30	2.7
k. Television	394	35.7
l. Other	138	12.5
m. Did not get information	135	12.2

Percentages do not add up to 100%. Respondents were invited to tick all that applied. Figures have been calculated for each option from the total response rate of 1104.

Only 12% (n = 138) of respondents claimed that they received no information on how to prepare for bushfires. The most frequently reported single source of information was television, followed closely by ABC radio and the CFA's community meetings and Living in the Bush workbook. It is also interesting to note that almost a quarter of respondents (24%, n = 260) received information from family, friends and neighbours.

Bushfire CRC

Q11. In the 12 months before the February 7th bushfire, did you get any information about what to do during a bushfire from any of the following? You may select more than one.

	Frequency	Percent
a. ABC Radio	322	29.2
b. Other Radio	56	5.1
c. Emergency Personnel	150	13.6
d. Family, friends or neighbours	217	19.7
e. CFA Website	123	11.1
f. CFA Community meetings	308	27.9
g. CFA Community Fireguard	185	16.8
h. CFA living in the bush workbook	349	31.6
i. DSE website	39	3.5
j. Victorian Bushfire Information Line	20	1.8
k. Television	302	27.4
l. Other	107	9.7
m. Did not get information	183	16.6

Percentages do not add up to 100%. Respondents were invited to tick all that applied. Figures have been calculated for each option from the total response rate of 1104.

The pattern of frequency of source of information about what to do during bushfires above matches closely the pattern of responses about sources of information about how to prepare for a bushfire. However, somewhat more respondents claimed to have received no information about what to do **during** a bushfire (n = 183 *versus* n = 135; 17% *versus* 12%).

Q12. Did you know that February 7th 2009 was a day of Total Fire Ban?

	Frequency	Percent	Valid Percent
a. Yes	1071	97.0	99.0
b. No	11	1.0	1.0
Total	1082	98.0	100.0
Missing	22	2.0	
TOTAL	1104	100.0	

The findings support what seemed to emerge in the immediate aftermath of the 7th February 2009 fires: almost everybody knew the day was a day of Total Fire Ban. However, the events of 7th February 2009 suggest that there was little connection between such awareness and individuals taking appropriate actions.

Bushfire CRC

Q13. How did you FIRST find out that the February 7th bushfire was in your town or suburb? Please select one only.

	Frequency	Percent	Valid Percent
a. Heard Radio Announcement	64	5.8	8.4
b. Internet	10	.9	1.3
c. Television	6	.5	.8
d. Family, friends or neighbours	215	19.5	28.3
e. Told by emergency personnel	20	1.8	2.6
f. Smelled or saw smoke	218	19.7	28.7
g. Saw fire approaching	93	8.4	12.3
h. Saw embers landing near the house	28	2.5	3.7
i. Saw fire burning near the house	34	3.1	4.5
j. Other	71	6.4	9.4
Total	759	68.8	100.0
Missing	345	31.3	
TOTAL	1104	100.0	

The majority of respondents noted that they first became aware of the bushfire through sensory cues from the environment (smoke, fire embers: total n = 373, 49%). The second most common form of first warning was from family, friends or neighbours (28%). Only 13% were first alerted through 'official' warnings (radio, emergency personnel, internet, television: total n = 98, 13%). This is consistent with findings from the Bushfire CRC Research Taskforce interviews.

Q14. After finding out the fire was in your town or suburb, how long was it before the fire reached your house?

	Frequency	Percent	Valid Percent
a. A few minutes	215	19.5	20.7
b. Less than half an hour	207	18.8	19.9
c. Between half an hour and one hour	124	11.2	11.9
d. 1-2 hours	103	9.3	9.9
e. More than 2 hours	223	20.2	21.5
f. The fire did not reach my house	49	4.4	4.7
g. Don't know / don't remember	117	10.6	11.3
Total	1038	94.0	100.0
Missing	66	6.0	
TOTAL	1104	100.0	

A total of 41% of respondents had less than 30 minutes in which to respond to the fires, with approximately one in five respondents (21%) only having a few minutes. It will be interesting to further explore warning time, response and property damage.

Bushfire CRC

Q15. Did you EXPECT to receive an OFFICIAL warning if there was a bushfire in your town or suburb? Official warnings include those from authorities such as the CFA, the police or other emergency services, and ABC radio.

	Frequency	Percent	Valid Percent
a. Yes	750	67.9	71.3
b. No	302	27.4	28.7
Total	1052	95.3	100.0
Missing	52	4.7	
TOTAL	1104	100.0	

The implication of the information in the table is clear: most respondents (70%) expected to receive some form of an official warning if a bushfire threatened their home. Their actions on the day were, presumably, based on this expectation.

Q16. Did you actually RECEIVE an OFFICIAL warning from any of the following? You may select more than one.

	Frequency	Percent
a. ABC Radio	188	17.0
b. Other Radio	24	2.2
c. Emergency Personnel	92	8.3
d. CFA Website	39	3.5
e. DSE website	12	1.1
f. Victorian Bushfire Information Line	6	0.5
g. CFA Community meeting	35	3.2
h. Television	10	0.9
i. Did not receive an official warning (Go to Q22)	698	63.2
j. Other	74	6.7

Percentages do not add up to 100%. Respondents were invited to tick all that applied. Figures have been calculated for each option from the total response rate of 1104.

The pattern of responses in the table above must be interpreted in light of the pattern of responses concerning expectations about warnings: nearly two-thirds ($n = 698$, 63%) of the 1104 respondents report not receiving an official warning, whereas 750 (71%) expected to. Consistent with findings from the Bushfire CRC Research Taskforce interviews, radio was the most frequently reported source of official warnings that were reportedly received.

Bushfire CRC

	Beechworth-Mudgegonga	Bendigo	Bunyip	Churchill	Horsham	Kilmore East	Murrindindi	Other
a. ABC Radio	37.8%	14.6%	19.0%	42.2%	27.7%	9.6%	13.1%	22.2%
b. Other Radio	0.0%	2.4%	3.6%	0.0%	6.4%	1.1%	5.6%	0.0%
c. Emergency Personnel	24.3%	9.8%	17.9%	7.3%	8.5%	4.2%	13.8%	0.0%
d. CFA Website	2.7%	2.4%	7.1%	5.5%	0.0%	3.2%	2.5%	0.0%
e. DSE website	2.7%	0.0%	3.6%	0.9%	0.0%	0.6%	1.3%	0.0%
f. Victorian Bushfire Information Line	2.7%	0.0%	3.6%	0.0%	0.0%	0.2%	0.0%	0.0%
g. CFA Community meeting	0.0%	0.0%	35.7%	0.9%	0.0%	0.3%	0.6%	0.0%
h. Television	0.0%	0.0%	1.2%	0.9%	0.0%	0.8%	1.3%	0.0%
i. Did not receive an official warning	24.3%	61.0%	7.1%	36.7%	48.9%	73.3%	56.3%	66.7%
j. Other	5.4%	9.8%	1.2%	5.5%	8.5%	6.9%	5.6%	11.1%
TOTAL	100% (37)	100% (41)	100% (84)	100% (109)	100% (47)	100% (666)	100% (160)	100% (9)

When sources of official warning are looked at by fire complex, it can be seen that a significant proportion of respondents from Kilmore East (73%), Bendigo (61%) and Murrindindi (56%) did not receive an official warning. It is interesting to note the split in the data for Beechworth–Mudgegonga and Churchill where, despite significant proportions of respondents receiving official warnings from ABC Radio (38% and 42%, respectively), a high proportion also stated that they did not receive a warning (24% and 37%, respectively).

Q17. Which official source was the MOST IMPORTANT in helping you to respond to the bushfire? Select ONE only.

	Frequency	Percent	Valid Percent
a. ABC Radio	213	19.3	50.2
b. Other Radio	18	1.6	4.2
c. Emergency Personnel	58	5.3	13.7
d. CFA Website	19	1.7	4.5
e. DSE website	2	.2	.5
f. Victorian Bushfire Information Line	0	.0	.0
g. CFA Community meeting	30	2.7	7.1
h. Television	3	.3	.7
i. Other	81	7.3	19.1
Total	424	38.4	100.0
Missing data	680	61.6	
TOTAL	1104	100.0	

Not only was ABC radio the most frequently reported source of official warning (for those 38% of respondents who received an **official** warning) but it was also reported to be the most important source of official warnings by half (50%) of the 424 respondents. Please note that environmental cues (smoke, flames and embers, etc.) were the most common form of first warning for respondents, followed by unofficial warnings from friends, family and neighbours. Official sources only alerted 13% of respondents to the presence of danger.

Bushfire CRC

Interestingly, only 5% of respondents thought of the official websites as important sources of information.

Q18. Was the information you received about the LOCATION of the fire clear enough for you to understand the danger to your household?

Very Clear	Clear	Unclear	No information	Don't know / remember	Valid data	Missing data
40.3% (174)	18.5% (80)	20.4% (78)	18.1% (78)	2.8% (12)	432	672

It is notable that nearly 60% of respondents found the information they received about the location of the fire to be clear or very clear. At the same time, however, 20% felt that the information they received did not provide clear enough information about the location of the fire and the danger to their household.

Q19. Was the information you received about the SEVERITY of the fire clear enough for you to understand the danger to your household?

Very Clear	Clear	Unclear	No information	Don't know / remember	Valid data	Missing data
39.4% (172)	16.7% (73)	16.0% (70)	24.9% (109)	3.0% (13)	437	667

The percentage of respondents who received an official warning provided a somewhat mixed overall appraisal of the quality of these warnings: location: 60% Very Clear or Clear, 18% No information about location; severity: 56% Very Clear or Clear, 25% No information about severity.

Q20. Did you receive the warning in enough time to respond to the bushfire safely?

	Frequency	Percent	Valid Percent
a. Ample time to respond safely	170	15.4	38.5
b. Just enough time to respond safely	133	12.0	30.1
c. Not enough time to respond safely	120	10.9	27.1
d. Don't know / don't remember	19	1.7	4.3
Total	442	40.0	100.0
Missing	662	60.0	
TOTAL	1104	100.0	

In terms of the usefulness of warnings, just over two thirds (69%) of the 442 respondents who received a warning reported that they had 'ample' or 'just enough' time to respond safely.

When these data are explored by respective fire complex (below), it can be seen that a higher proportion of respondents in Bendigo (50%) and Kilmore East (42%) than in other fires reported that they did not receive the warning in enough time to respond safely to the bushfire.

Bushfire CRC

	Beechworth-Mudgegonga	Bendigo	Bunyip	Churchill	Horsham	Kilmore East	Murrindindi	Other
a. Ample time to respond safely	47.8% (11)	0.0% (0)	77.3% (34)	61.3% (38)	35.3% (6)	25.9% (52)	31.8% (21)	40% (2)
b. Just enough time to respond safely	47.8% (11)	50.0% (6)	9.1% (4)	21% (13)	47.1% (8)	26.9% (54)	45.5% (30)	20% (1)
c. Not enough time to respond safely	4.3% (1)	50.0% (6)	9.1% (4)	17.7% (11)	17.6% (3)	41.8% (84)	15.2% (10)	20% (1)
d. Don't know/don't remember	0% (0)	0.0% (0)	4.5% (2)	0.0% (0)	0.0% (0)	5.5% (11)	7.6% (5)	20% (1)
TOTAL	100% (23)	100% (12)	100% (44)	100% (62)	100% (17)	100% (201)	100% (66)	100% (5)

Does not include respondents who stated they did not receive an official warning and were directed to skip this question.

Q21. How long AFTER you got the warning did the fire reach your house or property?

	Frequency	Percent	Valid Percent
a. A few minutes	53	4.8	12.4
b. Less than half an hour	66	6.0	15.4
c. Between half an hour and one hour	50	4.5	11.7
d. 1-2 hours	47	4.3	11.0
e. More than 2 hours	142	12.9	33.2
f. The fire did not reach my house	23	2.1	5.4
g. Don't know / don't remember	47	4.3	11.0
Total	428	38.8	100.0
Missing	676	61.2	
TOTAL	1104	100.0	

Q22. Did you receive an UNOFFICIAL warning about the fire from family, friends or neighbours?

	Frequency	Percent	Valid Percent
a. Yes	674	61.1	62.8
b. No	400	36.2	37.2
Total	1074	97.3	100.0
Missing	30	2.7	
TOTAL	1104	100.0	

A majority of respondents (63%, n = 674) stated they received a warning about the fire from a family member, friend, or neighbour. As identified in Q13, almost one in three residents received their first inkling of potential fire danger from this unofficial source. This information is consistent with the Bushfire CRC Research Taskforce interviews, where the residents were either first alerted by or confirmed warnings (particularly environmental cues) with a family member, friend, or neighbour.

Bushfire CRC

Q23. Please use the space below to describe any issues or difficulties you had with information or warnings before, during or after the bushfire.

This was an open-ended question, the analysis of which is beyond the scope of this report.

Section 3: Before the bushfire

This section presents basic frequencies and percentages for a series of questions relating to households' planning and preparedness for bushfires.

Q24. Before the February 7th bushfire, how likely did you think it was that a bushfire could occur in your town or suburb?

Very unlikely	Unlikely	Likely	Very likely	Hadn't thought about it	Valid data	Missing data
9.0% (97)	12.1% (131)	36.3% (392)	42.0% (454)	0.6% (7)	1081	23

The vast majority of survey respondents (78%) claim to have thought, before the February 7th fires, that it was 'Likely' or 'Very likely' that a bushfire would occur in their town or suburb. Hindsight could have affected these results, with experiences of the February 7th bushfires influencing people's recollections of the past.

Q25. Before the February 7th bushfire, how significant did you think the threat from bushfires was to life and property in your town or suburb?

Very low	Low	High	Very high	Hadn't thought about it	Valid data	Missing data
7.8% (84)	23.7% (255)	35.9% (387)	31.7% (341)	0.9% (10)	1077	27

As with Q24, a large majority of respondents (68%) claim to have thought, before the February 7th fires, that the threat to life and property from bushfires was 'High' or 'Very high' in their town or suburb. Again, hindsight is likely to have affected these results.

Bushfire CRC

Q26. Which of the following best describes your level of planning for bushfires BEFORE February 7th?

	Frequency	Percent	Valid Percent
a. Never thought about what I would do if a bushfire occurred	28	2.5	2.8
b. Knew I should think about what to do, but hadn't	37	3.4	3.6
c. Had thought about it but was still deciding what to do	52	4.7	5.1
d. Had thought about it and decided I didn't need to do anything	27	2.4	2.7
e. Had decided what to do and was thinking about how to make it work	135	12.2	13.3
f. Had made a firm plan about what to do if a fire occurred	703	63.7	69.2
g. Other	34	3.1	3.3
Total	1016	92.0	100.0
Missing	88	8.0	
TOTAL	1104	100.0	

The vast majority of survey respondents (69%) claim to have had a firm plan about what to do if a bushfire occurred before February 7th. It is relevant to note that the qualitative analysis of interviews with residents found that there was considerable variation in the quality of people's plans and that a considerable amount of 'last-minute' planning and preparation occurred on the day.

	Beechworth-Mudgegonga	Bendigo	Bunyip	Churchill	Horsham	Kilmore East	Murrindindi	Other
a. Never thought about what I would do if a bushfire occurred	6.7%	25.7%	2.2%	1.1%	13.5%	0.8%	2.1%	0.0%
b. Knew I should think about what to do, but hadn't	0.0%	8.6%	6.5%	4.3%	13.5%	2.5%	3.4%	10.0%
c. Had thought about it but was still deciding what to do	3.3%	20.0%	2.2%	5.3%	13.5%	4.3%	4.1%	0.0%
d. Had thought about it and decided I didn't need to do anything	3.3%	5.7%	8.7%	1.1%	8.1%	1.5%	4.1%	0.0%
e. Had decided what to do and was thinking about how to make it work	6.7%	5.7%	17.4%	9.6%	21.6%	12.5%	19.3%	10.0%
f. Had made a firm plan about what to do if a fire occurred	76.7%	28.6%	58.7%	76.6%	24.3%	75.2%	64.1%	60.0%
g. Other	3.3%	5.7%	4.3%	2.1%	5.4%	3.2%	2.8%	20.0%
TOTAL	100% (30)	100% (35)	100% (46)	100% (94)	100% (37)	100% (601)	100% (145)	100% (10)

When responses to Q26 are looked at by fire complex, it is clear that a greater proportion of residents from Bendigo (60%) and Horsham (49%) had not considered or decided what they would do if a bushfire occurred, or had decided that they didn't need to do anything. Similarly, the proportion of respondents from Bendigo (29%) and Horsham (24%) that had a firm plan of what to do if a fire occurred was significantly lower than in areas such as Beechworth-Mudgegonga (77%), Churchill (77%) and Kilmore East (75%). This is consistent with the finding presented in the first report that many interviewees living in more suburban locations had not planned or prepared for bushfires because they did not consider themselves at risk.

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	Hadn't thought about it	Very Low	Low	High	Very high
a. Never thought about what I would do if a bushfire occurred	12.5%	19.2%	5.0%	0.0%	0.0%
b. Knew I should think about what to do, but hadn't	25.0%	7.7%	8.4%	2.2%	0.3%
c. Had thought about it but was still deciding what to do	25.0%	12.8%	8.4%	3.6%	2.2%
d. Had thought about it and decided I didn't need to do anything	0.0%	10.3%	4.6%	2.0%	0.3%
e. Had decided what to do and was thinking about how to make it work	0.0%	9.0%	18.0%	17.3%	7.2%
f. Had made a firm plan about what to do if a fire occurred	37.5%	32.1%	52.7%	70.4%	89.1%
g. Other	0.0%	9.0%	2.9%	4.5%	0.9%
TOTAL	100% (8)	100% (78)	100% (239)	100% (358)	100% (321)

When respondents' perceptions of bushfire threat are cross-tabulated with level of planning (above), it can be seen that, as would be expected, respondents who perceived a 'High' or 'Very high' threat to life and property from bushfires reported having firm plans to reduce their risks from bushfires. An obvious anomaly is the 38% of respondents who hadn't thought about the bushfire threat, yet claimed to have a firm plan. However, this figure represents just three people in the sample.

Q27. At the beginning of last summer, which of the following did you think you were MOST LIKELY to do if a bushfire occurred in your town or suburb? Select ONE only.

	Frequency	Percent	Valid Percent
a. Stay and try to protect your property through the fire	513	46.5	49.9
b. Do as much as possible to protect your property but leave if threatened by the fire	179	16.2	17.4
c. Wait to see what the fire is like before deciding whether to stay and defend or leave	88	8.0	8.6
d. Wait for police, fire or emergency services to tell you what to do on the day	21	1.9	2.0
e. Leave as soon as you know there is a fire threatening your town or suburb	173	15.7	16.8
f. You would not be at home because you intended to leave on days of high fire danger	19	1.7	1.8
g. Hadn't thought about it	12	1.1	1.2
h. Other	23	2.1	2.2
Total	1028	93.1	100.0
Missing	76	6.9	
TOTAL	1104	100.0	

Half of all survey respondents (50%) reported that, at the beginning of last summer (2008), they intended to stay and defend their property throughout bushfires. A total of 19% reported their intention to leave, with 17% planning to leave as soon as they knew a fire was threatening and 2% planning to leave on all days of high fire danger.

It is significant that more than one-quarter of survey respondents (26%) were effectively undecided, planning to stay and defend but leave if threatened by fire (17%) or to wait and see what the fire was like before deciding to stay or leave.

Bushfire CRC

Q28. Given what you intended to do if a bushfire occurred in your town or suburb, had you...

	Yes	No	N/A (single person household)	Valid data	Missing
a. Discussed what you would do with all members of the household	78.0% (791)	12.5% (127)	9.5% (96)	1014	90
b. Thought about what each person would need to do?	68.3% (597)	22.2% (194)	9.5% (83)	874	230
c. Considered how things could change if some members of the household were not at home during a fire?	41.4% (349)	48.2% (407)	10.4% (88)	844	260
d. Written down important things to do and remember?	26.3% (214)	73.7% (600)	-	814	290
e. Let relatives and neighbours know about what you intended to do?	56.3% (489)	43.7% (379)	-	868	236

The vast majority of respondents (78%) reported discussing their intended response with members of their household. More than two-thirds (68%) had thought about what each member of the household would do.

It is significant that considerably fewer respondents had considered how things could change if some members of the household were not at home during a fire (41%) or written down important things to do and remember (26%).

Bushfire CRC

Q29. Which of the following had you done to prepare for bushfires? Please indicate whether the action was taken prior to February 7th or on the day of the fire. If you took an action both PRIOR TO and ON February 7th, please tick both boxes.

	Prior to Feb. 7	On Feb. 7	Both prior to and on Feb. 7	Action not taken	N/A	Valid data	Missing Data
a. Cleared leaves, twigs and long grass for a distance of about 20-30m around the house	78.3% (821)	.8% (8)	12.5% (131)	6.6% (69)	1.8% (19)	1048	56
b. Removed bushes close to the house and cut back overhanging tree branches	56% (554)	1.2% (12)	2.7% (27)	24.3% (241)	15.8% (156)	990	114
c. Used landscaping or the layout of garden to reduce the fire risk	56.8% (546)	.5% (5)	1.7% (16)	28.5% (274)	12.5% (120)	961	143
d. Moved combustible materials such as firewood and wooden garden furniture away from the house	44% (441)	16.6% (166)	8.8% (88)	23% (231)	7.7% (77)	1003	101
e. Cleared gutters of leaves	71.2% (742)	4.7% (49)	11.3% (118)	8.4% (88)	4.3% (45)	1042	62
f. Installed gutter protection	20.8% (189)	3.1% (28)	.8% (7)	67.9% (617)	7.5% (68)	909	195
g. Covered underfloor spaces to prevent embers and flames entering	14.8% (141)	3.3% (31)	0.6% (6)	46.9% (446)	34.3% (326)	950	154
h. Covered all gaps and vents to reduce the risk of embers entering the house or cavities (e.g. roof, wall, etc.)	18.9% (180)	10.8% (103)	1.6% (15)	57.9% (552)	10.8% (103)	953	151
i. Obtained and prepared fire fighting equipment (e.g. hoses and a pump)	51% (508)	5% (50)	8.9% (89)	32.1% (320)	3% (30)	997	107
j. Obtained and prepared equipment such as ladder, buckets and mops to put out spot fires	37.6% (378)	22.5% (226)	12.9% (130)	24.4% (245)	2.6% (26)	1005	99
k. Installed seals and/or draft protectors around windows and doors	27.3% (259)	6.5% (62)	1.5% (14)	58.6% (557)	6.1% (58)	950	154
l. Installed a sprinkler system on or around the house	24.8% (236)	3.7% (35)	2.6% (25)	65.1% (620)	3.9% (37)	953	151
m. Installed shutters	2.9% (27)	0.8% (7)	0.2% (2)	88% (112)	8.1% (75)	923	181
n. Prepared a kit of personal protective clothing for each member of the household	34.5% (333)	15.9% (153)	3.7% (36)	42.3% (408)	3.6% (35)	965	139
o. Obtained a battery-powered radio	53.7% (527)	3.6% (35)	2.6% (26)	37.4% (367)	2.7% (27)	982	122
p. Stored important documents and possessions off-site or in a fire safe compartment	27.6% (270)	14.9% (146)	2% (20)	53.8% (526)	1.6% (16)	978	126
q. Other (please specify)	42.3% (44)	31.7% (33)	13.5% (14)	6.7% (7)	5.8% (6)	104	1000

Bushfire CRC

Q30. How would you rate your preparedness for the February 7th bushfire?

Very high	High	Average	Low	Very low	Valid data	Missing data
15.8% (171)	31.5% (340)	35.3% (381)	11.2% (121)	6.2% (67)	1080.0	24.0

Almost half of all survey respondents (47%) rated their preparedness level as 'High' or 'Very high', 35% as 'Average' and 17% as 'Low' or 'Very low'. It should be noted that many of those who were interviewed by the Taskforce Research considered themselves to be well-prepared for a 'normal' bushfire, but not for fires of the severity experienced on February 7th.

Q31. Did you want to be more prepared than you were?

	Frequency	Percent	Valid Percent
a. Yes	753	68.2	71.6
b. No (Go to Q33)	298	27.0	28.4
Total	1051	95.2	100.0
Missing	53	4.8	
TOTAL	1104	100.0	

Q32. What prevented you from being more prepared?

This was an open-ended question, the analysis of which is beyond the scope of this report.

Q33. Please use the space below if you would like to add any comments about your experience of preparing for bushfires.

This was an open-ended question, the analysis of which is beyond the scope of this report.

Section 4: During the bushfire

This section presents basic frequencies and percentages for a series of questions relating to household responses during the February 7th bushfires.

Q34. If known, at what time did the bushfire arrive in your town or suburb? (e.g. '4.10 pm' or 'About 4 pm')

This was an open-ended question, the analysis of which is beyond the scope of this report.

Bushfire CRC

Q35. What did OTHER members of your household do? You may select more than one.

	Frequency	Percent
a. Left before the fire arrived in my town or suburb	332	30.1
b. Left when the fire arrived in my town or suburb	246	22.3
c. Stayed and actively defended the house and property	443	40.1
d. Began defending the house and property from the fire but left when they felt the danger was too great	150	13.6
e. Stayed to actively defend the house or property, but the fire never arrived	33	3.0
f. Did not actively defend the house and property but stayed throughout the fire and sheltered inside the house	67	6.1
g. Did not actively defend the house or property but stayed throughout the fire and sheltered in a structure (other than the house) or vehicle	26	2.4
h. Did not actively defend the house or property but stayed throughout the fire and took refuge somewhere outside	35	3.2

Percentages do not add up to 100%. Respondents were invited to tick all that applied. Figures have been calculated for each option from the total response rate of 1104.

Q36. Were there members of your household who needed looking after during the fire? You may select more than one.

	Frequency	Percentage
a. Yes, infants or children	262	23.7
b. Yes, elderly person/s	45	4.1
c. Yes, disabled person/s	26	2.4
d. Yes, ill person/s	21	1.9
e. Yes, other able-bodied adults who became ill or stressed during the fire	56	5.1
f. Yes, other	65	5.9
g. No	523	47.4

Percentages do not add up to 100%. Respondents were invited to tick all that applied. Figures have been calculated for each option from the total response rate of 1104.

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**Q37. Which one of the following best describes what YOU did DURING the bushfire?
Select ONE only.**

	Frequency	Percent	Valid Percent
a. Left before the fire arrived in my town or suburb	235	21.3	22.6
b. Left when the fire arrived in my town or suburb	219	19.8	21.0
c. Stayed and actively defended the house and property	419	38.0	40.2
d. Began defending the house and property from the fire but left when I felt the danger was too great	109	9.9	10.5
e. Stayed to actively defend the house or property, but the fire never arrived	19	1.7	1.8
f. Did not actively defend the house and property but stayed throughout the fire and sheltered inside the house	16	1.4	1.5
g. Did not actively defend the house or property but stayed throughout the fire and sheltered in a structure (other than the house) or vehicle	11	1.0	1.1
h. Did not actively defend the house or property but stayed throughout the fire and took refuge somewhere outside	14	1.3	1.3
Total	1042	94.4	100.0
Missing data	62	5.6	
TOTAL	1104	100.0	

Please note that Q37 directs respondents to *one* of two sets of questions that more fully explore their responses to the fires. The first set of questions (Q38–50) is intended for respondents who left their home either before or when the fire arrived in their town or suburb (and did not initiate defence). The second set of questions (Q51–71) is intended for respondents who stayed with their home or property for some or all of the fire. The table for Q37 and the following paragraph provide an overview of respondents' responses, which are examined in more detail in the corresponding sections.

The majority of survey respondents (53%) reported that they stayed to defend their homes and properties from the bushfires. Of these respondents, 11% left when they felt the danger was too great to stay, and 2% did not encounter fire on their properties. A total of 44% of respondents left their homes or properties either before or when the fires arrived in their town or suburb. A small proportion (4%) reported that they sheltered inside a house, in a structure other than a house, in a vehicle, or somewhere outside.

[PLEASE COMPLETE THIS SECTION IF YOU ANSWERED 'a' or 'b' to Q37]

Q38. On a scale of 1 to 5, where 1 is 'very early' and 5 is 'very late', when did you leave your home or property?

Very early				Very late			
1	2	3	4	5	Total	Missing	TOTAL
20.9%	11.1%	17%	26.5%	24.5%	100%		
(92)	(49)	(75)	(117)	(108)	(441)	13	454

Just over half (51%) of the respondents who left their homes and properties considered themselves to have been 'Late' or 'Very late' in leaving.

Bushfire CRC

Q39. If known, at what time did you leave? (e.g. '4.10 pm' or 'About 4 pm')

This was an open-ended question, the analysis of which is beyond the scope of this report.

Q40. To the best of your knowledge, how long before the fire arrived in your town or suburb did you leave?

	Frequency	Percent	Valid Percent
a. More than 8 hours	51	11.2	11.8
b. Between 4 and 8 hours	32	7.0	7.4
c. Between 2 and 4 hours	55	12.1	12.7
d. Between 1 and 2 hours	64	14.1	14.8
e. Between 20 and 60 minutes	75	16.5	17.4
f. Between 10 and 20 minutes	38	8.4	8.8
g. Less than 10 minutes	31	6.8	7.2
h. The fire had already arrived	86	18.9	19.9
Total	432	95.2	100.0
Missing	22	4.8	
TOTAL	454	100.0	

Just over half (53%) of respondents who left their homes and properties did so less than an hour before the fire arrived in their town or suburb. A significant proportion (36%) left less than 20 minutes before the fire arrived, with 20% leaving when the fire had already arrived.

Q41. Why did you leave your house or property on Saturday February 7th? You may select more than one.

	Frequency	Percent
a. Left for other reasons (e.g. work or visiting friends Go to Q45)	64	14.1
b. Left because it was a day of high fire danger	34	7.5
c. Left because I saw/smelled smoke nearby	141	31.1
d. Left because I saw flames nearby	95	20.9
e. Left because there was fire in the immediate vicinity of my property	99	21.8
f. Left because police, fire or emergency services told me to leave	42	9.3
g. Left because relatives, friends or neighbours told me to leave	118	26.0
h. Left because I wanted to remove other household members or visitors from any potential danger	112	24.7
i. Left because I felt it was too dangerous to stay and protect my house	215	47.4
j. Left because my house caught fire	5	1.1
k. Other	47	10.4

Percentages do not add up to 100%. Respondents were invited to tick all that applied. Figures have been calculated for each option from the total response rate of 454.

Almost half (47%) of the respondents who left their homes and properties before or when the fires arrived reported that they left because it was too dangerous to stay and protect their house. In addition to seeing or smelling fire nearby, advice from relatives friends or neighbours (26%) was a significant factor in motivating people to leave.

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Q42. Where had you originally planned to go?

	Frequency	Percent	Valid percentage
a. Another house nearby	35	8.3	9.7
b. Another building, such as a hall or a store	11	2.6	3.1
c. An open area, such as a reserve or oval	42	10.0	11.7
d. A nearby town that is safe from the fire	195	46.4	54.3
e. Other	76	18.1	21.2
Total	359	85.5	100
Missing Data	61	14.5	
TOTAL	420	100	

Q43. When you left, where did you actually go?

	Frequency	Percent	Valid percentage
a. Another house nearby	39	9.3	11.0
b. Another building, such as a hall or a store	10	2.4	2.8
c. An open area, such as a reserve or oval	19	4.5	5.4
d. A nearby town that was safe from the fire	207	49.3	58.6
e. Other	78	18.6	22.1
Total	353	84.0	100.0
Missing Data	67	16.0	
TOTAL	420	100	

The roughly even proportions for Q42 and Q43 suggest that most of those who left their homes and properties made it to their intended destination. In the majority of cases (59%), respondents left their homes for the safety of a nearby town that was not impacted by bushfires.

Q44. How did you get there?

	Frequency	Percent	Valid percentage
a. In my car	359	85.5	93.5
b. In someone else's car	16	3.8	4.2
c. On foot	2	.5	.5
d. Other	7	1.7	1.8
Total	384	91.4	100.0
Missing Data	36	8.6	
TOTAL	420	100	

The vast majority of respondents (98%) travelled to their destination in cars.

Bushfire CRC

Q45. When you left your house or property, did you feel that the danger was...?

	Frequency	Percent	Valid Percent
a. Very high	253	55.7	57.6
b. High	98	21.6	22.3
c. Moderate	38	8.4	8.7
d. Low	34	7.5	7.7
e. Very low	16	3.5	3.6
Total	439	96.7	100.0
Missing	15	3.3	
TOTAL	454	100.0	

The vast majority of respondents (80%) perceived the level of danger to be 'High' or 'Very high' when they left their house or property. This is consistent with the preliminary findings for Q38 and Q40 that many people left their homes with little or no time before the bushfire arrived.

Q46. When leaving, did you experience difficulties associated with any of the following? You may select more than one.

	Frequency	Percent
a. Poor visibility	118	26.0
b. Smoke	200	44.1
c. Embers	99	21.8
d. Flames	75	16.5
e. Traffic	107	23.6
f. Fallen trees	54	11.9
g. Car ran out of petrol	1	0.2
h. Had a car accident	4	0.9
i. Official road blocks	50	11.0
j. Other	22	4.8
k. None of the above	172	37.9

Percentages do not add up to 100%. Respondents were invited to tick all that applied. Figures have been calculated for each option from the total response rate of 454.

A significant proportion of respondents reported experiencing difficulties associated with leaving late, including: smoke (44%); poor visibility (26%); traffic (24%); embers (22%); flames (17%); and fallen trees (12%).

Q47. How long after the fire passed through your town or suburb did you first attempt to return?

	Frequency	Percent
Less than 1 hour	18	4.0
1-2 hours later	34	7.5
3-6 hours later	41	9.0
7-12 hours later	49	10.8
>12 hours later	288	63.4
Total	430	94.7
Missing Data	24	5.3
TOTAL	454	100.0

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While some residents attempted to return to their homes and properties within a few hours of the fire (approx. 20%), the vast majority (67%) attempted to return more than 12 hours later.

Q48. Why did you return? You may select more than one.

	Frequency	Percent
a. I felt the threat had passed	90	19.8
b. To defend my house and property	61	13.4
c. To see if my house had survived	304	67.0
d. To check on the safety of family and friends	105	23.1
e. To check on the safety of pets or livestock	138	30.4
f. I was concerned about looting	95	20.9
g. Other	72	15.9

Percentages do not add up to 100%. Respondents were invited to tick all that applied. Figures have been calculated for each option from the total response rate of 454.

People returned to their homes for a range of reasons, including to see if their house had survived (67%) and to check on the safety of pets or livestock (30%; as these are more likely to have been left behind) and family and friends (23%). A total of 13% of respondents returned to defend their house or property from fire.

Q49. When returning, did you experience difficulties associated with any of the following? You may select more than one.

	Valid	Percent
a. Poor visibility	38	8.4
b. Smoke	131	28.9
c. Embers	74	16.3
d. Flames	54	11.9
e. Traffic	44	9.7
f. Fallen trees	159	35.0
g. Car ran out of petrol	0	0.0
h. Had a car accident	10	2.2
i. Official road blocks	258	56.8
j. Other	23	5.1
k. None of the above	77	17.0

Respondents reported experiencing a range of difficulties when returning to their homes and properties. The most common reported difficulty was roadblocks (57%), followed by fallen trees (35%) and smoke (29%). The significant proportion of respondents who reported experiencing difficulties associated with embers (16%) and flames (12%) are likely to be those who returned to their properties within a few hours of the fire.

Bushfire CRC

Q50. If there was another similar fire in your town or suburb, would you take the same action in leaving?

	Frequency	Percent	Valid Percent
a. Yes	333	73.3	77.1
b. No	99	21.8	22.9
Total	432	95.2	100.0
Missing	22	4.8	
TOTAL	454	100.0	

Why/why not?

This was an open-ended question, the analysis of which is beyond the scope of this report.

The majority of respondents who left their homes and properties (77%) declared their intention to leave if there was a similar fire in the future. The remainder (23%) stated that they would *not* take the same action. Analysis of the qualitative responses will provide insights into the reasons why people would or would not take the same action in future fires.

[COMPLETE THIS SECTION IF YOU ANSWERED c, d, e, f, g, OR h TO Q37]

Q51. What was the main reason you stayed with your home or property during the bushfire?

	Frequency	Percent	Valid Percent
Stayed to protect my house, property and/or livestock	450	76.5	83.2
Stayed because the fire didn't reach my house or property	2	.3	.4
Stayed because I felt it was too late to leave	53	9.0	9.8
Stayed because police, fire or emergency services advised me to stay	3	.5	.6
Stayed because relatives, friends or neighbours advised me to stay	2	.3	.4
Stayed because my attempts to leave were unsuccessful	13	2.2	2.4
Other	18	3.1	3.3
Total	541	92.0	100.0
Missing data	47	8.0	
TOTAL	588	100.0	

The majority of respondents (83%) stayed with their home or property during the bushfires to protect their house, property and/or livestock. A significant proportion (12%) stayed because they felt it was too late to leave or attempted to leave but failed.

Q52. If known, from which direction did the fire approach your house or property? You can use descriptions such as 'South-west' or 'The fire came up through Smith's Gully'.

This was an open-ended question, the analysis of which is beyond the scope of this report.

Bushfire CRC

Q53. Did the fire reach your house or property?

	Frequency	Percent	Valid Percent
a. Yes	527	89.6	91.3
b. No (Go to Q56)	50	8.5	8.7
Total	577	98.1	100.0
Missing	11	1.9	
TOTAL	588	100.0	

Q54. If known, at what approximate time did the fire reach your house or property? (e.g. '4.10 pm' or 'About 4 pm')

This was an open-ended question, the analysis of which is beyond the scope of this report.

Q55. How long did it take for the fire to pass over your property?

This was an open-ended question, the analysis of which is beyond the scope of this report.

Q56. How safe did you feel while staying at your house?

	Frequency	Percent	Valid Percent
a. Very Safe	39	6.6	7.0
b. Safe	139	23.6	25.0
c. Neither safe nor unsafe	209	35.5	37.5
d. Unsafe	72	12.2	12.9
e. Very unsafe	98	16.7	17.6
Total	557	94.7	100.0
Missing	31	5.3	
TOTAL	588	100.0	

Perceptions of personal safety were evenly distributed for those who stayed with their homes and properties during the bushfire, with 32% feeling 'Safe' or 'Very safe', 38% feeling 'Neither safe nor unsafe', and 31% feeling 'Unsafe' or 'Very unsafe'.

	Beechworth-Mudgegonga	Bendigo	Bunyip	Churchill	Horsham	Kilmore East	Murrindindi	Other
a. Very safe	18.2%	0.0%	6.5%	2.2%	11.5%	7.7%	0.0%	20.0%
b. Safe	40.9%	0.0%	6.5%	31.1%	42.3%	23.7%	29.8%	0.0%
c. Neither safe nor unsafe	27.3%	41.7%	67.7%	35.6%	23.1%	36.9%	38.6%	20.0%
d. Unsafe	9.1%	25.0%	12.9%	13.3%	19.2%	11.7%	14.0%	40.0%
e. Very unsafe	4.5%	33.3%	6.5%	17.8%	3.8%	20.0%	17.5%	20.0%
TOTAL	100% (22)	100% (12)	100% (31)	100% (45)	100% (26)	100% (350)	100% (57)	100% (5)

When perceptions of safety are examined by fire complex, it can be seen a majority of residents in Bendigo (53%) did not feel safe, with roughly a third of residents in Murrindindi (32%), Kilmore East (31%) and Churchill (31%) feeling 'Unsafe' or 'Very unsafe'. It is

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interesting to note that the majority of respondents in Beechworth–Mudgegonga (59%) and Horsham felt ‘Safe’ or ‘Very safe’ (54%).

Q57. As the fire approached your property on February 7th, how confident were you that you ...

	Very confident	Confident	Not very confident	Not confident at all
a. Could do what was required to protect yourself and others?	24.9% (137)	53.5% (295)	15.1% (83)	6.5% (36)
b. Could do what was required to protect your house and property?	17.2% (93)	52.4% (283)	21.1% (114)	9.3% (50)
c. Would get help from other people? (e.g. neighbours, friends)	6.8% (36)	14% (74)	20.3% (107)	58.8% (310)
d. Would get help from fire and emergency services?	4.3% (23)	11.5% (61)	16.7% (89)	67.5% (359)

On the whole, respondents were confident that they could do what was required to protect themselves and others (78%) and their homes and properties (70%), but not confident that they would get help from other people (79%) or fire and emergency services (84%).

Q58. Did you receive help from any of the following sources when staying with your house? You may select more than one.

	Frequency	Percent
a. Other household members	284	48.3
b. Family, friends or neighbours	251	42.7
c. Fire or emergency services	63	10.7
d. Other	40	6.8
e. None of the above	132	22.4

Percentages do not add up to 100%. Respondents were invited to tick all that applied. Figures have been calculated for each option from the total response rate of 588.

Significantly more respondents reported receiving help from other household members (48%) and family, friends or neighbours (43%) than fire or emergency services (11%). Almost one-quarter of respondents (22%) reported receiving no help at all when staying with their house.

Q59. Did you experience any difficulties while staying with your home or property? (e.g. lost electricity, suffered smoke inhalation)

This was an open-ended question, the analysis of which is beyond the scope of this report.

Q60. Did you leave your property at any stage during the fire?

	Frequency	Percent	Valid Percent
a. Yes	190	32.3	33.3
b. No (Go to Q70)	380	64.6	66.7
Total	570	96.9	100.0
Missing	18	3.1	
TOTAL	588	100.0	

Bushfire CRC

One-third (33%) of respondents who stayed with their house and property during the bushfire reported leaving at some stage during the fire.

Questions 61 through 69 include only the 190 respondents who selected 'Yes' in Question 60 to indicate that they left their property during the fire

Q61. Why did you leave your house or property? You may select more than one.

	Frequency	Percent
a. Left because I saw/smelled smoke nearby	26	13.7
b. Left because I saw flames nearby	55	28.9
c. Left because there was fire in the immediate vicinity of my property	62	32.6
d. Left to get things that were needed to defend the property (e.g. petrol pump, generator, petrol)	12	6.3
e. Left because police, fire or emergency services told me to leave	12	6.3
f. Left because relatives, friends or neighbours told me to leave	27	14.2
g. Left because I felt it was too dangerous to stay and protect my house	88	46.3
h. Left because I sustained an injury while defending the house (e.g. smoke inhalation or burns)	6	3.2
i. Left because I wanted to remove other household members or visitors from any potential danger	51	26.8
j. Left because utilities (e.g. water, electricity) or equipment (e.g. generators, pumps) failed and I was unable to defend my property without them	48	25.3
k. Left because my house caught fire	29	15.3
l. Other	56	29.5

Percentages do not add up to 100%. Respondents were invited to tick all that applied. Figures have been calculated for each option from the total response rate of 190.

The most commonly cited reason for leaving a house or property during the bushfire was that it was too dangerous to stay and defend (46%). Other commonly cited reasons were that there were flames in the immediate vicinity of the property (33%) or nearby (29%) and to remove other household members of visitors from danger.

Almost one-quarter of these respondents reported leaving because utilities or equipment failed (25%) and/or because their house caught fire (15%).

Q62. Please use the box below if you would like to add comments about why you left your property.

This was an open-ended question, the analysis of which is beyond the scope of this report.

Bushfire CRC

Q63. Where was the fire when you left your house or property?

	Frequency	Percent	Valid Percent
a. On my property	81	42.6	44.8
b. Less than 100 m from my property	35	18.4	19.3
c. Between 100 m and 500 m from my property	26	13.7	14.4
d. More than 500 m from my property	18	9.5	9.9
e. Other	21	11.1	11.6
Total	181	95.3	100.0
Missing data	9	4.7	
TOTAL	190	100	

Given that these respondents attempted to stay but had to leave for the reasons discussed above (Q61), it is not surprising that many had fire within 500 m of their house or property (79%), including 45% with fire already on their property.

Q64. When you left, where did you go?

	Frequency	Percent	Valid Percent
a. Another house nearby	58	30.5	35.8
b. Another building, such as a hall or store	10	5.3	6.2
c. An open area, such as a reserve or oval	18	9.5	11.1
d. A nearby town that was safe from the fire	37	19.5	22.8
e. Other - please specify	39	20.5	24.1
Total	162	85.3	100.0
Missing data	28	14.7	
TOTAL	190	100	

Many of those who left their house or property after attempting to stay travelled to a nearby house (36%) or town (23%). As a significant proportion of respondents selected 'Other' (24%); it is expected that analysis of the qualitative data will shed more light on where these respondents went.

Q65. How safe did you feel when travelling to your chosen location?

	Frequency	Percent	Valid Percent
a. Very safe	19	10.0	10.0
b. Safe	31	16.3	16.3
c. Neither safe nor unsafe	50	26.3	26.3
d. Unsafe	34	17.9	17.9
e. Very unsafe	56	29.5	29.5
Total	190	100.0	100.0
Missing data	0	.0	
TOTAL	190	100.0	

Almost half (47%) of respondents who left their house or property after attempting to stay did not feel safe travelling to the new location. This can be attributed to the close proximity of the fire for most of these people (see Q63), which is likely to have restricted their options for relocating.

Bushfire CRC

**Q66. When leaving, did you experience difficulties associated with any of the following?
You may select more than one.**

	Frequency	Percent
a. Poor visibility	99	52.1
b. Smoke	138	72.6
c. Embers	112	58.9
d. Flames	105	55.3
e. Traffic	44	23.2
f. Fallen trees	65	34.2
g. Car ran out of petrol	1	0.5
h. Had a car accident	3	1.6
i. Official road blocks	29	15.3
j. Other	18	9.5
k. None of the above	21	11.1

Percentages do not add up to 100%. Respondents were invited to tick all that applied. Figures have been calculated for each option from the total response rate of 190.

A significant proportion of respondents who left their house or property after attempting to stay experienced a range of difficulties when leaving, including: smoke (73%); embers (59%); flames (55%); poor visibility (52%); and fallen trees (34%).

Q67. When did you return to your property?

	Frequency	Percent	Valid Percent
a. Before the fire reached my property	7	3.7	4.1
b. As the fire reached my property	10	5.3	5.8
c. 1-2 hours after the fire had reached my property	28	14.7	16.4
d. 3-6 hours after the fire had reached my property	24	12.6	14.0
e. 7-12 hours after the fire had reached my property	19	10.0	11.1
f. More than 12 hours after the fire had reached my property	36	18.9	21.1
g. Other	47	24.7	27.5
Total	171	90.0	100.0
Missing data	19	10.0	
TOTAL	190	100.0	

A total of 29% were able to return before or within a couple of hours of the fire passing.

Q68. Why did you return? You may select more than one.

	Frequency	Percent
a. I felt the threat had passed	42	22.1
b. To defend my house and property	69	36.3
c. To see if my house had survived	87	45.8
d. To check on the safety of family and friends	26	13.7
e. To check on the safety of pets and/or livestock	58	30.5
f. I was concerned about looting	39	20.5
g. Other	30	15.8

Bushfire CRC

Percentages do not add up to 100%. Respondents were invited to tick all that applied. Figures have been calculated for each option from the total response rate of 190.

As was the case for those who left before or when the bushfire arrived (Q48), the main reason respondents who had originally attempted to stay returned was to see if their house had survived (46%). A significantly greater proportion of these residents (36% compared with 13% in Q48) returned to defend their house and property, presumably because many relocated to a house or somewhere else nearby (Q64) and were able to return soon after the fire has passed (Q67).

Q69. When returning, did you experience difficulties associated with any of the following? You may select more than one.

	Frequency	Percent
a. Poor visibility	49	25.8
b. Smoke	101	53.2
c. Embers	69	36.3
d. Flames	67	35.3
e. Traffic	17	8.9
f. Fallen trees	86	45.3
g. Car ran out of petrol	1	0.5
h. Had a car accident	0	0.0
i. Official road blocks	64	33.7
j. Other	27	14.2

** Percentages do not add up to 100%. Respondents were invited to tick all that applied. Figures have been calculated for each option from the total response rate of 190.*

These respondents reported experiencing a range of difficulties when returning to their homes and properties, including: smoke (53%); fallen trees (45%); embers (36%); flames (35%); and official roadblocks (34%).

Q70. If there was another similar fire in your town or suburb, would you take the same action in staying to protect your home and property?

	Frequency	Percent	Valid Percent
a. Yes	428	72.8	78.4
b. No	118	20.1	21.6
Total	546	92.9	100.0
Missing	42	7.1	
TOTAL	588	100.0	

Why/why not? [Text box]

This was an open-ended question, the analysis of which is beyond the scope of this report.

The majority of respondents who stayed with their homes and properties (78%) declared their intention to stay and protect their home and property if there was a similar fire in the future. The remainder (22%) stated that they would *not* take the same action. Analysis of the qualitative responses will provide insights into the reasons why people would or would not take the same action in future fires.

Bushfire CRC

Q71. Please use the space below if you would like to add any comments about your experience of staying with your home or property during the bushfire.

This was an open-ended question, the analysis of which is beyond the scope of this report.

Section 5: Information about you and your household

Q72. Are you male or female?

	Frequency	Percent	Valid Percent
a. Male	480	43.5	46.8
b. Female	546	49.5	53.2
Total	1026	92.9	100.0
Missing	78	7.1	
TOTAL	1104	100.0	

Q73. Which of the following age groups do you belong to?

Years	Frequency	Percent	Valid Percent
18-24	8	.7	.8
25-34	68	6.2	6.5
35-44	230	20.8	22.0
45-54	283	25.6	27.1
55-64	281	25.5	26.9
65-74	134	12.1	12.8
75+	41	3.7	3.9
Total	1045	94.7	100.0
Missing	59	5.3	
TOTAL	1104	100.0	

Q74. On February 7th, what type of property did you have?

	Frequency	Percent	Valid Percent
a. House or unit on residential block	246	22.3	23.3
b. House on a hobby farm or small acreage	606	54.9	57.4
c. House on a large farm or other large property	172	15.6	16.3
d. Land without house	9	.8	.9
e. Other	23	2.1	2.2
Total	1056	95.7	100.0
Missing	48	4.3	
TOTAL	1104	100.0	

Bushfire CRC

Q75. How much of your time were you spending living on this property?

	Frequency	Percent	Valid Percent
a. Full time	1045	94.7	97.4
b. Part time	22	2.0	2.1
c. Did not live on property	6	.5	.6
Total	1073	97.2	100.0
System	31	2.8	
TOTAL	1104	100.0	

Q76. How long had you had this property?

	Frequency	Percent	Valid Percent
0-5 years	293	26.5	27.3
6-10 years	223	20.2	20.8
11-20 years	251	22.7	23.4
21+ years	305	27.6	28.5
Total	1072	97.1	100.0
Missing	32	2.9	
TOTAL	1104	100.0	

Q77. How long had you been living in this town or suburb?

	Frequency	Percent	Valid Percent
0-5 years	243	22.0	22.7
6-10 years	206	18.7	19.2
11-20 years	257	23.3	24.0
21+ years	365	33.1	34.1
Total	1071	97.0	100.0
Missing	33	3.0	
TOTAL	1104	100.0	

Q78. Did you own your property or were you renting?

	Frequency	Percent	Valid Percent
a. Owned or was buying house or property	1003	90.9	93.7
b. Renting	48	4.3	4.5
c. Other	20	1.8	1.9
Total	1071	97.0	100.0
Missing	33	3.0	
TOTAL	1104	100.0	

Bushfire CRC

Q79. What kind of insurance did you have on February 7th 2009? You may select more than one.

	Frequency	Percent
a. House and contents	929	84.0
b. House only	42	3.8
c. Contents only	42	3.8
d. Outbuildings (e.g. sheds)	269	24.4
e. Farm insurance (e.g. livestock, machinery, fencing)	191	17.3
f. None	49	4.4

Percentages do not add up to 100%. Respondents were invited to tick all that applied. Figures have been calculated for each question from the total response rate of 1104.

Q80. What is the composition of your household?

	Frequency	Percent	Valid Percent
a. Couple with children or other dependents	380	34.4	35.5
b. One adult with children or other dependents	43	3.9	4.0
c. Couple without children or other dependents (Go to Q82)	381	34.5	35.6
d. One person household (Go to Q82)	135	12.2	12.6
e. Shared house with other adults (Go to Q82)	83	7.5	7.8
f. Other	48	4.3	4.5
Total	1070	96.9	100.0
Missing	34	3.1	
TOTAL	1104	100.0	

Q81. In the boxes below, please indicate how many children or dependents in each age category live in your household.

	One	Two	Three	Four	Five	Six
a. Infants and very young children (0-5 years old)	7.8% (86)	4.6% (51)	.1% (1)	.1% (1)	0% (0)	0% (0)
b. Young children (6-11 years old)	9.7% (107)	3.8% (42)	.5% (5)	0% (0)	0% (0)	0% (0)
c. Adolescents (12-18 years old)	11.9% (131)	7.4% (82)	1.7% (19)	.4% (4)	.1 (1)	.1% (0)
d. Elderly or aged (65 years old and greater)	3% (33)	1.7% (19)	0% (0)	.1% (1)	0% (0)	0% (0)

Percentages do not add up to 100%. Respondents were invited to tick all that applied. Figures have been calculated for each question from the total response rate of 1104.

Q82. On February 7th, were you registered as a CFA volunteer?

	Frequency	Percent	Valid Percent
a. Yes, registered	77	7.0	7.1
b. No, but past member	114	10.3	10.5
c. No, never a member	898	81.3	82.5
Total	1089	98.6	100.0
Missing	15	1.4	
TOTAL	1104	100.0	

Bushfire CRC

Q83. On February 7th, were you a member of a CFA Community Fireguard group?

	Frequency	Percent	Valid Percent
a. Yes, registered	164	14.9	15.2
b. No, but past member	70	6.3	6.5
c. No, never a member	846	76.6	78.3
Total	1080	97.8	100.0
Missing	24	2.2	
TOTAL	1104	100.0	

5. Concluding comments

This report has presented preliminary findings from a survey of approximately 1350 households that were affected by the February 7th bushfires (see Executive Summary for key findings). The findings are based on a basic analysis of 1104 completed surveys. Those surveys not included in this analysis were returned after the first round of data entry was completed and will be available for subsequent analysis.

It is important to recognise that the findings detailed within this report are indicative and preliminary. Basic frequencies and percentages have been presented for each question contained in the survey. A more sophisticated and comprehensive statistical analysis of the entire dataset is required to identify trends and correlations within the data. In particular, analysis of the relationship between household actions and outcomes (i.e. life and property loss or survival) is required. Further analysis of data within the major fire complexes is also required.

Appendix A: Package sent to residents