

2009 Victorian Bushfires
Royal Commission

# THE FIRES AND THE FIRE-RELATED DEATHS

FINAL REPORT VOLUME I


**THE HON. BERNARD TEAGUE AO** – CHAIRPERSON

**RONALD MCLEOD AM** – COMMISSIONER

**SUSAN PASCOE AM** – COMMISSIONER



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2009 Victorian Bushfires
Royal Commission

Professor David de Kretser AC
Governor of Victoria
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Melbourne 3004

Your Excellency

In accordance with the Letters Patent dated 16 February 2009, we have the honour of presenting to you the final report of the 2009 Victorian Bushfires Royal Commission.

It consists of four volumes and a summary:

- Volume I, *The Fires and the Fire-related Deaths*, describes the progress of the fires that burned in Victoria in January and February 2009 and summarises the results of the Commission's inquiries into the 173 associated deaths.
- Volume II, *Fire Preparation, Response and Recovery*, presents the Commission's conclusions and recommendations in connection with fire preparation, response and recovery.
- Volume III, *Establishment and Operation of the Commission*, describes how the Commission went about its work.
- Volume IV, *The Statements of Lay Witnesses*, presents the statements and associated materials of the 100 lay witnesses who shared with the Commission their experiences of the fires. As this volume contains some video footage, it is only available in an electronic version.

It has been a privilege to undertake this work. We hope that our findings and recommendations will help to ensure that we do not see a repetition of the tragedy of 7 February 2009.

Dated this 31st day of July 2010.

**The Honourable Bernard Teague AO**
Chairperson

**Ronald McLeod AM**
Commissioner

**Susan Pascoe AM**
Commissioner

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# PREFACE

The bushfires of Black Saturday, 7 February 2009, caused the death of 173 people. Black Saturday wrote itself into Victoria's history with record-breaking weather conditions and bushfires of a scale and ferocity that tested human endurance. The lives of many Victorians were changed forever, and many showed they are capable of deeds of great courage and compassion. Although some communities were physically destroyed, their members also displayed ingenuity, strength and resolve in the face of this calamity. There was also widespread devastation of considerable areas of the scenic forests and woodlands that form part of Victoria's natural heritage.

Eighteen months later, the landscape is healing, flora and fauna are returning, and individuals and communities are getting on with rebuilding their homes and lives. We acknowledge the losses—of family, friends, fellow citizens, homes, gardens, animals, and the many other things that people hold dear. We have seen the pain people have endured and continue to bear, and we know it will be a long road to full recovery for many. Bushfire is an intrinsic part of Victoria's landscape, and if time dims our memory we risk repeating the mistakes of the past. We need to learn from the experiences of Black Saturday and improve the way we prepare for and respond to bushfires.

The 2009 Victorian Bushfires Royal Commission was an important part of ensuring that those lessons are clearly defined and learnt. The Commission conducted an extensive investigation into the causes of, the preparation for, the response to and the impact of the fires that burned throughout Victoria in late January and February 2009. As Commissioners, we concentrated on gaining an understanding of precisely what took place and how the risks of such a tragedy recurring might be reduced.

In our deliberations we ensured that the voices of affected community members were heard. Our priority was to listen to people directly affected by the fires. We also ensured that the Commission's processes were firmly based in the community through open hearings (including in regional towns), web streaming so that people could listen to the hearings over the internet, public submissions, the participation of lay witnesses, the creation of the Black Saturday Gallery, and the participation of family and friends in hearings about people who died as a result of the fires. This access will continue: the Commission's website will remain active, and all the Commission's documentation will be available at the Public Records Office of Victoria.

This report is an important part of securing the memory of the fires. The first volume describes the origins and course of the 15 fires that wrought the greatest harm on 7 February and the response to them. It also tells the stories of the 173 people who died. Volume II looks at what lessons can be learnt from these experiences—how we can reduce the risk and impacts of fire and minimise fire-related loss of life in future. Volume III reports on the Commission's administration and processes. Volume IV reproduces the statements of the 100 lay witnesses who gave personal accounts of their experiences in the fires in late January and February and in their aftermath. The stories told by these people grounded our work. They continually reminded all at the Commission that bushfires deeply affect people and communities and that their needs and safety must be at the forefront of government policy.

The recommendations we make give priority to protecting human life, and they are designed to reflect the shared responsibility that governments, fire agencies, communities and individuals have for minimising the prospect of a tragedy of this scale ever happening again.

We offer this report to the Governor and the people of Victoria.

**The Hon. Bernard Teague AO**
Chairperson

**Ronald McLeod AM**
Commissioner

**Susan Pascoe AM**
Commissioner

**ELIZABETH THE SECOND BY THE GRACE OF GOD**
**QUEEN OF AUSTRALIA AND HER OTHER REALMS AND TERRITORIES,**
**QUEEN, HEAD OF THE COMMONWEALTH**

To The Honourable Bernard George Teague AO
Ronald Neville McLeod AM
Susan Mary Pascoe AM

GREETINGS:

WHEREAS:

A. On Saturday 7 February 2009, the State of Victoria experienced the most devastating bushfires in its history, resulting in a catastrophic loss of life and public and private property.

B. The State of Victoria is recognised as a region subject to a very high fire risk and has previously experienced extensive bushfires, most notably in 1939, 1944, 1969, 1977, 1983, 2003, 2005 and 2006.

C. A range of inquiries conducted after those bushfires has led to the development of a coordinated State-wide approach to planning for, and responding to, bushfires and an extensive network of career and volunteer emergency services personnel.

D. The weather conditions on 7 February were unprecedented in terms of high temperatures, low humidity and wind speeds, following years of drought. The conditions on that day also followed a heatwave and bushfires, including in Gippsland, in late January 2009.

E. Over 4,000 fire service volunteers and career staff immediately responded to combat more than 300 fires across Victoria on 7 February and over 10,000 personnel were subsequently involved in the largest coordinated emergency response and community recovery operation in the State's history.

F. The State acknowledges and commends the significant dedication and efforts of staff and volunteers in responding to this emergency in extremely difficult conditions.

G. Notwithstanding the scale of these efforts, there was an unprecedented loss of life, extreme property damage, and major community trauma and displacement.

H. The Governor of the State of Victoria, in the Commonwealth of Australia, by and with the advice of the Executive Council, has therefore deemed it to be expedient that a Commission should issue to you in the terms set out below.

I. It is anticipated that in conducting Our Commission you will take into account the important role and functions of the Coroner, Victoria Police, the Director of Public Prosecutions and the Victorian Bushfire Reconstruction and Recovery Authority, and that you will consult with each of those persons or bodies to the extent that you consider appropriate in order to avoid the inquiries of Our Commission from interfering unnecessarily with the functions of those persons or bodies.

NOW THEREFORE the Governor of the State of Victoria, in the Commonwealth of Australia, by and with the advice of the Executive Council and acting pursuant to section 88B of the **Constitution Act 1975**, appoints and constitutes you

The Honourable Bernard George Teague AO
Ronald Neville McLeod AM
Susan Mary Pascoe AM

to be Our Commissioners

AND HEREBY APPOINTS The Honourable Bernard George Teague AO to be Chairperson of the Royal Commission.

FOR THE PURPOSE of inquiring into and reporting on the following matters:

1. The causes and circumstances of the bushfires which burned in various parts of Victoria in late January and in February 2009 ("2009 Bushfires").

2. The preparation and planning by governments, emergency services, other entities, the community and households for bushfires in Victoria, including current laws, policies, practices, resources and strategies for the prevention,

identification, evaluation, management and communication of bushfire threats and risks.

3. All aspects of the response to the 2009 Bushfires, particularly measures taken to control the spread of the fires and measures taken to protect life and private and public property, including but not limited to:

   (a) immediate management, response and recovery;
   (b) resourcing, overall coordination and deployment; and
   (c) equipment and communication systems.

4. The measures taken to prevent or minimise disruption to the supply of essential services such as power and water during the 2009 Bushfires.

5. Any other matters that you deem appropriate in relation to the 2009 Bushfires.

AND WE direct you to make such recommendations arising out of your inquiry as you consider appropriate, including recommendations for governments, emergency services, other entities and the community on:

6. The preparation and planning for future bushfire threats and risks, particularly the prevention of loss of life.

7. Land use planning and management, including urban and regional planning.

8. The fireproofing of housing and other buildings, including the materials used in construction.

9. The emergency response to bushfires.

10. Public communication and community advice systems and strategies.

11. Training, infrastructure, and overall resourcing needs.

AND WE do by these presents give and grant you full power and authority to call before you such person or persons as you shall judge likely to afford you any information upon the subject of this Our Commission, and to inquire of and concerning the premises by all other lawful ways and means whatsoever.

AND WE declare the powers of the Commission at the discretion of the Chairperson may, at any time, be exercised by one or more Commissioners.

AND WE will and command that this Our Commission shall continue in full force and virtue and that you shall and may from time to time and at every place or places proceed in the execution thereof, and of every matter and thing therein contained although the same be not continued from time to time by adjournment.

AND WE direct you to conduct your inquiry as expeditiously as possible and to furnish US with:

(i) an interim report focusing on immediate actions that can be taken prior to the 2009-2010 fire season, by 17 August 2009; and

(ii) a final report by 31 July 2010 or such later date as WE may be pleased to fix.

IN TESTIMONY WHEREOF WE have caused these Our Letters to be made Patent and the Seal of the State to be hereunder affixed.

WITNESS His Excellency Professor David de Kretser, Companion of the Order of Australia, Governor of Victoria and its dependencies in the Commonwealth of Australia at Melbourne this 16th day of February Two thousand and nine in the fifty-eighth year of Our reign.

By His Excellency's Command

Premier of Victoria

Entered on the record by me in the Register of Patents Book No 44 Page No 111 on the 16th day of February 2009.

Secretary, Department of Premier and Cabinet

# A NOTE FOR READERS

The Commission is conscious of the wide interest in its report—not only in Victoria but elsewhere in Australia and internationally. Its readership will be broad and readers' interests will vary. Some chapters will be of keen interest to many, including people affected by the late January and February 2009 bushfires. Other chapters are directed at a more technical readership and might be of interest to academics or practitioners. Governments and their agencies will probably examine the entire report in detail, seeking to understand its implications for policy, operational practices and service delivery.

In view of this broad audience, the Commission tried to make its report as accessible as possible, without undue technicalities, and thus more easily read by the general public. Each chapter is designed to stand alone to help readers who might have more discrete interests. Such an approach inevitably results in some repetition. Each chapter's introductory remarks provide brief background information, describe the chapter's purpose, and summarise the essential position the Commission is advocating.

The report is available in hard-copy and digital form. The digital version contains links to the evidence for those interested in seeing additional detail about the material discussed (the transcript and exhibits) and submissions. The report was written with electronic production in mind, and this influenced decisions about matters such as the presentation of endnotes.

Following are some of the terms used in the report in the interests of consistency and simplicity:

- bunkers—when referring to personal bushfire shelters
- community refuges—rather than designated refuges
- bushfire shelters—rather than neighbourhood safer places, except where the current policy framework is being discussed
- roadblocks—rather than traffic management points
- code red days—rather than Code Red/Catastrophic days
- stay or go—to refer to Victoria's bushfire safety policy
- vulnerable people—incorporating groups such as young people, older people, the ill and the infirm.

Technical terms are, however, used if a direct reference is made to existing government policy or in a direct quote, to ensure that the meaning is conveyed accurately. Further, some of the terms used in this report differ from those used in the Commission's interim report. The decision to use different terminology is based on new evidence and a desire to simplify and clarify the language used.

The Commission recognises that a number of different terms are used to describe bushfires—for example, wildfire and megafire, as used in the United States. To ensure consistency and minimise confusion, this report uses the term 'bushfire' in all instances other than when referring to the name of a policy or report. The Commission also tends to use the words 'ferocious' and 'severe' to describe the type of fire that occurred on 7 February.

For simplicity, the Commission also uses the term 'wind change' generically when referring to the complex interaction between changes in the wind's direction and fire behaviour. Chapter 1 in Volume I discusses the impact of wind on fire behaviour and the nature of the wind change on Black Saturday.

Overall, the Commission did not reach a firm view about the appropriateness of using any of these terms beyond its final report, but it does note a preference for plain language. In Chapter 11 in Volume II the Commission expresses support for further work being done in order to identify the best words to use in public communications about bushfire.

Three other conventions applied in this report warrant mention. First, for consistency with fire agencies' use in bushfire warnings and other measurements of time, the 24-hour clock is used in the discussion of the fires in Part One of Volume I. Throughout the rest of the report the 12-hour clock is used to refer to time. Second, although metric measures are generally used in the report, imperial measures are used if they reflect more commonly understood terminology—for example, a quarter-acre block.

Third, readers should bear in mind that the Commission draws a distinction between 'State' and 'state'. The State refers generically to the mechanisms of the Victorian Government, including the departments and agencies that were collectively represented as parties before the Commission. In contrast, the state is used in reference to Victoria as a place or geographic entity.

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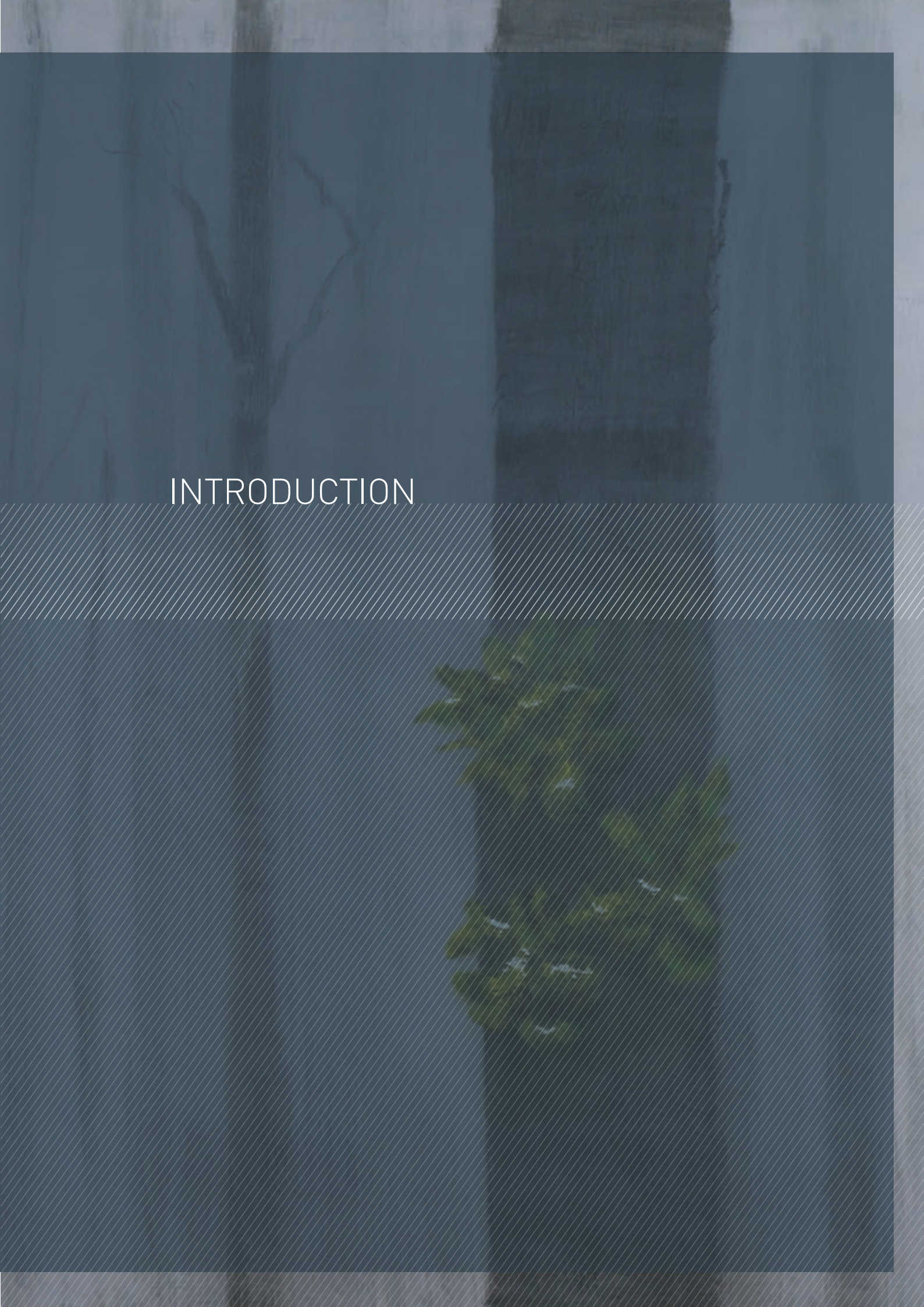
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Source: Courtesy of the *Herald & Weekly Times*.

# INTRODUCTION



# INTRODUCTION

> I knew the fire front was coming. You could hear it, you could smell it, you could feel the heat coming up out of the valley … I could hear a rushing, not a wind; it was different from a wind. It was a white noise you could call it almost … like a pressure. If pressure could make a noise that is what it would sound like …
>
> The flames were right there. They would have been about 50 metres away. The flames were so high. They were the height of the trees and that again … 300 feet high plus. There were big, swirling vortexes, just big, swirling masses of flames that would just burst and explode out of the … tree tops.[1]

These are the words of Mr Greg Weir from Churchill, who sheltered in a dam with his son while a firefront traversed his property on 7 February 2009.[2] His words echo the experiences and highlight the severity of the situations that confronted many of the people who faced the bushfires that burned in Victoria in late January and February 2009. Saturday 7 February, Black Saturday, has become part of Australian history—the day fire caused such grave harm to life, the environment, community and property in Victoria.

Immediately before 7 February people were warned that one of the most extreme fire danger days in Victoria's history was predicted, but many were still not prepared for the ferocity of the fires that eventuated.[3] In the lead-up to the day the Premier of Victoria, the Hon. John Brumby MP, described the state as 'tinder dry', and the Country Fire Authority and the Department of Sustainability and Environment warned that forests and grasslands were considered to be the driest they had been since the Ash Wednesday fires of 1983.[4]

To exacerbate the situation, Victoria had endured one of its most severe and prolonged heatwaves during the final week of January 2009. The temperature in Melbourne was above 43°C for three consecutive days for the first time since records had been kept.[5] The day of 7 February was forecast to reach temperatures in the low 40s, accompanied by strong winds. The weather pattern led the Chief Fire Officer of DSE to warn area fire managers that conditions lent themselves to a catastrophic event that could involve multiple fires.[6]

The situation forecast for 7 February was realised. Temperatures were nearing 40°C by 11.00 am in many areas and later climbed to the mid-40s. Many parts of the state endured record-breaking maximums—including Melbourne, which reached 46.4°C. Strong winds in the morning grew to storm force as the day progressed, and a wind change moved across the state during the afternoon, greatly intensifying the fires and the danger.[7]

## THE CONSEQUENCES OF THE FIRES

The drought and weather conditions in Victoria during January and February 2009 magnified the potential consequences of any fires, particularly on very hot, dry, windy days, as demonstrated by the destruction wrought on 7 February, when the state's fire agencies and resources were stretched to their utmost.[8] The Commission was informed that the CFA and DSE attended or patrolled 316 grass, scrub or forest fires on that day.[9]

The most shocking consequence of the fires was the death of 173 people. Left behind are families, friends and communities still trying to accept their loss. Accompanying this loss of life is the fires' impact on property and the infrastructure that supports communities. More than 2,000 homes were destroyed or damaged; thousands of structures and over 10,000 kilometres of fencing were destroyed; townships such as Marysville and Kinglake were almost obliterated.

The natural environment was heavily impacted. About 430,000 hectares of land were burnt in early 2009.[10] Although the flora have begun to recover and fauna have begun to return, the environmental impact of the fires will take years to fully reveal itself—let alone be tempered.

It is extremely difficult to quantify the cost of a disaster like this, but the Commission considers the cost to probably be more than $4 billion (see Appendix A).

This was one of Australia's worst natural disasters, and it will be many years before its effects dim. Governments, fire and emergency agencies, and all individuals can learn valuable lessons from those days, so that we might limit the chances of such destruction occurring again. Ms Jill Scherman's son, his girlfriend and his girlfriend's brother all died in the fire at Steels Creek. In a statement she read to the Commission Ms Scherman spoke of the need to learn from this experience:

> The truth is that experience is costly. In the usual course of life you cannot gain experience without paying a price but in the experience of the many bushfire-affected families of this state and those in charge of the systems … the price has been immeasurable … It is tragic to pay the price for the experience and not learn the lesson.[11]

## BUSHFIRE IN THE CONTEXT OF AUSTRALIAN DISASTERS

Bushfire is one of several types of natural catastrophe that affect Australia. Cyclones, hail, severe storms and inland floods are also enormously damaging. The insurance industry's database of insured events associated with natural catastrophes—a database going back to 1967—has bushfire accounting for about 16 per cent of natural catastrophe losses in Australia and about 29 per cent of those in Victoria before 2009.[12] Looking beyond property losses, bushfires are the most hazardous type of disaster in Australia in terms of death and injury, accounting for almost 40 per cent of deaths and 57 per cent of injuries between 1967 and 1999.[13] They are also likely to cost the community most dearly in resources devoted to their prevention and suppression.

The high bushfire risk in Victoria is the consequence of a combination of factors:

- *Vegetation and topography.* Victoria has substantial areas of highly flammable dry eucalypt forest, setting it apart from many other parts of Australia. Although there are 'more similarities than differences' between the forested regions of Victoria and the karri and jarrah forests of Western Australia, south-western Australia's topography is less extreme than that of Victoria.[14]
- *Climate.* Victoria's climatic pattern of a mild, moist winter and a dry, hot summer creates conditions conducive to bushfire, and this was exacerbated by protracted drought in the years preceding the 2009 fires.[15] Hot, dry north-westerly winds produced by a high-pressure system over the Tasman Sea and a cold front approaching from the south-west have long characterised dangerous fire situations in south-eastern Australia.
- *Population patterns.* Population density is increasing in Victoria's bushfire-prone areas. The fastest growth in Melbourne's population is, and is likely to continue to be, in the six 'growth area' municipalities of Wyndham, Melton, Hume, Whittlesea, Cardinia and Casey, all of which are on the rural edge of the city. The population of regional Victoria is also growing and will continue to do so, especially in regional centres, coastal areas and 'tree change' locations, where people (often older members of the population) are moving out of the cities to live in attractive rural settings. Additionally, most of those who are migrating from Melbourne to regional areas have little experience of living with fire.[16]

Victoria shares some of these characteristics with fire-prone areas abroad. Greece and the United States experienced sustained drought before their most recent fires. Southern California is subject to recurring drought and explosive winds. Professor Stephen Pyne, an international expert on wildfire, told the Commission of a pattern in developed countries of recolonising rural landscapes with urban 'out-migration', resulting in changes in the flammability of those landscapes and the capacity to deal with the resulting fires. (California, for example, has 11.8 million homes located in the Wildland Urban Interface.) In Professor Pyne's opinion the south-eastern quadrant of Australia is a 'kind of fire flume. It is a unique sort of meteorological … and biophysical arrangement in which very large fires are going to happen'.[17]

On the basis of the evidence presented, the Commission concluded that Victoria has a range of characteristics that predispose it to bushfires generally and to the occasional ferocious bushfire in particular. There are few other locations in the world with similar characteristics.

A number of observations can be made about the nature of fire in Victoria. Although each bushfire has its own characteristics, the majority of bushfire deaths have occurred in a small number of ferocious fires. These fires burn on days of high temperature and low relative humidity that are marked by strong and gusty winds from the north-west—that is, from the hot, arid inland of Australia. The strong winds spread the fire quickly, carry burning embers ahead of it, and cause the fire to become hotter by pushing the flames into unburnt fuel. At some point during the day a rapid change in wind direction often occurs. The wind remains strong but turns to come from the south-west, which alters the path of the fire and creates a much larger firefront, pushing the original flank sideways. Deaths occur in the fierce period before the wind change, but it is in the even fiercer period following the wind change that most deaths occur.[18]

## THE ROYAL COMMISSION

In the days immediately following the 7 February 2009 fires the Victorian Government took action to respond to the disaster. A relief effort to deal with immediate needs was the first priority. But it was also plain that in the long term the community needed to understand how this tragedy had arisen and how to minimise the risk of a similar tragedy occurring in the future. On 9 February 2009 the Premier announced the State Government's intention to establish a royal commission. One week later the Hon. Bernard Teague AO, Susan Pascoe AM and Ronald McLeod AM were appointed as the Royal Commissioners.

The Governor of Victoria, Professor David de Kretser, issued the letters patent setting out the Royal Commission's terms of reference on 16 February 2009. The Commission began its work that day, giving priority to community engagement: between 18 March and 8 April it held 26 community consultations in fire-ravaged areas, seeking to learn about the experiences and concerns of individuals affected by the fires. A preliminary directions hearing was held on 20 April 2009, and the hearing of evidence began on 11 May 2009 and concluded on 27 May 2010.

### THE TERMS OF REFERENCE

The Commission was given extremely broad terms of reference. It was asked to inquire into and report on the causes and circumstances of the fires that burned in late January and February 2009, the preparation and planning before the fires, all aspects of the response to the fires, measures taken relating to utilities, and any other matters considered appropriate. The letters patent directed the Commission to make such recommendations as it deemed appropriate relating to preparation and planning for further fire threats and risks, land-use planning and management, fireproofing of structures, emergency response, communication, training, infrastructure, and overall resourcing.

### COMPLETING THE TASK ON TIME

The task set for the Commission was substantial. With a time frame of 18 months and very broad terms of reference, reporting on time was always going to be difficult. The Commission resolved early on that its efforts should be directed at completing its task with the highest integrity and quality, on time and within budget, and with a strong focus on community engagement.

The protection of human life, the safety of communities, and mitigating the destruction caused by future bushfires received greatest attention. These priorities guided the Commission in its analysis, in the collection of evidence, and in the writing of its reports and recommendations.

### THE OUTPUTS OF THE COMMISSION

The Commission produced two interim reports and a final report:

- The first interim report was released on 17 August 2009. It contained 51 recommendations focused on immediate actions that could be taken before the 2009–10 fire season.
- On 24 November 2009 the Commission released a second interim report. That report contained seven recommendations focused on urgent matters to do with the construction of buildings (including bunkers) in bushfire-prone areas.
- This final report represents the culmination of the Commission's work. It describes what happened during late January and February 2009; analyses and makes recommendations in relation to the changes needed if we are to reduce the risk, and the consequences, of similar disasters in the future; and describes how the Commission performed its task.

The interim reports and the final report should be regarded as one body of work.

The Commission also produced a number of papers:

- a discussion paper on insurance and the fire services levy, for which it sought industry and community submissions
- a paper on the costs of the fires, for the parties' comment
- several internal papers that were tendered into evidence, covering bunkers, shelter in situ and evacuation policies in the United States and Canada, and building and planning policies in Australia.

One indirect result of the Commission's work has been the continuing public commentary. Discussion of the events of late January and February 2009 has been an important part of understanding what happened and what needs to be done. The continuing debate was facilitated by the Commission's principle of accessibility, whereby most transcripts, exhibits and submissions were made publicly available, open hearings were usually held, and the hearings were usually webstreamed. The media also covered the public hearings extensively and helped the community remain well informed. The 26 community consultations the Commission held in March and April 2009 are an example of this engagement.

## DRAWING TOGETHER THE INFORMATION

Owing to the considerable size of its task, the array of subjects that warranted consideration, and the varying experiences that needed to be incorporated, the Commission drew evidence from a wide range of sources. During the 18-month term of its work it did the following:

- heard from 434 witnesses, including 100 lay witnesses, over 155 days
- held regional hearings in three locations
- convened and directed two expert panels
- accepted the tender of more than 1,000 exhibits
- produced 20,767 pages of transcript.

Further, the Commission gathered background information from several sources:

- Almost 1,700 public submissions
- information provided in 26 community consultations in 14 communities and with 1,250 people attending
- internal research.

The Commission's task of drawing together conclusions and developing recommendations on the basis of this evidence was facilitated by many. The Commission thanks all who were involved for their cooperation, assistance and diligence. Particular gratitude goes to the witnesses, who often had to recall terrible events, and to those who took the time to prepare and send in submissions.

In preparing its final report the Commission chose not to constrain government with unduly prescriptive recommendations. This approach differs from the very detailed one adopted in submissions by counsel assisting and the parties.[19] Those submissions were a valuable resource for the Commission and will remain an excellent reference for people interested in greater detail. The Commission chose a less prescriptive approach, however, in order to reduce the risk of narrowing policy makers' vision, and it framed its recommendations in terms of clear outcomes. Despite most of the recommendations being cast in broad terms, in some cases, where more technical matters are discussed, a degree of specificity was necessary. The Commission has proposed that its recommendations be monitored in two ways: as part of the regular reports of departments in the annual budget papers, and as an independent audit of attainment reported to the people of Victoria after two years on 31 July 2012. This approach has the potential to give rise to more enduring change.

To complement the recommendations, the Commission also makes many observations in the text of the report, suggesting the type of action the State Government (and others) should take to deal with matters that warrant further attention. The Commission hopes that, in responding to the report, the Government attaches to these suggestions the same weight it accords the primary recommendations.

Similarly, the State should continue to develop and improve bushfire policy, proceeding with other initiatives the Commission might not have considered but that are consistent with the new directions embodied in the main themes of this report.

## THE FINAL REPORT

The Commission's final report consists of a summary document and four volumes. Volume I describes the weather conditions and fire behaviour on 7 February and the organisational arrangements that applied on the day. Following that is a detailed discussion of each fire the Commission analysed. These chapters describe the run of the fire in question, the immediate response to the fire, and the fire's effects. Volume I also contains accounts of the circumstances of the deaths of the 173 people who died as a result of the fires on 7 February. The overall conclusions to be drawn from the fire chapters and the lessons learned from the fire-related deaths are discussed in Chapters 15 and 21 respectively.

Volume II contains the Commission's recommendations and provides detailed discussion of the areas where reform is needed if performance and safety are to improve. Reducing the risk and impact of bushfire calls for much more than simply responding to fires when they occur. Adequate preparation and planning are essential. The Commission makes recommendations about how government and the community should better prepare for bushfires. There is also consideration of the policy and institutional factors that need to apply if Victoria is to be well equipped to deal with future bushfires—including the structure of fire agencies, building and land-use planning, land and fuel management, and the adequacy of research and review, so that operational policies and practices are based on the best possible information.

Volume III describes the conduct of the Commission—its establishment, administration, organisational structure, administrative and legal processes, management of finances and information systems, and how it went about its work. The Commission was guided by the principles of openness and accessibility, transparency and probity, efficiency and value for money, and innovation and high standards of professional practice. Volume III describes how these principles were upheld by the Commission being innovative in the way it did its work and engaging extensively with the community. Also discussed is how the Commission managed its work in order to ensure its reports were delivered on time.

Volume IV is an electronic volume that collates the statements of the lay witnesses who described their experience of the fires during the Commission's public hearings. These witnesses were an important part of the Commission's work, giving an 'on the ground' perspective and real-life examples of how fire policies and emergency procedures affect individuals and communities. It provides insights into people's preparation for fire and how they reacted to the conditions of Black Saturday and serves as a constant reminder of the impacts of the fires on individuals, families and communities.

## GUIDING PRINCIPLES

In its inquiries and when formulating its recommendations the Commission was guided by two overarching principles—the protection of human life and shared responsibility. Government's primary objective should be to maximise the safety and wellbeing of the citizens it represents, so the Commission placed the protection of human life at the forefront of its deliberations. In addition, no single group can ensure that communities are safe from the ravages of bushfires in all circumstances: this responsibility is shared by all levels of government and by fire agencies, communities and individuals, all of whom need to be very well informed and do more to prepare for and respond to fire in their environment.

## THE PROTECTION OF HUMAN LIFE

The great loss of life and the widespread destruction of property were what prompted Premier Brumby to establish the Commission. It is fitting therefore that the protection of human life is paramount in all the Commission's recommendations. This notion of protection of human life being paramount has implications for the balance that is struck between competing community objectives. In the context of bushfires, ensuring the protection of human life means that sometimes compromises will need to be made with people's freedom to choose where they want to live or the existence of pristine environments close to townships.

It is not always possible to maintain an untouched environment whilst ensuring safety. Decisions must be made about whether a defendable space should be cleared around homes and communities in areas of high bushfire risk or whether the environmental values in these areas are such that prohibitions on dwellings should be applied in order to maintain adequate levels of public safety.

Recognising the obligation to protect human life has implications for the trade-offs that are made in areas such as planning and building regulation, fuel management, environmental conservation, and other government policies provided to support communities at risk of bushfire. This principle is reflected in the Commission's approach to its recommendations.

## SHARED RESPONSIBILITY

The concept of shared responsibility recognises that individuals, fire authorities and all levels of government are responsible for preparing for fire and improving people's safety. The Commission recognises the role authorities and the state play in minimising the risk of and damage caused by bushfires, as well as the role of government leadership in determining policy and legislative settings. Individuals also play an important part in protecting their own lives through keeping themselves well informed and well prepared.

A long-term goal of Victorian bushfire policy and legislative frameworks should be to build strong, proactive communities that understand bushfire risk and make sound decisions about how they will manage and respond to those risks. This goal brings with it roles for individuals, agencies and the government.

Individuals should be encouraged, to the extent of their capabilities, to make their own preparations to protect themselves and their communities from bushfire. For example, before the bushfire season all capable individuals should ensure that the defendable space around their home is well maintained, and on days of high bushfire risk they should closely monitor the media and other sources of information for reports of fire.

Agencies should educate, prepare and help protect individuals by ensuring that they have access to the information needed to make sound decisions—particularly in relation to their suitability. It is also vital that agencies provide accurate and prompt warnings that are easy for the public to understand.

The role of government is to create the legislative foundation, fund fire services, facilitate community education and support, and provide essential infrastructure and local support to help communities stay safe.

In developing its recommendations the Commission kept these principles foremost in its thinking.

1 Exhibit 429 – Statement of Weir (SUMM.044.002.3841_R) at 3846_R–3847_R

2 Exhibit 429 – Statement of Weir (SUMM.044.002.3841_R) at 3846_R–3847_R

3 Exhibit 11 – Statement of Esplin, Attachment 58 (WIT.005.001.2358)

4 Exhibit 11 – Statement of Esplin, Attachment 61 (WIT.005.001.2361), Attachment 76 (WIT.005.001.2383)

5 Exhibit 22 – Statement of Williams (WIT.013.001.0002) [24]–[25]; Williams T724:22–T724:24

6 Exhibit 130 – Statement of Waller (WIT.3024.001.0073) [13]; Exhibit 6 – Statement of Waller, Annexure 39 (WIT.002.001.0832); Exhibit 22 – Overview of the Meteorological Aspects of the Victorian fires (WIT.013.002.0001) at 0071

7 Exhibit 22 – Statement of Williams (WIT.013.001.0002) [29]–[33]

8 Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [7], Annexure 3 (WIT.3004.034.0016); Exhibit 787 – Further Statement of Fogarty (WIT.3024.005.0253) [19]

9 Exhibit 931 – Statement of Armytage (WIT.3003.002.0001) [139]

10 Exhibit 843 – Statement of Robertson, Annexure 8 (WIT.3003.001.0257) at 0266–0267

11 Scherman T20150:10–T20150:18

12 Exhibit 779 – Report of Whittle (WIT.7539.001.0001_R) at 0003_R

13 Exhibit 989 – Economic Costs of Natural Disasters In Australia, Chapter 3 – Estimating the Costs (RSCH.016.001.0052) at 0079–0082

14 Sneeuwjagt T14970:31–T14971:7, T14971:31–T14972:10

15 Exhibit 145 – Bushfire Weather in Southeast Australia: Recent Trends and Projected Climate Change Impacts (TEN.056.001.0001) at 0051; Esplin T513:27–T513:29

16 Exhibit 931 – Statement of Armytage (WIT.3003.002.0001) at [29]–[32]

17 Exhibit 896 – Statement of Streblow, Attachment 3 (TEN.264.001.0080) at 0100; Pyne T18436:3–T18436:8, T18438:25–T18439:2, T18440:12–T18440:18

18 See Appendix B and Appendix C of this volume; see also Exhibit 546 – Report of Investigation and Inquests into a Wildfire and the Deaths of Five Firefighters at Linton on 2 December 1998 (TEN.132.001.0001) at 0049, 0563–0564

19 The role of counsel assisting and the parties is discussed in Chapter 1, Volume III



Source: Exhibit 43 – Statement of Glassford, Attachment CG-1 (WIT.028.001.0008_R) at 0088_R.



# PART ONE
# THE JANUARY–FEBRUARY 2009 FIRES

# THE JANUARY–FEBRUARY 2009 FIRES

## OVERVIEW

Australia is the driest vegetated continent and, along with Southern California and France, one of the most bushfire prone regions in the world.[1] Bushfires have shaped, and continue to shape, all aspects of the environment—landscape, ecosystems, biological diversity and culture. They occur both naturally and as a result of human actions. Indigenous Australians used fire for a variety of reasons, among them hunting and land management and for ceremonial purposes.[2]

Bushfires have both positive and negative effects on the Australian environment. They can be vital to the continued rejuvenation of the landscape but can also be fatal to some plant species. Where they encroach on inhabited rural areas and the urban fringe the risk of damage, cost and trauma to communities—including loss of life—increases. Although early European settlers were wary of fire, many quickly began to understand its uses and benefits in modifying the landscape for farming and grazing. Fire was often used as a means of clearing land.[3]

The personal and social costs of bushfires are enormous. According to Emergency Management Australia, there were 815 recorded fatalities resulting from bushfires before 7 February 2009. There is no doubt that the number of people affected is far greater. The financial costs are also significant. Between 1967 and 1999 alone the cost of major bushfires in Australia was $2.5 billion. For the period 1960 to 2001 one source estimated that more than half of the fire-related deaths and injuries, and more than half the damage, occurred in Victoria.[4]

## PREVIOUS SIGNIFICANT FIRES

Although comprehensive records were not kept until the 1900s, it is known that a number of major bushfires have occurred in south-eastern Australia since European settlement. (Appendix B lists significant major bushfires in New South Wales, South Australia, Tasmania and the Australian Capital Territory between December 1938 and December 2007. Appendix C lists previous significant Victorian bushfires and their impacts. The term 'significant' is used to refer to a fire that has resulted in at least one of three things: deaths being recorded; substantial [in comparison with other fires in the area] property loss or damage; and the burning of substantial [in comparison with other fires in the area] areas of public land.) Fifty-two significant bushfires have been recorded in Victoria since 1851, two-thirds of them in the past 60 years. Of the two-thirds, those that occurred on Black Friday (1939) and Ash Wednesday (1983) are the two most commonly compared with the fires of 7 February 2009.[5]

**Image 1**



Source: Courtesy of the *Herald & Weekly Times.*

## JANUARY AND FEBRUARY 2009

Despite Victoria's history of fire, the fires in late January and early February 2009—and in particular on 7 February—deeply scarred the people and the landscape of the state. The Commission therefore begins its report with a detailed discussion of 15 of the major fires that burned on 7 February. It describes preparations before 7 February, how the fires started, the areas affected, the progress of the fires, and the management of firefighting, community warnings, roadblocks and emergency relief. Figure 1 shows the extent of the fires.

**Figure 1 The January–February 2009 bushfires**




Source: Exhibit 11 – Statement of Esplin, Attachment 1.[6]

The fires discussed, however, were not the only ones that occurred during the 2008–09 bushfire season: Department of Sustainability and Environment and Country Fire Authority staff, as well as volunteers, fought hundreds of fires. The fire season was long and demanding, placing considerable pressure on firefighters even before the worst fires began in early February.

## THE NUMBER OF FIRES

The CFA attended 39,987 incidents in 2008–09; this included 16,103 fires, ranging from fires in rubbish bins to major bushfires such as the Kilmore East conflagration. During the same period DSE attended 825 bushfires.[7]

For DSE, the number of fires in public parks and forests climbed steadily during January 2009 and peaked in early February. The number of fires that had not been extinguished rose from seven on New Year's Day to 29 on 14 January. Then it doubled to 58 by 25 January and continued to steadily increase to 125 in the week before 7 February. By this time firefighting resources had been committed for a fortnight responding to new fires and attending to fires already contained or controlled.[8]

In October 2008 the CFA's Chief Officer, Mr Russell Rees, had warned that the bushfire season was 'rapidly deteriorating'. DSE described the season as 'one of the longest and most demanding firefighting periods in Victoria's history'.[9]

On 7 February Victoria's fire agencies faced enormous difficulties. The CFA responded to 632 incidents; of these, 199 were reported as grass, scrub, tree, vegetation or plantation fires, and 68 of them were controlled within an hour of the original notification. At the same time there were 117 active DSE fires (fires reported as having started on public land), 93 of them having started before 7 February. Not all of these DSE fires were major ones: of the 24 fires reported to DSE on 7 February, four could not be found and 12 were contained to less than 5 hectares.[10]

Because of the sheer number of calls and reports received, it is not clear how many of the calls concerned separate fires, spot fires that developed from other major fires, multiple reports of the same fire, or duplicated responses to the same fire. At least 20 of the 199 grass, scrub, tree, vegetation or plantation fires the CFA responded to were in the vicinity of the Kilmore East fire and probably originated from either the main fire or spot fires.[11]

## FIRES THE COMMISSION EXAMINED

As noted, the Commission examined the circumstances associated with 15 fires; these were fires that caused the death of people or major damage to property or that had the potential to cause considerable loss. Many of the fires were chosen largely on the basis of their size and impact; some of the smaller ones, however, were chosen in order to provide an insight into the differing circumstances and demands of the day. Broad themes were reviewed for all 15 fires examined, but the Commission concentrated on different detail for different fires.

The Commission examined the following fires:

- Delburn
- Bunyip
- Kilmore East
- Horsham
- Coleraine
- Pomborneit–Weerite
- Churchill
- Murrindindi
- Redesdale
- Narre Warren: Harkaway
- Narre Warren: Lynbrook—Coral Drive
- Narre Warren: Lynbrook—Golf Club Road
- Upper Ferntree Gully
- Bendigo
- Beechworth–Mudgegonga.

## OTHER FIRES

Table 1 summarises other 'significant' fires that burned during January and February 2009 but were not examined by the Commission.[12]

**Table 1 Other significant fires – January–February 2009**

| Incident | Start date | Control agency | Total area burnt (hectares) |
|---|---|---|---|
| Seaford | 20.01.09 | CFA | 5 |
| Langwarrin | 21.01.09 | CFA | 12 |
| Drummond North | 22.01.09 | CFA | 300 |
| Woodend | 22.01.09 | CFA | 193 |
| Merton | 27.01.09 | CFA | 40 |
| Branxholme | 29.01.09 | CFA | 475 |
| Lysterfield | 30.01.09 | CFA | 40 |
| East Tyers – Thomson | 07.02.09 | DSE | 1,778 |
| Wilsons Promontory | 08.02.09 | DSE | 25,200 |
| Muskvale | 23.02.09 | CFA | 2,813 |
| Upwey | 23.02.09 | CFA | 350 |

Source: Exhibit 192 – DSE and CFA – Operational Debrief Report – 2008/09 Fire Season.[13]

Apart from the fires the Commission considered in detail, the Wilsons Promontory fire, which began on 8 February, was by far the largest that confronted Victoria's firefighting agencies during the period in question. The Commission heard some evidence in relation to that fire.

At 18:00 on 8 February a lighting strike caused a fire to start near Sealers Cove, in the Cathedral Range, which is in the eastern part of Wilsons Promontory. South-easterly winds initially pushed the fire to the north. During the next seven to eight days, however, strong easterly winds pushed the fire towards western parts of the promontory.[14]

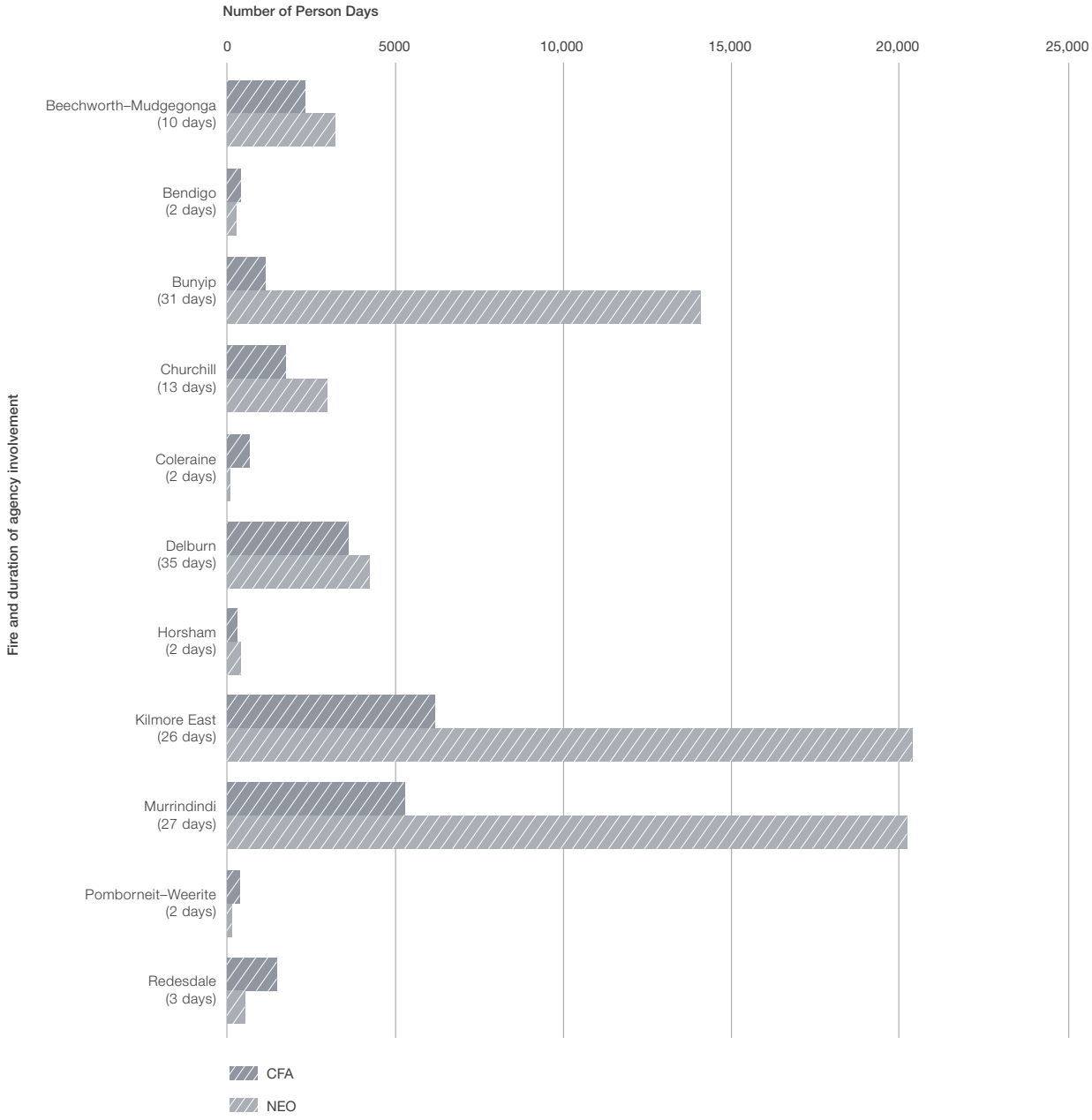
The fire was finally declared under control on 14 March. In 36 days the fire burnt about half the national park, including much of the habitat that provides food, shelter and protection from predators for small mammals.[15]

The wind and climate and the promontory's unique terrain made for hazardous firefighting conditions.[16]

## THE RESPONSE TO THE FIRES

On 7 February more than 7,000 CFA, Networked Emergency Organisation (including DSE) and Metropolitan Fire and Emergency Services Board firefighters contributed to the firefighting effort. For some, this was the beginning of a much larger effort. During the ensuing month there were more than 80,000 days of firefighter attendance among them more than 60,000 NEO staff and almost 20,000 CFA career staff and volunteers. Figure 2 shows the CFA and NEO contributions to a selection of the fires.[17]

**Figure 2 The CFA and NEO commitment to the fires – a summary**




Note: Totals include multiple responses by an individual. For example, if a CFA or NEO firefighter attended a fire on more than one day, they are counted for each day they attended.

Source: Exhibit 939 – Details Regarding Emergency Response.[18]

In addition to the efforts of CFA, DSE, NEO and MFB firefighters, a number of other individuals and agencies contributed to fighting the fires and to the recovery effort:

- private firefighting crews made up of local farmers and graziers
- interstate firefighters
- industry brigades
- Victoria State Emergency Service
- Victoria Police
- Ambulance Victoria
- local councils
- public and privately owned utilities
- the Australian Defence Force
- numerous individuals and residents.

Without the collective efforts of all individuals, communities and organisations, the damage and disruption caused by the fires would have been more extensive and the risks to life and property even greater.

## PRESENTATION OF INFORMATION

The chapters that follow provide evidence about conditions on 7 February and fire behaviour on the day, concepts relevant to an understanding of the fires, and emergency and incident management arrangements. After that a narrative is presented for each of the fires the Commission considered; it discusses in particular preparation for, the cause of and the response to the fire. Finally, Chapter 15 looks at conclusions that can be drawn from the narratives.

In this part of Volume I all times are presented using the 24-hour clock: this is because the material deals with operational matters, which are usually described using this method, and the material contains quotes and other references that use the 24-hour clock.

### The time lines

The time lines for the fires summarise important events. They are not intended to be a complete record of everything that occurred on the day; rather, they list the main elements of each fire and the pressures facing agencies at the time. In some cases the time line is incomplete because there are gaps in the evidence available to the Commission.

### Maps

The maps show the final fire perimeter and, where applicable, the fire's progress before and after the wind change. They are intended simply to facilitate understanding of the events associated with each fire and are based on the best available data and observations at the time.

### The overview panels

The overview panels summarise some of the main aspects of the fires relating to weather, fatalities, casualties, damage, and the use of firefighting resources. They were compiled using the best available evidence.

Victoria Police provided evidence on fatalities and casualties, the evidence having been gleaned from its investigations into the bushfires. Casualty figures refer to the number of hospital admissions. In the case of fires that were not subject to police investigation, casualty figures were not available; the figures were derived from other sources. Evidence on temperature, humidity and wind conditions on 7 February comes from Bureau of Meteorology's automatic weather stations across the state; figures for each fire come from the station closest to the fire ground.

### Narratives

The narratives for each of the 15 fires the Commission focused on constitute a synopsis of the main events, supported by more detailed consideration of matters the Commission considered relevant to its analysis and recommendations, as presented in Volume II. The narratives are not intended to provide a complete record of every action taken on 7 February 2009. To aid understanding, a glossary of bushfire terms and concepts is provided at the end of this volume, and a brief description of the elements of a bushfire is provided in Appendix D.

1 Exhibit 145 – Climate Change Impacts on Fire-Weather in South-East Australia (TEN.055.001.0001) at 0011

2 Exhibit 142 – National Inquiry on Bushfire Mitigation and Management (TEN.049.001.0001) at 0039, 0164; Exhibit 726 – Forest of Ash: An Environmental History – Chapter 1 – Continent of Fire (RSCH.030.001.0001) at 0001; Exhibit 726 – Living in a Land of Fire (RSCH.016.001.0663) at 0663, 0665

3 Exhibit 720 – Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria (TEN.090.001.0001) at 0050; Exhibit 726 – Forest of Ash: An Environmental History – Chapter 3 – Improving (RSCH.030.001.0028) at 0032–0033, 0036

4 Exhibit 142 – National Inquiry on Bushfire Mitigation and Management (TEN.049.001.0001) at 0042; Exhibit 959 – Summary – Australian Bushfire Statistics (From Emergency Management Australia) (TEN.282.001.0001); Exhibit 145 – Climate Change Impacts on Fire-Weather in South-East Australia (TEN.055.001.0001) at 0011

5 Note that the number of deaths recorded, especially for fires occurring in the 1800s, does not include the Indigenous population.

6 Exhibit 11 – Statement of Esplin, Attachment 1 (WIT.005.001.0049) at 0111

7 Exhibit 855 – CFA Annual Report 2009 (TEN.205.001.0001) at 0021

8 Exhibit 857 – Department of Sustainability and Environment – Annual Report 2009 (TEN.201.001.0001) at 0047

9 Exhibit 3 – Statement of Rees (WIT.004.001.0001) [309]; Exhibit 857 – Department of Sustainability and Environment – Annual Report 2009 (TEN.201.001.0001) at 0047

10 Exhibit 787 – Further Statement of Fogarty (WIT.3024.005.0253) [19], Annexure 1 (WIT.3024.005.0260); Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [7], [14], Annexure 3 (WIT.3004.034.0016), Annexure 4 (WIT.3004.034.0019)

11 Exhibit 786 – Statement of Clow, Annexure 3 (WIT.3004.034.0016), Annexure 4 (WIT.3004.034.0019)

12 Exhibit 192 – DSE and CFA Operational Debrief Report – 2008/09 Fire Season (DSE.HDD.0030.0102) at 0111–0113

13 Exhibit 192 – DSE and CFA Operational Debrief Report – 2008/09 Fire Season (DSE.HDD.0030.0102) at 0112

14 Exhibit 401 – Statement of Mitchell (WIT.3024.003.0315_R) [62]; Mitchell T9509:20–T9509:22, T9509:27–T9509:30

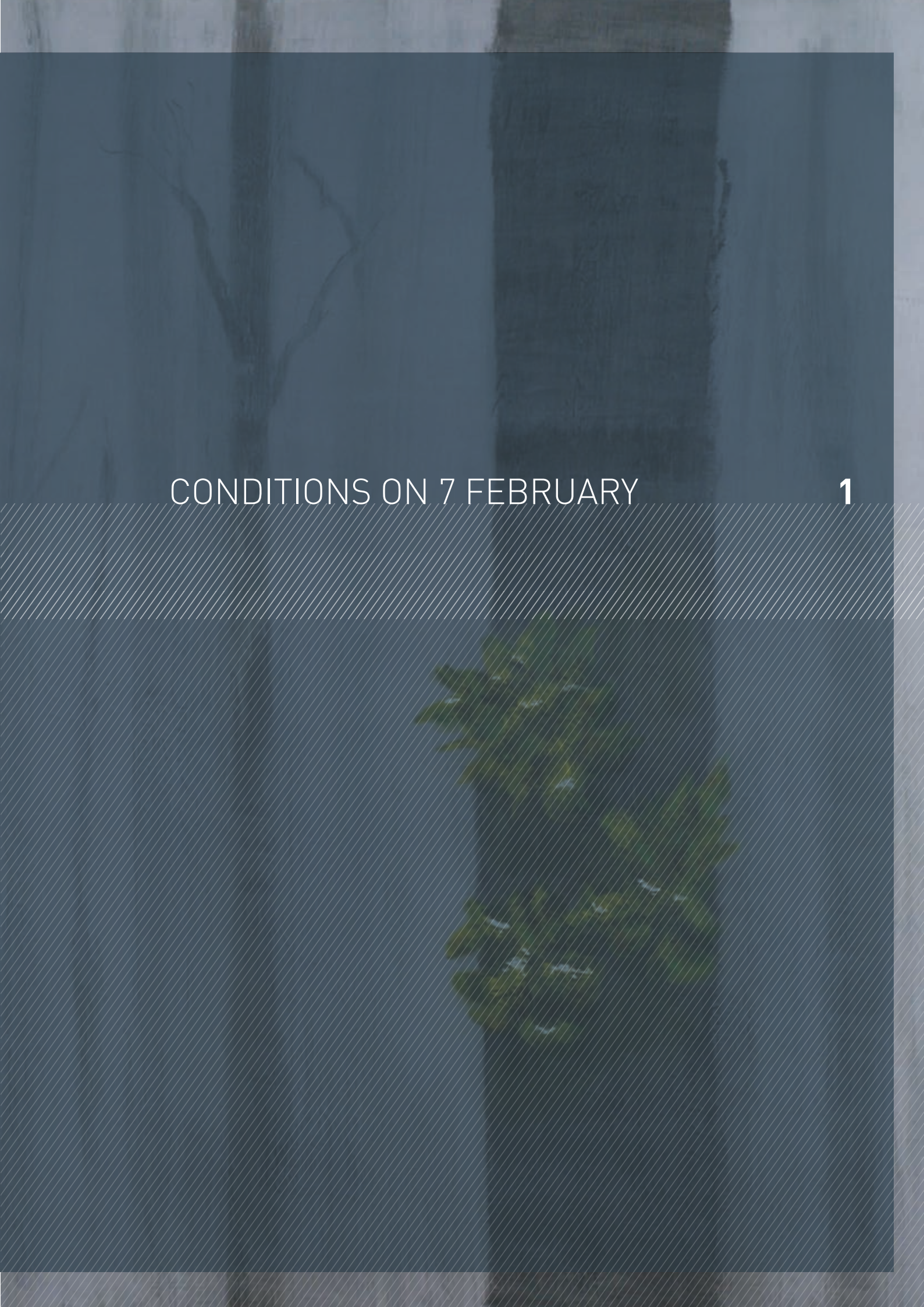
15 Exhibit 989 – Parks Victoria Annual Report (RSCH.040.001.0632) at 0647

16 Exhibit 989 – Parks Victoria Annual Report (RSCH.040.001.0632) at 0643; Mitchell T9509:15–T9509:16, T9510:1–T9510:18

17 Exhibit 939 – Details Regarding Emergency Response (CFA.600.005.0195); Exhibit 939 – Day by Day Breakdown – Bendigo (DSE.HDD.0048.0545_17); Exhibit 939 – Day by Day Breakdown – Beechworth (DSE.HDD.0048.0545_18); Exhibit 939 – Day by Day Breakdown – Bunyip (DSE.HDD.0048.0545_01); Exhibit 939 – Day by Day Breakdown – Churchill (DSE.HDD.0048.0545_11); Exhibit 939 – Day by Day Breakdown – Coleraine (DSE.HDD.0048.0545_09); Exhibit 939 – Day by Day Breakdown – Delburn (DSE.HDD.0048.0545_24); Exhibit 939 – Day by Day Breakdown – Horsham (DSE.HDD.0048.0545_08); Exhibit 939 – Day by Day Breakdown – Kilmore East (DSE.HDD.0048.0545_05); Exhibit 939 – Day by Day Breakdown – Murrindindi Mill (DSE.HDD.0048.0545_13); Exhibit 939 – Day by Day Breakdown – Pomborneit (DSE.HDD.0048.0545_10); Exhibit 939 – Day by Day Breakdown – Redesdale (DSE.HDD.0048.0545_16)

18 Exhibit 939 – Details Regarding Emergency Response (CFA.600.005.0195); Exhibit 939 – Day by Day Breakdown – Bendigo (DSE.HDD.0048.0545_17); Exhibit 939 – Day by Day Breakdown – Beechworth (DSE.HDD.0048.0545_18); Exhibit 939 – Day by Day Breakdown – Bunyip (DSE.HDD.0048.0545_01); Exhibit 939 – Day by Day Breakdown – Churchill (DSE.HDD.0048.0545_11); Exhibit 939 – Day by Day Breakdown – Coleraine (DSE.HDD.0048.0545_09); Exhibit 939 – Day by Day Breakdown – Delburn (DSE.HDD.0048.0545_24); Exhibit 939 – Day by Day Breakdown – Horsham (DSE.HDD.0048.0545_08); Exhibit 939 – Day by Day Breakdown – Kilmore East (DSE.HDD.0048.0545_05); Exhibit 939 – Day by Day Breakdown – Murrindindi Mill (DSE.HDD.0048.0545_13); Exhibit 939 – Day by Day Breakdown – Pomborneit (DSE.HDD.0048.0545_10); Exhibit 939 – Day by Day Breakdown – Redesdale (DSE.HDD.0048.0545_16)

# CONDITIONS ON 7 FEBRUARY 1



# 1 CONDITIONS ON 7 FEBRUARY

In the months leading up to 7 February 2009 a large amount of information about bushfires was made available to the Victorian public. Media releases, events and press conferences aimed at increasing public awareness of the extreme fire risk were released from November 2008 to January 2009. The coverage intensified in late January and early February.[1]

Between 30 January and 5 February the Premier made a number of statements and gave public briefings asking Victorians to be vigilant in the light of the 'tinder dry' conditions throughout most of the state. A joint press release issued by the Country Fire Authority, the Department of Sustainability and Environment and the Metropolitan Fire and Emergency Services Board on 4 February warned of the continuing fire threat and the forecast extreme conditions for 6 and 7 February. At a press conference on 5 February the CFA and DSE issued a number of press releases warning of the severe conditions expected for 7 February. A plan DSE prepared for the period described the state as 'predisposed to a catastrophic event'.[2]

In anticipation of the extreme weather conditions, the CFA and DSE Chief Fire Officers held a teleconference with key operational staff on 5 February. They emphasised the need for pre-formed task forces and pre-positioned incident management teams. The CFA Chief Officer envisaged that 'the predesignated [incident control centres] would be ready to operate in what [the CFA] call a warm start or a hot start—that is, there are people there, all the facilities, the equipment is up and running and tested'.[3]

## 1.1 FACTORS AFFECTING FIRE BEHAVIOUR

A fire's behaviour is determined by a combination of topography, fuel load, climate and weather.[4]

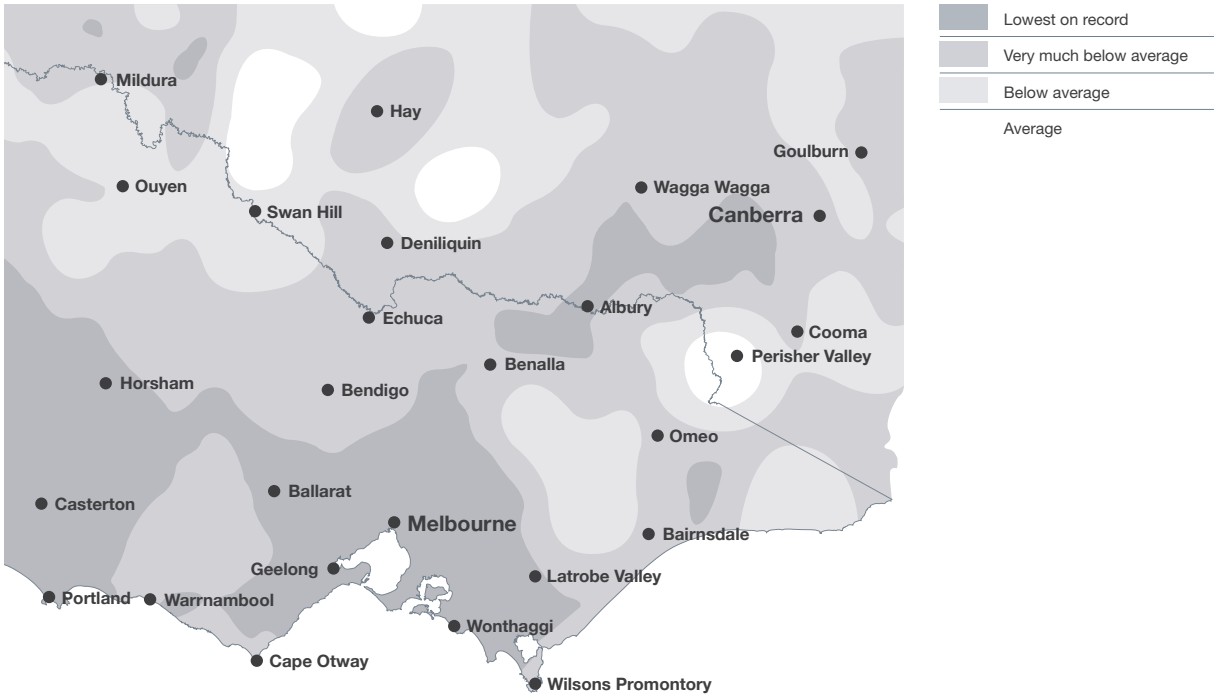
### 1.1.1 CLIMATE AND WEATHER

The Commission discussed climate and weather conditions in detail in its interim report. In summary, it noted the following:

- Central Australia has warmed by between 1.5 and 2.0°C during the past century.[5]
- In the 12 years to 2009 Victoria experienced warmer than average temperatures. The decade 1999–2009 was the warmest recorded in the 154 years of record keeping.[6]
- During the same period there was very little above-average rainfall: most of Victoria received either below-average or well-below-average rainfall. Some areas—notably those around Melbourne and in western Victoria—had received their lowest rainfall on record.[7]
- The early part of 2009 was exceptionally dry, the rainfall for January being below average to record low, especially in central and western Victoria.[8]
- During the final week of January Victorians experienced one of the most severe and prolonged heatwaves in south-east Australia's recorded history. In much of central, southern and western Victoria, maximum temperatures reached their highest levels since at least 1939. Melbourne had three consecutive days over 43°C—a record.[9]
- The dry weather continued during February, and most of the western half of Victoria continued to experience well-below-average rainfall.[10]

Dr Mark Williams, Director of the Victorian Regional Office of the Bureau of Meteorology, concluded that 'the whole of south-east Australia [had] suffered a severe and protracted drought which [was] without historical precedent'.[11] Figure 1.1 shows the extent of rainfall decline in Victoria between 1 February 1997 and 31 January 2009.

**Figure 1.1 Rainfall deciles – Victoria, 1 February 1997 to 31 January 2009**




Source: Exhibit 22 – Statement of Williams, Annexure 1.[12]

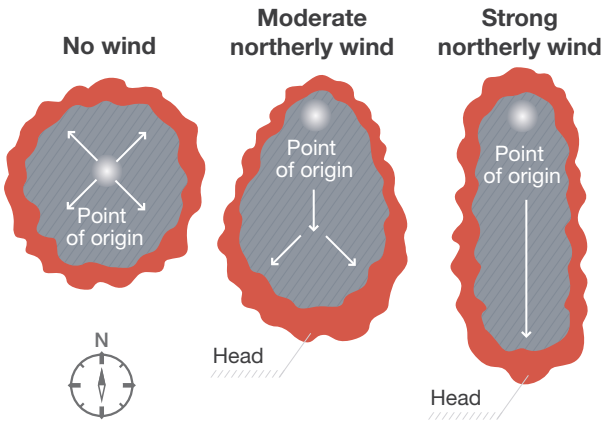
Prolonged drought combined with heatwave conditions are strong predictors of severe bushfire risk, the former leading to increases in plant deaths and the thinning of plant materials and the latter increasing the combustibility of plants. Warming temperatures and reduced rainfall diminish the available moisture and place greater stress on vegetation. When fires do occur these conditions generally mean that burning will be more severe.[13]

Weather is a major factor affecting the spread of a fire. The four basic elements of fire weather are air temperature, relative humidity, wind speed and direction, and atmospheric stability.[14] Just before 7 February these elements were at their most extreme in Victoria, some setting records for the state.

Wind is one of the critical factors affecting the shape, direction, rate of spread and behaviour of a fire. It supplies oxygen to encourage burning; removes ash, smoke and moisture from fuels in the area; and angles the flames, hot air and gases over the unburnt fuel ahead of the fire, pre-heating the fuel and helping the fire spread more rapidly. Wind can also lift burning materials such as bark and other embers and carry them ahead of the main fire, where spot fires can start. The stronger the wind, the faster and further a fire will spread.[15]

Hot northerly or north-westerly winds are an indicator of the potential for critical fire weather. These winds originate from high pressure systems that enter the east of the Australian continent and travel across Australia, through the Central Australian desert. Here they dry out and eventually lead to a south-westerly wind change.[16] Figure 1.2 shows the effect of wind strength on a fire's shape.

**Figure 1.2 The effect of wind strength on fire shape**



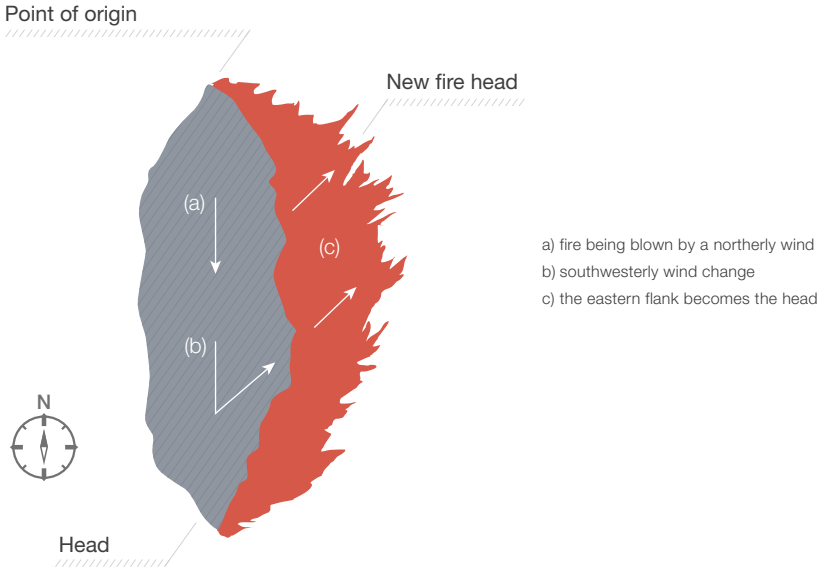

Source: Exhibit 269 – Statement of Russell, Annexure 1.[17]

A wind change is a common feature of bushfire disasters in Victoria. It usually turns the flank of a long, narrow, cigar-shaped fire pushed by strong northerly winds into a fire front several kilometres wide. Dr Kevin Tolhurst, a senior lecturer in fire ecology and management, noted that typically about 80 per cent of the total area burnt is burnt after a south-westerly wind change.[18] Mr Russell Rees, CFA Chief Officer, explained:

> Wind direction propels the growth of a fire. Changes in wind direction can rapidly increase the size of [a] fire, and the risks to firefighters and the general community. In Victoria hot dry winds often come from the north and northwest and are often followed by a southwest wind change. In this situation … the side of a fire can quickly become a much larger fire front.[19]

Figure 1.3 shows the effect on a fire of a change in wind direction.

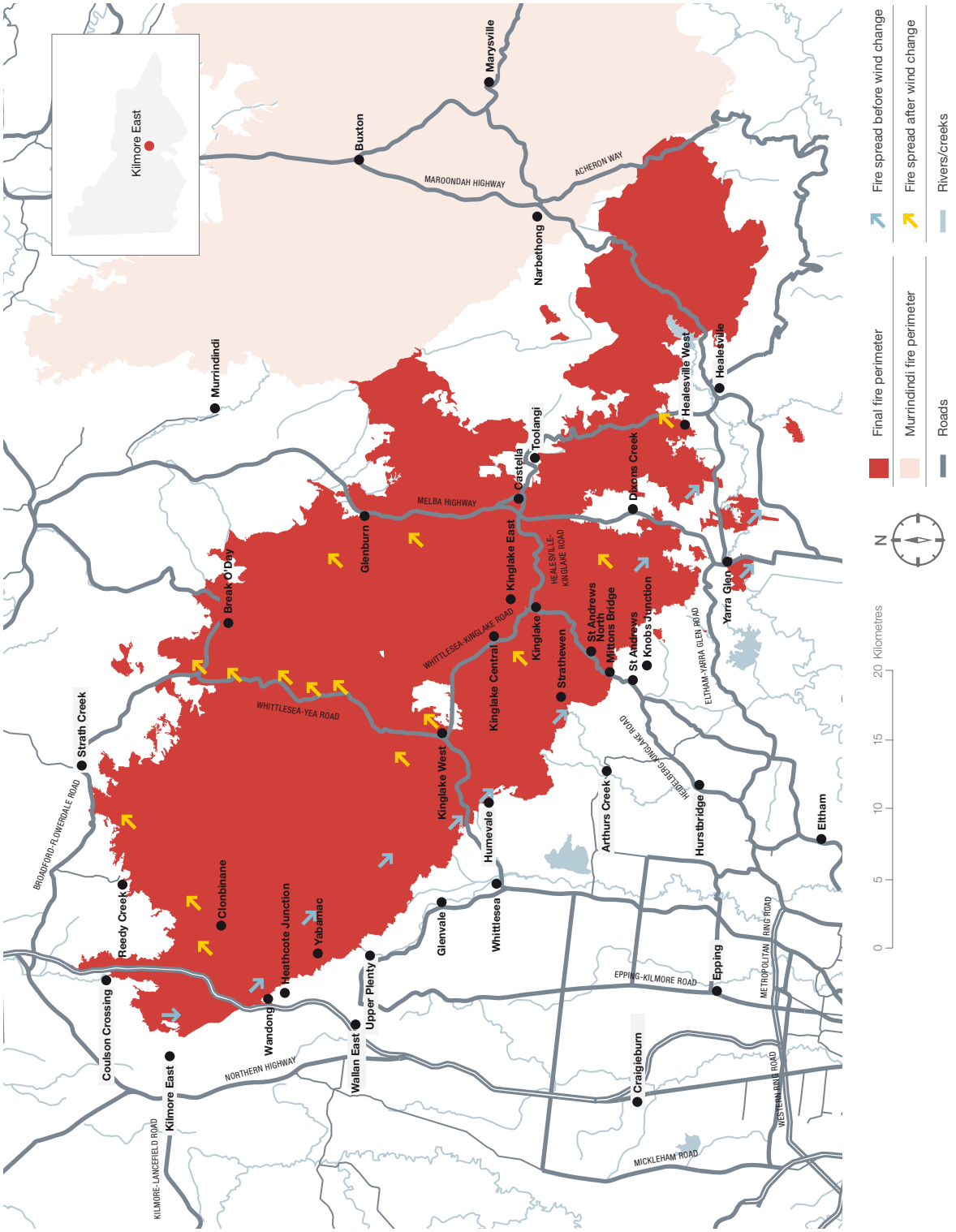
**Figure 1.3 The effect of a change in wind direction on fire shape**




Source: Exhibit 269 – Statement of Russell, Annexure 1.[20]

Figure 1.4 shows the effect on the Kilmore East fire of the change in wind direction on 7 February.

**Figure 1.4 The effect on the Kilmore East fire of the change in wind direction on 7 February**




Source: Exhibit 994 – Kilmore East Fire – Fire Spread Map.[21]

The passage of a cold front was a feature of the Ash Wednesday fires in 1983.[22] As detailed in the next section, conditions were similar on 7 February 2009, when a south-westerly wind change passing across the state led to enormous destruction.

**7 February**

On the evening of 6 February a high-pressure system in the Tasman Sea was causing very hot air flows from the north-west over much of Victoria. A cold front that extended across southern Western Australia to the south of the Great Australian Bight was moving east, towards Victoria.[23]

On 7 February temperatures rose quickly, and gale-force north-westerly winds began to reach ground level. By 11:00 temperatures in much of the state were near 40°C and relative humidity was already below 20 per cent. Both the Forest Fire Danger Index and the Grassland Fire Danger Index were above 50 by 11:00 in western and central Victoria and were approaching 50 in the rest of Victoria. In the afternoon temperatures rose to well above 40°C in many parts of the state and relative humidity dropped to below 10 per cent.[24]

In the far south-west a strong, gusty south-westerly wind change arrived at about 12:30, causing temperatures to drop and relative humidity to increase. By this stage many places had reported if not their hottest day on record then their hottest for February. Numerous all-time site records were set—including in Melbourne, where the temperature reached 46.4°C, exceeding the previous record of 45.6°C set on Black Friday (13 January 1939). The new record was also 3.2°C above the previous February record, which had been set in 1983.[25]

The fires in Victoria's Western District—albeit on a smaller scale—heralded the arrival of forecast wind changes:

- At Pomborneit–Weerite the south-westerly change arrived at approximately 14:15.[26]
- At Coleraine a south-westerly change arrived at the fire ground at 14:32. [27]
- At Horsham the fire on the town's eastern flank had largely been contained by the time the south-westerly change arrived, at 16:29, but it was recognised that had the flank of this fire not been secured the township could well have been threatened.[28]

The strong, gusty south-westerly change moved eastwards at about 30 kilometres an hour.[29] Its impact was felt progressively across the state:

- at Mt Porndon, near Pomborneit, at 14:15[30]
- at Coleraine at 14:32[31]
- at Horsham at 16:29[32]
- at Yarra Glen and Whittlesea between 17:40 and 18:10[33]
- at Jeeralang between 17:45 and 18:15[34]
- at Kinglake and Kinglake West between 17:50 and 18:20[35]
- at Callignee between 17:55 and 18:25[36]
- at Carrajung Lower between 18:00 and 18:30[37]
- at Glenburn between 18:15 and 18:45[38]
- at Narbethong between 18:15 and 18:45[39]
- at Redesdale at 18:35[40]
- at Flowerdale between 18:30 and 19:00[41]
- at Bendigo about 18:45[42]
- at Marysville between 18:35 and 19:05[43]
- at Taggerty between 19:15 and 19:45[44]
- at Myrtleford between 23:25 and 23:55[45]
- at Mudgegonga and Stanley between 23:45 and 00:15[46]
- at Bruarong between 23:55 and 00:25.[47]

Figure 1.5 shows the wind change's progress.

**Figure 1.5 Progress of the wind change, 7 February 2009**




Source: Exhibit 22 – Statement of Williams, Annexure 1.[48]

Fire danger ratings were extreme ahead of the wind change, and in central parts of the state they did not drop significantly until up to an hour after the change.[49] For some fires the fire intensity increased substantially after the wind change, and fire behaviour became erratic, particularly in eastern parts of the state. The fires changed direction rapidly, taking many residents and firefighters by surprise.[50]

It was after the wind change that the Beechworth–Mudgegonga, Kilmore East, Murrindindi and Churchill fires were at their most savage. In each case the north-eastern flank of the fire became a much wider firefront of much greater intensity. For example, the Beechworth–Mudgegonga flank became a 32-kilometre front heading north-east towards cleared agricultural land, forest and Mudgegonga; the Kilmore East firefront moved north and north-east in a series of running 'tongues', up slopes and gullies and through the settlements of Kinglake, Pheasant Creek and Kinglake West; the full force of the Murrindindi fire was unleashed on the township of Marysville; and the Churchill fire burned progressively through Hazelwood North, Hazelwood South, Koornalla, Traralgon South, Callignee, Callignee South, Callignee North, Jeeralang, Jeeralang North, Devon, Yarram and Carrajung South and on to the Won Wron State Forest.[51]

### 1.1.2 TOPOGRAPHY

For every 10 degrees of slope, the speed of a fire travelling uphill doubles. In south-eastern Australia areas facing north and north-west are generally drier, aiding fire spread. Hills and gullies can channel fire and promote spotting over considerable distances.[52]

Much of Victoria's natural environment is hilly or mountainous. Many parts of the state contain mountain ranges, among them the Otway Ranges in the south, the Grampians in the west and the Great Dividing Range in the east. In these areas much of the land is forested, and the high fuel loads can sustain ferocious fires. Some of the fires of 7 February burned over grassland and stubble, but those that were most intense burned through forest, including in areas that usually remain moist year round.

### 1.1.3 THE FUEL LOAD

In this context 'fuel' is a generic term used to describe anything that combusts and provides energy for a fire. In a bushfire the available fuel is generally vegetation—leaves, bark, twigs, branches and trees—and it influences the way a fire behaves and travels. It varies in its type, size, quantity, arrangement and moisture content.[53]

On 7 February the characteristics of the fuel—in particular its extreme dryness, the total amount available, and its presentation on the forest floor—favoured ignition and promoted fires' initial spread.[54]

The Beechworth–Mudgegonga, Kilmore East and Murrindindi fires all burned through areas rich in mountain ash; such forests are characterised by tall trees and an often dense understorey of other species. This forest, with its very high fuel load, is usually moist but, because of the exceptionally dry conditions leading up to 7 February, it had a very low moisture content. Additionally, ash trees have long ribbons of bark that hang loosely from the trunk and branches; they ignite easily during a fire and can be transported long distances by convection columns.[55]

The rate of spread and final perimeter of the Beechworth–Mudgegonga fire were significantly moderated by previous prescribed burning. The rate of spread of the Kilmore East fire in some places was appreciably slowed by previous prescribed burning. Fuel-reduction burns are also thought to have inhibited the run of the Bendigo fire.[56]

### 1.1.4 FIRE BEHAVIOUR

'Fire behaviour' covers everything a fire does—the way the fire ignites, develops and grows; the characteristics of the flame front; and all other phenomena associated with a moving fire.[57]

The Commission discussed fire behaviour in some detail in its interim report. In summary, it noted the following:

- The weather conditions leading up to 7 February, and the combination of drought and heatwave conditions, led to greater fuel combustibility and volatile fire behaviour.[58]
- The fires varied in type and behaviour
  - classic grass and scrub fires in western Victoria[59]
  - conventional bushfires progressing from surface fires to crowning in tree tops, with flame heights of 30 metres and more[60]
  - fires igniting as a result of spotting, with directly sighted spot fires 13–14 kilometres ahead of firefronts and some spot fires estimated to be up to 35 kilometres ahead[61]
  - some spot fires close to the main firefront burning back towards the fire against the prevailing wind because of the convection forces.[62]
- Some fires did not progress in a neat, linear movement across the countryside. Instead there was a chaotic series of surging fires, with spontaneous spotting kilometres ahead of the firefronts. The spot fires started further fires, which in turn burnt some areas well ahead of the main firefront. The main firefront subsequently passed over the areas affected by the spot fires, burning any remaining fuel. This process led to the fires progressing even faster than they otherwise would have.[63]

- Although the flanks of some fires could be identified and in some cases secured, the heads of the fires were largely hidden by smoke and generated a very loud roar. Their location was not readily known until the fires were seen burning houses, properties and other parts of the landscape.[64]

The day was expected to be—and in every respect turned out to be—a day of destructive and intense fire conditions.

Conditions were conducive to long-distance spotting. Very dry fuels and strong surface winds resulted in intense fire behaviour and the development of very strong convective activity capable of lifting firebrands such as burning bark very high in the convection column. Strong upper air winds provided the mechanism for transporting burning bark downwind for many kilometres.[65]

Spotting was an important factor in the spread of the Kilmore East fire. It facilitated fire spread from one ridge top to the next in areas of broken terrain and carried the fire across sparse eaten-out pasture or, at higher elevations, across areas where grass was less than fully cured and might otherwise have arrested the fire's spread.[66]

Although they varied in their size and impacts, the most severe of the 7 February fires the Commission examined shared the following features:

- rapid fire spread following ignition, which responding crews could not contain in rural and forested areas
- fires crowning in forested areas, meaning they became impossible for ground crews to control
- convection columns being generated above the fires
- extensive spotting as a result of fuel type, weather conditions and topography
- the wind change altering the direction of fire spread, causing a flank of the fire to become an extended fire front.

## 1.2 WAS THE DAY UNPRECEDENTED? WERE THE FIRES?

A number of witnesses sought to excuse failings on 7 February by saying that the fires or the day, or both, were 'unprecedented'.[67] For the reasons that follow the Commission considers neither the day nor the fires to have been unprecedented.

A panel of six experts in land and fuel management gave evidence before the Commission, in part discussing whether the fires of 7 February 2009 were unprecedented. At the time none agreed with the proposition that the fires themselves were unprecedented; some acknowledged, however, that the weather conditions, or the fires' subsequent impact, had not previously been equalled.[68] Mr Phil Cheney, an honorary research fellow with CSIRO, said:

> I certainly don't think they are unprecedented in even our recent history over the last 50 years. What we are doing better is making more measurements and making more observations … So I think there is very little evidence to say these were unprecedented.[69]

Professor Ross Bradstock, another member of the panel and professor at the Centre for Environmental Risk Management of Bushfires at the University of Wollongong, said:

> I don't think these fires are unprecedented, at least in historical time, in terms of size and intensity and pattern in the landscape. I guess the thing you could add to that, though, is we must appreciate that land use and people and property are very different now than they were in 1939 or even 1983 and so you have to take that into account in understanding consequence of this event.[70]

Having told the Commission 'the conditions that we saw on 7 February were as extreme as we have ever seen them', Dr Tolhurst went on to say, as part of the panel discussion, 'I don't consider it unprecedented'.[71]

Dr Malcolm Gill, a visiting fellow at the Australian National University, said that use of the term 'unprecedented' depended on the criteria adopted and that, although some weather indicators reached record levels, the size of the fire did not.[72]

When asked whether the fires were unprecedented, Mr Jerry Williams, former US Forest Service National Director of Fire and Aviation, who has extensively researched 'megafires' in the United States, replied:

> In terms of size of fire, we [United States] have always had big fires and Australia has always had big fires. In terms of impact, though, this was unprecedented. I think you have to use that word when you talk about one of the largest, if not the largest, civil disaster in the country's history.[73]

Mr Richard Alder, an experienced fire manager who is now General Manager of the National Aerial Firefighting Centre, travelled by plane over the fires on 7 February. He commented on seeing the Kilmore East fire from the air near Wandong:

> I'd regard the fire behaviour as certainly the upper edge of what I've observed before. I can't say it was unprecedented. I think I've probably observed fire spread as rapidly as that but not for as sustained a period—for shorter periods.[74]

Separately, the Commission also heard evidence from Professor John McAneney, from Risk Frontiers at Macquarie University, who has been associated with recent research arising from major fires in the past. He was asked for his opinion as to whether the 2009 fires were unprecedented: 'In my view they weren't. Every time we have these big fires there will be a report saying the conditions were unprecedented, and they probably are in the lifetime of the person making the observations!'[75]

The study he was collaborating on had normalised statistics on housing density and population and loss of homes and deaths since 1926. This study had revealed that the 2009 fires were fourth on the list of property loss and second in terms of the ratio of lives lost to property lost. The highest ratio for property loss was in 1939 and the highest ratio for fatalities to property loss was in 1926. He mentioned reports of 2,000 structures burnt in the 1898 fires and that the 1851 fires burnt about 5 million hectares—'a huge part of Victoria'.[76]

While acknowledging these expert opinions, the Commission can readily understand the observations of people actually on the ground fighting the fires on the day. Nearly all witnesses who had seen the fires first hand said the fires' behaviour was beyond their experience. Even experienced firefighters who had been active on Ash Wednesday, in 1983, said they had not seen anything that compared with the fires of 7 February 2009. People did not expect the severity of the fire they witnessed.[77]

Witnesses—both firefighters and lay witnesses—compared the sound of the approaching fire to that of jumbo jets or steam trains. One even likened the sound to that of an artillery battle. Mr Andrew Lawrence, a CFA volunteer who fought the Churchill fire, described the sound as being 'so loud it was impossible to hear anyone speaking'.[78]

Witnesses described the fires as 'swirling vortexes', with flame heights of up to 100 metres. The fires seemed to create their own wind, which some described as 'cyclonic'. Mr Leigh Jowett said it was as though 'the wind [was] pulling the trees right out of the ground around my house'.[79]

The fires advanced quickly. As Mr Ken Rogers described it, 'My wife went from happily preparing dinner ... to survival mode in virtually an instant'.[80] Mr Peter Olorenshaw described the initial ember attack as 'like being in torrential rain, but it was burning', while Ms Vicki Ruhr described it as 'like a monsoon of fire'.[81]

Many witnesses' descriptions touched on the terror the fires inspired. Each person had their own way of telling their story, and the Commission does not dispute the accuracy of their recollection. As a measure of the ferocity of these fires compared with fires of past years, however, the descriptions lack the ability to provide a satisfactory frame of reference.

The Commission notes that many witnesses, including some veterans of Ash Wednesday in 1983, had never experienced a day of similar violence and were taken completely by surprise. It also acknowledges, however, descriptions of past fire events that accord well with people's experience of 7 February. Writing of the 13 January 1939 fires, Justice Leonard Stretton described them as 'the most disastrous forest calamity the State of Victoria has known'.[82]

The fires of 7 February were indeed catastrophic, but the Commission does not accept that they were without precedent. Among other fires that have devastated Victoria in living memory are the 1939 (Black Friday), 1983

(Ash Wednesday), 2003 (north-east Victoria and Gippsland) and 2007 (Alpine) fires. The two most recent of these fires each burnt four times as much of the state as the 7 February 2009 fires, although there was minimal loss of life because they burnt largely uninhabited or only lightly settled rural areas.[83]

Because of their close proximity to major population centres, the 2009 fires were critically dangerous and placed large numbers of people at risk. Perhaps in terms of the resultant high death toll, the fires could be described as unprecedented, but that is only part of the story.

The panel of experts who gave evidence to the Commission on fuel management largely concurred in the view that, as bushfires go, the 2009 fires were not without precedent in an area of Australia long regarded as being one of the most, if not the most, bushfire prone parts of the world—an area described by Professor Stephen Pyne, the celebrated US commentator on high-intensity bushland fires as reflecting '… a unique sort of meteorological … and biophysical arrangements in which large fires are going to happen'.[84] The research Professor McAneney is associated with provides a comparative picture that accords with this point of view.[85]

The Commission is in no doubt that the influence of the long drought years, which broke a number of meteorological records, and the impact of the heatwave immediately preceding the fires helped create the conditions for a major conflagration to occur once the fires started. Nevertheless, although this served to highlight the extreme level of risk that existed, the Commission does not consider that the resultant fires could be judged as representing a shift change that sets them apart from what Victoria has experienced from time to time in the past.

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1 Exhibit 11 – Statement of Esplin (WIT.005.001.0001) [140]–[199]

2 Exhibit 11 – Statement of Esplin, Attachment 42 (WIT.005.001.2304), Attachment 44 (WIT.005.001.2306), Attachment 49 (WIT.005.001.2314), Attachment 50 (WIT.005.001.2316), Attachment 51 (WIT.005.001.2320), Attachment 58 (WIT.005.001.2358), Attachment 59 (WIT.005.001.2359), Attachment 61 (WIT.005.001.2361), Attachment 62 (WIT.005.001.2362); Exhibit 130 – Supplementary Statement of Waller (WIT.3024.001.0073) [9]

3 Exhibit 6 – Statement of Waller, Annexure 39 (WIT.002.001.0832); Rees T1852:19–T1852:30, T2415:21–T2415:25

4 Exhibit 737 – Expert Report of Tolhurst on Land and Fuel Management (EXP.013.001.0001) at 0002

5 Williams T720:10–T720:14

6 Exhibit 22 – Statement of Williams (WIT.013.001.0002) [19]

7 Williams T720:29–T721:9

8 Exhibit 22 – Statement of Williams (WIT.013.001.0002) [22]

9 Exhibit 22 – Statement of Williams (WIT.013.001.0002) [24]–[25]; Williams T724:23–T724:24

10 Exhibit 22 – Statement of Williams (WIT.013.001.0002) [22]

11 Exhibit 22 – Statement of Williams (WIT.013.001.0002) [18]

12 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0028

13 Exhibit 32 – Report on the Physical Nature of the Victorian Fire occurring on 7th February 2009 (EXP.003.001.0017) at 0019

14 Exhibit 269 – Statement of Russell, Annexure 1 (WIT.3004.013.0021) at 0045

15 Exhibit 269 – Statement of Russell, Annexure 1 (WIT.3004.013.0021) at 0046

16 Rees T35:11–T35:25

17 Exhibit 269 – Statement of Russell, Annexure 1 (WIT.3004.013.0021) at 0046

18 Exhibit 32 – Tolhurst Report on the Physical Nature of the Victorian Fires (EXP.003.001.0017) at 0022; Exhibit 3 – Statement of Rees (WIT.004.001.0001) [234]–[235]; Waller T4360:8–T4360:22

19 Exhibit 3 – Statement of Rees (WIT.004.001.0001) [234.3]

20 Exhibit 269 – Statement of Russell, Annexure 1 (WIT.3004.013.0021) at 0047

21 Exhibit 994 – Kilmore East Fire – Fire Spread Map (CFA.600.006.0005)

22 Exhibit 32 – Tolhurst Report on the Physical Nature of the Victorian Fires (EXP.003.001.0017) at 0022

23 Exhibit 22 – Statement of Williams (WIT.013.001.0002) [28]

24 Exhibit 22 – Statement of Williams (WIT.013.001.0002) [30]–[31]

25 Exhibit 22 – Statement of Williams (WIT.013.001.0002) [29], [32]

26 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [68]–[69]

27 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [131], Annexure 6 (WIT.3004.014.0046)

28 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [55], Annexure 10 (WIT.3004.013.0239); Russell T7315:19–T7315:31; Rees T58:19–T58:29

29 Exhibit 22 – Statement of Williams (WIT.013.001.0002) [33]; Williams T732:29–T732:30

30 Exhibit 4 – Statement of Rees (WIT.004.002.0001) [68]; Rees T64:27–T64:30

31 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [131], Annexure 6 (WIT.3004.014.0046)

32 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [55]

33 Exhibit 557 – Meteorological Aspects of the Kilmore East Fire (BOM.901.0048) at 0060

34 Exhibit 557 – Meteorological Aspects of the Churchill Fire (BOM.901.0001) at 0015

35 Exhibit 557 – Meteorological Aspects of the Kilmore East Fire (BOM.901.0048) at 0060

36 Exhibit 557 – Meteorological Aspects of the Churchill Fire (BOM.901.0001) at 0015

37 Exhibit 557 – Meteorological Aspects of the Churchill Fire (BOM.901.0001) at 0015

38 Exhibit 557 – Meteorological Aspects of the Kilmore East Fire (BOM.901.0048) at 0060

39 Exhibit 557 – Meteorological Aspects of the Murrindindi Fire (BOM.901.0172) at 0184

40 Exhibit 557 – Meteorological Aspects of the Redesdale Fire (BOM.901.0213) at 0224

41 Exhibit 557 – Meteorological Aspects of the Kilmore East Fire (BOM.901.0048) at 0060

42 Exhibit 557 – Meteorological Aspects of the Maiden Gully Fire (BOM.901.0096) at 0106

43 Exhibit 557 – Meteorological Aspects of the Murrindindi Fire (BOM.901.0172) at 0184

44 Exhibit 557 – Meteorological Aspects of the Murrindindi Fire (BOM.901.0172) at 0184

45 Exhibit 557 – Meteorological Aspects of the Murmungee Fire (BOM.901.0131) at 0145

46 Exhibit 557 – Meteorological Aspects of the Murmungee Fire (BOM.901.0131) at 0145

47 Exhibit 557 – Meteorological Aspects of the Murmungee Fire (BOM.901.0131) at 0145

48 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0043

49 Exhibit 22 – Statement of Williams (WIT.013.001.0002) [33]

50 Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [146]; Exhibit 334 – Statement of Ware (WIT.3004.016.0205) [47]; Exhibit 388 – Churchill Fire Narrative (WIT.3004.018.0009); Exhibit 894 – Review of fatalities in the February 7 2009 Bushfires – Final Report (Amended version without markup) (EXP.029.003.0001) at 0020–0021; Handmer T18546:15–T18546:18, T18553:10–T18553:13; Keating T9193:10–T9194:19; Rees T52:6–T52:7; Dixon T6718:2–T6718:4

51 Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [146]; Lawlor T6920:8–T6920:15

52 Exhibit 737 – Expert Report of Tolhurst on Land and Fuel Management (EXP.013.001.0001) at 0008

53 Exhibit 126 – Bushfire CRC – Victorian 2009 Bushfire – Research Response Interim Report – June 2009 (CRC.300.001.0001_R) at 0020_R; Exhibit 269 – Statement of Russell, Annexure 1 (WIT.3004.013.0021) at 0042–0043

54 Exhibit 126 – Bushfire CRC – Victorian 2009 Bushfire – Research Response Interim Report – June 2009 (CRC.300.001.0001_R) at 0026_R; Exhibit 722 – Expert Report of McCaw on Fuel Management (EXP.026.001.0001) at 0006; Fogarty T14781:6–T14781:20

55 Lawlor T8194:18–T8195:7

56 Exhibit 722 – Expert Report of McCaw on Fuel Management (EXP.026.001.0001) at 0016; Exhibit 458 – Statement of Gilmore, Annexure 8 (WIT.3004.019.0147) at 0163–0166; Exhibit 249 – Statement of Lawlor (WIT.3024.002.0187) [27]–[28]; Lawlor T6922:1–T6922:16

57 Exhibit 672 – Bushfire CRC Final Report (CRC.300.007.0001_R) at 0012_R

58 Tolhurst T1762:11–T1762:16

59 Rees T67:11–T67:19

60 Williamson T4457:21–T4457:26

61 Exhibit 32 – Tolhurst Report on the Physical Nature of the Victorian Fires (EXP.003.001.0017) at 0027; Willans T3030:21–T3030:23; Tolhurst T1026:3–T1026:29

62 Willans T3032:19–T3032:31

63 Willans T3030:14–T3030:30; Rees T85:31–T86:6; McCormack T4102:2–T4102:5; T4102:12–T4102:17

64 McCormack T4102:8–T4102:14

65 Exhibit 672 – Bushfire CRC Final Report (CRC.300.007.0020_R) at 0070_R

66 Exhibit 672 – Bushfire CRC Final Report (CRC.300.007.0020_R) at 0070_R

67 Esplin T374:26–T374:27; Rees T2384:28–T2385:5; Paterson T4315:20–T4316:3; Wood T9779:12–T9779:29; Ruhr T11904:4–T11904:7

68 Land and fuel management expert panel discussion T15237:1–T15241:8

69 Land and fuel management expert panel discussion T15237:9–T15237:12, T15238:16–T15238:17

70 Land and fuel management expert panel discussion T15239:14–T15239:21

71 Tolhurst T1765:20–T1765:22; Land and fuel management expert panel discussion T15240:13

72 Land and fuel management expert panel discussion T15240:30–T15241:8

73 Williams T15384:14–T15384:19

74 Alder T18018:20–T18018:24

75 McAneney T14120:13–T14120:16

76 McAneney T14121:11–T14121:22

77 Exhibit 456 – Statement of Smith, Annexure 3 (WIT.3004.020.0232) at 0234; Cutting T10330:6–T10330:12; Fallon T7964:3–T7964:6; Smith T12884:14–T12884:16; Rice T8537:22–T8537:25, T8541:4–T8541:8

78 Exhibit 93 – Statement of Willans (SUMM.044.002.0084) at 0087; Exhibit 17 – Statement of Spooner (WIT.011.001.0005_R) at 0009_R–0010_R; Exhibit 224 – Statement of Cowdery (WIT.081.001.0001_R) [15]; Exhibit 429 – Statement of Weir (SUMM.044.002.3841_R) at 3846_R; Exhibit 13 – Statement of Newman (WIT.009.001.0001_R) [13]; Exhibit 87 – Statement of Ananiev (WIT.040.001.0001_R) [17]; Exhibit 97 – Statement of O'Neill (WIT.047.001.0001_R) [21]; Exhibit 77 – Statement of Walter (WIT.041.001.0001_R) [26]; Exhibit 420 – Statement of Lawrence (SUMM.044.003.2157) at 2160

79 Exhibit 429 – Statement of Weir (SUMM.044.002.3841_R) at 3848_R; Exhibit 61 – Statement of Olorenshaw (WIT.034.001.0001_R) [51]–[53]; Exhibit 337 – Statement of Lawlor (WIT.3024.003.0190) [18]; Exhibit 379 – Witness Statement of Jowett (WIT.109.001.0001_R) [43]; Exhibit 411 – Statement of Taylor (WIT.3024.004.0001) [86]

80 Exhibit 20 – Statement of Rogers (WIT.015.001.0001_R) [5]

81 Exhibit 61 – Statement of Olorenshaw (WIT.034.001.0001_R) [54]; Exhibit 545 – Statement of Ruhr (WIT.122.001.0001_R) [53]

82 Exhibit 81 – 1939 Victorian Bushfires Royal Commission Report (TEN.028.001.0001) at 0004

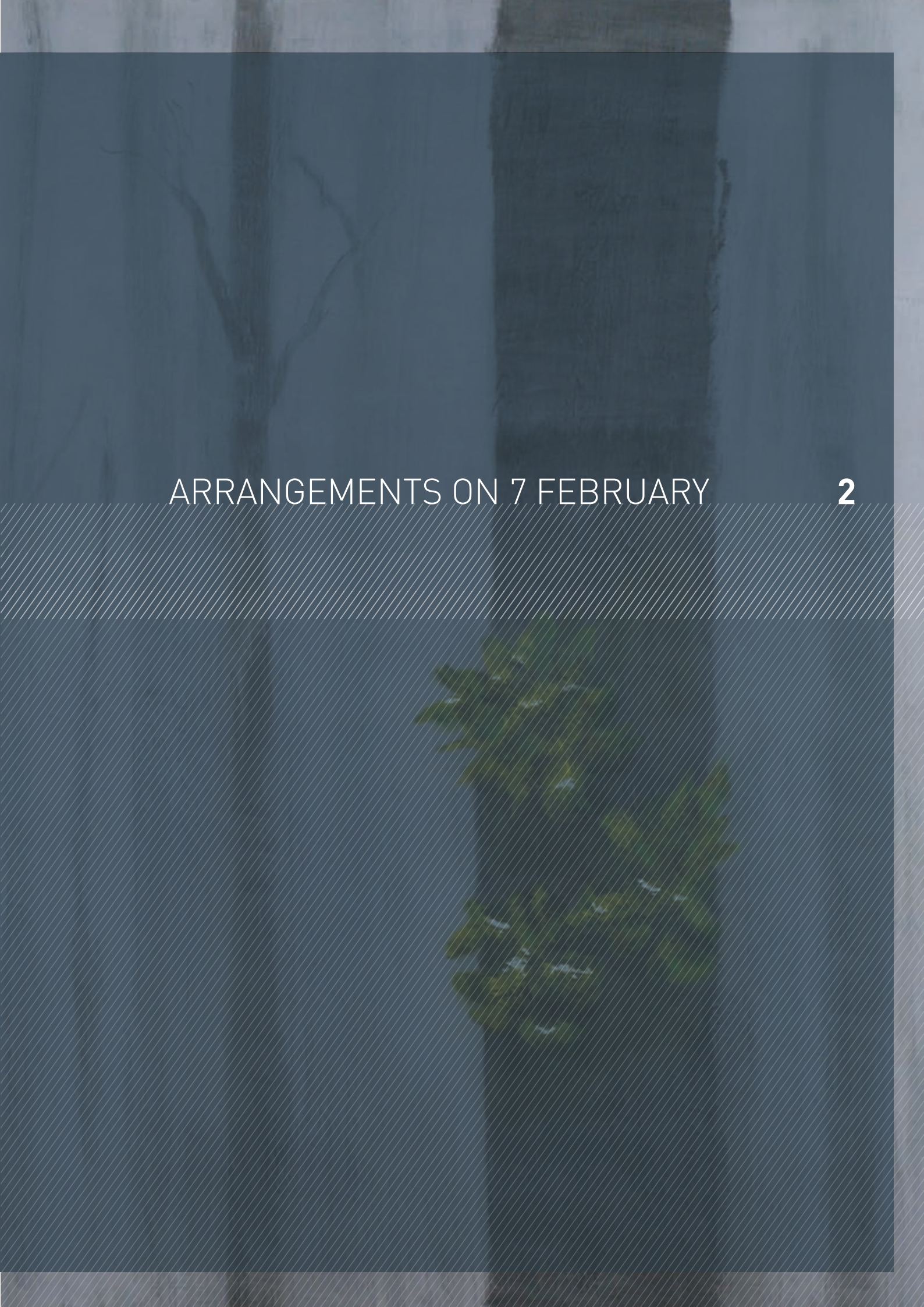
83 Exhibit 726 – Eastern Victoria: Bushfires (RSCH.030.001.0373); Exhibit 726 – Great Divide Complex Bushfires: Victoria (RSCH.030.001.0377)

84 Pyne T18438:31–T18439:2

85 Exhibit 687 – Normalised Australian Bushfire Building Damage and Fatalities 1925-2009 (TEN.204.001.0001) at 0005



Source: Courtesy of the *Herald & Weekly Times*.



# ARRANGEMENTS ON 7 FEBRUARY 2

# 2 ARRANGEMENTS ON 7 FEBRUARY

Emergency management generally and fire management in particular require the cooperation of a large number of government and private organisations and individuals. This chapter outlines the institutional arrangements that applied on 7 February 2009, covering the structure of Victoria's various fire agencies, private firefighting units, and emergency and incident management arrangements.

## 2.1 GOVERNMENT FIRE AGENCIES IN VICTORIA

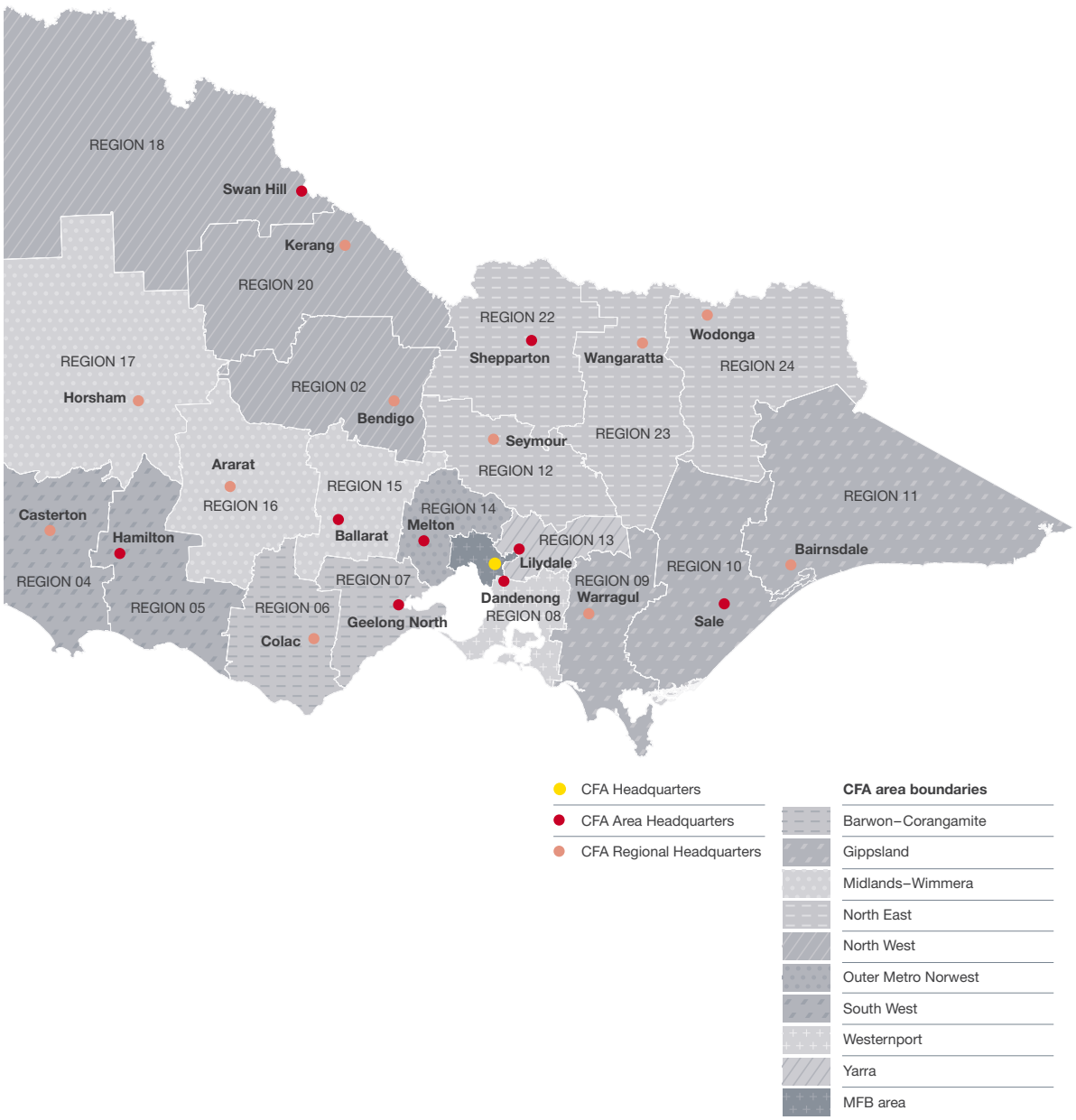
Three agencies are responsible for preventing and suppressing fires in Victoria—the Country Fire Authority, the Department of Sustainability and Environment, and the Metropolitan Fire and Emergency Services Board. Their organisational structures are discussed in detail in Chapter 10 of Volume II.

### 2.1.1 THE COUNTRY FIRE AUTHORITY

The CFA is responsible for prevention and suppression of fires, protection of life and property in case of fire, and general control of all stations and brigades in the 'country area of Victoria', which is defined in the *Country Fire Authority Act 1958* as any area of Victoria that is outside the metropolitan fire district, excluding areas of forest, national park and protected land. The country area of Victoria covers more than 15,018,200 hectares and is home to about 2.5 million people, roughly 50 per cent of the state's population; it includes outer Melbourne suburbs such as Frankston and Dandenong.[1]

As at 7 February the CFA had approximately 1,228 urban and rural fire brigades throughout Victoria; for administrative purposes these brigades are organised into 143 groups. Of the 1,228 brigades, 31 are integrated brigades, meaning they have both career (paid) and volunteer (unpaid) members, located in outer Melbourne or in larger regional centres. In 2009 the brigades were supported by nine area headquarters that provided direct operational support through 20 regions. The number of regions is to be reduced to eight, to align with the Victorian Government's Fairer Victoria boundaries.[2] Figure 2.1 shows the regions as they existed in 2009.

Figure 2.1 CFA regions, 2009




Source: Exhibit 855 – CFA Annual Report 2008–09.[3]

As at 28 January 2010 the CFA had comprised 1,953 employees. Of these, 1,461 were employed full time, 150 part time and 342 casually. Of the full-time staff, 797 were current serving CFA volunteers and about 520 were career firefighters. As at 31 March 2010 there were almost 60,000 volunteers—47,836 male and 11,836 female. The position of group officer is the most senior volunteer rank.[4]

### 2.1.2 THE DEPARTMENT OF SUSTAINABILITY AND ENVIRONMENT

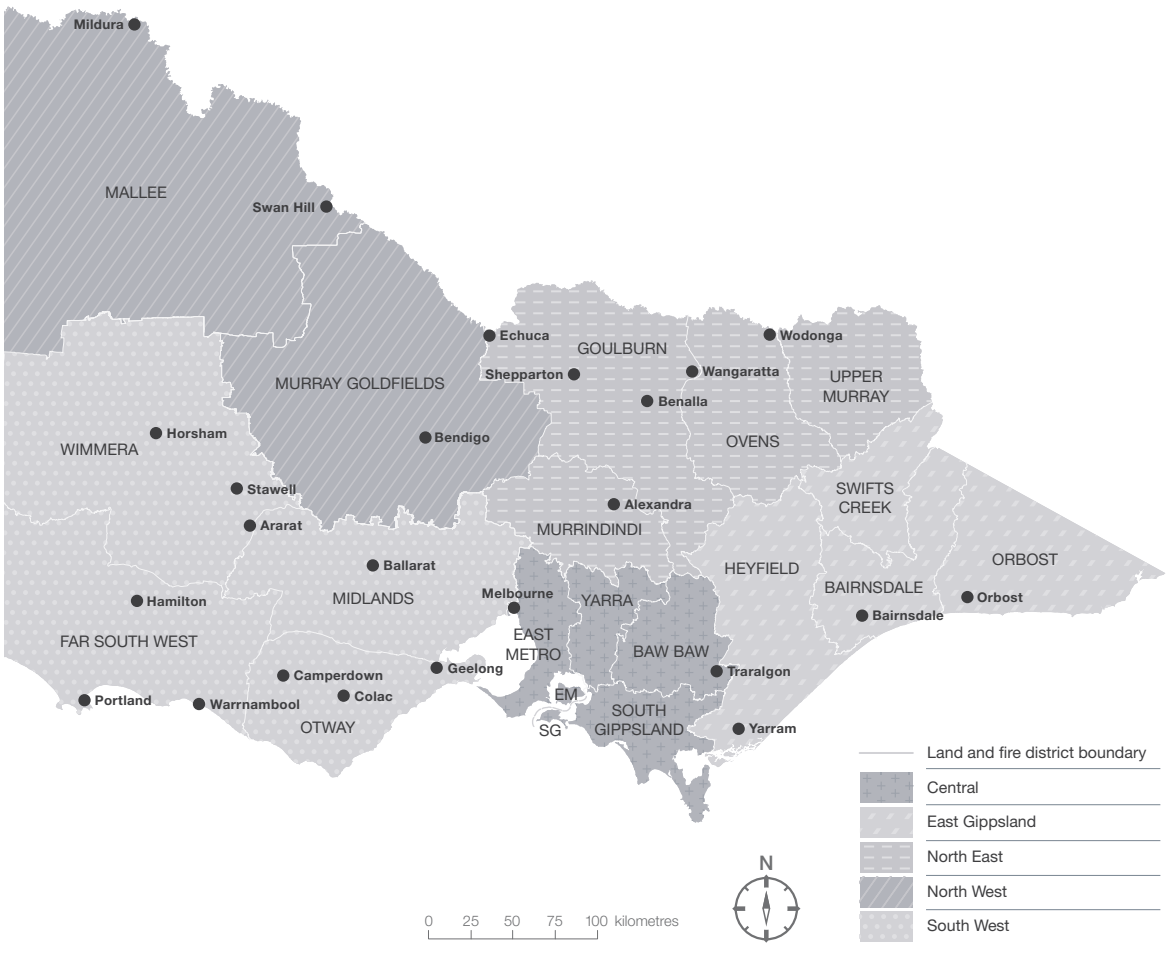
DSE is responsible for prevention and suppression of fires on Crown land and in areas for which DSE has legislative responsibility, such as parks, forests, some reserved land and all unreserved public land. This represents more than one-third of the area of Victoria—some 7.7 million hectares.[5]

Land and Fire Management is the branch of DSE that is responsible for implementing the department's land and fire management functions. It manages a range of bushfire prevention and preparedness activities, bushfire suppression and recovery activities, and biodiversity and ecosystem protection.[6]

DSE has entered into agreements with other state agencies—predominantly those with land and fire management skills and responsibilities—to provide resources to help DSE in its fire prevention and suppression role. This has resulted in the formation of the Networked Emergency Organisation, or NEO, which consists of staff from agencies such as Parks Victoria, the Department of Primary Industries, VicForests, Melbourne Water and the Department of Planning and Community Development.[7]

DSE's fire management equipment and resources are primarily designed for forest firefighting. Immediately before 7 February 2009 the department had 2,347 personnel available, 569 being ready for immediate deployment and the balance being held for surge capacity during the day, for night shift or for the days immediately following. Melbourne Water has a further 100 firefighters. DSE operates in five fire regions and 18 fire districts—see Figure 2.2.[8]

**Figure 2.2 DSE land and fire area and district boundaries**




Source: Exhibit 958 – DSE Map of Land and Fire Area and District Boundaries.[9]

Throughout this part of the report, reference is made only to control agencies. Typically, if a fire starts or is burning on private land the CFA is the control agency; if a fire states or is burning on public land DSE is the control agency. DSE incident management teams and firefighting crews can consist of both DSE and NEO staff.[10]

### 2.1.3 THE METROPOLITAN FIRE AND EMERGENCY SERVICES BOARD

The MFB is responsible for the provision of fire safety, fire suppression and fire prevention services and emergency response services in the 'metropolitan fire district'. This district uses as its starting point all areas within 16.09 kilometres of the Melbourne GPO. The metropolitan fire district currently covers about 1,200 square kilometres; it has a resident population of more than 2 million, increasing to more than 3 million during business hours.[11]

There are 47 fire stations in the metropolitan fire district. In 2008–09 the MFB employed 1,731 operational staff, 270 corporate employees, 60 temporary staff, and 14 trainees and apprentices. In Melbourne, 269 firefighters are on duty at any one time, although additional off-duty staff can be rostered on for high-risk bushfire days.[12]

## 2.2 PRIVATE FIREFIGHTING UNITS

Individual landholders' responsibility for fires on their own land has always been a part of Victoria's fire-related arrangements. In 2009 this service was provided through industry brigades and private farm units.

#### Industry brigades

Forest plantation companies are required by law to maintain local forest industry brigades. The primary purpose of these brigades is to provide the appliances and personnel necessary for managing and protecting the company's forest resources; as a result, brigade members have specific skills in managing forest fire. In 2009 there were 24 forest industry brigades, with 717 members, registered in Victoria. The brigades can have a broader role in fire suppression in their local communities, and when this occurs they come under the operational control of the CFA.[13]

For example, Hancock Victorian Plantations, which has seven forest industry brigades registered with the CFA, made an important contribution to the firefighting effort on 7 February. On that day HVP had fire tower observers in position, a first-attack helicopter on standby at Latrobe Valley Airport, 12 firefighters patrolling for arson activity, and a surveillance plane flying a circuit around the Latrobe Valley. Personnel were located at a number of HVP depots, and heavy machinery (including bulldozers and a grader) was on standby. HVP's Churchill office had coordinators, a logistics officer, a mapping officer and support staff ready for deployment to any fire that might break out.[14]

The HVP surveillance plane assisted the CFA in reconnaissance work during much of the afternoon of 7 February, and the first-attack helicopter was involved in protecting homes in the path of the Churchill fire. HVP resources were also deployed to the fireground; initially this entailed a fire commander with a support person, 19 firefighters, three tankers, five slip-on units and two bulldozers. Resources were sent to Yarram later in the day, and throughout the day an HVP liaison officer was located at the Traralgon Incident Control Centre.[15]

#### Private farm units

It is customary in Victoria for members of the community to attend fires with their own equipment to help protect their property and that of others. Often it is farmers and graziers who do this; they keep firefighting equipment on their property.[16]

Private farm units are usually not formally organised but operate in support of the local CFA. They often arrive at fires before the CFA because they are responding from nearby farms. They are an integral element of the fire response, particularly in western and central Victoria. The Guidelines for Operating Private Equipment at Fires provide information for private individuals so that they can broaden their knowledge of fire behaviour, hazards and suppression techniques. Guidance on the use of equipment, communications and protective clothing is also provided.[17]

## 2.3 EMERGENCY MANAGEMENT

Comprehensive emergency management involves safety strategies to reduce personal injury and loss of life, property and the environment, and to help people recover and continue with their lives. These activities involve the combined expertise and resources of emergency services organisations, government agencies, private organisations, municipal councils and the community.[18]

### 2.3.1 COMMONWEALTH ARRANGEMENTS

The Commonwealth Government has a limited operational role in emergency management in Australia: constitutionally, primary responsibility for protecting life, property and the environment lies with the states and territories. The Commonwealth does, however, support the states and territories in developing their capacity for dealing with emergencies, including providing some funding and performing a coordination role.[19]

The Commonwealth provides physical assistance only when asked to do so by the states or territories. Historically, the Australian Defence Force has played an important role in providing such assistance.[20]

### 2.3.2 VICTORIAN ARRANGEMENTS

The state's emergency management arrangements are the basis for the response by Victoria's fire agencies. The legislation provides for planning and preparation by state and municipal authorities in order to prevent, respond to and recover from emergencies.

The arrangements discussed in the remainder of this section are those that applied on 7 February 2009.

#### The Emergency Management Act

The *Emergency Management Act 1986* was enacted after the Ash Wednesday bushfires in 1983. It is Victoria's primary piece of emergency management legislation, providing the foundation for the state's emergency management arrangements. These arrangements are based on an 'all hazards, all agencies' approach, ensuring that the central elements of prevention, response and recovery are effectively organised and coordinated by the relevant agencies.[21]

'All hazards' recognises that all emergencies cause similar problems and that many of the measures required to deal with them are generic to all such events. The approach also recognises that many risks require specific prevention, response and recovery measures:

- Prevention seeks to eliminate or reduce the incidence and severity of emergencies and to mitigate their effects.[22]
- Response relates to combating emergencies and the provision of rescue and immediate relief.[23]
- Recovery aims to help affected communities and people in the aftermath of an emergency. It focuses on returning these communities and people to an effective level of functioning.[24]

'Emergency' is defined broadly by the Emergency Management Act and extends to an emergency that endangers the safety of any person, the environment or property in Victoria. Emergencies include fires, road accidents, wind storms and disruption to essential services.[25]

Under the Act the Minister for Police and Emergency Services is the Coordinator in Chief of Emergency Management. The Coordinator in Chief is required to ensure that adequate emergency management steps are taken to coordinate the activities of government agencies. The Coordinator in Chief must appoint the Chief Commissioner of Police as the Deputy Coordinator in Chief.[26]

The Act also details the following:

- the roles and responsibilities of DISPLAN, or, as it is more commonly known, the State Emergency Response Plan[27]
- the roles and responsibilities of recovery planning and management[28]
- the responsibilities of local councils, including provisions relating to municipal emergency management plans[29]
- the standards for prevention and management of emergencies[30]

- provisions for and the effect of declaring a state of disaster[31]
- the declaration of emergency areas and powers in relation to this—areas of an emergency from which it is necessary to exclude people to ensure public safety, the security of the premises or the safety of people engaging in emergency-related tasks.[32]

### The *Emergency Management Manual Victoria*

The *Emergency Management Manual Victoria* guides implementation of aspects of the Emergency Management Act. It is maintained by the Office of the Emergency Services Commissioner in collaboration with various agencies.[33]

The manual integrates the main policy and planning documents for emergency management in Victoria. It provides information and guidance on Victorian emergency management arrangements, outlines the roles of various organisations, and details the planning and management arrangements that bring all the different elements together.[34]

### The State Emergency Response Plan

The Emergency Management Act provides for the development and maintenance of the State Emergency Response Plan. As Coordinator in Chief of Emergency Management, the Minister for Police and Emergency Services must arrange for preparation and review of the plan.[35]

The SERP describes the organisational arrangements for coordinating the response to any emergency affecting, or with the potential to affect, Victoria.[36] Its response management arrangements operate on the basis of three principal management tasks:

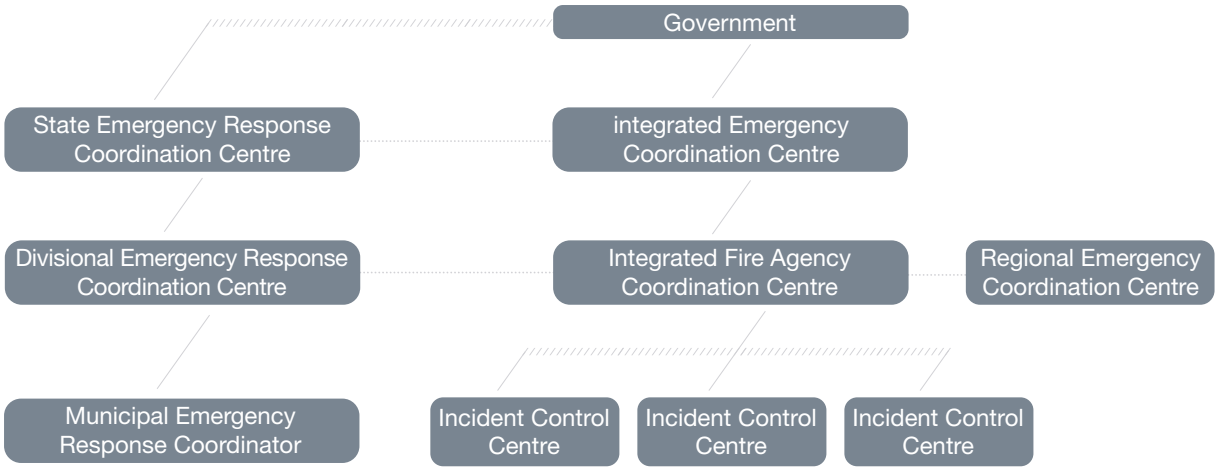
- command—directing the members and resources of an agency in the performance of the agency's role and tasks
- control—the overall direction of response activities in an emergency
- coordination—bringing together agencies and resources to ensure an effective response to an emergency.[37]

The SERP identifies the agencies primarily responsible for managing specific types of emergencies and describes how the activities of agencies supporting that primary agency will be coordinated in an emergency.[38]

### Facilities, roles, functions and plans

Figure 2.3 shows the various reporting relationships between the agencies involved in emergency management on 7 February 2009.

**Figure 2.3 Emergency management – agency reporting relationships, 7 February 2009**




Source: Exhibit 254 – Statement of Farrell, Annexure 4.[39]

### 2.3.3 THE STATE LEVEL

#### The State Emergency Response Coordination Centre

The State Emergency Response Coordination Centre is activated when an emergency affects more than one police region; it operates from the Victoria Police Centre. From within the SERCC, police and liaison officers of control and support agencies receive, collate, analyse and disseminate intelligence to other emergency response agencies, the general public and the media. On 7 February the SERCC focused on police operations.[40]

#### The State Emergency Response Coordinator

The State Emergency Response Coordinator is the Chief Commissioner of Police. This person is responsible for coordinating the activities of all agencies that have a role in responding to an emergency.[41]

#### The Emergency Services Commissioner

During a major emergency the Emergency Services Commissioner, as the expert emergency management advisor to the Victorian Government, facilitates the activities of the Victoria Emergency Management Council Coordination Group, as well as attends meetings of the Central Government Response Committee and the Security and Emergencies Committee of Cabinet.[42]

#### The integrated Emergency Coordination Centre

In February 2008, as a result of a recommendation made in the report of the Inquiry into the 2002–03 Victorian Bushfires, the CFA and DSE began a trial of integrating their state coordination functions in the newly created integrated Emergency Coordination Centre. This trial was still in progress on 7 February 2009. On that day the role of the iECC was 'to support information sharing, enable intelligence gathering and joint situation analysis between agencies, to inform fire control and coordination, and agency command actions related to the management of the fire event'.[43]

#### Chief officers

Each of DSE and the MFB has as its senior operational head a Chief Fire Officer. The CFA's senior operational head is a Chief Officer. During a fire these officers are responsible for the command of all their firefighting resources, both permanent career staff and volunteers.[44]

### 2.3.4 THE REGIONAL LEVEL

**Emergency services**

#### Integrated fire agency coordination centres

An integrated fire agency coordination centre is a centre where strategic preparedness for and management of incident responses, together with allocation of agency resources, are resolved and agreed in accordance with the partnership arrangements between the CFA and DSE. The objective of the IFACC is to support integrated coordination and responses between the CFA and DSE. The location of such a centre is determined by the Chief Officers of the CFA and DSE on the basis of the requirements of the fire area in question. IFACCs were established for some but not all fires on 7 February.[45]

#### Incident Controllers

An Incident Controller is the senior member of an incident management team and can be based in the field at an incident control point or at an incident control centre. They are responsible for all action taken to control an incident and are required to manage relationships with organisations and personnel outside the AIIMS structure (see 'Incident management', later in this chapter, for information about AIIMS) and with organisations, communities and individuals affected or likely to be affected by the incident.[46]

Being responsible for overall management of the fire response, the Incident Controller has three main functions:

- establishing effective liaison and cooperation with all relevant people
- managing the incident effectively and efficiently including setting and achieving incident objectives
- establishing systems and procedures designed to maximise the safety and wellbeing of all personnel working at the incident.[47]

### Incident control centres

Incident control centres are pre-planned static locations where the Incident Controller for a particular emergency situation and the appointed members of the incident management team provide overall direction of the response to the situation. An incident control centre can be established for any incident, regardless of size. There should be only one incident control centre per incident, no matter how many agencies are involved. Its location will usually be determined by the control agency.[48]

### Regional emergency coordination centres

Each of the 20 CFA regions and five DSE regions in Victoria has a regional emergency coordination centre. RECCs monitor and support incident management teams and incident control centres in their management of incidents, obtain and coordinate resources for incidents in the region and support others in the state, liaise with other agencies as necessary, and provide information and updates to the integrated Emergency Coordination Centre. This can include issuing fire information releases. One crucial function of a RECC is to ensure that resources are available to respond to any new incidents in its region.[49]

## The police: facilities, roles, functions and plans

### Divisional emergency coordination centres

Divisional emergency coordination centres operate in the same way as the State Emergency Response Coordination Centre but at the police divisional level rather than the state level. Emergency response coordinators and liaison officers of the relevant agencies coordinate the provision of resources; receive, collate, analyse and disseminate intelligence; and conduct operations ancillary to those of an emergency operations centre. An emergency operations centre can be established to perform the command functions of a response agency or the control functions of a control agency—for example, a police operations centre.[50]

### Divisional emergency response coordinators

In the event of an emergency a senior police officer is appointed the Divisional Emergency Response Coordinator and is responsible for coordination of resources or services in a division and for providing situation reports to the State Emergency Response Coordinator.[51]

## Local government

### Municipal emergency management plans

Under the Emergency Management Act, each council is required to prepare a municipal emergency management plan. MEMPs should take into account each type of potential emergency and develop generic principles and arrangements that can be activated on any occasion.[52]

An integral part of a council's strategic planning framework, the MEMP is a record of emergency management arrangements. It records matters such as the following:

- important geographic and demographic information about the municipality
- the results of emergency risk analyses
- outlines of risk-reduction strategies
- information about public awareness and education campaigns and other actions taken to increase community resilience
- arrangements for the management of response and recovery activities
- contact details for council staff and other personnel needed during an emergency
- information about access to resources that are owned or controlled by the council and are available for prevention, response and recovery activities—including the contact details for suppliers.[53]

### Municipal emergency response coordinators

Municipal emergency response coordinators are local police officers. They coordinate support resources by attending the Municipal Emergency Coordination Centre, ensuring that the Municipal Emergency Resource Officer is in a position to provide access to municipal resources. They report to the Divisional Emergency Response Coordinator.[54]

### Municipal emergency resource officers

Municipal Emergency Resource Officers provide access to municipal resources and, with the Municipal Emergency Response Coordinator, advise the Divisional Emergency Response Coordinator on the potential outcome of the emergency.[55]

### Municipal emergency coordination centres

A municipal emergency coordination centre is not the control centre for an emergency response; rather, it is the focus for organising any support that might be needed. It is from the MECC that personnel coordinate and organise emergency provision of council and community resources in the municipality or, by agreement, to a neighbouring district.[56]

The MECC also does the following:

- monitors all operational activities for recording, debriefing and planning purposes
- operates during larger response operations
- operates for the relief and early recovery activities in which the council's actions require coordination.[57]

The main members of the MECC are typically the Municipal Emergency Resource Officer, the Municipal Recovery Manager and liaison officers from agencies such as the CFA, DSE, Victoria State Emergency Service and the Australian Red Cross, depending on the nature of the emergency.[58]

Authority to activate the MECC rests with the Municipal Emergency Response Coordinator, who might consult the Divisional Emergency Response Coordinator, municipal staff or control agency staff when making the decision to activate.[59]

### Emergency relief centres

An emergency relief centre is a place established in a safe area, away from the emergency, to support people affected by or involved in the management of an emergency. Such centres can provide first aid, catering and counselling services, as well as information and temporary accommodation.[60]

## 2.4 INCIDENT MANAGEMENT

Most of the emergency management bodies and structures just described do not have a continuing role but are activated in response to an emergency. The approach taken to activating and operating these bodies in Victoria is guided by AIIMS, the Australasian Inter-Service Incident Management System.

### 2.4.1 AIIMS

AIIMS was developed in Australia in the mid-1980s. It was modelled on the US National Inter-Agency Incident Management System, which in turn was modelled on military operational systems.[61]

In the early 1990s AIIMS was introduced into Australian emergency services organisations in an effort to provide more effective command, control and coordination within and between agencies. The introduction occurred because it had been recognised that incidents such as complex, fast-moving fire events require more coordinated control arrangements beyond local volunteers at the brigade and group level.[62]

AIIMS has mainly been used by fire and land management agencies and is currently used by the majority of emergency service organisations throughout Australia—among them the CFA, DSE, Victoria State Emergency Service and the MFB. Victoria Police uses a different incident management system, and in recent years integration

of the two systems has been discussed. An integrated system was not, however, operating on 7 February.[63] The AIIMS system in operation at the time of the January–February fires is described in the following paragraphs. It has since been adjusted by Victoria's fire agencies: these changes are discussed in Chapter 2 of Volume II.

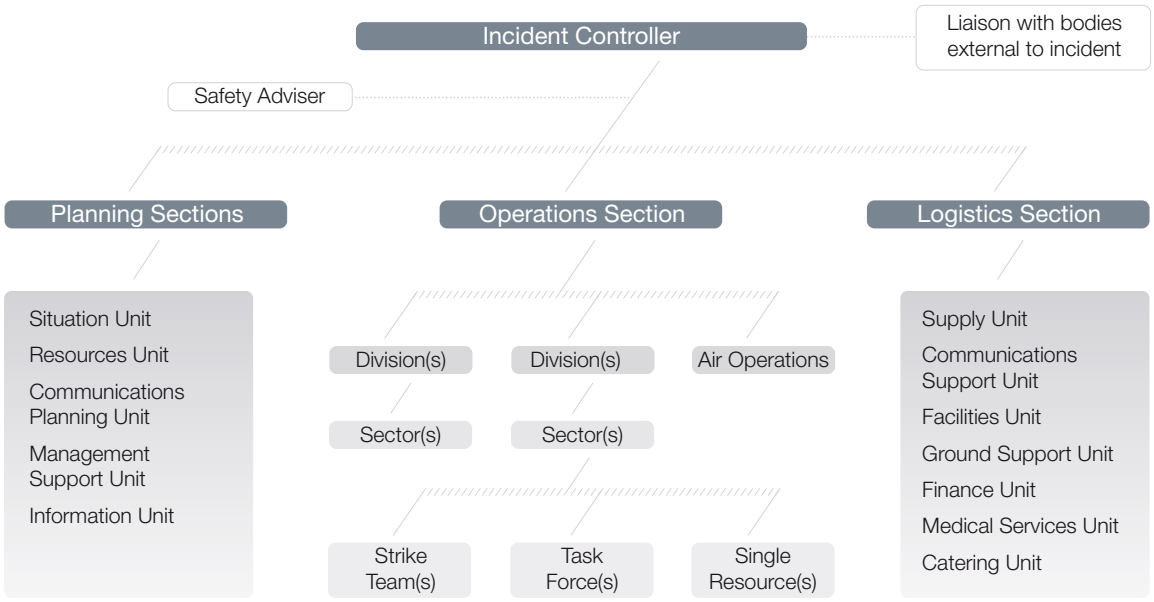
The principles of AIIMS are as follows:

- management of incidents by objective—a process whereby the Incident Controller, in consultation with the incident management team, determines the desired outcomes of the incident
- one controller of the incident—the Incident Controller
- delegation of functions according to the complexity of the incident
- span of control—generally one person directly responsible for no more than five reporting points at any time
- development of a plan outlining strategies and tactics for dealing with the incident.[64]

AIIMS centres on the management functions associated with dealing with a fire or other incident. These functions are control, planning, operations and logistics. For simple incidents it is expected that one person can manage all functions concurrently. As the incident becomes more complex, however, additional personnel are engaged to perform the specialist functions and incidents are managed by an incident management team.[65]

Individuals gain formal competencies in one or more functions and ultimately as Incident Controllers. The level of management needed for a fire is determined after an assessment of the fire's complexity. Less complex fires are referred to as level 1; the most complex fires are level 3 fires, and they usually involve large numbers of personnel, other resources and agencies and high levels of risk.[66] Figure 2.4 shows an incident control structure for a large or complex incident.

**Figure 2.4 Existing AIIMS structure – an example**




Source: Exhibit 475 – AIIMS Manual.[67]

### Incident control

Once a fire breaks out and is reported, local brigades are notified and respond. This is referred to as the 'first response' and it occurs without orchestration from an incident management team. The officer-in-charge is the initial Incident Controller. If the first response to contain and extinguish the fire is unsuccessful, the local Incident Controller either asks for additional resources or passes control of the fire response to an Incident Controller who is better positioned to manage the fire because of the facilities available, the ability to gain access to and coordinate resources, or the presence of improved communications capacity. On a day of high bushfire risk a pre-positioned Incident Controller, with a pre-designated incident management team, might be designated to take over responsibility.[68]

The Incident Controller determines the control objectives—specific operational objectives—which become the foundation for the development of strategies and the subsequent incident action plan.[69]

Managing an incident involves a range of functions that are identified in AIIMS.

#### Incident action planning

The purpose of an incident action plan is to provide a basis for the management of an incident and communication of incident objectives. The plan should do several things:

- describe the overall incident objectives and strategies
- identify the main risk exposures—including the potential impact on the community and the environment
- ensure continuity of control operations
- provide for effective use of resources
- identify total anticipated resources.[70]

DSE and the CFA use a common template for developing an incident action plan. Among the details required are the following:

- a description of the situation
- the incident objectives
- the strategies to be adopted
- detailed coordination information on structures, mapping, communications, timing and logistical arrangements.[71]

A number of locations might be established to effectively manage an incident. The size and complexity of the incident will determine which facilities will be required, such as:

- an incident control centre—from which efforts to deal with the incident are controlled
- an operations point—where field operations can be commanded by the operations officer
- a staging area—where personnel and equipment are mustered and available for deployment to the fireground.[72]

#### Safety

The Incident Controller has ultimate responsibility 'for maintaining the safety and welfare of operational crews'. The AIIMS manual provides that an Incident Controller may appoint a safety adviser to 'oversee the occupational health and safety function at an incident'. Under a joint CFA–DSE standard operating procedure this discretion is elevated to a mandatory requirement for all level 3 incidents. According to the CFA–DSE SOP, a person who is appointed a safety advisor 'shall have no other responsibilities within the IMT'. This requirement was introduced following the coronial inquest into the deaths of five firefighters at Linton in 1998. Agencies specify the level of competency and experience required of those who are appointed safety advisers. Their role is to assess risk and advise the Incident Controller on all aspects of potential and current safety and risk management at the incident.[73]

### Red flag warnings

Both the CFA and DSE have standard operating procedures governing red flag warnings. The CFA SOP states that a red flag warning 'shall be issued when there is a significant change to any actual conditions or forecast conditions that may adversely affect the safety of personnel and this information has or cannot be forwarded by normal means'. The equivalent DSE procedure states that the triggers for a red flag warning may be 'previously un-notified changes' in relation to matters such as 'weather conditions', 'fire behaviour' and 'hazards on the fire control line'.[74]

The CFA SOP provides that members who receive a red flag warning must immediately acknowledge receipt, notify all CFA and support agency members they are supervising or who are reporting to them of the warning, and obtain acknowledgment of receipt of the warning.[75]

### Record keeping

Ensuring that accurate recording and reporting systems are in operation is a responsibility of the Incident Controller and incident management team staff. This allows for effective incident management, briefings, information transfer and handovers to incoming staff. Record keeping is also important for the subsequent analysis of major incidents, to facilitate debriefings and for the identification of opportunities for improvement.[76]

#### Planning

The Planning Section is responsible for collecting, analysing and disseminating incident information, predicting incident behaviour, recording the location and tasking of resources, and preparing alternative strategies for dealing with the incident.[77]

The complexity of an incident might dictate that the Planning Section be made up of units and specialist resources dedicated to particular tasks or functions, such as the following:

- the Situation Unit, which monitors and predicts the incident's behaviour, prepares alternative strategies, and identifies the risks and likely outcomes
- the Resources Unit, which gathers, maintains and presents information on incident resources and contributes to plans for demobilisation
- the Communications Planning Unit, which prepares communications plans
- the Management Support Unit, which provides administrative services and operates communications equipment in the incident control centre
- the Information Unit, which prepares and disseminates information within agencies and government, to communities, to other organisations involved in the incident, and within the incident management team structure.[78]

#### Operations

The Operations Section controls operations and directs resources, including equipment and people.[79]

Sectors or divisions may be established according to the geographic or functional requirements of an incident. A division is a defined geographic area or a specific functional responsibility, whereas a sector is part of a division.[80]

Although single resources (usually tankers) are often allocated to an incident, in large incidents groups of resources organised into strike teams or task forces are often deployed.[81]

#### Logistics

The Logistics Section acquires, provides and maintains the human and physical resources, facilities, services and materials required to deal with an incident.[82]

### Specific incident control actions

#### Evacuation

Evacuation is the planned relocation of people from a dangerous or potentially dangerous area to a safer area and their eventual return. It is a safety strategy that uses distance to separate the people from the danger created by the emergency.[83]

Unless police have declared an emergency area under the Emergency Management Act, the decision to evacuate is an individual one. On 7 February the role of fire agencies was to make an informed decision about whether or not to recommend evacuation.[84] Chapter 1 in Volume II discusses evacuation during bushfire.

#### Roadblocks

Control of traffic during a fire or other type of emergency is the responsibility of Victoria Police. The Incident Controller, however, might also determine that roadblocks are needed and ask Victoria Police to manage traffic where required.[85] Chapter 2 in Volume II discusses roadblocks.

#### Warnings

Responsibility for overseeing the provision of warnings to the community rests with Victoria Police. The Incident Controller is responsible for ensuring that warnings are generated. On 7 February this largely included formal warnings from the CFA and DSE that generally were released through the iECC and interviews with local media conducted by the Incident Controller.[86]

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1 *Country Fire Authority Act 1958* ss. 3, 20; Exhibit 3 – Statement of Rees (WIT.004.001.0001) [22]; Exhibit 843 – Statement of Robertson, Annexure 5 (WIT.3003.001.0122) at 0127

2 Exhibit 3 – Statement of Rees (WIT.004.001.0001) [25]–[26]; Exhibit 909 – Statement of de Man (WIT.3004.046.0240) [72]; Exhibit 547 – Statement of Haynes, Annexure 38 (CFA.001.032.0300) at 0317

3 Exhibit 855 – CFA Annual Report 2009 (TEN.205.001.0001) at 0015

4 Exhibit 909 – Statement of de Man (WIT.3004.046.0240) [58], [62], [90]; Bourke T19357:22–T19357:28

5 Exhibit 6 – Statement of Waller (WIT.002.002.0001) [192]; Exhibit 931 – Statement of Armytage (WIT.3003.002.0001) [26], [75]

6 Exhibit 6 – Statement of Waller (WIT.002.002.0001) [26], [30]

7 Exhibit 6 – Statement of Waller (WIT.002.002.0001) [180]

8 Exhibit 6 – Supplementary Statement of Waller (WIT.002.002.0001) [298]; Graystone T6026:26–T6027:7
Exhibit 857 – Department of Sustainability and Environment – Annual Report 2009 (TEN.201.001.0001) at 0008, 0048;
Exhibit 931 – Statement of Armytage, Attachment 4 (WIT.3003.002.0085) at 0124; Brown T6524:14–T6524:24

9 Exhibit 958 – Department of Sustainability and Environment – Land and Fire Area and District Boundaries (RESP.3001.024.0006)

10 Exhibit 857 – Department of Sustainability and Environment – Annual Report 2009 (TEN.201.001.0001) at 0048

11 *Metropolitan Fire Brigades Act 1958* s. 2(a), Schedule 2; Exhibit 576 – Statement of Murphy (WIT.3006.001.0001) [11]–[12]

12 Exhibit 856 – MFB Annual Report 2008–2009 (TEN.206.001.0001) at 0033; Exhibit 576 – Statement of Murphy (WIT.3006.001.0001) [11]–[12]; Murphy T12575:25–T12575:26

13 Exhibit 742 – Statement of Marty (WIT.7537.001.0001) [75]; Exhibit 425 – Statement of Sewell (WIT.7519.001.0001) [9];
*Country Fire Authority Act 1958* s. 23AA; *Country Fire Authority Regulations 2004* Part 5

14 Exhibit 425 – Statement of Sewell (WIT.7519.001.0001) [9], [56]

15 Exhibit 425 – Statement of Sewell (WIT.7519.001.0001) [5]–[59], [66]

16 Exhibit 3 – Statement of Rees (WIT.004.001.0001) [56]; Exhibit 272 – Statement of McGennisken (WIT.089.001.0001_R); McGennisken T7478:1–T7496:30

17 Exhibit 3 – Statement of Rees (WIT.004.001.0001) [58]; Exhibit 272 – Statement of McGennisken (WIT.089.001.0001_R); McGennisken T7478:1–T7496:30; Russell T7449:10–T7450:15

18 Exhibit 11 – Statement of Esplin, Attachment 2 (WIT.005.001.0123) at 0125

19 Exhibit 11 – Statement of Esplin (WIT.005.001.0001) [45]–[48]

20 Exhibit 11 – Statement of Esplin (WIT.005.001.0001) [45]–[48]

21 Exhibit 11 – Statement of Esplin (WIT.005.001.0001) [10], [12], [15]

22 Exhibit 11 – Statement of Esplin (WIT.005.001.0001) [16]; *Emergency Management Act 1986,* s. 4A

23 Exhibit 11 – Statement of Esplin (WIT.005.001.0001) [17]; *Emergency Management Act 1986,* s. 4A

24 Exhibit 11 – Statement of Esplin (WIT.005.001.0001) [18]; *Emergency Management Act 1986,* s. 4A

25 *Emergency Management Act 1986,* s. 4

26 Exhibit 11 – Statement of Esplin (WIT.005.001.0001) [21]; *Emergency Management Act 1986,* ss. 5(1), 5(2), 6

27 *Emergency Management Act 1986,* Part 3

28 *Emergency Management Act 1986,* Part 3A

29 *Emergency Management Act 1986,* Part 4

30 *Emergency Management Act 1986,* Part 4A

31 *Emergency Management Act 1986,* Part 5

32 *Emergency Management Act 1986,* ss. 36A–36B

33 Exhibit 11 – Statement of Esplin (WIT.005.001.0001) [19], [31]–[32]; Exhibit 11 – Statement of Esplin, Attachment 2 (WIT.005.001.0123) at 0124

34 Exhibit 11 – Statement of Esplin (WIT.005.001.0001) [31]–[32]; Exhibit 11 – Statement of Esplin, Attachment 2 (WIT.005.001.0123) at 0125

35 *Emergency Management Act 1986,* s. 10; Exhibit 836 – Statement of Nixon (WIT.3010.009.0377) [18]–[19]

36 *Emergency Management Act 1986,* s. 10; Exhibit 11 – Statement of Esplin, Attachment 2 (WIT.005.001.0123) at 0172

37 Exhibit 836 – Statement of Nixon (WIT.3010.009.0377) [20]; Exhibit 11 – Statement of Esplin, Attachment 2 (WIT.005.001.0123) at 0173–0174

38 *Emergency Management Act 1986,* s. 15

39 Exhibit 254 – Statement of Farrell, Annexure 4 (DSE.HDD.0032.0148) at 0151

40 Exhibit 19 – Revised Statement of Walshe (WIT.003.002.0001) [35], [36], [42], [46]; Exhibit 836 – Statement of Nixon (WIT.3010.009.0377); Nixon T17296:3–T17400:15; Exhibit 852 – Statement of Fontana (WIT.3010.010.0046); Fontana T17605:3–T17668:10

41 *Emergency Management Act 1986,* s. 11

42 Exhibit 11 – Statement of Esplin (WIT.005.001.0001) [60]

43 Exhibit 11 – Statement of Esplin, Attachment 11 (WIT.005.001.0951) at 1240; Exhibit 3 – Statement of Rees (WIT.004.001.0001) [96]; Exhibit 19 – Statement of Walshe, Annexure 7 (WIT.003.002.0061)

44 *Country Fire Authority Act 1958* ss. 3 and 30; *Metropolitan Fire Brigade Act 1958* s. 32B; Exhibit 6 – Supplementary Statement of Waller (WIT.002.002.0001) [13]–[19]; Exhibit 730 – Statement of Harris (WIT.006.001.0001)

45 Exhibit 254 – Statement of Farrell (WIT.3024.002.0219) [23], Annexure 4 (DSE.HDD.0032.0148) at 0149

46 Exhibit 547 – Statement of Haynes, Annexure 9 (WIT.3004.024.0124) at 0153 and 0157

47 Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0027

48 Exhibit 3 – Statement of Rees (WIT.004.001.0001) [110]; Exhibit 547 – Statement of Haynes, Annexure 9 (WIT.3004.024.0124) at 0153 and 0154

49 Exhibit 3 – Statement of Rees (WIT.004.001.0001) [115], [328]; Rees T2499:24–T2500:23, T2501:27–T2501:29; Paterson T4326:15–T4326:25, T4327:18–T4327:27

50 Exhibit 19 – Revised Statement of Walshe (WIT.003.002.0001) [36]; Exhibit 11 – Statement of Esplin, Attachment 2 (WIT.005.001.0123) at 0179

51 *Emergency Management Act 1986,* s. 13; Exhibit 19 – Revised Statement of Walshe (WIT.003.002.0001) [47]

52 *Emergency Management Act 1986,* s. 20; Exhibit 11 – Statement of Esplin, Attachment 2 (WIT.005.001.0123) at 0256

53 Exhibit 11 – Statement of Esplin, Attachment 2 (WIT.005.001.0123) at 0256

54 Exhibit 19 – Revised Statement of Walshe (WIT.003.002.0001) [51], [83]

55 Exhibit 19 – Revised Statement of Walshe (WIT.003.002.0001) [84]

56 Exhibit 11 – Statement of Esplin, Attachment 2 (WIT.005.001.0123) at 0324

57 Exhibit 11 – Statement of Esplin, Attachment 2 (WIT.005.001.0123) at 0324

58 Exhibit 377 – Statement of Ellett (WIT.4006.001.0001) [46]

59 Exhibit 11 – Statement of Esplin, Attachment 2 (WIT.005.001.0123) at 0325

60 Exhibit 377 – Statement of Ellett (WIT.4006.001.0001) [48]

61 Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0009

62 Exhibit 3 – Statement of Rees (WIT.004.001.0001) [69], [71]; Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0014

63 Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0014; Exhibit 3 – Statement of Rees (WIT.004.001.0001) [71]; Pearce T1401:3–T1403:9; Walshe T704:3–T704:25

64 Exhibit 3 – Statement of Rees (WIT.004.001.0001) [72]; Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0017

65 Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0017, 0022, 0025

66 Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0025, 0028–0033

67 Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0026

68 Exhibit 3 – Statement of Rees (WIT.004.001.0001) [120]–[130]

69 Exhibit 3 – Statement of Rees (WIT.004.001.0001) [73]; Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0040, 0088

70 Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0088

71 Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0089

72 Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0033–0034

73 Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0043; Exhibit 548 – Standard Operating Procedure – Safety Advisors (CORR.0911.0109) at 0109; Exhibit 6 – Supplementary Statement of Waller (WIT.002.002.0001) [182]

74 Exhibit 51 – Standard Operating Procedure – Red Flag Warnings (TEN.015.001.0001) at 0001; Exhibit 400 – Guideline 8.1.10: Communicating Essential Fire Ground Information (DSE.HDD.0012.1158) at 1159

75 Exhibit 51 – Standard Operating Procedure – Red Flag Warnings (TEN.015.001.0001) at 0002

76 Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0041

77 Exhibit 3 – Statement of Rees (WIT.004.001.0001) [73]; Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0017

78 Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0052, 0058

79 Exhibit 3 – Statement of Rees (WIT.004.001.0001) [73]; Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0017

80 Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0069, 0103, 0105

81 Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0066, 0069, 0106

82 Exhibit 3 – Statement of Rees (WIT.004.001.0001) [73]; Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0017

83 Exhibit 11 – Statement of Esplin, Attachment 2 (WIT.005.001.0123) at 0184

84 Exhibit 11 – Statement of Esplin, Attachment 2 (WIT.005.001.0123) at 0184

85 Exhibit 542 – Standard Operating Procedure – Traffic Management During Bushfires (RESP.3001.018.0332) at 0332; Exhibit 19 – Statement of Walshe (WIT.003.002.0001) [148]–[150]

86 Exhibit 11 – Statement of Esplin, Attachment 2 (WIT.005.001.0123) at 0443; Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0040, 0046



# THE DELBURN FIRES

3

# 3 THE DELBURN FIRES

The Delburn fires—which consisted of three separate fires that started on 28 and 29 January 2009 and ultimately joined up—occurred about 150 kilometres south-east of Melbourne, in an area that forms part of the Strzelecki Ranges and has extensive blue-gum and pine plantations. Among the towns in the vicinity are Mirboo North, Boolarra, Yinnar and Churchill. There are important infrastructure assets in the area, including the Morwell open-cut mine and power station and the main high-tension power line servicing Melbourne.

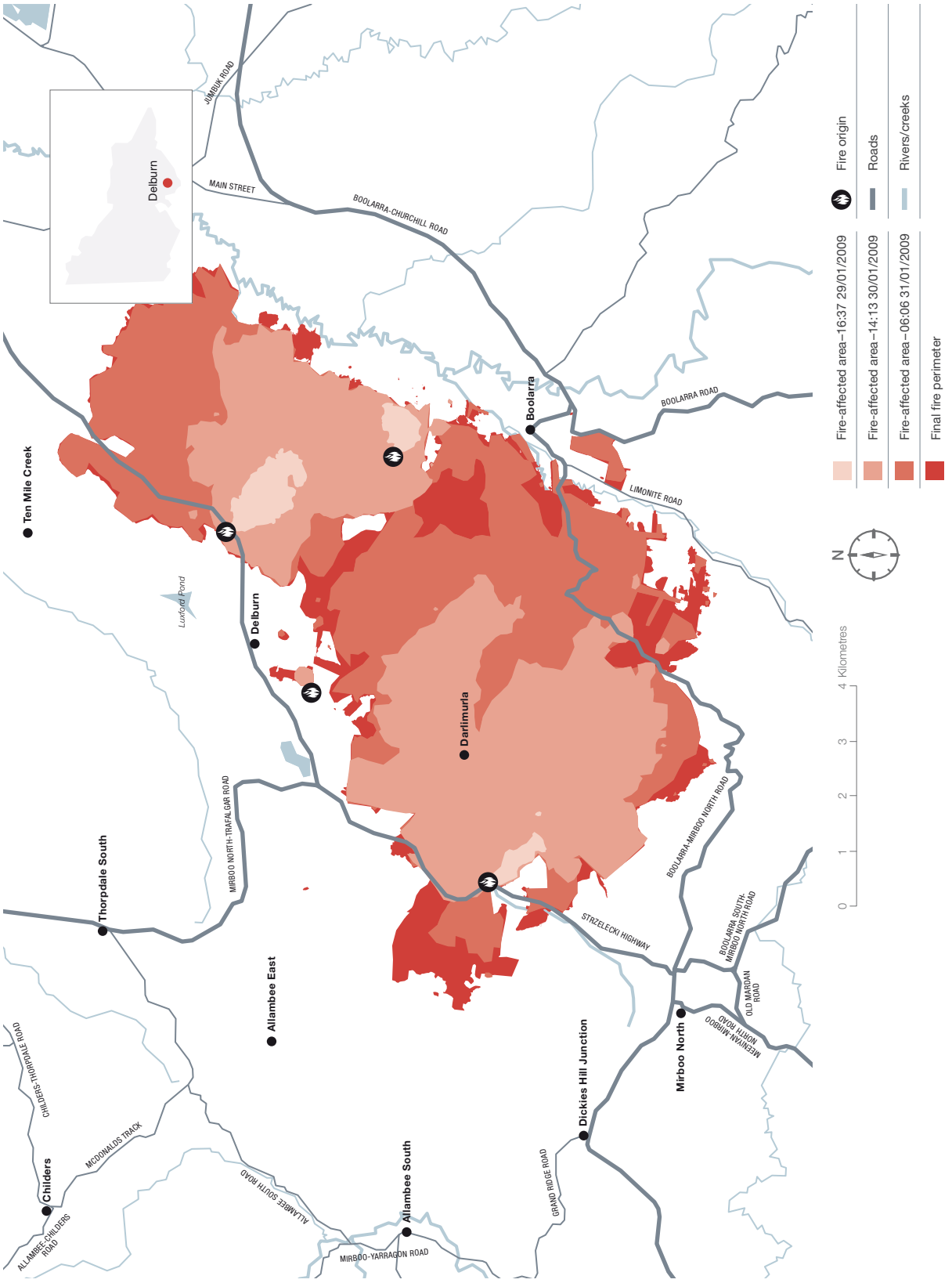
The fires burned mainly between 28 January and 3 February, being at their most destructive on 30 January in and around Boolarra. On 7 February there was an increase in fire activity, but this was managed and there were no major outbreaks.

Forty-four houses were destroyed, most of them on the western and southern outskirts of Boolarra. Figure 3.1 shows the extent of the fires.

## OVERVIEW

| | |
|---|---|
| **Maximum temperature** | The maximum temperatures recorded were 44.5°C on 29 January and 45.1°C on 30 January at Latrobe Valley automatic weather station.[1] |
| **Fire danger index** | The maximum Forest Fire Danger Index was 52 on 30 January.[2] |
| **Cause** | Suspicious.[3] |
| **Fatalities** | No fatalities.[4] |
| **Casualties** | None reported. |
| **Houses destroyed** | Forty-four houses.[5] |
| **Overall area burnt** | 6,534 hectares.[6] |
| **Firefighting resources** | On 30 January, 597 CFA and 699 NEO personnel attended the fire. They were supported by 112 CFA appliances, 103 NEO appliances and 14 aircraft.[7] |

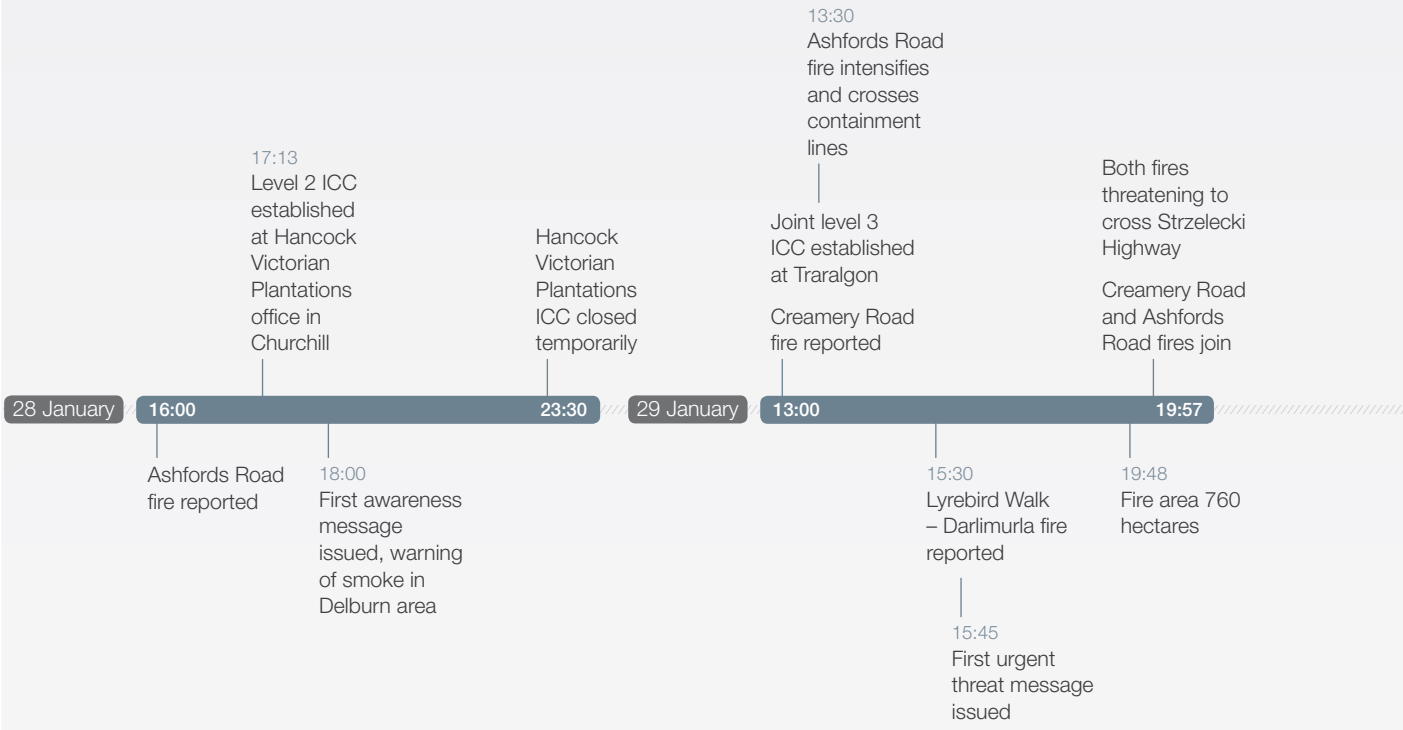
Figure 3.1 The Delburn fires




Source: Exhibit 994 – Delburn Fire – Fire Spread Map.[8]

## Delburn 28 January – 3 February

The following time line summarises events associated with the Delburn fire. For the most part, the times given are approximate. Further details about the events are provided in the accompanying narrative.




30 January
04:43
Fire area 2,150 hectares
13:00
Fires breach control lines on eastern flank
Spotting towards outskirts of Boolarra and Yinnar
14:13
Thirty to 40 spot fires near Boolarra
17:00
Spot fires near Yinnar
Creamery Road – Ashfords Road fire breaks away on eastern flank
21:00
Fires join
21:42
Fire within half a kilometre of Boolarra
Large spot fire to the south of Boolarra
Fire area 5,750 hectares
21:42
12:06
Fire area 6,370 hectares
31 January
3 February
15:00
Fire contained

## 3.1 SEQUENCE OF EVENTS

### 3.1.1 28 TO 30 JANUARY

#### Origin and cause

'The Delburn fires' refers to three separate fires that ultimately joined up. They began in the area surrounding Delburn on 28 and 29 January and came together on 29 and 30 January, developing into a major fire.[9]

A number of other fires also began in the Delburn area between 29 January and 2 February, although these did not pose a serious threat. Among the fires extinguished by local Country Fire Authority and Hancock Victorian Plantations forest industry brigades soon after ignition and those that burned themselves out were the following:

- a fire at the Delburn–Yinnar refuse transfer station, which ignited at about 13:18 on 29 January but was extinguished almost immediately
- a fire at Ten Mile Creek Road in an HVP plantation about 1 kilometre south-west of Delburn, which ignited at about 07:00 on 30 January and was contained by HVP crews almost immediately
- a fire discovered at 08:30 on 2 February at Brewsters Road, Yinnar, which had already burned itself out without intervention.[10]

The following were the three main fires that ultimately joined and became known as the Delburn fires:

- the Ashfords Road fire, which was discovered 2.5 kilometres north-north-west of Boolarra at about 16:00 on 28 January
- the Creamery Road fire, which was discovered 2.5 kilometres east of Delburn at about 13:00 on 29 January
- the Lyrebird Walk – Darlimurla fire, which was discovered 4 kilometres north of Mirboo North, near Darlimurla, at about 15:30 on 29 January.[11]

Victoria Police and fire agency investigators determined the cause of the Creamery Road and Lyrbird Walk – Darlimurla fires to be suspicious. In order that criminal investigations and proceedings not be prejudiced, limited evidence relating to the cause of these two fires was presented to the Commission. The probable cause of the Ashfords Road fire was insufficient blacking out of a fire that had started earlier in the day.[12]

#### Fire run, response and management

As noted, the Ashfords Road fire was detected at about 16:00. The initial response came from local CFA and HVP brigades. CFA Group Officer Lou Sigmund was the operations officer and officer in charge of the initial response. Crews had already responded to a fire in the same location that morning; it had been extinguished, and it was left to HVP crews to black out the area. Mr Sigmund described the scene when he arrived in the afternoon as a 'wall of flame'. Crews called for extra resources and worked throughout the night to manage the fire.[13]

The initial incident control centre for the fires was established by 17:13 at the HVP office in Churchill because HVP assets had become involved in the fire. Mr Kevin Pettit, a CFA operations officer, assumed the role of Incident Controller on the afternoon of 28 January. He was qualified to be a level 3 Incident Controller if he had a mentor. At this stage, however, the incident was only a level 2 incident. The first awareness message was issued at about 18:00, warning road users of smoke in the Delburn area.[14]

At 23:30 the incident control centre was closed temporarily, pending a review the following morning of the Ashfords Road fire. When re-assessed on the morning of 29 January, the fire was found to be very small and manageable from the operations point located in Boolarra, near the fire ground, without an ICC. The Incident Controller then operated from a communications vehicle.[15]

At about 13:00 on 29 January the Creamery Road fire was detected. Because of the location of this second fire, there was considerable potential for it to burn in native forest and eucalyptus plantation areas. Mr Pettit released resources from the Ashfords Road fire to assist at Creamery Road.[16]

Shortly afterwards, at about 13:30, the Ashfords Road fire intensified and crossed containment lines at its north-east corner, spotting into grassland.[17]

As a result of the increased fire activity and a concern that the Ashfords Road and Creamery Road fires could join, it was decided by CFA and Department of Sustainability and Environment management to establish a joint CFA and DSE level 3 incident control centre at the DSE offices in Traralgon, about 33 kilometres to the north-east. Although Mr Pettit was endorsed to be a level 3 Incident Controller only with a mentor and no mentor was present, he continued as Incident Controller.[18]

At about 15:30 the Lyrebird Walk – Darlimurla fire was detected. It had significant potential to threaten nearby houses.[19] At 15:45 on 29 January the first urgent threat message was issued, warning that Darlimurla and surrounding areas might be affected by fire and advising residents of roadblocks that had been set up.[20]

Communications in the Boolarra area were problematic because of black spots. Crews were, however, assisted by the mobile communications vehicle; in addition, firefighters resorted to using their mobile phones, although with limited success.[21]

While the fires were being fought during the afternoon of 29 January, the mobile communications vehicle ran out of fuel twice, even though ground crews had sent requests for fuel to the ICC 'on three separate occasions'. The vehicle had to be towed out of danger by a tanker.[22]

On the afternoon of 29 January a divisional emergency coordination centre and divisional operations centre were established at Morwell police station and staffed with police and support staff. The Latrobe Municipal Emergency Coordination Centre was also activated on 29 January. By 17:00 all three fires were burning towards the south-east. The weather was very hot and the wind was mild. The fires were burning freely and intensely, and the total area of all three fires was about 200 hectares. An incident report entered at 17:17 noted that crews had constructed containment lines for about 30 per cent of the Creamery Road fire and were continuing to focus on extending containment lines and blacking out.[23]

At 19:48 the area estimated to have been burnt by all three fires was about 760 hectares. By 19:57 the Creamery Road and Ashfords Road fires had joined up and the wind had changed to a south-south-easterly. The joined fires had broken containment lines at Ten Mile Creek Road and both the joined fires and the Lyrebird Walk – Darlimurla fire were threatening to cross the Strzelecki Highway.[24]

At last light, when aircraft could not continue to fly, the incident management team knew it would not be possible to put the fires out that day. As a result, the team started to implement longer term strategies.[25]

The wind changed to the south at 21:00. The fires continued to spread to the east and north during the night, and by 04:43 on 30 January they had burnt 2,150 hectares. The Incident Controller decided it was necessary to increase media and community engagement in order to alert residents in the path of the fire to the danger. Preparations were made for community meetings to be held on the morning of 30 January.[26]

Mr Michael Owen, a CFA operations officer and endorsed level 3 Incident Controller, became the day-shift Incident Controller for the Delburn fires on 30 January. He arrived at the Traralgon ICC at about 06:45, in anticipation of a 07:00 start. Mr Pettit briefed Mr Owen and gave him an incident action plan for the day shift. The plan noted that the weather forecast was for a maximum temperature of 42 degrees, with low humidity and moderate winds.[27]

About 1,000 people attended the community meetings held by the CFA in Boolarra, Mirboo North, Yinnar and Churchill on the morning of 30 January.[28]

The Commission received a DVD recording of the Boolarra meeting and heard evidence about the meeting from Mr Sigmund, who attended in his capacity as a community member. Residents were told that, given the conditions, early departures were critical and it was likely that they would not see fire appliances and might not even receive a warning of fire entering the township. The DVD shows that both the CFA and DSE warned people about the fire threat they were facing and provided information designed to enable them to make an informed decision about whether to stay or go.[29]

After being invited to do so by the CFA and DSE, Mr Sigmund addressed the meeting: 'I said that the town was in imminent danger of being overrun by the fire if the wind changed to the southwest and that the town would burn if this were to occur'. He also told the meeting the local CFA brigade would sound the siren at the Boolarra fire station when ember attack began, in order to let people know when they should evacuate.[30]

As a result of a further wind change the fires breached the control lines on the eastern flank at about 13:00 on 30 January, spreading quickly to the east towards the outskirts of Boolarra and Yinnar. Spot fires were reported nearby. The wind change led to more erratic and severe fire behaviour. Also at about this time, as the fires closed in on Yinnar and Boolarra, urgent threat messages were issued, warning residents that spot fires were burning close by and that residents might be directly affected by fire.[31]

Mr Sigmund gave the order for the siren to be sounded in Boolarra at about 13:30. He told the Commission that after the sounding of the siren a large number of people evacuated the township. He was later told by a CFA operations officer that 'use of the siren … was inappropriate'.[32] The Commission disagrees. The role of local warning measures is discussed in Chapter 1 of Volume II.

Between 13:46 and 14:13 the fires spread rapidly. Thirty to 40 spot fires were reported by aircraft near Boolarra, and during the afternoon the Incident Controller asked for more resources. Additional strike teams were provided and directed towards Boolarra and Yinnar.[33]

At 15:00, following a further deterioration in conditions, the crew of Traralgon East Tanker 1 became trapped by a fallen tree and power lines as they tried to leave a property on the Boolarra – Mirboo North road, close to Boolarra township. Members of the crew were forced to shelter in the tanker as the fire burned over them. No-one received injuries or burns, and the tanker sustained only minor heat damage.[34]

By 17:00 fires had broken away on the eastern flank and were again running freely. Fires were reported to the north, south and east of Boolarra. Spot fires were burning in the area of Yinnar. Boolarra was subjected to heavy ember attack, and four strike teams (20 tankers) worked to protect assets in the town.[35]

By 17:31 the incident control centre had received reports of houses being destroyed in the areas of McIntosh Road, Boolarra; Creamery Road near Yinnar; and Samson Road in Mirboo North.[36]

It was between 20:00 and 21:00 on 30 January that the fires merged. By 21:42 the eastern flank of the fire was within half a kilometre of Boolarra, and a large spot fire was burning to the south of the township. By this time the fire covered 5,750 hectares.[37]

Firefighting continued throughout the remainder of 30 January. After nightfall, fire activity began to subside, and during the evening and overnight firefighting efforts were directed towards asset protection, blacking out and establishing new control lines to limit the fire's run.[38]

The CFA and DSE released a large number of warnings during the Delburn fires. In the afternoon of 29 January and throughout 30 January urgent threat messages were issued for the communities of Darlimurla, Mirboo North, Boolarra and Yinnar, telling people of the progress of the fires in their areas. These messages provided details of fires' distance from townships.[39]

### 3.1.2 31 JANUARY TO 3 FEBRUARY

At 00:50 on 31 January firefighters assessed the vegetation under the high-voltage power lines to the north of the fires, and SP AusNet was informed it should clear vegetation under the lines that day.[40]

The fire continued to burn slowly, largely within control lines, during the ensuing days. Crews were mopping up, monitoring and maintaining containment lines around the fire's edge. There were a number of flare-ups and spot fires, but all were controlled by ground and air crews.[41]

**Image 3.1**



Source: Courtesy of *Herald & Weekly Times.*

For much of 30 and 31 January there was no safety adviser in the incident management team structure. Despite numerous requests made through the Resources Unit, no safety adviser was provided. Eventually the Deputy Incident Controller was nominated safety adviser, although this was contrary to CFA procedures, which require that the safety adviser not be simultaneously performing any other IMT function. Despite the lack of a safety adviser, Mr Owen, the Incident Controller, told the Commission that he monitored trends in firefighter injuries and incidents to ensure that safety messages were conveyed to crews.[42]

By 12:06 on 31 January the total fire area was 6,370 hectares. From the evening of 1 February onwards, as the fire became controlled, resources and operations were progressively withdrawn. The Divisional Emergency Coordination Centre at Morwell police station was closed on 2 February.[43]

On 3 February Mr Peter Lockwood assumed the role of day-shift Incident Controller. The fires were declared contained at 15:00 that day. Between 3 and 7 February planning was done with the predicted extreme weather conditions in mind, and work on establishing and maintaining control lines continued. Low winds between 2 and 6 February helped the firefighters.[44]

The Latrobe Municipal Emergency Coordination Centre operated until 3 February and was then reactivated on 7 February in response to the Churchill fire. Relief centres were established at Boolarra and Churchill. When the MECC was operational for the Delburn fires there was a video link between the MECC and the ICC. Ms Sheryl English, Latrobe Valley Municipal Emergency Resource Officer, considered this a valuable facility. Senior Sergeant Brendan Scully described communications between the MECC and the ICC as 'very effective'.[45]

Table 3.1 summarises the state of preparedness for the Delburn fires.

**Table 3.1 The Delburn fires – IMT preparedness**

| | |
|---|---|
| **Pre-designated level 3 ICC** | Traralgon ICC was used when the incident reached level 3 status on 29 January 2009[46] |
| **Pre-formed IMT at ICC** | Already in place on 7 February 2009[47] |
| **Pre-identified level 3 IC** | Already in place on 7 February 2009[48] |
| **Pre-identified IMT members** | Already in place on 7 February 2009[49] |
| **Time fire started** | 16:00 on 28 January 2009[50] |
| **Time full IMT in place** | Already in place on 7 February 2009[51] |

### 3.1.3 7 FEBRUARY

Although crews' activities had been scaled down, the incident control centre remained active 24 hours a day in the lead-up to 7 February in order to maintain a state of preparedness for the predicted conditions. Efforts focused on patrolling and the detection of hot spots. Contingency plans were put in place for a major flare-up of the fire on 7 February, including the identification of a full IMT for that day.[52]

The CFA and DSE resources allocated to the Delburn fires for 7 February amounted to two task forces and a number of slip-on units. Three strike teams were on call. Hancock Victorian Plantations also provided 16 personnel, as well as 14 firefighters in two tankers and four slip-on units.[53]

The morning of 7 February was reasonably quiet. As the day warmed and the wind picked up, however, there was an increase in fire activity. The fire did not break the containment lines despite the extreme weather experienced on the day. Fire activity was managed by the crews and resources on the ground, and later in the day a number of crews were released to attend outbreaks at Churchill, Kilmore East and Murrindindi.[54]

On 7 February the Traralgon ICC also became responsible for the Churchill fire. The following day the Delburn element of the Traralgon IMT was demobilised; only the section responsible for Churchill remained operational.[55]

The final fire area for the Delburn fires was about 6,534 hectares, with a perimeter of more than 70 kilometres.[56]

In contrast with the fires that ravaged Victoria on 7 February, the Delburn fires were fought with a great deal of aerial support. Mr Owen told the Commission he 'pretty well had his own air force'. On both 30 and 31 January a large number of the state's firefighting aircraft were working on the Delburn fires—an opportunity that was not available to firefighters on 7 February because of the many concurrent fires and the severe weather, which restricted flying operations. In addition to plentiful aerial support, there was an abundance of water from the nearby power stations and a good air base at Traralgon. Mr Owen agreed that the plentiful supply of air resources greatly assisted in combating the fire.[57]

Although no-one died or was seriously injured as a result of the Delburn fires, there was much damage, particularly in Boolarra. Forty-four houses were destroyed, most of them on the western and southern outskirts of the township. In addition, about 60 per cent of the area burnt consisted of commercial tree plantations, resulting in significant loss for Hancock Victorian Plantations.[58]

## 3.2 CONCLUSIONS

The apparent re-ignition of the Ashfords Road fire highlights the importance of blacking out thoroughly after a fire. The value of this often tedious and time-consuming activity cannot be underestimated during periods of high fire danger.

Problems with communications between crews on the fire ground and in the various incident control centres hampered coordination of the firefighting effort. Communications are discussed in Chapter 3 of Volume II.

The lack of response to requests for fuel for the mobile communications van suggests that insufficient attention was given to logistical support for those on the fire ground. Supporting people on the fire ground must remain a focus of incident management teams.

The community meetings held on 30 January helped residents of the affected towns understand the threat the fires posed and make good decisions in the face of danger. They also demonstrate the need for plain speaking and clarity of meaning, to ensure that messages are clearly and concisely conveyed to the public. The Commission supports the use of agreed and well-understood local warning measures, such as sirens, to alert communities to imminent danger.

The Commission was impressed by the training of the Traralgon East Tanker 1 crew, who successfully sheltered during a burnover. Their survival is indicative of effective crew training in personal protection procedures and good tanker design. Both of these elements highlight the progress made since the Linton tragedy in 1998. The Commission notes, however, that there were problems with incident communications and that the crew had a poor understanding of rapidly changing fire behaviour, both of which contributed to the crew being exposed.[59]

Mr Owen explained that his overall objective as Incident Controller on 30 January was to create strong control lines around the fire, to ensure that it would not break out when the forecast bad fire weather arrived the following week. Similarly, in anticipation of the forecast weather for 7 February, Mr Lockwood had as his objective 'to secure [the fire's] perimeter … and black out as much of the fire as possible'.[60] These objectives were largely achieved.

Although the Commission notes the Incident Controller's attention to safety, it considers this to be part of his overall responsibility for the safety of the firefighters who were under his control. Such attention cannot be a substitute for the appointment of a dedicated safety adviser whose sole duty is monitoring and advising on safety-related matters. The Commission notes that Mr Owen's requests for a safety adviser were not met. Firefighter safety is discussed in detail in Chapter 3 of Volume II.

All firefighters, including the incident management team, involved in suppression of the Delburn fires between 28 January and 3 February are to be commended on the outcome they achieved on 7 February: the fires were kept within control lines despite the extreme weather.

The Commission notes the effective relief arrangements that were instituted and the effective communications, including a video link, between the municipal emergency coordination centre and the incident control centre. This is in contrast to some other fires.

1 Exhibit 11 – Statement of Esplin, Attachment 16 (WIT.005.001.1601) at 1618

2 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [117]

3 Owen T13150:17–T13150:21

4 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [27]

5 Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048_R) at 0048_R

6 Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19.3]

7 Exhibit 939 – Details Regarding Emergency Response (CFA.600.005.0195) at 0196, 0198; Exhibit 939 – Day by Day Breakdown – Delburn (DSE.HDD.0048.0545_24); Exhibit 939 – Aircraft Data 0809 (DSE.HDD.0048.0544_20) at 0544_21–0544_22

8 Exhibit 994 – Delburn Fire – Fire Spread Map (CFA.600.006.0009)

9 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [21]

10 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [63]–[64]; Owen T13146:8–T13146:26

11 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [41], [56], [67], Annexure 26 (WIT.3004.032.0131) at 0132; Owen T13146:28–T13147:11

12 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [42], Annexure 15 (WIT.3004.031.0462) at 0467; Owen T13150:17–T13150:21

13 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [41]–[42], [44], [50], Annexure 26 (WIT.3004.032.0131) at 0132; Exhibit 28 – Statement of Sigmund (WIT.020.001.0001) [9]–[10]; Owen T13147:22–T13147:24

14 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [31], [43]–[46]; Exhibit 505 – CFA Personnel for Wildfire Incident Functional Management Positions – Approval List (WIT.3004.021.0024) at 0037; Owen T13151:26–T13151:28

15 Exhibit 28 – Statement of Sigmund (WIT.020.001.0001) [19]; Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [49], [54]

16 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [56]–[57], Annexure 16 (WIT.3004.031.0475) at 0475, Annexure 26 (WIT.3004.032.0131) at 0132; Owen T13147:27–T13147:28

17 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [58]; Owen T13147:24–T13148:1

18 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [58]–[60], [85]; Owen T13145:8–T13145:10

19 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [67], [72]; Owen T13147:24–T13148:1

20 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [70]

21 Sigmund T898:8–T899:14

22 Exhibit 28 – Statement of Sigmund (WIT.020.001.0001) [19]; Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [54]

23 Exhibit 402 – Statement of Taylor (WIT.3010.007.0030) [15], [26]; Exhibit 404 – Statement of Scully (WIT.3010.008.0001) [20], [22], [26]; Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [69], [75]–[76]; Owen T13147:22–T13148:5

24 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [80]–[84]; Owen T13148:7–T13148:16

25 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [85];

26 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [87], [88], [118]; Owen T13148:17–T13148:24

27 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [4], [9], [30], [96]–[97], Annexure 19 (WIT.3004.032.0014) at 0014

28 Exhibit 28 – Statement of Sigmund (WIT.020.001.0001) [30], Annexure 2 (WIT.020.001.0014); Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [88], [125], Annexure 26 (WIT.3004.032.0131) at 0136–0137

29 Exhibit 28 – Statement of Sigmund (WIT.020.001.0001) [30], Annexure 2 (WIT.020.001.0014); Exhibit 611 – Statement of Owen, Annexure 26 (WIT.3004.032.0131) at 0137

30 Exhibit 28 – Statement of Sigmund (WIT.020.001.0001) [30], [35], Annexure 2 (WIT.020.001.0014) at 01:21:28

31 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [127]–[131]; Owen T13148:25–T13149:2

32 Exhibit 28 – Statement of Sigmund (WIT.020.001.0001) [38], [41]–[42]

33 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [131]–[143]

34 Exhibit 611 – Statement of Owen, Annexure 23 (WIT.3004.032.0091)

35 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [131]–[143]

36 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [144], Annexure 19 (WIT.3004.032.0014) at 0014

37 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [149]; Owen T13149:13–T13149:25

38 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [157]–[158], [169]

39 Exhibit 611 – Statement of Owen, Annexure 8 (WIT.3004.031.0389), (WIT.3004.031.0390), (WIT.3004.031.0391), (WIT.3004.031.0392), (WIT.3004.031.0393), (WIT.3004.031.0394), (WIT.3004.031.0395), Annexure 9 (WIT.3004.031.0397), (WIT.3004.031.0398), (WIT.3004.031.0399), (WIT.3004.031.0400), Annexure 10 (WIT.3004.031.0402), (WIT.3004.031.0403), (WIT.3004.031.0404), (WIT.3004.031.0405), (WIT.3004.031.0406), (WIT.3004.031.0407), (WIT.3004.031.0408), (WIT.3004.031.0409), (WIT.3004.031.0410), (WIT.3004.031.0411), (WIT.3004.031.0412), (WIT.3004.031.0413), (WIT.3004.031.0414)

40 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [157]–[158], [169]–[172]

41 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [181]

42 Exhibit 611 – Statement of Owen, Annexure 20 (WIT.3004.032.0051) at 0057; Owen T13159:5–T13159:19, T13160:25–T13161:20

43 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [24], [189]–[193]; Exhibit 402 – Statement of Taylor (WIT.3010.007.0030) [26]; Owen T13150:1–T13150:5

44 Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [28]; Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [26], [196]; Owen T13150:6–T13150:12, T13166:23–T13167:6

45 Exhibit 404 – Statement of Scully (WIT.3010.008.0001) [22], [26], [32], Attachment 7 (WIT.3010.008.0087_R) at 0088_R; English T9797:2–T9797:5

46 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [59], [60]

47 Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [27]

48 Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [8], [28]; Exhibit 408 – Statement of Tainsh (WIT.3024.003.0353) [33], [44]; Exhibit 455 – Statement of Jeremiah (WIT.3024.003.0275) [7]–[9], [19]; Lockwood T9201:25–T9203:14, T9301:19–T9301:27

49 Exhibit 408 – Statement of Tainsh (WIT.3024.003.0353) [44]; Exhibit 455 – Statement of Jeremiah (WIT.3024.003.0275) [7]–[9], [19]; Exhibit 386 – Churchill Fire – Command Structure Chart (TEN.110.001.0001)

50 Owen T13146:29–T13147:1, T13147:4–T13147:11

51 Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [27]

52 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [198]–[199], [203]

53 Exhibit 425 – Statement of Sewell (WIT.7519.001.0001) [56]; Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [204]

54 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [205]–[208]; Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [44], [57]

55 Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [49]; Owen T13150:9–T13150:12

56 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [24], [196]; Owen T13145:29–T13146:4; Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19.3]

57 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [184]; Owen T13163:10, T13164:2–T13164:10

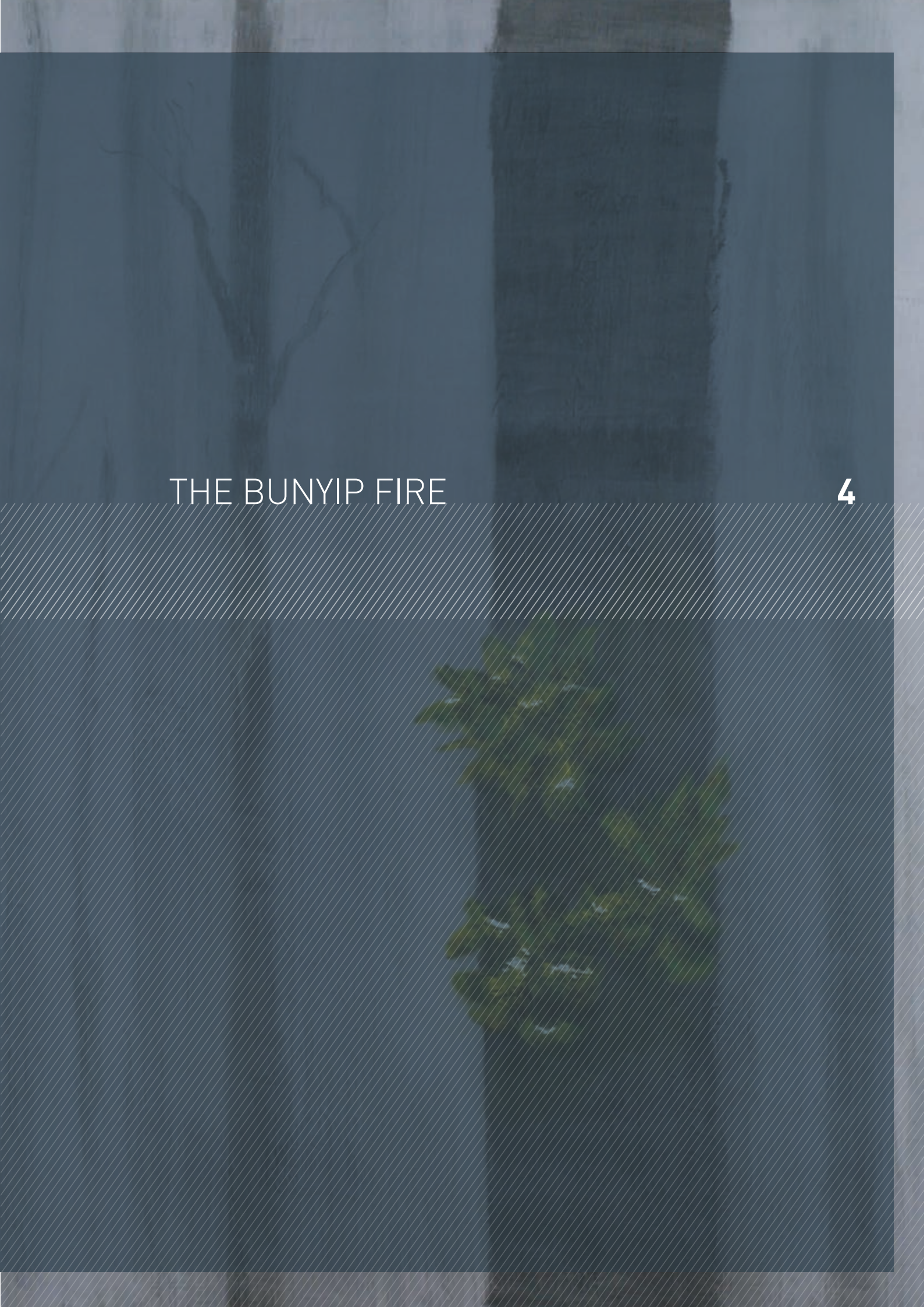
58 Exhibit 611 – Statement of Owen (WIT.3004.031.0173) [27], [196]; Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048_R) at 0048_R; Owen T13162:19–T13162:25

59 Exhibit 611 – Statement of Owen, Annexure 23 (WIT.3004.032.0091) at 0104–0106

60 Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [29]; Owen T13154:18–T13154:30

# THE BUNYIP FIRE

4



# 4 THE BUNYIP FIRE

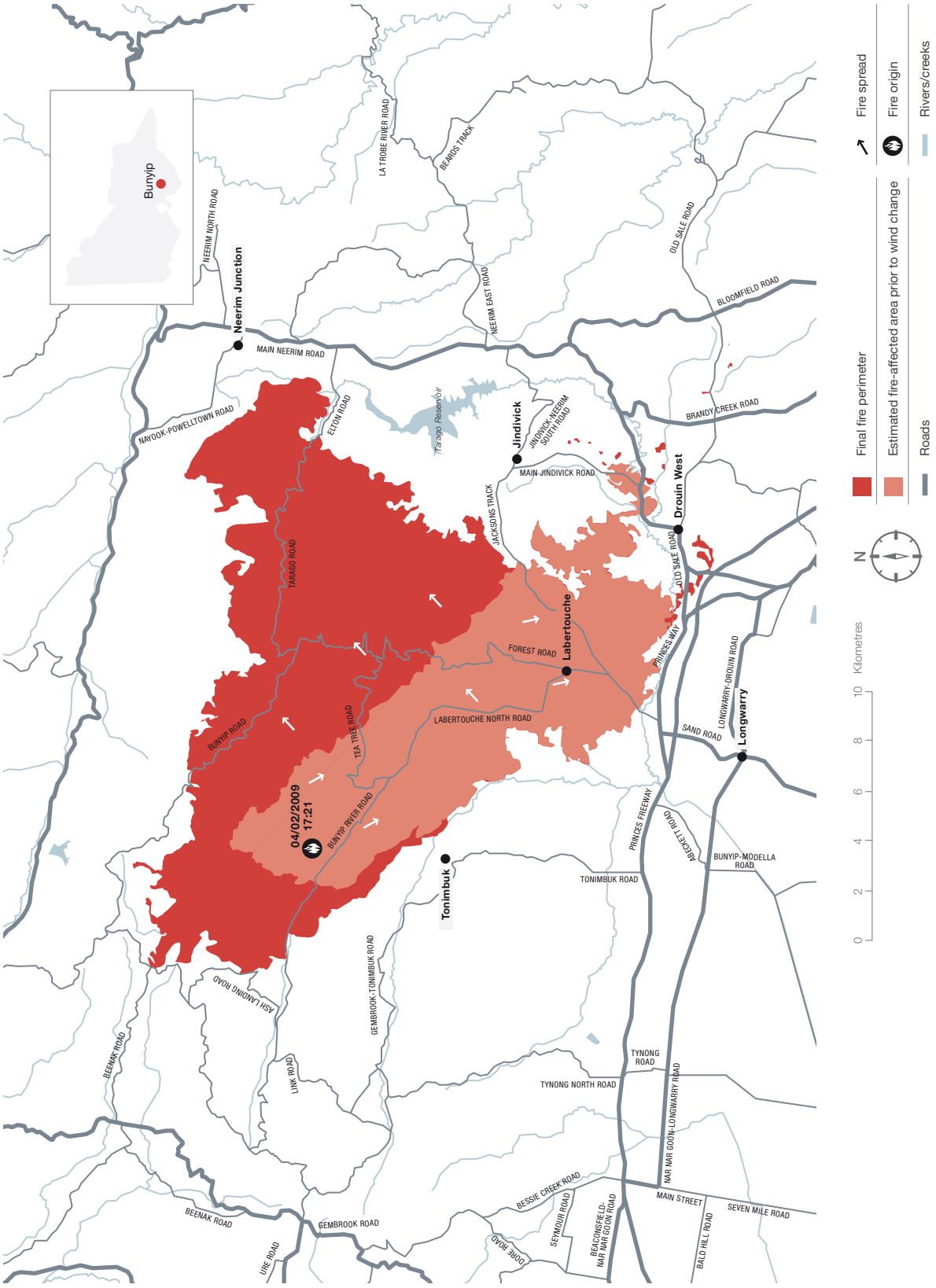
Bunyip State Park is in West Gippsland, in the Shires of Cardinia and Baw Baw and about 95 kilometres south-east of Melbourne. Among the nearby towns are Labertouche, Jindivick, Jindivick West, Jindivick North, Drouin West, Longwarry North and Robin Hood.

Seventeen fires were reported in Bunyip State Park in early February 2009. The Commission focused on the fire known as the 'Bunyip Ridge Track fire', which was reported at about 17:21 on 4 February. The fire burned in two distinct phases. Between 4 February and the morning of 7 February it progressed relatively slowly through the park and was treated as a 'campaign' fire, being managed with a view to containment because access to the park was limited. In the second phase, beginning on 7 February, the fire escaped from the park and burned like many other fires on the day, moving rapidly over large tracts of land and destroying houses, property and other assets. The fire was eventually contained on 4 March, having burnt approximately 26,200 hectares. Thirty-one houses had been destroyed. Figure 4.1 shows the extent of the fire.

## OVERVIEW

| | |
|---|---|
| **Maximum temperature** | The maximum temperature recorded on 7 February was 44.6°C at Coldstream automatic weather station at 17:34.[1] |
| **Minimum relative humidity** | The minimum relative humidity recorded on 7 February was 8 per cent at Coldstream AWS at 17:34.[2] |
| **Wind** | The winds recorded before the wind change on 7 February were from the north-north-east, with a maximum speed of 46 kilometres an hour at Coldstream AWS at 13:00.[3]<br>The wind change was recorded at Coldstream AWS at 17:48, at 52 kilometres an hour.[4]<br>The winds recorded after the change were from the west-south-west, with a maximum speed of 57 kilometres an hour at Coldstream AWS at 17:51.[5] |
| **Fire danger index** | The maximum Forest Fire Danger Index on 7 February was 110 at Coldstream AWS at 13:00.[6] |
| **Cause** | Suspected lightning.[7] |
| **Fatalities** | No fatalities.[8] |
| **Casualties** | Two casualties.[9] |
| **Houses destroyed** | Thirty-one houses.[10] |
| **Overall area burnt** | 26,200 hectares.[11] |
| **Firefighting resources** | On 7 February, 313 CFA, 23 MFB and 542 NEO personnel attended the fire. They were supported by 72 CFA appliances, 42 NEO appliances, 6 MFB appliances and 10 aircraft.[12] |

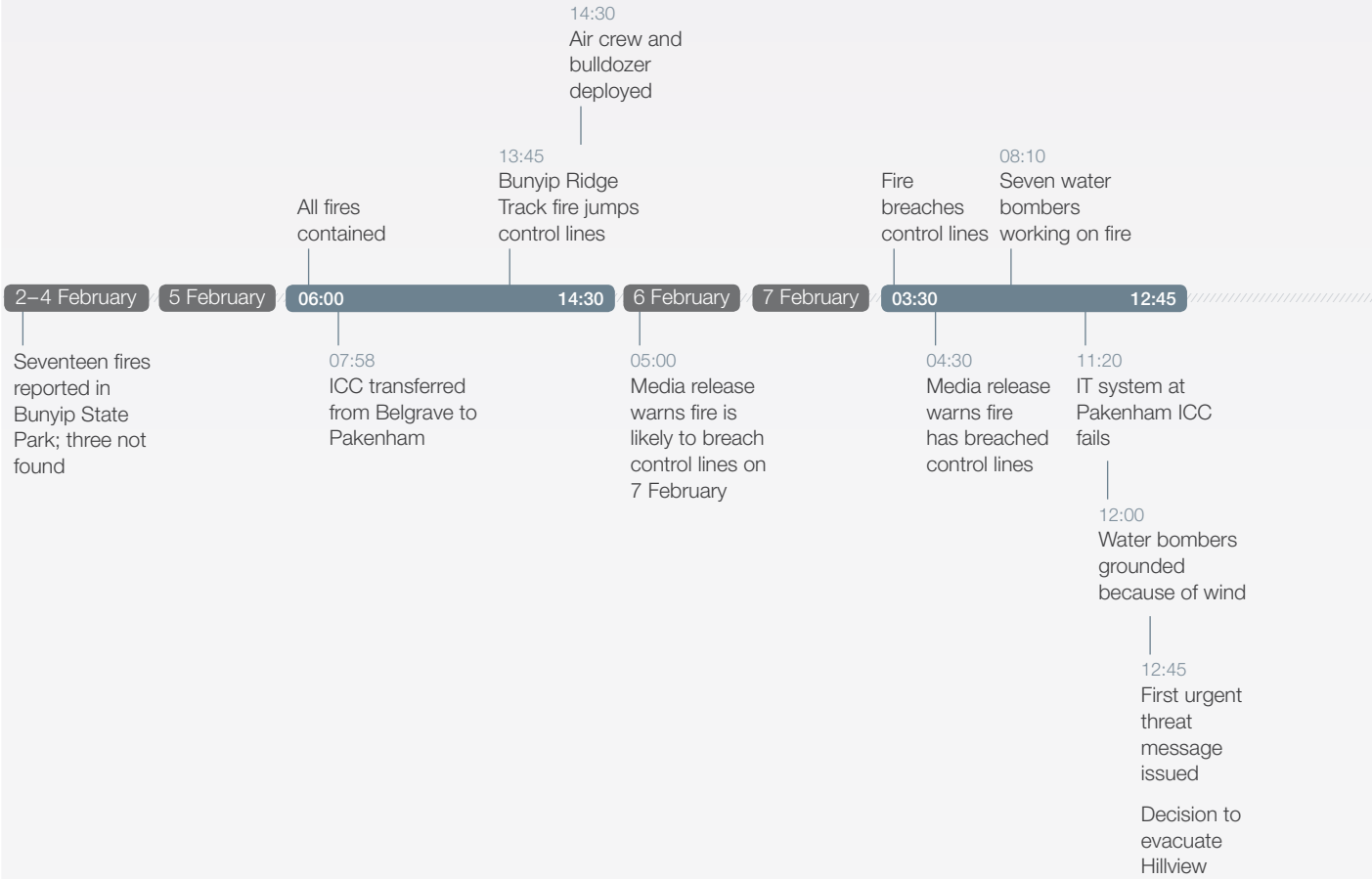
Figure 4.1 The Bunyip fire

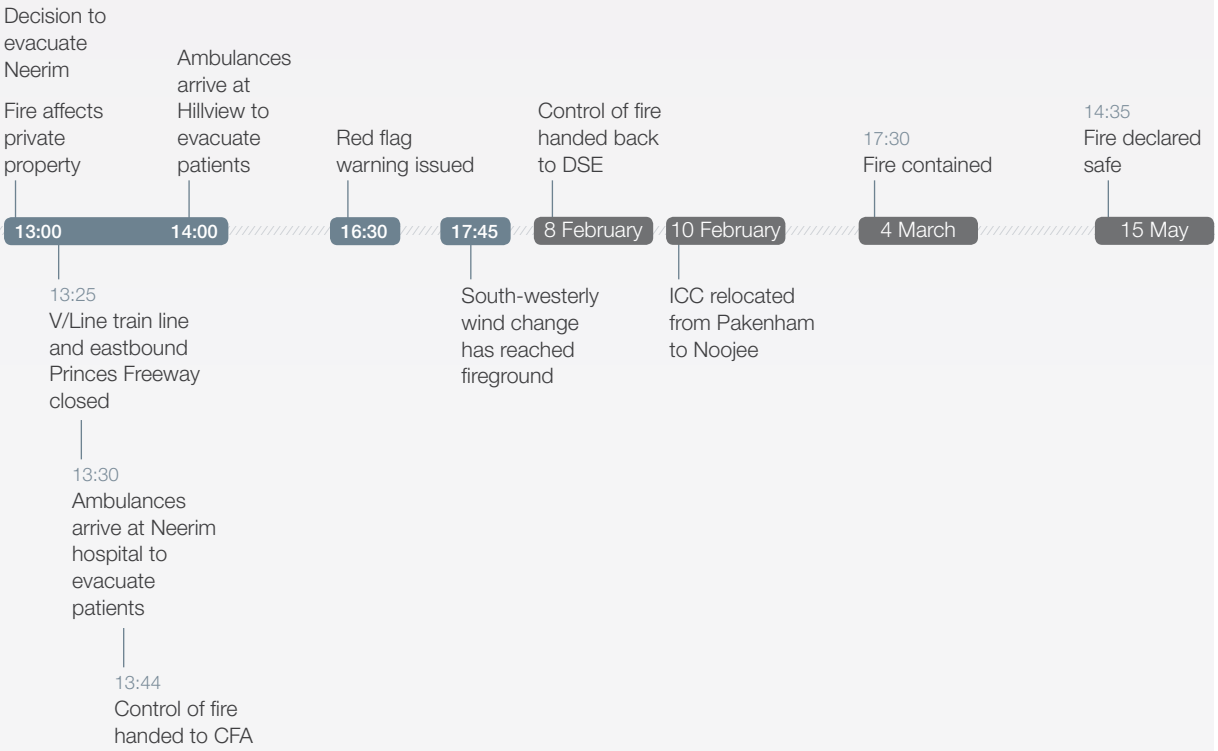



Source: Exhibit 994 – Bunyip Fire – Fire Spread Map.[13]

## Bunyip 2 February – 15 May

The following time line summarises events associated with the Bunyip fire. For the most part, the times given are approximate. Further details about the events are provided in the accompanying narrative.




Decision to evacuate Neerim
Fire affects private property
Ambulances arrive at Hillview to evacuate patients
Red flag warning issued
Control of fire handed back to DSE
17:30
Fire contained
14:35
Fire declared safe
13:00
14:00
16:30
17:45
8 February
10 February
4 March
15 May
13:25
V/Line train line and eastbound Princes Freeway closed
13:30
Ambulances arrive at Neerim hospital to evacuate patients
13:44
Control of fire handed to CFA
South-westerly wind change has reached fireground
ICC relocated from Pakenham to Noojee

## 4.1 SEQUENCE OF EVENTS

### 4.1.1 2 TO 6 FEBRUARY

**Origin and cause**

On 2 February there was lightning throughout the Dandenong Ranges and in Bunyip State Park. The Egg Rock fire tower reported 12 fires in the park. Three of these subsequently could not be found; the remaining nine were quickly located and successfully contained by firefighters and water-bombing aircraft.[14]

An incident management team made up of Department of Sustainability and Environment and Parks Victoria personnel controlled the Bunyip fire from the time of its ignition on 2 February until formal handover to the Country Fire Authority at 13:45 on 7 February. Mr David Nugent from Parks Victoria was the day-shift Incident Controller between 5 and 7 February, when DSE was the control agency. Mr Christopher Hardman was the night-shift Incident Controller on 4, 5 and 6 February.[15]

By 09:30 on 3 February DSE and Parks Victoria had contained the multiple small fires in the park. Two further fires were, however, reported on the DSE website that day, at 14:48 and 16:10.[16]

On the morning of 4 February the DSE website stated that all the fires in Bunyip State Park were contained or under control. Three further fires ignited during the day, one of them being the Bunyip Ridge Track fire, which was reported to DSE at about 17:21. This fire's point of origin was 5 kilometres north-north-east of Tonimbuk.[17]

The cause of the three fires reported on 4 February has not been firmly established. It is possible they were the result of lightning strikes on 2 February, but fire investigators have been unable to definitively reach this conclusion.[18]

Mr Nugent was originally concerned that a 'burning-out' operation on the Bunyip Ridge Track fire, conducted by DSE and Parks Victoria on 5 February, might have caused a spotover outside containment lines, but after further investigation and analysis he concluded this was extremely unlikely.[19]

**Fire run, response and management**

A DSE and Parks Victoria crew attended the Bunyip Ridge Track fire within 40 minutes of it being reported. The fire was burning vigorously on both sides of the Bunyip Ridge Track, in a swamp dominated by paperbarks and tea tree; flame heights were about 4 to 5 metres.[20]

Crews were supported by two water-bombing helicopters. This limited the fire's spread on its eastern flank but did not stop the fire 'making a rapid crowning run through the paperbark vegetation in that swampy area'. Earth-moving equipment and bulldozers were deployed at about 20:30 and 21:00 to establish a mineral-earth control line around the fire perimeter.[21]

Senior Sergeant Trevor Teer was the Municipal Emergency Response Coordinator for Cardinia Shire. He learned of the Bunyip fires on 4 February. Although an incident control centre had been established at Belgrave on 2 February to manage the fires in Bunyip State Park, local police had not previously been told of the centre's existence. Once Senior Sergeant Teer became aware of the ICC, he sent a senior constable there to act as liaison officer.[22]

Crews worked through the night of 4 February to establish a control line. By 06:00 on 5 February all fires burning in the park had been contained.[23]

The DSE Incident Management Team worked initially from the Belgrave ICC but relocated to the Pakenham ICC on the morning of 5 February because the latter was 'better located and better equipped to manage the active fire and plan for a potential run of the fire into communities south of Bunyip State Park'. Even though the IT system at the Pakenham ICC 'crashed' for several hours on 7 February, this does not appear to have hampered the IMT's efforts in managing the fire.[24]

The CFA also began making preparations during the morning of 5 February. Mr Trevor Owen, CFA Operations Manager for Region 8, started organising community information meetings and informed himself about the fire while liaising with the DSE IMT. He did this because he thought the fire might escape from the park and burn through privately owned land.[25]

Mr Owen appointed Mr Ivan Smith, an experienced CFA level 3 Incident Controller, to the role of team leader for the operational contingency planning team. Mr Smith was also told to prepare to take on the role of Incident Controller if the fire moved onto private property.[26]

During this time members of the DSE Incident Management Team concentrated on suppression efforts in the park while being kept abreast of the CFA's preparatory work and plans for action should the fire escape onto private land. The Commission was informed that this parallel approach to incident management—which allowed the CFA to focus on planning for protection of communities in the path of the fire while DSE focused on the current operations—was favoured because it clearly identified responsibilities and kept the CFA Incident Management Team relatively fresh ahead of the firefight on 7 February.[27]

Because of the fire activity on 5 February, and after having met with Mr Nugent and become worried that the fire would reach private property in the next two days, Mr Owen organised meetings to inform those communities most likely to be affected by the predicted events. Among the towns thought to be in the potential path of the fire on 7 February were Tonimbuk, Jindivick, Drouin West, Labertouche, Nar Nar Goon and Maryknoll. Meetings were held in Labertouche, Jindivick, Tonimbuk and Drouin West.[28]

The meetings were well publicised and well attended. They generally appear to have helped residents understand the threat they faced and given them information on which to base decisions about their safety and the safety of others.[29]

On the morning of 5 February DSE and Parks Victoria started a burning-out operation between the north-western edge of the fire and the control line. While the operation was under way, at about 13:45, an area of fire reignited and, under the influence of south-south-westerly winds, jumped the control line. This spotover occurred about 160 metres from the location of the burning-out operation but, after investigation, was deemed not to have been caused by that operation. Once outside the control line, the fire crowned quickly, moving to the north through dense paperbark vegetation and into eucalypt forest. It began running uphill to the north-east, towards the Bunyip Ridge Track.[30]

Crews working on the Bunyip Ridge Track fire were redeployed to suppress the spot fire that had jumped the control line, and the assistance of water-bombing aircraft was sought. Air crews and a bulldozer were working on the fire by 14:30. By 16:00 the spot fire covered about 7 or 8 hectares, and by 16:30 it was clear that aircraft were having trouble holding its northern edge.[31]

By the evening of 5 February the total fire area had grown to about 140 hectares. It was burning towards a gully near the Bunyip Ridge Track and had an uncontained eastern flank of about 1.5 kilometres. The western flank had grown to a similar length and was also uncontained. The average rate of the fire's spread during that afternoon was 0.5 kilometres an hour. A media release was approved at 05:00 on 6 February; it warned residents that the fire was likely to breach the control lines on 7 February.[32]

Throughout 6 February the fire continued its run through Bunyip State Park. Firefighters faced major challenges in consolidating, constructing and trying to keep the fire within control lines. Spotting occurred over the lines, forcing crews to re-establish further control lines. Plans to lay retardant on the eastern side of the fire to reinforce the control lines in anticipation of the severe weather forecast for 7 February were delayed until the afternoon because retardant supplies had not been ordered.[33]

The delay in laying retardant was unfortunate: had the air crew been able to begin early in the morning of 6 February, suppression efforts on that day would have been more successful.[34] There is, however, insufficient evidence to attribute the escape of the fire on 7 February to this shortcoming.

Despite the 05:00 warning that the fire would probably breach the control lines, at 17:30 on 6 February the DSE website stated that it was expected the fire would be contained that evening. Confusingly, though, the website still referred to the potential threat to communities the following day.[35]

By 18:00, 250 metres of control line still needed to be constructed and other parts of the line needed much work. During the evening firefighters, supported by bulldozers, continued to widen the control lines and engage in blacking-out operations. Fire suppression efforts were hampered by the steep and rocky terrain, the weather, erratic fire behaviour, high fuel loads, and dry and flammable vegetation.[36]

On 5 and 6 February the integrated Emergency Coordination Centre's Fire Behaviour Team prepared and issued 'Fire spread prediction reports for Bunyip Ridge Track fire' with an accompanying map. These documents assessed the potential for fire spread the following day. On 6 February Mr Michael Sutton from the iECC's Fire Behaviour Team was sent to the Pakenham ICC to provide to personnel fire prediction maps that identified towns that might be affected and when and noted the potential for spotting ahead of the main fire.[37]

Further support from the iECC was provided by Ms Caroline Douglass, the DSE State Duty Officer, who contacted Mr Nugent during the morning of 6 February to confirm that adequate plans had been made for protecting assets and the community and to discuss whether further resources were needed. Mr Nugent said he would like two additional strike teams.[38]

Inspector Charles Allen was the Divisional Emergency Response Coordinator. On 6 February Senior Sergeant Teer provided to him information from the Pakenham ICC that suggested the fire was unlikely to be extinguished quickly. This confirmed Inspector Allen's view that the fire would probably breach the control lines during the weekend.[39]

On 6 February Mr Paul Dickson, the Cardinia Shire Municipal Emergency Resource Officer, attended the Pakenham ICC for a briefing on the fire situation predicted for 7 February. The meeting had been convened by Senior Sergeant Teer and was attended by representatives of the CFA, Victoria State Emergency Service, VicRoads, SP AusNet, Parks Victoria and Victoria Police. Following the briefing Mr Dickson took action to ensure that municipal resources would be ready for 7 February; this included advising council emergency response personnel to be on standby, ensuring that Red Cross personnel would be ready to attend emergency relief centres, and liaising with his counterpart in neighbouring Baw Baw Shire.[40]

Additionally, police and members of Baw Baw Shire's council emergency management teams were briefed about predicted conditions on 7 February and the fire situation in Bunyip State Park.[41]

Another DSE website update, at 21:00, reiterated the 17:30 message that it was expected the fire would be contained that evening, and at 23:30 the public was advised that crews were making good progress on the fire's control lines.[42]

The 23:30 DSE website update also warned that residents of Labertouche were likely to be affected by fire during 7 February and that nearby communities would probably experience smoke and embers and possibly fire.[43]

### 4.1.2 7 FEBRUARY

#### Preparation

Because the Bunyip fire had started before 7 February, there was less need for specific preparation leading up to that day. Firefighting was already occurring, and the DSE Incident Management Team was overseeing suppression efforts and carrying out local planning and incident management preparations in conjunction with the CFA.[44]

The CFA Incident Management Team had been on standby since 5 February. Team members were involved in detailed planning before 7 February in collaboration with the DSE Incident Management Team—sharing information and strategies while preparing for the fire's probable escape from Bunyip State Park should the weather forecast prove accurate for 7 February.[45] This concurrent preparatory activity proved effective.

Table 4.1 summarises the state of preparedness for the Bunyip fire.

**Table 4.1 The Bunyip fire – IMT preparedness**

| | |
|---|---|
| Pre-designated level 3 ICC | Already in place on 7 February 2009[46] |
| Pre-formed IMT at ICC | Already in place on 7 February 2009[47] |
| Pre-identified level 3 IC | Already in place on 7 February 2009[48] |
| Pre-identified IMT members | Already in place on 7 February 2009[49] |
| Time fire started | 15:00 on 4 February. Fire escaped park and moved onto private land at about 13:00 on 7 February[50] |
| Time full IMT in place | Already in place on 7 February 2009[51] |
| Safety adviser appointed | Yes[52] |

### Fire run, response and management

Between 03:00 and 04:00 on 7 February north-westerly wind gusts resulted in multiple spotovers towards the east. The fire's behaviour became increasingly erratic, and flames at heights of 5 to 10 metres were reported. Fire crews were withdrawn from the fire ground. By about 03:30 on 7 February the fire had crossed the control line to the east.[53]

On 6 February Mr Smith had advised the CFA IMT and local brigades by pager that they would be required the following day. On the morning of 7 February, at about 04:00, before he had arrived at the ICC, he was told the fire had breached control lines on the eastern flank. The CFA IMT arrived at the ICC between 05:00 and 05:30. When Mr Smith arrived he was briefed by Mr Christopher Hardman, Deputy Incident Controller, DSE. Because the fire was still in the park, DSE remained the control agency.[54]

The first warning to communities on 7 February was issued at 04:20, only an hour after the fire had breached the control lines. The joint DSE–CFA alert message said the fire had broken containment lines and was spotting in many areas. Residents of Labertouche, Jindivick West and Tonimbuk were warned that the fire had the potential to directly affect them and that they might start to see embers within two hours.[55]

At 04:30 Senior Sergeant Teer was informed that the fire had breached containment lines. By 04:50 he had arrived at the Pakenham ICC, where he was briefed by Mr Hardman, who was anxious that it might take as little as three hours for the fire to reach populated areas. Senior Sergeant Teer immediately called Mr Dickson and the police officers rostered to work for the day.[56]

The details contained in the joint alert message were reflected in a media update given by Mr Hardman to ABC radio at about 04:00 and a further joint media release issued at 05:00. This latter media release warned that embers could begin falling on Labertouche, Tonimbuk and Jindivick West as early as 06:00. Just after 05:00 the State Air Desk was contacted to ensure that aircraft would be available at first light.[57]

At about 05:30 a small reconnaissance group re-entered the fire ground to determine whether crews could safely return to fight the fire. They concluded that there would be insufficient time to complete the necessary containment work before the predicted early morning wind change. This assessment was relayed to the DSE IMT. By 06:25 the reconnaissance team had left the fire ground and all crews were directed not to return.[58]

At 06:30 Mr Stephen Venville, the Baw Baw Municipal Fire Prevention Officer and Municipal Emergency Coordination Centre Manager, was advised by the deputy Municipal Emergency Resource Officer that the Bunyip fire had broken its containment lines and was asked to immediately activate the MECC. The Baw Baw MECC became operational at 07:00 and was attended during the day by representatives of Victoria Police, the CFA, Victoria State Emergency Service, VicRoads, the Red Cross and the Department of Primary Industries. During the day the MECC received numerous general updates from emergency services. Mr Venville told the Commission, however, that it was not clear how much of this information was accurate, current or important. He particularly noted the lack of accurate and up-to-date details about road closures.[59]

Mr Dickson activated the Cardinia MECC in portable mode at 06:45 in response to a request from Senior Sergeant Teer.[60]

At 08:10 Mr Hardman briefed Mr Nugent, the DSE day-shift Incident Controller, on the previous night's activities. Seven aircraft were water bombing by 08:10 in an effort to hold the fire for as long as possible and so delay its move to private property.[61]

By 08:40 the Cardinia MECC was operating from the Pakenham Police and Emergency Services complex. During the day it was attended by representatives of the Department of Human Services, VicRoads, Victoria State Emergency Service, the Department of Primary Industries, VicTrak and Victoria Police. It received a request to help with the evacuation of Hillview Aged Care Facility (see Box 4.1) and arranged for a low-floor bus to transport ambulant residents from Bunyip to Koo Wee Rup hospital. Mr Dickson also arranged for an emergency relief centre to be opened at the Cardinia Cultural Centre in Pakenham.[62]

During the IMT meeting held at 09:00 Mr Nugent emphasised the priorities for the day, among them community protection and implementation of the operations plan developed by Mr Smith.[63]

At 09:45 Neerim was added to the media releases' list of communities that should be prepared for direct impact by the fire. A number of smoke alert messages were then released throughout the morning. By 10:15 the predicted strong winds had not reached the fire ground and fire behaviour was recorded as moderate. After a full safety analysis and preparation of a safety plan, ground crews went back to the fire ground at about 11:00 to try to contain the fire's spread to the east.[64]

Aggressive air attack proceeded throughout the morning. This helped retard the fire's forward progress by about two hours and mitigated its subsequent impact on communities.[65]

By noon the weather had deteriorated: the north-westerly wind was blowing at up to 30–40 kilometres an hour and gusting to 60 kilometres an hour. The fire spread rapidly, and spotting was occurring up to 4 kilometres ahead of the front. Unpredictable and erratic fire behaviour meant that it was now too dangerous to continue directly attacking the fire. The ground crews pulled back. The fixed-wing water bombers that had been providing aerial support were forced to land.[66]

At about noon Inspector Allen received a request from the Pakenham ICC to authorise a SEWS (Standard Emergency Warning Signal) alert for the towns of Labertouche and Tonimbuk. He received the relevant documents and prepared the authorisation. The request was, however, later withdrawn. Neither Mr Nugent nor Mr Smith was aware of the request being made and later withdrawn. Mr Smith said he was surprised the SEWS was not used; he thought its use would have given the many warnings being issued maximum impact.[67]

The first urgent threat message for the Bunyip fire was issued at 12:45, warning of ember attack and heavy spotting in Labertouche and Labertouche North. At 13:30 another urgent threat message was issued—this time for Garfield North, Tonimbuk, Labertouche, Robin Hood, Drouin West, Buln Buln, Tarago, Jindivick, Jindivick North, Longwarry, Longwarry North and Bunyip, noting that these townships were already experiencing ember attack. The outskirts of Drouin were added to the list at 14:00.[68]

**Image 4.1**



Source: Courtesy of *Herald & Weekly Times*.

At about 13:00 the fire escaped from Bunyip State Park, spotting into private property in Tonimbuk. Because of the continued erratic fire behaviour, the focus turned to community protection with the assistance of those water-bombing aircraft that were still able to operate.[69]

The fire's movement to private property had previously been identified as a trigger point in the operations plan, when DSE would formally hand over control of the fire to the CFA. When the handover occurred, at 13:45, Mr Smith became the Incident Controller and Mr Nugent became the Deputy Incident Controller.[70]

The CFA Incident Management Team was then responsible for a rapidly moving and very destructive fire. CFA Sector Commander Mr Steve Lamble was prepositioned at Tonimbuk to meet the fire as it emerged from Bunyip State Park. He described the fire to Mr Smith: '… columns of flame [falling] forward out of the trees … [It] looked like someone was throwing a flamethrower out of the trees'.[71]

Eleven strike teams were deployed to the Tonimbuk airport area at 13:25. An additional seven strike teams were later requested. The V/Line train line and the eastbound Princes Freeway were closed at this time. A few minutes later numerous residential properties came under threat. Major spot fires affecting Longwarry North, Robin Hood and Drouin were reported at 14:00, and by 14:30 waves of spot fires were occurring up to 16 kilometres ahead of the firefront.[72]

**Box 4.1 Evacuation: a case study**

Two health care facilities in the Bunyip area were evacuated on 7 February—the Hillview Bunyip Aged Care Facility and the Neerim Hospital. The two facilities have a shared management team that includes Mr Frank Hoff, CEO, and Ms Jacqui Brown, Director of Nursing.[73]

Hillview has 48 beds, including a 15-bed dementia unit. About 70 per cent of the residents are classified as 'high care', needing help with movement, feeding, dressing, showering and toileting. On 7 February all 48 beds were occupied. Neerim Hospital consists of a small 10-bed private bush-nursing hospital and a 30-bed nursing home. On 7 February, there were four patients in the hospital and 30 people in the nursing home.[74]

Being aware of the fires already burning, in the days immediately before 7 February staff at both facilities took steps to ensure that they would be ready to evacuate residents if necessary on the Saturday. After learning on the evening of 6 February that Neerim Hospital was in the predicted impact zone for the following day, Mr Hoff and Ms Brown decided they would attend and each take responsibility for one of the facilities on the Saturday until the threat passed: Mr Hoff was to attend Hillview and Ms Brown Neerim.[75]

After he arrived at Hillview on 7 February Mr Hoff spoke with the CEO of the Koo Wee Rup Hospital at about 10:00 and arranged for patients to be transported there if evacuation was necessary. At about 11:40, having been put in touch with each other by the CEO of Koo Wee Rup Hospital, Mr Hoff had a telephone discussion with Sergeant Stuart Halligan, assistant to Senior Sergeant Teer at the Cardinia Municipal Emergency Coordination Centre. At 12:45 Sergeant Halligan advised Mr Hoff that if the facility was to be evacuated this should be done immediately. Mr Hoff decided to begin the evacuation.[76]

Local police assisted with the Hillview evacuation by arranging Victoria State Emergency Service volunteers, ambulance transport and a wheelchair-friendly bus. Seven Hillview residents went home with their families; the remaining 41 were evacuated in very difficult circumstances. The evacuation was completed at about 16:00. Residents were accommodated overnight at Koo Wee Rup Hospital and were able to return to Hillview on 8 February.[77]

Although the Pakenham ICC was aware of Sergeant Halligan's role in the evacuation of Hillview, neither it nor Sergeant Halligan offered assistance to Neerim Hospital because the facility was in an adjacent police service area. Neerim Hospital did, however, receive evacuation assistance from the Traralgon ICC (which was responsible for the Delburn and Churchill fires) in the form of a number of ambulances. Ambulance Victoria decided this assistance should be provided from Traralgon, to the east of the fire, because road closures would have made it difficult to gain access to Neerim Hospital from the west.[78]

Assistance from the Traralgon ICC came after Ms Brown, in consultation with her senior staff, had already decided to evacuate Neerim Hospital. Her decision had been based on the available information about road closures, the fire's location, and the fact the CFA could not guarantee its attendance at the hospital. Ms Brown made the decision independently of advice or assistance from any incident control centre or municipal emergency coordination centre.[79]

Ambulances arrived at 13:30 to begin evacuating patients from Neerim Hospital. Staff conducting the evacuation experienced the same trying conditions as staff at Hillview, except that there was no assistance from Victoria State Emergency Service volunteers and the bus was unsuitable, such that residents had to be individually lifted on board. The patients and residents of Neerim Hospital were transported to Warragul Hospital and then relocated to nursing homes in the area.

The Commission was informed that four very frail residents died in the ensuing days. One of these people was terminally ill and before the fires had been in palliative care. The other three patients died shortly after evacuation; Mr Hoff stated that their deaths 'can be attributed to the disruption and shock of evacuation. For example, one of our residents simply stopped eating as a result of the trauma'.[80]

It is to the credit of staff at Hillview and Neerim Hospital, Sergeant Halligan, Mr Edward Wright at the Traralgon ICC, Mr Paul James (the ambulance coordinator) and numerous volunteers that these difficult evacuations were accomplished.

By 15:00 DSE slip-on units were on their way to Tonimbuk to help the CFA with community protection. At one point flame heights were 30 metres. Crews from the Metropolitan Fire and Emergency Services Board had begun back-filling CFA stations where crews had been deployed on strike teams.[81]

By 15:30 messages coming from the Pakenham ICC were taking account of the forecast wind change, which the IMT had been aware of since the previous day. Specific towns were warned to be on alert before the change; other towns were warned to be on alert after the change. Urgent threat messages continued to be released and updated throughout the afternoon, directed at an increasingly long list of towns.[82]

Between 15:00 and 17:00 fire spotting was reported at Warragul (20 kilometres ahead of the fire front), Buln Buln and Nilma. Two of the air cranes, which had been water bombing throughout the day, were redeployed at 16:30 to help deal with the emerging fire threat in Upper Ferntree Gully.[83]

Before the wind change the flank of the fire was 15 kilometres long. By 17:00 the change had reached Tooradin airfield, about 30 minutes from the fire ground, and the focus of firefighting efforts changed to the expected spread of the fire after the wind change.[84]

An alert message issued at about 17:45 advised that because of the wind change the fire was now burning towards the north-east and listed a number of additional towns that should be aware of increased fire activity and potential direct impacts.[85]

When the south-westerly arrived the north-eastern flank of the fire became the head of the fire and the fire started running towards Neerim South, threatening the townships of Jindivick, Jindivick West, Rokeby and Crossover. CFA crews protected assets in these areas well into the night.[86]

A situation report issued at 18:00 reported spot fires in Drouin, Warragul, Longwarry, Longwarry North and Labertouche. There was no continuous line of firefront, but numerous tongues had developed out of the spot fires. At 18:45, 90 people were reported trapped at a forest camp in Neerim East, and local police were given the task of managing the situation.[87]

The western flank of the fire began to die away after the wind change, although the fire did continue to creep out of Bunyip State Park. Fourteen DSE slip-on units and one tanker were left in Tonimbuk to protect the area, including houses under threat.[88]

At 19:00 the first urgent threat message was issued for Warragul, the largest settlement in the path of the fire, with a population of over 10,000. Alerts and urgent threat messages continued to be issued throughout the night and into 8 February for the towns listed in the foregoing paragraphs.[89]

Strike teams that had been working in and around Labertouche to protect assets, including the town hall, where people where sheltering, were operating in very difficult conditions. They continued working until 21:00, by which time they had been firefighting for over 10 hours without the opportunity to eat or rest and were exhausted.[90]

### 4.1.3 AFTER 7 FEBRUARY

By 8 February the fire on private land had largely been controlled and management was returned to the DSE Incident Management Team to continue efforts to contain the fire in Bunyip State Park. Thus far the fire had burnt about 5,000 hectares.[91]

On 10 February the incident control centre was relocated once again, from Pakenham to Noojee. Whilst at Pakenham the ICC had been located in the same complex as the police operations centre and the Cardinia Municipal Emergency Coordination Centre. This co-location helped all agencies work together. It also allowed police to overcome difficulties presented by the breakdown of phone communications between the ICC and the police operations centre: a ‘runner’ had been used to ensure the continued flow of information.[92]

Once the ICC moved to Noojee, communications between it and the police were impeded. The police were unable to receive regular fire updates, and this limited their ability to effectively deploy resources during this stage of the fire.[93]

Two relief centres had been opened in Warragul on 7 February, although one of them was not used. Recovery centres were established in Warragul on 8 February and in Labertouche on 12 February. Mr Venville noted the challenges of maintaining an operational municipal emergency coordination centre for the purpose of emergency response at the same time as providing personnel to staff the recovery centres. An emergency relief centre had also been established at the Cardinia Cultural Centre in Pakenham on 7 February for people who had nowhere to go because of road closures.[94]

The Baw Baw MECC operated 24 hours a day until 21:00 on 10 February and then during business hours until 13 February. It received requests for machinery, material aid (such as clothing and personal items), generators, assistance with coordinating road closures, and activation of emergency relief centres.[95]

The Cardinia MECC remained operational or on standby until 5 March; during that time it received numerous requests for assistance and resources—including equipment, machinery, water tankers, catering and fuel.[96]

The continuing response required active fire management, involving back-burning and other suppression efforts, for a number of months. The Bunyip fire was declared contained at 17:30 on 4 March, having burnt approximately 26,200 hectares. After 130 kilometres of control lines had been built, the fire was finally declared safe at 14:35 on 15 May. Thirty-one houses had been destroyed.[97]

**Box 4.2 Resource management: a different approach**

The decision not to fully integrate the CFA and DSE teams before the Bunyip fire breached the park border appears to have produced good results. It allowed DSE to focus on suppression efforts inside the park while the CFA planned for the fire's almost inevitable escape onto private land. The approach adopted by Mr Owen and Mr Smith, with the cooperation of Mr Hardman and Mr Nugent, impressed the Commission. It seems that the two agencies were able to design a solution that was purpose-built for the unique features of the Bunyip fire.

The Commission was also impressed by the DSE Incident Management Team's management of the fire. This performance was, however, at least partly facilitated by the slower, 'campaign' nature of the fire before 7 February.

## 4.2 FUEL MANAGEMENT

There was no evidence that the behaviour or overall severity of the fire was influenced by previous fuel-reduction burning. Treated areas within the perimeter of the Bunyip fire had been subject to such burning between four and seven years previously.[98] The role of fuel management is discussed in greater detail in Chapter 7 of Volume II.

## 4.3 FIREFIGHTER SAFETY

The Bunyip Incident Management Team included a safety adviser, who was called on for advice on a number of occasions. Mr Nugent and Mr Smith agreed that the safety of firefighters is paramount. The adviser appears to have played an important role, among other things advising on decisions relating to crew safety on the fire ground.[99]

Throughout 7 February the IMT worked on the basis that the wind change was expected at 19:00. Mr Nugent also ensured, however, that the IMT was kept aware of the real-time weather by means of reports from the integrated Emergency Coordination Centre and from the IMT's situation officers.[100]

During the afternoon the situation officer, Ms Catherine Clancy, informed Mr Nugent that the predicted time of the wind change had been brought forward. By at least 16:50 Mr Nugent was aware that the change was now predicted to arrive by 18:00 instead of 19:00. He knew when he received this update that it was 'critical' information—both for crews on the fire ground and for the community.[101]

Mr Smith was informed of the wind change by Mr Andrew Wenczel, deputy planning officer, at 16:30. Mr Smith and Mr Nugent discussed the new wind change prediction. It appears they held differing views about the way this information should be conveyed to crews on the fire ground. Mr Smith issued a red flag warning at 16:45. He said such warnings should not be used 'lightly', but he had decided this was an appropriate occasion. In contrast, Mr Nugent held the view that, because the wind change was still more than an hour away, it was sufficient to ensure that the information was provided to crews without resorting to a formal red flag warning.[102]

At 17:10 Mr Nugent received more information: he was told the wind change had reached Tooradin, which he judged to be about 10 to 15 minutes from the fireground. He made sure this information was passed to the divisional commanders.[103]

At the regional level, Mr Owen had also been monitoring the weather. At 16:00, on the basis of information from the remote automatic weather station, he authorised the dissemination of a red flag warning that a wind change was expected at 18:00 and sent a pager message containing the warning to all crews in the region. When by 17:40 it became clear to him that the pager message had not been received by crews, he arranged for the incident control centre to be contacted and advised to send a warning to all crews on the ground. Mr Owen also personally issued a red flag warning across the command channel.[104]

Firefighter safety is discussed in Chapter 3 of Volume II.

## 4.4 CONCLUSIONS

A considerable amount of information about the Bunyip fire was available to the public from 2 to 7 February. Most of the information about the nature of the fire threat was accurate, although occasionally it did not include everything the incident management team knew about the fire. Some information provided to members of the public underestimated the size of the fire and consequently had the potential to cause them to underestimate the nature of the risk.[105]

It appears to the Commission that people who attended the community meetings before 7 February understood and interpreted the information provided in differing ways. This emphasises the importance of using straightforward language when delivering community warnings; it might diminish the risk of idiosyncratic interpretations.

The integrated Emergency Coordination Centre on 5 and 6 February provided a high degree of support to the IMT working on the Bunyip fire. While the fire was in Bunyip State Park liaison between the iECC and the DSE IMT appears to have worked well. Mr Nugent confirmed that the various predictive maps and reports the iECC provided were valuable and generally consistent with the fire's behaviour.[106]

In the Commission's view, the predictive work was appropriate and was properly considered and acted on by the CFA and DSE IMTs. This is in contrast with the evidence about some other fires that burned on 7 February, where predictive material either was not provided promptly or was not used in formulating warnings.

The local weather forecast provided at 04:30 on 7 February was attached to the incident shift plan (also known as an 'incident action plan') for the day. It is notable that the plan for day shift on 7 February contained among its main messages a reminder that all crew should 'listen out for red flag warnings'. The Commission commends the importance attached to firefighter safety.

Although many aspects of the IMT's planning were effective and praiseworthy, nothing was advanced to the Commission to explain why the Bunyip IMT or the CFA operational contingency planning team failed to contact Hillview and Neerim hospital early on 6 February, when Mr Nugent had formed the view that 'under the forecast conditions for 7 February, it was likely the fire would escape control lines'.[107]

The south-westerly wind change arrived at 17:45 on 7 February—earlier than initially forecast. Although there is no evidence of any firefighter at the Bunyip fire being taken by surprise or exposed to danger when the change arrived, it is the Commission's view that using red flag warnings is the appropriate message format for conveying vital information such as the imminent arrival of a wind change.[108]

The warnings the IMT issued to communities on 7 February were timely and took account of the path of the fire and the potential impact of the wind change. The IMT's success in keeping the community informed on 7 February was no doubt partly a result of steps taken before the day, including identifying towns likely to be at risk. The role of warnings is discussed in Chapter 1 of Volume II.

It appears that Bunyip was the only fire where the use of the Standard Emergency Warning Signal was requested (although the request was later cancelled). The Commission received no evidence that a request to use SEWS was made of Victoria Police in relation to any other fire. The role of SEWS is discussed in Chapter 1 of Volume II.

Senior Sergeant Teer and Mr Owen both expressed concern at the relocation of the incident control centre from Pakenham to Noojee in the days following 7 February. The new location was considered both inconvenient and dangerous, having been razed by fire on two previous occasions. The move also meant that the ICC was now one hour from the municipal emergency coordination centre and the Police and Emergency Services Complex in Pakenham. A number of police members considered that the move made it difficult for police to receive current information about the fire and hindered them in effectively deploying their resources.[109]

The experience and the personal efforts of both Mr Owen and Mr Smith were instrumental in the success of firefighting efforts associated with the Bunyip Ridge Track fire on 7 February. Mr Owen's attention to detail, his knowledge of his region, and his efforts devoted to 'triaging' the many fires in the region while making difficult resourcing decisions warrant mention. And, taking into account the time Mr Smith had for preparation, his careful planning and management of the incident management team and crews on the fire ground enabled the CFA to do the best job possible in extreme circumstances.[110]

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1 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0094

2 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0094

3 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0094

4 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0094

5 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0094

6 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0094

7 Nugent T12729:29–T12730:25

8 Exhibit 11 – Statement of Esplin, Attachment 1 (WIT.005.001.0049) at 0083

9 Exhibit 4 – Supplementary Statement of Rees, Annexure Volume 3 (WIT.004.002.0484) at 0730

10 Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048_R) at 0048_R

11 Exhibit 787 – Further Statement of Fogarty, Annexure 1 (WIT.3024.005.0260) at 0261

12 Exhibit 939 – Details Regarding Emergency Response (CFA.600.005.0195) at 0195, 0198; Exhibit 939 – MFB Response (MFB.001.001.0040) at 0040; Exhibit 939 – Day by Day Breakdown – Bunyip (DSE.HDD.0048.0545_01); Exhibit 939 – Aircraft Data 0809 (DSE.HDD.0048.0544_20) at 0544_25–0544_26

13 Exhibit 994 – Bunyip Fire – Fire Spread Map (DSE.HDD.0165.0052)

14 Nugent T12729:30–T12730:7

15 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [123]; Nugent T12749:30–T12750:5; Hardman T12807:19–T12807:26

16 Exhibit 582 – DSE External Web Update (DSE.0013.0070.0171); Exhibit 600 – Bunyip Ridge Track Fire Chronology (TEN.161.001.0001) at 0002–0003

17 Exhibit 6 – Statement of Waller (WIT.002.002.0001) [320]; Exhibit 600 – Bunyip Ridge Track Fire Chronology (TEN.161.001.0001) at 0003; Exhibit 787 – Supplementary Statement of Fogarty, Annexure 1 (WIT.3024.005.0260) at 0261

18 Nugent T12730:15–T12730:25

19 Nugent T12762:2–T12762:10

20 Nugent T12731:29–T12732:5

21 Nugent T12732:6–T12732:24

22 Exhibit 591 – Statement of Teer (WIT.3010.005.0143) [2], [27]–[28]

23 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [32]

24 Nugent T12731:1–T12731:5, T12752:6–T12752:12; Smith T12879:8–T12879:19

25 Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [59]–[64]

26 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [25]–[28]

27 Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [80]–[83]; Owen T12925:9–T12925:11

28 Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [58], [61]–[62], Annexure 6 (WIT.3004.031.0069) at 0069–0070

29 Exhibit 584 – Statement of Nugent, Annexure 8 (DSE.HDD.0052.1720); Nugent T12783:12–T12784:4; Buntine T12832:16–T12834:9, T12834:31–T12836:1

30 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [33]–[37]; Nugent T12735:2–T12735:17, T12762:7–T12762:10

31 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [41]–[42], [45]–[46], [49], [51]

32 Exhibit 585 – Statement of Hardman (WIT.3024.005.0054) [33]; Nugent T12736:9–T12736:18

33 Nugent T12736:24–T12737:5, T12779:11–T12779:22

34 Hardman T12813:1–T12813:3

35 Exhibit 582 – External Web Update (DSE.0013.0070.0139) at 0039

36 Nugent T12738:1–T12738:22

37 Exhibit 582 – Fire Spread Prediction Report (DSE.HDD.0014.0008); Exhibit 582 – Fire Spread Prediction Report (DSE.0169.1387.0016); Exhibit 209 – Statement of Douglass (WIT.3024.002.0127) [58]; Douglass T6500:28–T6501:8

38 Nugent T12777:15–T12778:3

39 Exhibit 590 – Statement of Allen (WIT.3010.006.0131) [2], [14]

40 Exhibit 593 – Statement of Dickson (WIT.4018.001.0001) [57]–[58]; Exhibit 591 – Statement of Teer (WIT.3010.005.0143) [31]

41 Exhibit 594 – Statement of Venville (WIT.4022.001.0001) [60]–[61]

42 Exhibit 582 – External Web Update (DSE.0013.0070.0137); Exhibit – 582 External Web Update (DSE.0013.0070.0134)

43 Exhibit 582 – External Web Update (DSE.0013.0070.0134)

44 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [123]; Nugent T12749:30–T12750:5; Hardman T12807:19–T12807:26

45 Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [59]–[64]

46 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [16], [20]–[21]

47 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [16], [22]; Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [31]–[34]; Exhibit 584 – Incident Shift Plan – Bunyip Ridge Track Fire (7 Feb, Day Shift) (DSE.0001.0003.0130) at 0135–0137

48 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [10]; Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [14]

49 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [16], [22]; Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [31]–[34]; Exhibit 584 – Incident Shift Plan – Bunyip Ridge Track Fire (7 Feb, Day Shift) (DSE.0001.0003.0130) at 0135–0137

50 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [118]; Nugent T12731:7–T12731:15

51 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [31]–[34]; Exhibit 584 – Incident Shift Plan – Bunyip Ridge Track Fire (7 Feb, Day Shift) (DSE.0001.0003.0130) at 0135–0137

52 Exhibit 548 – Correspondence – Safety Advisors (CORR.0911.0107_R)

53 Exhibit 588 – Statement of Patrick (WIT.3024.004.0355) [87]; Nugent T12739:10–T12739:20

54 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [72]–[77]

55 Exhibit 585 – Statement of Hardman, Annexure 9 (DSE.0017.0115.0163); Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [73], [75]

56 Exhibit 591 – Statement of Teer (WIT.3010.005.0143) [33]

57 Exhibit 585 – Statement of Hardman (WIT.3024.005.0054) [51], [57]; Exhibit 587 – Statement of Smith, Annexure 6 (WIT.3004.030.0217); Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [100], [102]

58 Exhibit 588 – Statement of Patrick (WIT.3024.004.0355) [93], [97], [100], [104]; Exhibit 585 – Statement of Hardman, Annexure 2 (DSE.HDD.0052.1959) at 1977

59 Exhibit 594 – Statement of Venville (WIT.4022.001.0001) [65]–[71], [77]

60 Exhibit 593 – Statement of Dickson (WIT.4018.001.0001) [59]

61 Exhibit 585 – Statement of Hardman (WIT.3024.005.0054) [57]; Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [100], [102]

62 Exhibit 593 – Statement of Dickson (WIT.4018.001.0001) [60]–[61], [64], [68], Annexure 7 (WIT.4018.001.0346) at 0350–0351

63 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [104]; Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [83]–[88]

64 Exhibit 587 – Statement of Smith, Annexure 5 (WIT.3004.030.0091), (WIT.3004.030.0095), (WIT.3004.030.0096), (WIT.3004.030.0101), (WIT.3004.030.0102); Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [107]–[108]

65 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [92]

66 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [113]; Nugent T12740:20–T12740:27, T12741:16–T12741:20

67 Exhibit 590 – Statement of Allen (WIT.3010.006.0131) [38]; Nugent T12793:4–T12793:14; Smith T12877:13–T12877:23, T12877:28–T12878:5

68 Exhibit 587 – Statement of Smith, Annexure 5 (WIT.3004.030.0107), (WIT.3004.030.0113), (WIT.3004.030.0115)

69 Exhibit 582 – CFA Incident Report (CFA.001.023.0001) at 0005; Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [118]–[119]

70 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [123]; Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [93]–[95], Annexure 7 (WIT.3004.030.0220)

71 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [171]–[177]

72 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [118]; Exhibit 582 – CFA Incident Report (CFA.001.023.0001) at 0005; Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [121]; Nugent T12742:13–T12742:19, T12743:9–T12743:14

73 Exhibit 596 – Statement of Hoff (WIT.125.001.0001_R) [7]

74 Exhibit 596 – Statement of Hoff (WIT.125.001.0001_R) [4], [6], [14]–[15]; Hoff T12951:14–T12951:21

75 Exhibit 596 – Statement of Hoff (WIT.125.001.0001_R) [20]–[29], [59]–[60], Attachment 3 (DSE.HDD.0005.0942)

76 Exhibit 596 – Statement of Hoff (WIT.125.001.0001_R) [68], [74]; Exhibit 597 – Statement of Halligan (WIT.3010.009.0371) [16]–[17]; Halligan T13001:10–T13002:20, T13002:31– T13003:30; Hoff T12979:3–T12979:21

77 Exhibit 596 – Statement of Hoff (WIT.125.001.0001_R) [67]–[68], [76], [79]–[86], [93]–[96]

78 Halligan T12998:28–T12999:26, T13002:31–T13003:30; Wright T13014:19–T13014:28, T13016:1–T13016:11

79 Exhibit 596 – Statement of Hoff (WIT.125.001.0001_R) [34]–[37]

80 Exhibit 596 – Statement of Hoff (WIT.125.001.0001_R) [38], [43]–[44], [49], [55]; Exhibit 598 – Statement of Wright (WIT.3002.001.0001) [26]

81 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [130], [132]

82 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [60(e)]; Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [124], Annexure 5 (WIT.3004.030.0117), (WIT.3004.030.0128), (WIT.3004.030.0131)

83 Exhibit 582 – Fire Situation Report (DSE.HDD.0023.0032); Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [129]; Nugent T12743:18–T12743:23

84 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [132]; Nugent T12743:28–T12743:30

85 Exhibit 587 – Statement of Smith, Annexure 5 (WIT.3004.030.0139)

86 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [134], [163]–[164], [187]–[188]; Exhibit 585 – Statement of Hardman (WIT.3024.005.0054) [46]; Nugent T12743:24–T12744:16

87 Exhibit 4 – Supplementary Statement of Rees, Annexure Volume 3 (WIT.004.002.0484) at 0730; Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [135]

88 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [183]

89 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [125], Annexure 5 (WIT.3004.030.0145), (WIT.3004.030.0150), (WIT.3004.030.0154), (WIT.3004.030.0160), (WIT.3004.030.0170), (WIT.3004.030.0174), (WIT.3004.030.0184); Exhibit 594 – Statement of Venville (WIT.4022.001.0001) [15]

90 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [231]–[233]

91 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [157]; Exhibit 582 – Fire Situation Report (DSE.HDD.0031.0092)

92 Exhibit 592 – Statement of Smith (WIT.3010.006.0001) [20], [24], [38]; Exhibit 593 – Statement of Dickson (WIT.4018.001.0001) [60]

93 Exhibit 592 – Statement of Smith (WIT.3010.006.0001) [38]

94 Exhibit 594 – Statement of Venville (WIT.4022.001.0001) [73], [79]–[80], [83]–[85]; Exhibit 593 – Statement of Dickson (WIT.4018.001.0001) [68]

95 Exhibit 594 – Statement of Venville (WIT.4022.001.0001) [73], [87]

96 Exhibit 593 – Statement of Dickson (WIT.4018.001.0001) [64], [67]

97 Exhibit 787 – Further Statement of Fogarty, Annexure 1 (WIT.3024.005.0260) at 0261; Exhibit 6 – Statement of Waller (WIT.002.002.0001) at 0091; Exhibit 582 – Incident Information Summary – Bunyip Ridge Track Fire (DSE.HDD.0031.0051) at 0051–0056; Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048_R) at 0048_R

98 Exhibit 722 – Expert Report of McCaw on Fuel Management (EXP.026.001.0001) at 0013–0014

99 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [108]; Nugent T12756:21–T12757:9; Smith T12881:26–T12881:30

100 Nugent T12791:14–T12791:18

101 Nugent T12794:13–T12795:11

102 Exhibit 587 – Statement of Smith (WIT.3004.030.0001) [127]; Smith T12880:19–T12881:8; Nugent T12795:1–T12795:27

103 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [144]

104 Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [189]–[193]

105 Exhibit 582 – External Web Update (DSE.0017.0113.0157); Exhibit 582 – Fire Situation Report (DSE.HDD.0031.0091)

106 Exhibit 582 – Fire Spread Prediction Report (DSE.HDD.0014.0008); Exhibit 582 – Fire Spread Prediction Report (DSE.0169.1387.0016); Exhibit 209 – Statement of Douglass (WIT.3024.002.0127) [58]; Douglass T6500:28–T6501:8; Nugent T12749:3–T12749:13, T12777:15–T12778:3

107 Exhibit 584 – Statement of Nugent (WIT.3024.004.0268) [67]

108 Smith T12881:9–T12881:30

109 Exhibit 591 – Statement of Teer (WIT.3010.005.0143) [37]–[38]; Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [174]; Exhibit 590 – Statement of Allen (WIT.3010.006.0131) [46]

110 Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [156]–[160]; Owen T12936:12–T12937:18

# THE KILMORE EAST FIRE 5



# 5 THE KILMORE EAST FIRE

The Kilmore East fire of 7 February 2009 burned across the Shires of Nillumbik, Mitchell and Yarra Ranges as well as the City of Whittlesea, about 85 kilometres north of Melbourne. The fire started at about 11:47, on top of a rocky hill between two gullies near Saunders Road in Kilmore East. The fire behaviour was extreme. Burning initially in a south-easterly direction, the fire crossed the Hume Highway and went on through Wandong on its way towards Mt Disappointment. The terrain and fuel where the fire burned promoted long-distance spotting: as the main fire front progressed across Mt Disappointment, fires were also reported at Wallaby Creek, Humevale, Strathewen, St Andrews, Steels Creek, Dixons Creek and Yarra Glen, and in the Healesville area.

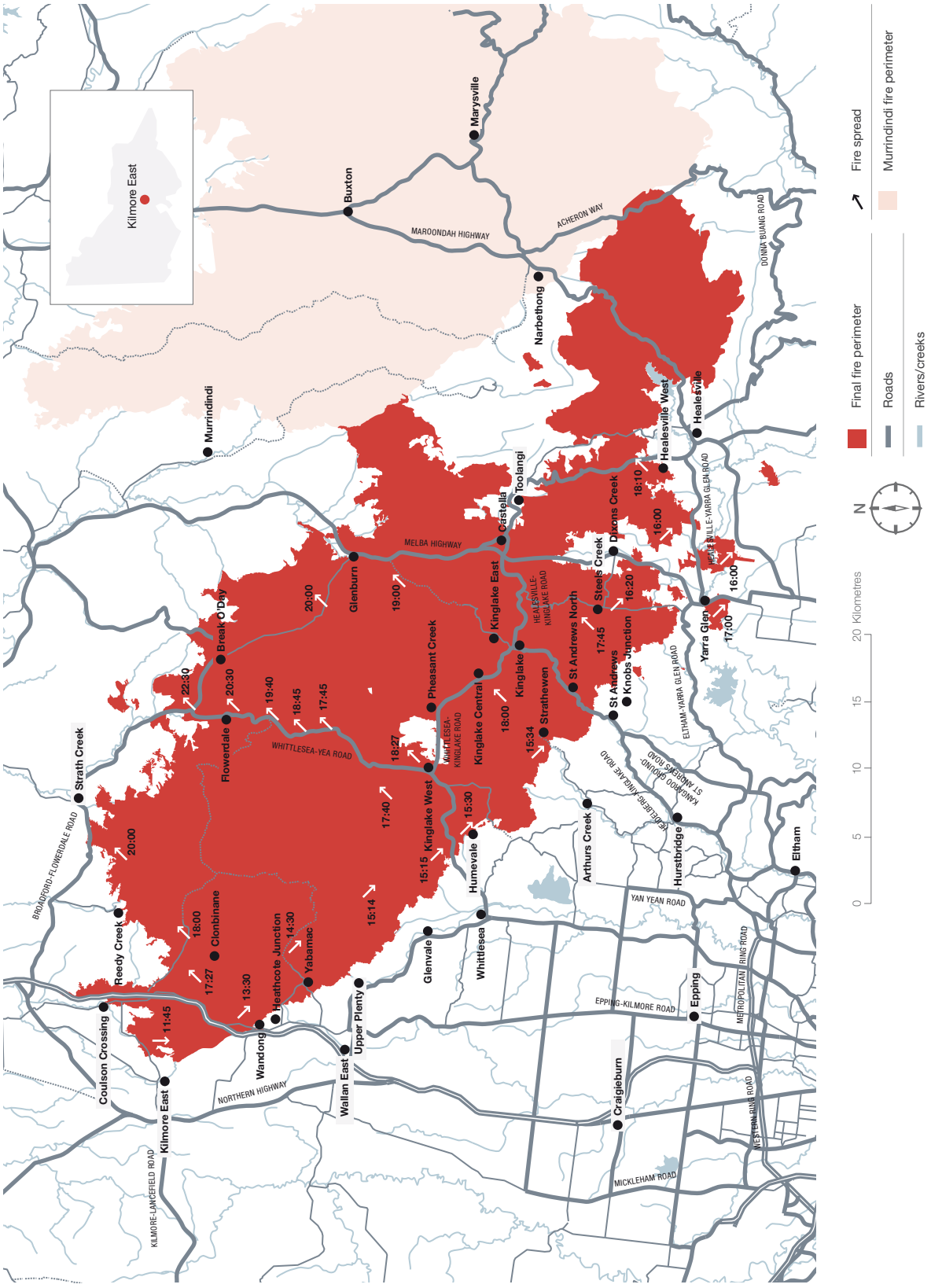
After the south-westerly wind change, which passed through the fire ground between 17:40 and 19:00, the eastern flank of the fire became the front and the fire behaviour intensified. Almost immediately the head of the fire impinged on Kinglake, Kinglake West, Clonbinane, Steels Creek, Chum Creek and Strathewen, then it progressed towards Flowerdale, Hazeldene, Castella and Glenburn.

In all, 119 people died and 1,242 homes were destroyed. The combined area burnt by the Murrindindi and Kilmore East fires, which later merged, was 168,542 hectares. The Kilmore East fire alone burnt 125,383 hectares.[1] Figure 5.1 shows the extent of the Kilmore East fire.

## OVERVIEW

| | |
|---|---|
| **Maximum temperature** | The maximum temperature recorded was 42.5˚C at Kilmore Gap automatic weather station at 14:41.[2] |
| **Minimum relative humidity** | The minimum relative humidity recorded was 8.9 per cent at Kilmore Gap AWS at 16:00.[3] |
| **Wind** | The maximum winds recorded before the change were north-westerly at 72 kilometres an hour at Kilmore Gap AWS at 14:13.[4]<br>The wind change was recorded by the Kilmore Gap AWS at 18:10, from the west at 17 kilometres an hour.[5]<br>The maximum winds recorded after the change were south-westerly at 31 kilometres an hour at Kilmore Gap AWS at 18:19.[6] |
| **Fire danger index** | The maximum Grass Fire Danger Index was 267 at Kilmore Gap AWS at 14:13.[7] |
| **Cause** | Electrical failure.[8] |
| **Fatalities** | One hundred and nineteen fatalities.[9] |
| **Casualties** | Two hundred and thirty-two casualties.[10] |
| **Houses destroyed** | 1,242 houses.[11] |
| **Overall area burnt** | 125,383 hectares.[12] |
| **Firefighting resources** | On 7 February, 938 CFA, 32 MFB and 107 NEO personnel attended the fire. They were supported by 92 CFA appliances, 16 DSE appliances, 9 MFB appliances and 11 aircraft.[13] |

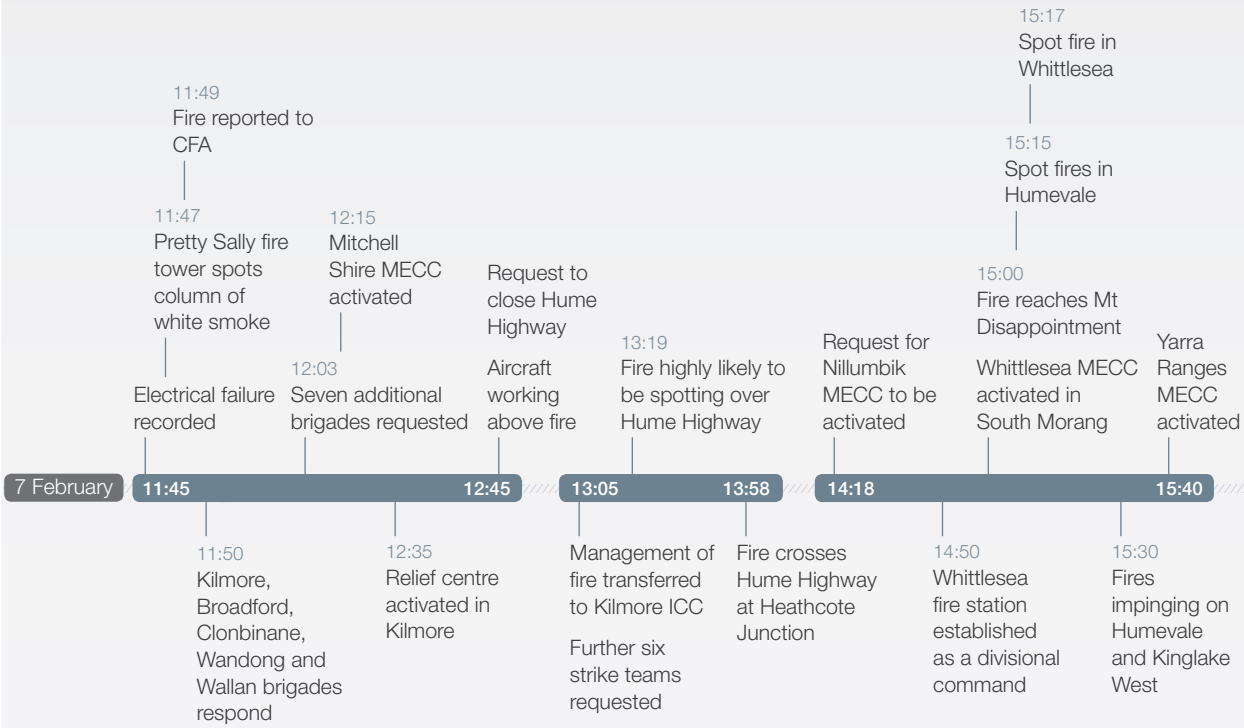
Figure 5.1 The Kilmore East fire

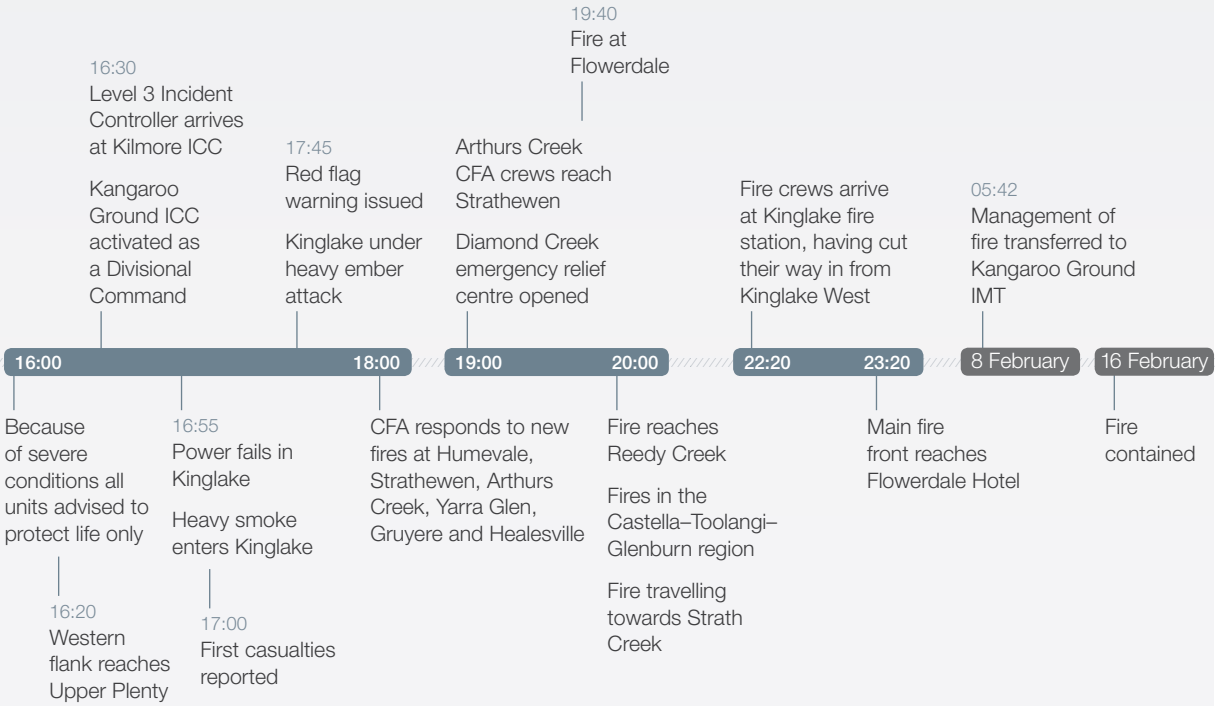



Source: Exhibit 994 – Kilmore East Fire – Fire Spread Map.[14]

## Kilmore East 7–16 February

The following time line summarises events relating to the Kilmore East fire. For the most part, the times given are approximate. Further details about the events are provided in the accompanying narrative.




16:00
18:00
19:00
20:00
22:20
23:20
8 February
16 February
Because of severe conditions all units advised to protect life only
16:20
Western flank reaches Upper Plenty
16:30
Level 3 Incident Controller arrives at Kilmore ICC
Kangaroo Ground ICC activated as a Divisional Command
16:55
Power fails in Kinglake
Heavy smoke enters Kinglake
17:00
First casualties reported
17:45
Red flag warning issued
Kinglake under heavy ember attack
CFA responds to new fires at Humevale, Strathewen, Arthurs Creek, Yarra Glen, Gruyere and Healesville
19:40
Fire at Flowerdale
Arthurs Creek CFA crews reach Strathewen
Diamond Creek emergency relief centre opened
Fire reaches Reedy Creek
Fires in the Castella–Toolangi–Glenburn region
Fire travelling towards Strath Creek
Fire crews arrive at Kinglake fire station, having cut their way in from Kinglake West
Main fire front reaches Flowerdale Hotel
05:42
Management of fire transferred to Kangaroo Ground IMT
Fire contained

## 5.1 SEQUENCE OF EVENTS

### 5.1.1 PREPARATION

Kilmore was one of 20 level 3 incident control centres pre-designated across the state in anticipation of the conditions forecast for 7 February. There were two such centres in Country Fire Authority Region 12—at Kilmore and Alexandra. As with other fires, the pre-designated level 3 ICCs were meant to be ready for a 'warm or hot start'; this meant that personnel were to be physically in place and that facilities and equipment had been tested and were ready for use.[15]

Both CFA Chief Officer Mr Russell Rees and CFA State Duty Officer Mr Gregory Paterson believed Kilmore ICC was ready for a 'hot start' as a level 3 ICC on 7 February, with the main incident management team staff—including an Incident Controller and operations, planning and logistics staff—in position.[16]

The evidence before the Commission shows, however, this was not the case. On 6 February Mr Peter Creak, the Region 12 CFA Operations Manager and the person responsible for operational planning, preparedness and response, emailed the incident management team planner—a formatted tabulation of positions, names and dates of availability for Region 12—to the CFA State Coordinator. The planner did not identify or allocate IMT personnel to particular ICCs in Region 12. It did, however, show that for 7 February there were eight Incident Controllers, nine operations officers, six planning officers and seven logistics officers available, along with a number of other key staff members and people in more junior positions. CFA career and volunteer officers and Department of Sustainability and Environment officers were also listed.[17]

Mr Creak told the Commission it was not possible to have all level 3 ICCs in the north-east of the state prepared for a hot start: '… simply we don't have the numbers of incident management team personnel to pre-position people into every control centre that is identified in north-east Victoria'. He said it was well understood by both DSE and CFA in the north-east—and, he believed, by the CFA at the state level as well—that the region did not have the resources to prepare each level 3 ICC for a hot start. As a result, despite there being sufficient staff for the Kilmore ICC to manage the Kilmore East fire and the Alexandra ICC to subsequently manage the Murrindindi fire, level 3 staff were not identified for these locations until after the outbreak of these fires.[18]

Mr Creak said the preparations made in the region were appropriate and consistent with usual practice. It appears this did not, however, include physically positioning any IMT staff at specific ICCs in the region; nor did it include a request for additional personnel, which might have helped with physically positioning IMT staff at specific ICCs. Initially at least, senior personnel at the integrated Emergency Coordination Centre were unaware that the Kilmore ICC was not staffed on the morning of 7 February.[19]

Having provided the IMT planner to senior CFA officers on 6 February, Mr Creak considered he had informed senior management at the iECC that the Kilmore level 3 IMT was not pre-planned and not ready for a hot start.[20] A consequence of this lack of pre-planning was that, instead of the Kilmore ICC being ready to take over management of the Kilmore East fire immediately, a considerable period elapsed before the centre was staffed by suitably qualified personnel.

The Kangaroo Ground ICC is about 50 kilometres south of Kilmore, in CFA Region 13. It is a permanent ICC facility (unlike the Kilmore ICC, which used a CFA station facility), with equipment such as computers and other IT facilities and provision for the necessary IMT staff functions, despite the facilities not being as up to date as those in other permanent ICCs in Victoria.[21]

The Kangaroo Ground ICC had been set up for a hot start as a level 3 ICC on 7 February. Incident Controller Mr Jason Lawrence, a CFA operations officer, was present, along with Mr Rocky Barca from Parks Victoria as Deputy Incident Controller. Planning, operations and logistics staff were also there, as were other personnel as back-up and to support the Information Unit.[22]

In the short term Victoria Police and municipal authorities made specific preparations for 7 February. Among the steps taken were the following:

- The Yarra Ranges Divisional Emergency Response Coordinator activated the Knox Divisional Operations Centre, placed the municipal emergency coordination centres on standby, and arranged for police liaison officers to be in position in the pre-designated incident control centres at Belgrave and Woori Yallock and at the CFA's Region 13 headquarters.[23]
- All municipal emergency response coordinators were asked to liaise with their respective municipal emergency resource officers to ensure that the municipal emergency coordination centres were in a high state of preparedness for the weekend. On 5 February the Nillumbik MECC was prepared for activation. The Yarra Ranges MECC was ready for activation on the morning of 7 February.[24]

Table 5.1 summarises the state of preparedness for the East Kilmore fire.

**Table 5.1 The Kilmore East fire – IMT preparedness**

| | |
|---|---|
| **Pre-designated level 3 ICC** | Yes[25] |
| **Pre-formed IMT at ICC** | No[26] |
| **Pre-identified level 3 IC** | No[27] |
| **Pre-identified IMT members** | Yes though personnel were not allocated to particular roles[28] |
| **Time fire started** | 11:47[29] |
| **Time full IMT in place** | 16:30[30] |
| **Safety adviser appointed** | No[31] |

### 5.1.2 7 FEBRUARY

#### Origin and cause

The Kilmore East fire started at about 11:47 at the top of a rocky hill between two gullies near Saunders Road in Kilmore East. A single-wire earth return, or SWER, electricity line (the conductor) ran across the gullies. The area where the fire started was undulating pasture interspersed with native vegetation alongside cleared and standing forestry plantations.[32] The conductor formed part of the Pentadeen Spur power line.

The fire started after the conductor between poles 38 and 39 failed and the live conductor came into contact with a cable stay supporting pole 38. This contact caused arcing that ignited vegetation near the base of pole 38. An electrical fault was recorded at 11:45.[33]

The conductor failed as a result of fatigue on the conductor strands very close to where a helical termination was fitted to the conductor at pole 39. (A helical termination is a device used in electricity distribution; it is wound helically around the conductor and grips it, keeping tension in the line and holding the line off the ground.) The fatigue of the conductor strands was partly caused by the helical termination being incorrectly seated in a thimble, so that it was jammed between the thimble and a clevis device at pole 39, causing stress to the conductor. (The thimble and clevis attach the helical termination to the insulator, which in turn is attached to the pole. The thimble is horseshoe-shaped and pivots around a pin; it is held in place by the clevis.) The conductor was probably 43 years old.[34] Further information about electricity terminology is provided in the Glossary.

A line inspection carried out in February 2008 had failed to identify the incorrectly seated helical fitting.[35]

Figure 5.2 shows a jammed helical termination.

**Figure 5.2 A jammed helical termination**



Source: Exhibit 525 – HRL Technology Report – Kilmore East Fire.[36]

Automatic circuit reclosers, or ACRs—circuit breakers that open to break the circuit when a fault is recorded and then reclose the circuit to restore power—had been installed on the Pentadeen Spur power line. The settings could have been changed manually to suppress the reclose function entirely. The consequence of the ACR not being suppressed on 7 February was that it reclosed three times before the current was stopped by the ACR tripping to lockout, resulting in plasma at a temperature of 5000°C being ejected on four separate occasions (including once before the first trip of the ACR) for a total of 3.6 seconds.[37]

The operation of ACRs and the age and inspection of electrical assets are discussed in detail in Chapter 4 of Volume II.

### Initial fire run

At 11:47 Mr Peter Coleman, a fire tower observer at Pretty Sally tower, spotted a column of white smoke about 30 to 40 metres high coming from behind a hill in the direction of Saunders Road, Kilmore East. The fire was reported to the CFA at 11:49.[38]

Following a pager alert at 11:50, a 'hot day' response of five brigades—Kilmore, Broadford, Clonbinane, Wandong and Wallan—was dispatched, along with a number of private units. Clonbinane captain Mr Ross Hibbert was first on the scene. He asked for additional resources. At 12:03 the Seymour Group Headquarters paged an additional seven brigades.[39]

The Kilmore brigade responded within four minutes of notification of the fire. While still in Kilmore township, 5 kilometres from the fire, the crew saw a very large, high column of smoke. They recognised the need for additional resources, and these were promptly provided.[40]

Mr Russell Court, crew leader on Kilmore Tanker 1, estimated he was in the area of the fire's origin within 10 minutes. He described a strip of fire 80 to 100 metres wide heading south towards a hill where two tongues of fire were burning—one running south to Saunders Road and the other east towards Wandong.[41]

Within minutes of ignition, the Kilmore East fire could not be contained. Mr Court said in evidence, 'I've never seen fire behaviour like it'. Despite this, those charged with trying to control the fire stayed to fight, often risking their lives, and were able to save houses and other people's lives. A number of spot fires were also suppressed by initial attack, among them some at Humevale and near Arthurs Creek.[42]

### Fire run to the Hume Highway

Firefighters tried, unsuccessfully, to stop the fire at Saunders Road. When it crossed the road, about 15 minutes after fire crews arrived, it was spotting 250 metres ahead of itself. From Saunders Road the fire travelled through about 200 hectares of plantation logging slash (the debris left by logging). With this fuel, the rate of the fire's spread towards the Hume Highway was estimated to be 2.5 kilometres an hour.[43]

Following a request from the police Forward Commander, Inspector Ross Smith, at 12:15 Senior Sergeant Brett Murphy arranged for the Mitchell Shire Municipal Emergency Coordination Centre to be activated at the shire offices in Broadford. At 12:35, again at the request of Inspector Smith, a relief centre was activated in Kilmore. At 12:45 a request to close the Hume Highway was made: it was thought that once the fire entered pine plantations on the western side of the highway it would be impossible to stop.[44]

By this time aircraft had been deployed. Because of the fire conditions, however, the aircraft were ineffective in suppressing the fire and were mainly used for asset protection. The aircraft were restricted from attacking the head of the fire but were extremely useful in attacking the southern flank, including around Wandong. They worked in difficult conditions. One of them, working near Wandong, struck a power line; it landed safely but was grounded for repairs. Mr Gregory Murphy, Kilmore CFA brigade captain, remarked that without the aerial firefighting effort more losses would have been sustained in and around Wandong.[45]

### Incident control: handover to Kilmore ICC

Initially the fire was managed from Seymour Group headquarters by Group Officer Noel Arrant. At 12:05 Mr Creak, who was based at the Seymour Regional Emergency Coordination Centre, contacted Mr Murphy, saying the Kilmore fire station was to become the incident control centre for the Kilmore East fire and Mr Murphy was to be Incident Controller.[46]

Mr Murphy became Incident Controller at 13:05, about an hour after having been advised to assume the position. A short time later he asked for a further six strike teams to attend the fire. Mr Murphy was a level 2—not a level 3—Incident Controller. He had no expectation that he would be placed in the position of Incident Controller for a major level 3 fire and had thought that, if he was called upon, his role would be that of a level 3 operations officer.[47]

Once in the position of Incident Controller, Mr Murphy started establishing an incident management team and appointing people to specific positions in the team. He had not received a copy of the CFA Chief Officer's list of endorsed level 3 personnel; nor had he received the IMT planner prepared by Mr Creak before 7 February. As a result, he was unaware of the qualifications and endorsements of people arriving at the Kilmore ICC and appointed to key positions some people who were not level 3 qualified. Indeed, in some instances less qualified personnel were supervising more qualified personnel; for example, a level 3–qualified Incident Controller was appointed to the Planning Unit.[48]

The confusion extended up the chain of command. Mr Creak was not aware that a level 3 Incident Controller was working in the Planning Unit, so he deployed Mr Stewart Kreltszheim, a level 3 Incident Controller, from Mansfield to Kilmore to take over from Mr Murphy. Mr Kreltszheim did not arrive at Kilmore until 16:30, more than four-and-a-half hours after the fire had started.[49]

The staggered arrival of personnel to fill roles in the IMT meant that, as well as maintaining an overview of the developing fire and carrying out his Incident Controller duties, Mr Murphy had to brief newly arriving functional heads and mentors.[50]

Department of Sustainability and Environment park ranger Mr Anthony Fitzgerald was told of the Kilmore East fire at about 13:00. He contacted DSE duty officer Mr Steve Grant and asked who was in control of the fire. Mr Grant told him the Kilmore ICC was dealing with the fire, 'but they are not functioning very well—you are on your own'. Mr Fitzgerald understood this to mean that no resources would be available to him in responding to the fire.[51]

### Fire run to Mt Disappointment

At 13:19 the fire was recorded as highly likely to be spotting over the Hume Highway. It crossed the highway at Heathcote Junction at 13:58. At that time it had multiple tongues, and the width of the area affected was about 5 kilometres, between Clonbinane Road and the north-eastern railway line.[52]

The combination of a high-intensity fire in the plantation logging slash and the presence of pockets of native vegetation beside the Hume Highway and on the median strip provided the quantity and arrangement of fine fuel to carry the fire across the highway.[53]

Once it crossed the highway its behaviour changed. Mr Fabian Crowe, a CFA fire investigator, described the change in terms of it being as though the slopes of Mt Disappointment 'welcomed' the fire. As the fire entered a forested area near Shiels Road, Clonbinane, it increased in intensity and continued its run to the south-east, up the north-west-facing slopes of the Great Dividing Range towards Mt Disappointment. Mr Kenneth Williamson, captain of the Whittlesea brigade, observed the fire as it arrived at Wandong: he said it was erratic and out of control.[54]

Kilmore Tanker 1 was on the ground in Wandong fighting the fire. Mr Court described the crew's experience:

> … when the front came through there was nothing we could do. It was just out of control. We tried everything but it was just hopeless. The visibility was terrible, the smoke was one thing but the wind had blown up all the dirt as well. By that stage we weren't cutting fences anymore—we were just driving straight through them.[55]

The crew stayed to fight the fire for about 25 minutes before members started having difficulty breathing; they described the fire as sucking up the oxygen from the air.[56]

Between Wandong and Clonbinane several tongues of fire merged and headed south-east towards the settlement of Yabamac and Wandong Regional Park. In a forested area between Wandong and Clonbinane Mr Williamson estimated the wind was 100 kilometres an hour.

Senior, experienced CFA volunteer officers had inspected fuel loads in and around Mt Disappointment, Humevale, Strathewen, Kinglake and Glenvale three to four weeks before 7 February and described them as extreme. They were 'horrified' by the fuel loads—40 to 50 tonnes a hectare—and knew they would be unable to control a fire in these areas.[57]

Mr John Dixon, a CFA volunteer with over 30 years of CFA firefighting experience, described the fire as moving south at a speed greater than he had ever seen. He saw the fire before the wind change not as a front but as a fire with considerable spotting activity. And the spot fires merged to create fires ahead of the main fire: 'the fire would then consume everything in its path as the main fire moved through'.[58]

At 14:18 Senior Sergeant John Scully, the Municipal Emergency Response Coordinator for Nillumbik Shire, asked that the Nillumbik Municipal Emergency Coordination Centre be activated.[59]

At about 14:40 the Deputy Incident Controller at Kangaroo Ground, Mr Barca, predicted that the fire would reach Kinglake, Kinglake West, Strathewen, St Andrews, Steels Creek, Flowerdale, Humevale and surrounding towns and areas. After being unable to contact Mr Creak and Mr Murphy and ascertaining that no threat messages had been issued, Mr Barca asked one of the information officers at the Kangaroo Ground ICC to prepare a threat message.[60]

At about 14:50, as the fire continued to head south-east, Whittlesea fire station was established as a Divisional Command.[61]

### Fire run to Humevale and Kinglake West

The fire reached Mt Disappointment at about 15:00. As the main fire front progressed up the mountain, spot fires were reported at Wallaby Creek, Humevale, Strathewen, St Andrews, Steels Creek, Dixons Creek and Yarra Glen and in the Healesville area. The nature of the fuel the fire was consuming and the extreme weather conditions meant that spotting was occurring 20 and 40 kilometres ahead of the main fire front. In some cases these spot fires developed into major fires in their own right.[62]

The Municipal Emergency Response Coordinator for the City of Whittlesea was Senior Sergeant Tony Higgins. Mr Neill Hocking, Director of Infrastructure and Technology at Whittlesea Council, stated that Senior Sergeant Higgins became concerned during the afternoon that Whittlesea would be affected by the Kilmore East fire and asked that the Municipal Emergency Coordination Centre be activated. This was done in South Morang at 15:00, and the MECC was attended by various agencies and personnel, including a liaison officer from each of the CFA, the Department of Human Services and SP AusNet.[63]

A primary concern for Senior Sergeant Higgins was the large number of people camped at the Whittlesea showgrounds for a music festival. There was much discussion between the MECC and Victoria Police about whether the campers should be told to remain at the showgrounds or be asked to evacuate. The campers' safety had to be balanced against the CFA's wish to use the showgrounds as a crew staging area. Ultimately, the campers were asked to leave the showgrounds, and the area became a CFA staging area.[64]

The City of Whittlesea activated emergency relief centres in Whittlesea and South Morang to cater for the hundreds of evacuees from the Kinglake area.[65]

Personnel at the Kangaroo Ground ICC were aware that the warnings being issued for the fire were inadequate. At 15:02 the Kangaroo Ground Incident Management Team drafted an alert message saying the Kilmore East fire might have an impact on the communities of Kinglake West, Kinglake, Pheasant Creek, Strathewen, Arthurs Creek, Doreen, Yan Yean, Woodstock, Mernda, Nutfield, Mittons Bridge, Hurstbridge, St Andrews, Panton Hill, Smiths Gully and Christmas Hills.[66]

That alert message constitutes an accurate and timely warning about the potential of the Kilmore East fire. It demonstrates what could have been achieved by way of information and warning to people in the path of the fire. But it was never released. The Kangaroo Ground Incident Controller, Mr Lawrence, explained that this was because '… the fire was being controlled by the Kilmore ICC, and it was their responsibility to issue those messages, be they urgent threat messages or otherwise'.[67]

As the fire progressed up Mt Disappointment between 15:15 and 15:45, it entered forest dominated by mountain ash and other tree species prone to causing long-distance spotting. The fire burned with great intensity in the mountain ash areas, where trees were more than 50 metres high. The foliage in the crowns of trees that remained was charred and distorted, suggesting flame heights greater than 50 metres. Burning ribbons of bark were lifted by convection forces and carried considerable distances under the influence of the strong north-westerly wind.[68]

### Fires in Humevale and Kinglake West

At 15:17 a spot fire was reported on the corner of Jacks Creek and Humevale Roads in Whittlesea. Five minutes later a second spot fire was reported, 500 metres north of the first one. Firefighters contained both fires to an area of less than 1 hectare.[69]

A third spot fire began at 15:26, about 250 metres into the Toorong Reservoir Park – Melbourne Water catchment. This fire was contained by firefighters, including Melbourne Water crews, to less than half a hectare. During the next half-hour spot fires continued to break out.[70]

The terrain in Humevale is characterised by steep slopes and gully systems that feed north towards the Hume Range and the settlement of Kinglake West. This complex landscape moved the fire in several directions: some of the spot fires ran northward up the gully systems towards Kinglake West; some ran up to the ridge tops from north-west to south-east; and some ran up to the ridge tops from south-east to north-west.[71]

Information officer Ms Leonie Hunter arrived at the Kilmore ICC from Alexandra at approximately 15:30. She was placed away from the rest of the incident management team and did not have a computer or printer, limiting her ability to obtain the information she needed to issue suitable warnings.[72]

At 15:40 Senior Sergeant Vin Butera, the Municipal Emergency Response Coordinator for Yarra Ranges, was told there were 'fires at Kinglake' with the 'potential to impact upon Yarra Glen'. At this point, in conjunction with the Municipal Emergency Resource Officer, Senior Sergeant Butera activated the Yarra Ranges Municipal Emergency Coordination Centre.[73]

Just before 16:00 Mr Murphy spoke with Mr Barca; shortly after that he had a conversation with Mr Lawrence. Mr Murphy said he was not informed during either conversation of spotting activity at St Andrews or Strathewen, of fires developing within the Kangaroo Group ICC footprint, or that threat messages had been drafted at Kangaroo Ground and were awaiting his approval for release. At 16:00 Mr Rodney Holland, Whittlesea Divisional Commander, advised all units by radio to protect life only, not assets, because of the severe conditions.[74]

At 16:10 Ms Hunter began preparing an urgent threat message for communities such as Clonbinane, Mt Disappointment, Kinglake, Heathcote Junction, Upper Plenty, Humevale, Reedy Creek and Strath Creek, but the message could not be issued from the Kilmore ICC because the fax machine was not operating. As discussed later in this chapter, this urgent threat message was never uploaded to the CFA website.[75]

While the fire front moved across Mt Disappointment its western flank moved laterally towards Lords and Mahadys Roads in Upper Plenty. It reached this area at about 16:20. Two people died in Upper Plenty.[76]

As a result of the spotting, between 15:30 and 17:00 at least two major fires were impinging on the Humevale and Kinglake West settlements—one approaching from the Mt Disappointment area and one from within Humevale itself. The effect of local terrain was such that the Humevale fire moved north towards Kinglake West, despite the north-westerly wind.[77]

Six people died in Humevale, four of them in Humevale Road. Another 16 people died in Kinglake West, 10 of them in the Kinglake West section of Pine Ridge Road and the remainder in Coombs Road. A further five people died in the Strathewen section of Pine Ridge Road.[78]

**Image 5.1**




Source: Courtesy of *Herald & Weekly Times*.

### Strathewen and St Andrews North

Between 15:30 and 17:30 spot fires developed in Strathewen and St Andrews North, up to 22 kilometres ahead of the main fire front. The fires at Mt Disappointment and Humevale were probably the cause of these fires.[79]

Like the fire witnessed at Humevale, the fires at Strathewen and St Andrews North moved in several directions. Although the fires generally ran towards the south-east under the influence of the prevailing winds, some ran towards the north because of local topography and the convection column the fire had generated. Fourteen people died in St Andrews.[80]

At times spot fires seemed to come from nowhere. Reports suggested the fire appeared to jump 10 to 15 kilometres and then take off again like the main fire. From the perspective of the Kangaroo Ground tower before the wind change, it appeared as though the spot fires had become one big front about 30 kilometres long.[81]

At about 16:30 tankers from Whittlesea and Doreen, which were trying to protect buildings at 870 Whittlesea–Yea Road in Humevale, issued urgent mayday calls. This property had been considered a relatively safe place for people to go to during a fire since it was on about 40 hectares of cleared land and paddocks. At much the same time, members of a strike team working further along the road were surprised by a sudden increase in erratic fire behaviour and took shelter in their vehicles, along with three residents. The strike team leader's car was destroyed. Most of the crew members were unharmed, although some suffered minor injuries and one received superficial burns and suffered from smoke inhalation.[82]

### The Kinglake West back-burn

At about the same time as fires were approaching the Parks Victoria office in Kinglake National Park, Mr Fitzgerald directed officers to light a back-burn. The aim of the back-burn was to reduce the fuel between the advancing fire front and the Parks Victoria office and surrounding houses, in 'a last-ditch attempt' to reduce the intensity of the fire in the area.[83]

Minutes after the back-burn had been lit it was sucked back towards the main fire. But spotting from the main fire was being lobbed over the top of the back-burn towards Mr Fitzgerald and his crew. Mr Fitzgerald gave the order to fall back. While they were evacuating, Mr Fitzgerald and his crew were caught by the main fire. The command vehicle Mr Fitzgerald was driving in was hit by what he described as 'a great big ball of radiant heat' that set the car alight, destroying two tyres.[84]

### Divisional commands

On 7 February Mr Holland, an experienced volunteer firefighter, was Group Officer for the Whittlesea – Diamond Valley Group. It appears that, largely on his initiative, Whittlesea was established as a Divisional Command for the Kilmore East fire. He stated:

> Throughout the day we had minimal contact with Kilmore ICC. We were receiving no direction from Kilmore about the fire fight. At approximately 4.00pm, the fire burned close to Whittlesea. We were for all intents and purposes acting independently and reacting to the fire in our area.[85]

At 16:30, as spot fires entered the jurisdiction of the Kangaroo Ground ICC, the centre was activated as a second Divisional Command. It reported and took direction from the Incident Controller and operations officer at Kilmore but was not given responsibility for the Kilmore East fire on that day.[86]

The Kangaroo Ground Incident Management Team had an early understanding of the potency of the fire and the risk of danger to people in its path. But it was not the designated ICC for the fire, so it was not authorised to issue threat messages or other information about the fire. During the afternoon of 7 February the fire front moved south into the area of the Kangaroo Ground ICC footprint.[87]

By mid-afternoon Mr Lawrence and the IMT at Kangaroo Ground concluded that they were in a better position than the Kilmore IMT to manage the fire. A number of times during the afternoon both Mr Barca and Mr Lawrence expressed to Mr Graeme Armstrong, Operations Manager for Region 13, concern about the appropriateness of the Kilmore IMT retaining responsibility for the fire. On all occasions Mr Armstrong told them the fire would continue to be managed by the Kilmore IMT. It was not until 05:42 on 8 February that Kangaroo Ground was granted control of the fire.[88]

The Kangaroo Ground Divisional Command received reports of casualties from the Arthurs Creek captain as early as 17:00 on 7 February.[89]

At Kinglake the power failed at 16:55; soon after, heavy smoke began entering the town from the direction of St Andrews. By 17:45 Kinglake was under heavy ember attack. Spot fires burned close to the CFA fire station. The sky was dark. At the Parks Victoria office near National Park and Pine Ridge Roads the park ranger was aware of the fire approaching on three fronts.[90]

Mr Paul Hendrie, captain of the Kinglake CFA brigade, described the situation in the centre of Kinglake as the fire front approached:

> Then the smoke came over and blackened out like night. The lights went out in the station … There were 200 people in the street outside the station and 100 people in the station … I called for volunteers from the people in the station and we took a pump and hoses to the pub … The mobile phones went dead and the power went … The fire front was still a bit away at this time, about 100 metres down St Andrew's Road, but there was lots of spotting … I don't know how long we were under siege. I lost all track of time.[91]

At 17:20, contrary to operational procedure, Mr Lawrence authorised an urgent threat message about the Kilmore East fire to be released from the Kangaroo Ground ICC—despite Kangaroo Ground not being the ICC for the fire at that time. The message featured the communities that had been the subject of the 15:02 threat message that was not released. The 17:20 release was authorised because of Kangaroo Ground's continuing inability to make contact with the Kilmore ICC and in recognition that it was 'a priority to issue those messages'. Mr Barca was not aware that Mr Lawrence had unilaterally decided to issue this message.[92]

**The wind change**

The south-westerly wind change extended the eastern flank of the fire from Clonbinane to Chum Creek. The change progressed across the fire ground from about 17:40, passing through Yarra Glen and Whittlesea between 17:40 and 18:10, through Kinglake and Kinglake West between 17:50 and 18:20, through Glenburn between 18:15 and 18:45, and through Flowerdale between 18:30 and 19:00. Temperatures dropped 10 degrees in 20 minutes following the change. At 17:45, when the wind change reached the Kangaroo Ground tower, the tower observer issued a red flag warning.[93]

Patterns of fire behaviour became even more complex as a result of the wind change. Some residents were exposed to severe fire behaviour for an extended time and were uncertain about the direction the fire front was coming from. For all witnesses who gave evidence before the Commission, facing the fire was terrifying. Many spoke of the noise of the fire—'like a jet plane coming straight at you' or '10 to 12 jumbo jets screaming their lungs out all at once. It was horrific, the noise'.[94]

Mr John O'Neill, a resident of Steels Creek, described the fire front reaching his house:

> I could hear the approaching fire front … It sounded like ten or twenty steam trains rumbling towards us at a very high roar. I also noticed that the sky turned red, black and purple. Almost immediately the fire front hit us. I screamed at my sons to come into the house … Once inside, the fire front sounded like a hurricane. Burning embers slapped into our windows and the rest of the house … It was like being inside a washing machine on spin cycle and full of fire and embers.[95]

Mr O'Neill said the fire front took about 45 minutes to pass and that he and his family spent the following seven hours fighting the fire. Ten people died in Steels Creek, among them four in Old Kinglake Road.[96]

The south-westerly wind change brought the full front of the fire to the township of Kinglake West. Burn and char patterns show that the change altered the direction of the fire in the Kinglake area, including at National Park Road, the Heidelberg–Kinglake road and Bald Spur Road. In Bald Spur Road alone 22 people died.[97]

The wind change's impact on the fire was enormous. The fire's eastern flank became an extraordinarily wide fire front of increased intensity. The front moved north and north-east in a series of running tongues, up slopes and gullies, through the settlements of Kinglake and Pheasant Creek. The fire burned more intensely in roadside reserves, consuming the fine fuels not present in paddocks. This further increased the fire's intensity, rate of spread and spotting. Twelve people died in Kinglake; a further 19 died in Kinglake Central.[98]

By 18:00 CFA tankers, pumpers and communications vehicles were responding to new fires at Humevale, Strathewen, Arthurs Creek, Yarra Glen, Gruyere and Healesville. All these fires were caused by spotting after the wind change. One person died in Yarra Glen. At St Andrews and Dixons Creek CFA tankers, surprised by the wind change, became trapped and experienced burnovers.[99]

At about 18:48 Mr Williamson received a report of a seriously injured person trapped in a dam at Coombs Road, Kinglake West. The road was completely blocked by fallen trees, and Mr Williamson and his crew had to cut their way through paddocks to get to Coombs Road. At 19:00 they arrived at the dam and were able to evacuate the patient to the Whittlesea staging area.[100]

Mr David McGahy, captain of the Arthurs Creek CFA brigade, arrived in Strathewen at about 19:00. He told the Commission:

> The scene that confronted me when I first saw Strathewen was—it was indescribable. There literally wasn't anything that wasn't burnt, that wasn't destroyed … We came over the hill and the young chap that was driving for me, he saw his parents' house fully enveloped in flames … it was very difficult. I got further up Chads Creek Road … and I met a resident on the road and he said, 'There's a body up there'. I went up and there was a chap I had known for 40 years dead in the middle of the oval.[101]

Twenty-two people died in Strathewen, six of them in Chads Creek Road. A further two died in the nearby township of Arthurs Creek.[102]

From Strathewen and Humevale the fire headed generally north, through Kinglake and Castella and along the Melba Highway towards the settlement of Glenburn.[103]

After the wind change the fires in the Hazeldene and Flowerdale areas travelled north-east and east, emanating from the eastern flank of the fire. Fire had been reported at Flowerdale as early as 19:40, but the main fire front did not reach the Flowerdale Hotel until about 23:20. One person died in Flowerdale.[104]

The Kilmore East – Wandong section of the fire headed generally north and north-east towards Strath Creek and Reedy Creek, where it arrived at 20:00, burning through the remainder of the Wallaby Creek catchment, Kinglake National Park and the Mt Disappointment forest. During the night the fire reached the settlement of Hazeldene. Ten people died in Hazeldene, five of them in Long Gully Road; another person died in Reedy Creek.[105]

The wind change also caused fires of very high intensity in the Castella–Toolangi–Glenburn region. Two people died in Toolangi. Similarly, the change in wind direction caused a fire of very high intensity to travel north and north-east towards Strath Creek, where one person died.[106]

Mr David Cooper, CFA Deputy Group Duty Officer, was one of the first people to reach Kinglake after the fire front had passed. At about 22:20 he and his crew arrived at the fire station, having cut their way in from Kinglake West. He described what he saw when he arrived:

> There [were] massive amounts of people there … I would say somewhere in the vicinity of 150 to 200 people in the general vicinity of the fire station … They had very seriously burnt and injured people in the fire station at that time. The great majority of them needed immediate transport. It wasn't possible because at that stage all ways in and out of Kinglake were impassable.[107]

Eight people were in a critical condition, and up to 50 others required reasonably urgent treatment. Mr Cooper helped organise transport for the most seriously injured.[108]

**8 February**

Early in the morning of 8 February, in response to reports that up to 20 people were trapped in a house occupied by the Tully family in Strathewen, Mr McGahy, travelling on foot, cut his way through to the house:

> The roads were totally impassable. Tullys was about a two-and-a-half-hour walk for us … I made a decision I was going to walk in … It was rather eerie … by this stage the wind had dropped, the moon had come out, and we were walking … the only noise really [was that of] trees crashing. It was a very slow walk because you would only go 3 or 4 metres and you would be climbing over, under or around logs and trees.[109]

When Mr McGahy and his crew arrived at the Tullys' they found that all 19 people in the house had survived.[110]

Nillumbik Shire established emergency relief centres at Diamond Creek, St Andrews and Arthurs Creek. The Diamond Creek centre was opened at 19:00 on 7 February; the St Andrews and Arthurs Creek centres were opened after 7 February. The three centres offered support services and material aid to displaced residents and other bushfire-affected people and provided a venue from which the Department of Human Services and Centrelink could administer bushfire support grants.[111]

The Nillumbik Municipal Emergency Coordination Centre operated 24 hours a day until 10 February and then from 08:00 to 20:00 until it was deactivated on 22 February. It received requests for equipment, catering, transport, fuel, first aid supplies, and assistance with disposal of livestock. Mr Conal Creedon, Group Manager of Infrastructure Services at Nillumbik Shire Council, noted that there was initially a great deal of confusion and duplication of requests being made to the MECC.[112]

The South Morang emergency relief centre closed at about 20:00 on 8 February; the Whittlesea emergency relief centre remained open until 9 April, providing services to about 5,200 people during its two months of operation.[113]

The Kilmore East fire was devastating. It resulted in the deaths of 119 people. More than 1,200 houses were destroyed. Towns lost vital elements of their infrastructure—police stations, water treatment plants, SES depots, power substations, communications towers, churches, community centres, government facilities, primary schools, kindergartens, child care centres and businesses.[114]

## 5.2 COMMUNICATIONS

Making contact with the Kilmore Incident Control Centre was a constant problem. Of 530 incoming calls between 13:00 on 7 February and 12:00 on 8 February, 339 (or 64 per cent) were not connected for various reasons, including a busy signal, or were simply not answered.[115]

The Kangaroo Ground ICC used the Kilmore brigade's advertised telephone number to make 18 calls to the Kilmore ICC seeking information and updates. The 14 calls attempted between 13:54 and 17:35 on 7 February failed.[116]

Like others, Mr Holland, the local group officer who had become a Divisional Commander for the fire, had great difficulty contacting the Kilmore ICC. In fact, he received no official confirmation that the Kilmore ICC was responsible for managing the fire.[117] He noted the lack of operational planning:

> The operations on the day were hampered by the lack of current communications plans for the Kilmore and Kangaroo Ground Level 3 ICC footprints. The plans we were working with allocated the area of the fire to the now redundant Diamond Creek Incident Control Centre.[118]

The Kinglake West brigade had no contact at all with the ICCs at Kilmore or Kangaroo Ground (the ICC closest to Kilmore). Ms Karen Barrow, second lieutenant of the Kinglake West brigade, stated:

> We had no more intelligence than the average resident. The mere fact that no one had tried to contact us gave me a false sense of security. It also meant I was making uninformed decisions that could have led to further loss of life—both members of the public and crew.[119]

Additionally, on 7 February Victoria Police did not receive from the CFA sufficient information about the run of the Kilmore East fire. This limited its ability to plan. A number of municipal emergency response coordinators found it difficult to obtain information about the progress of the fire. The CFA told Senior Sergeant Scully, the Municipal Emergency Response Coordinator for Nillumbik Shire, it did not have sufficient resources to provide a liaison officer to the municipal emergency coordination centre, whilst a liaison officer appointed to the Yarra Ranges MECC was unable to log on to an 'overloaded' CFA computer system. The liaison officer was thus unable to provide information to allow the MECC to 'track the fires and forward plan'. The liaison officer appointed to the Mitchell MECC could not contact the Incident Controller and could not retrieve up-to-date information from the CFA intranet. Police liaison officers at the Kilmore ICC were unable to resolve the problem. The Yarra Ranges MECC had to rely on a council staff member, who was a CFA volunteer, to obtain information on the fire's progression. The MERC was also monitoring his police radio and CFA radio for information.[120]

Because of difficulties obtaining information about the location and spread of the fire, one of Nillumbik's deputy municipal emergency resource officers, Mr Norm Golgerth, attended the Kangaroo Ground ICC in person on the evening of 7 February. He was able to obtain a CFA map predicting the path of the fire and an update on those areas that had already been affected.[121]

Senior Sergeant Scully also criticised the lack of information flowing to the Nillumbik MECC about the fire situation and the location of roadblocks from the police Divisional Operations Centre. As a result of the poor flow of information, he was unaware that Kinglake had been affected by the fire until well after the event.[122]

The problems the Kilmore East IMT had with outward communications might have been exacerbated by the difficulties they were having in processing information within the IMT. Mr Kreltszheim, the level 3 Incident Controller who replaced Mr Gregory Murphy, described being unable to cope with the 'data overload' coming into the ICC. The Commission heard evidence that Mr Kreltszheim found that attempts by his team to document an incident action plan during his shift were continually overrun by events.[123]

Communications and information sharing are discussed in Chapter 3 of Volume II.

## 5.3 WARNINGS

Initially, no information officer was appointed to the Kilmore Incident Management Team. Mr Murphy was advised that fire information releases would be processed through the Seymour Regional Emergency Coordination Centre. He was aware of threat messages about the Kilmore East fire being issued, but he was unaware of the frequency or content of the messages and did not see any such messages before 15:30.[124]

By 14:00 it was understood that the fire was burning out of control and had considerable potential to endanger life and property. Observations and reports made by experienced CFA personnel amply demonstrated the fire's severity. But the threat messages failed to convey this information and failed to promptly identify towns and communities in the probable path of the fire. The evidence about warnings for the Kilmore East fire was detailed and analysed by the Commission in its interim report. Suffice here to say that warnings to communities in the path of the fire were not timely and did not reflect the available fire information. Crucial warnings to communities in the path of the fire were not provided or were late.[125]

The delays in providing information to the public were the consequence of a number of factors, among them the following:

- Until 16:00 the information officer for the Kilmore ICC was based at the Seymour RECC, where he was overwhelmed with other duties. Threat messages about the Kilmore East fire were therefore not seen or signed by the Incident Controller at Kilmore. Mr Rees stated that if the information officer is located away from the ICC it is probable that this will negatively affect the information flow from the ICC. That is what happened on 7 February.[126]
- Between 12:40 and 14:25 no information about the Kilmore East fire was posted to the CFA website.[127]

- There was a delay in forwarding messages from the information officer to the integrated Emergency Coordination Centre. The situation was at times exacerbated by a further delay in the iECC posting important messages to the CFA website. For example, an urgent threat message bearing the time 17:20—warning communities from Kinglake to Flowerdale of the potential direct impact of the Kilmore East fire—was received at the iECC at 17:41 but was not posted to the CFA website until 17:55, five minutes after the message was due to be reviewed.[128]
- Some urgent threat messages were not posted to the CFA website at all. An urgent threat message prepared at Kilmore at 16:10—warning of the potential direct impact of the Kilmore East fire on communities such as Kinglake—was not received at the iECC until about 16:38 and, even when it had been received, it was not uploaded to the CFA website.[129]
- The iECC failed to monitor the Kilmore ICC in relation to the issuing of warnings.
- The warnings that were prepared did not factor in the probable effects of the south-westerly wind change on the fire. When the wind did change, the fire's eastern flank (which extended from Clonbinane to Chum Creek) became the fire front and impinged on towns such as Kinglake West, Kinglake, Pheasant Creek, Steels Creek, Kinglake Central, St Andrews, Dixons Creek, Flowerdale, Reedy Creek, Hazeldene, Silver Creek, Castella, Toolangi, Glenburn and Strath Creek. The effects of the change should have been carefully monitored and should have been taken into consideration earlier when warnings for towns at risk were being prepared.

Superintendent Peter Billing, Divisional Emergency Response Coordinator for Seymour Division, also gave evidence that there were some inadequacies in police radio communications. He noted that a number of officers were deployed from metropolitan areas without equipment that would allow them access to rural radio networks. This affected the 'proper management' of roadblocks and was also a safety concern.[130]

Warnings are discussed in Chapter 1 of Volume II.

## 5.4 ROADBLOCKS

During 7 February numerous road closures were established in the area affected by the Kilmore East fire, mostly at the request of the CFA. Application of 'full' and 'partial' roadblocks was, however, inconsistent: some police officers exercised discretion in interpreting instructions; others interpreted instructions strictly. In the Yarra Ranges alone 23 roadblocks were in position at one point—among them roadblocks closing the Melba and Maroondah Highways.[131]

Inspector Ian Lanyon, from Victoria Police's Leadership Development Centre, played a central role in overseeing the operation of roadblocks. He stated that by 9 February there was 'considerable pressure' to downgrade full road closures to partial closures so that residents could return to their homes. Because of safety concerns, however, and the continuing search for missing people, police considered it necessary to introduce a system that would distinguish residents and service providers from members of the general public. Police provided red hospital bands to 'residents and those with a pecuniary interest in the area' and white bands to providers of essential services. These individuals were then allowed to pass through the partial road closures.[132]

The Commission considers that the use of coloured bands to identify people allowed to pass through partial road closures was a simple, practical and successful approach to a problem that arose many times at roadblocks during and after the fires.

Roadblocks are discussed in Chapter 2 of Volume II.

## 5.5 FUEL REDUCTION

In numerous places the rate of spread of the Kilmore East fire was appreciably slowed by areas that had previously been subject to prescribed burning.

After the south-westerly wind change the fire encountered an area that had undergone fuel-reduction burning during the preceding year. This slowed the advance of the fire by about an hour to an hour-and-a-half, delaying the time when the fire reached the boundary between public forest land and rural communities to the north. It also reduced the intensity of the fire.[133]

In other areas, however, recent fuel-reduction burns did not lead to reduced fire intensity. The disparity is probably a result of the size of the fuel-reduction burn in each case and possibly the effectiveness of fuel removal during the burns. Terrain might also have been important.[134]

A study by Dr Lachie McCaw, Principal Research Scientist at the Western Australian Department of Environment and Conservation found that in areas where prescribed fuel reduction had occurred three or more years previously there was little or no impact on a fire's severity. In contrast, in an area north of Kinglake burnt by bushfire in 2006 the rate of spread of the fire on 7 February 2009 was obviously reduced, and the fire changed from a crown fire or very intense surface fire to a surface fire of moderate intensity. In fact, a large proportion of the January 2006 fire area did not burn again on 7 February 2009.[135]

Overall, there was a clear effect of more recent fuel-reduction burning on areas burnt following the wind change: the fire's severity was reduced and its arrival in a number of places along its ultimate northern perimeter was delayed. The effect was, however, limited to 1-year-old fuel-reduction burns and the bushfire of three years previously.[136]

Fuel management is discussed in Chapter 7 of Volume II.

## 5.6 CONCLUSIONS

In the Commission's view the lack of pre-planning for the Kilmore Incident Control Centre had significant effects on the centre's preparedness and ultimately its ability to manage the Kilmore East fire. It also meant there were inadequate systems and protocols for providing accurate and timely information about the fire.

Considering the severe conditions predicted for 7 February, the Commission cannot accept the explanations given for the complete lack of effort made to allocate staff to specific ICCs in CFA Region 12. This contrasts with the approach taken in every other region the Commission examined. Other regions also faced shortages of qualified personnel, but they compensated for this by concentrating the personnel in a smaller number of ICCs.

The Commission is also concerned that on 7 February the CFA's Chief Officer and State Duty Officer both thought CFA Region 12 level 3 ICCs generally—and Kilmore (and Alexandra) ICCs specifically—were ready for a 'hot start' when this was not the case. This should have been clear from the incident management team planner for Region 12 that Mr Creak provided to the integrated Emergency Coordination Centre: it showed that important IMT personnel had not been allocated to specific ICCs. Mechanisms allowing the CFA Chief Officer to monitor IMT preparation were inadequate.

Not positioning an Incident Controller at the Kilmore ICC on 7 February before the ignition of the Kilmore East fire (even allowing for the lack of trained personnel) proved a serious shortcoming. It inhibited planning and preparation and meant that initially Kilmore brigade personnel at the ICC had to start dealing with a serious fire while suffering from the distraction of not having a properly constructed team immediately on hand. It was unreasonable to place the burden of creating and then managing an IMT for a complex, fast-moving fire on unprepared and underqualified personnel. Further, the mere production of an IMT planner setting out the availability of people to fill positions across the region fell well short of the planning necessary for a day such as 7 February. Other regions were much better prepared.

Despite the IMT planner showing the potential availability of DSE staff, there were no DSE personnel at the Kilmore ICC. This is in contrast with the situation at the Kangaroo Ground ICC (in another CFA region) and contrary to the expectations of Mr Rees and Mr Gregory Murphy, the initial Incident Controller of the Kilmore East fire.[137] The Commission considers that the fact that DSE personnel were not used stemmed from an absence of suitable planning and preparedness at the regional level.

It appears no action was taken at the regional or state level to redress the shortage of personnel in CFA Region 12 before 7 February. For such a day this was unacceptable. The CFA Chief Officer, State Coordinator and State Duty Officer should have known that the Kilmore ICC had no level 3 incident management team pre-positioned and that it was not ready for a hot start on 7 February.

Preparations and pre-planning by Victoria Police and municipal authorities were sound. There was evidence of long-term preparedness, such as the extensive emergency management planning by Yarra Ranges Shire, which involved, among other things, simulated emergency exercises. The scenarios for these exercises had included fire, landslide and flood, and in November 2008 the scenario involved multiple bushfires—not unlike the situation that unfolded on 7 February 2009.[138]

In the Commission's view the initial operational response to the Kilmore East fire was appropriate and prompt. CFA brigades were at the scene of the fire quickly, and first attack began within 10 minutes of the initial pager call. The need for additional resources was recognised and the response was rapid.

There was confusion about command and who had responsibility for managing the fire. This appears to have been because the Regional Manager gave the Seymour Group Headquarters initial responsibility for the fire. This had several consequences:

- Critical fire ground information was not conveyed to the Kilmore ICC because of communication difficulties and a lack of awareness that the Kilmore ICC was to become in charge of the fire.[139]
- Aircraft communicated directly with the Seymour Regional Emergency Coordination Centre, and information on aircraft activities was not passed on to the Kilmore ICC.[140]
- Fire situation maps and prediction maps generated by the integrated Emergency Coordination Centre were not provided to the Kilmore ICC.[141]

In hindsight, this appears to be because communications with the Kilmore ICC remained problematic throughout the day, and the well-resourced and well-prepared Kangaroo Ground ICC, which represented an alternative location that could have been given responsibility for the Kilmore East fire, was not effectively used until later in the day.

The Kilmore IMT's failure to provide adequate warnings illustrates the need for pre-planning, good communications systems, IMT roles dedicated to this task, and procedures for checking that warnings are being received. It is not a personal critique of the individuals who were gathered together on an ad hoc basis during the afternoon of 7 February. It does, however, demonstrate how a lack of planning and preparation by regional- and state-level personnel can compromise community safety.

The communication difficulties are illustrative of a failure in systems at the Kilmore ICC, but this must be considered in the context of a day on which the IMT personnel were given no opportunity to properly prepare themselves or institute systems until after the fire had started.

The Commission also considers there were shortcomings in the inspection of electrical assets. This is discussed in Chapter 4 of Volume II.

Use of liaison officers by both the municipal emergency coordination centres (including police liaison officers) and the incident control centres (including liaison officers from the CFA and DSE) was less than optimal. In some cases, liaison officers were not appointed; in others, although appointed, they were unable to obtain the information they needed.

1 Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19.5]

2 Exhibit 557 – Meteorological Aspects of the Kilmore East Fire (BOM.901.0048) at 0069

3 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) at 0006

4 Exhibit 557 – Meteorological Aspects of the Kilmore East Fire (BOM.901.0048) at 0069

5 Exhibit 557 – Meteorological Aspects of the Kilmore East Fire (BOM.901.0048) at 0069

6 Exhibit 557 – Meteorological Aspects of the Kilmore East Fire (BOM.901.0048) at 0069

7 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0095

8 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [14]

9 Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [17]

10 Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [17]

11 Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048_R) at 0048_R

12 Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19.5]

13 Exhibit 939 – Details Regarding Emergency Response (CFA.600.005.0195) at 0195, 0198; Exhibit 939 – MFB Response (MFB.001.001.0040) at 0040; Exhibit 939 – Day by Day Breakdown – Kilmore East (DSE.HDD.0048.0545_05); Exhibit 939 – Aircraft Data 0809 (DSE.HDD.0048.0544_20) at 0544_26–0544_27

14 Exhibit 994 – Kilmore East Fire – Fire Spread Map (CFA.600.006.0005)

15 Exhibit 3 – Statement of Rees (WIT.004.001.0001) at 0025, 0082; Rees T2415:5–T2415:27

16 Exhibit 127 – Statement of Paterson, Attachment 8 (WIT.3004.010.1057); Paterson T4261:7–T4261:27; Rees T2415:18–T2415:27

17 Creak T10854:20–T10855:2, T10855:9–T10855:15

18 Creak T10854:22–T10855:2, T10856:15–T10856:26, T10859:7–T10859:21, T10860:5–T10860:27, T10861:18–T10862:3; Rees T2416:15–T2417:3; Paterson T4262:4–T4262:8

19 Creak T10854:22–T10855:2, T10856:15–T10856:26, T10859:7–T10859:21, T10860:5–T10860:27, T10861:18–T10862:3; Rees T2416:15–T2417:3; Paterson T4262:4–T4262:8

20 Creak T10854:18–T10856:5

21 Barca T3466:17–T3467:4

22 Exhibit 44 – Statement of Munns (WIT.3004.001.0065) [3]–[4]; Exhibit 50 – Statement of Lawrence (WIT.3004.001.0197) [14]; Lawrence T1570:30–T1571:17; Barca T3463:7–T3463:11, T3463:20–T3464:5, T3464:6–T3464:25, T3465:29–T3466:16

23 Exhibit 654 – Statement of Humberstone (WIT.3010.002.0108) [16]

24 Exhibit 649 – Statement of Scully (WIT.3010.001.0418) [10]–[11], Annexure 1 (WIT.3010.001.0425); Exhibit 650 – Statement of Creedon (WIT.4011.001.0001) [53]; Exhibit 640 – Statement of Butera (WIT.3010.001.0098) [35]

25 Exhibit 127 – Statement of Patterson, Attachment 8 (WIT.3004.010.1057); Patterson T4261:7–T4261:27; Rees T2415:18–T2415:27

26 Rees T2417:4–T2417:25

27 G Murphy T1262:20–T1263:19

28 Exhibit 506 – Statement of Creak, Annexure 4 (WIT.3004.008.0347); Creak T10854:22–T10855:12, T10861:1–T10861:9

29 Coleman T10931:18

30 Kreltzheim T1286:22–T1286:23

31 Exhibit 548 – Correspondence – Safety Advisors (CORR.0911.0107_R)

32 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [14]

33 Exhibit 526 – Sweeting Consulting Report – Kilmore East Fire (VPO.001.039.0132) at 0133–0134, 0139–0140, 0155–0157, 0161–0163, 0168–0169, 0175; Sweeting T11374:3–T11374:19, T11379:1–T11379:7, T11383:21–T11383:26

34 Exhibit 525 – HRL Technology Report – Kilmore East Fire (VPO.001.039.0016) at 0035–0037; Exhibit 526 – Sweeting Consulting Report – Kilmore East Fire (VPO.001.039.0132) [193]–[197]; Exhibit 237 – Statement of Lane (WIT.5100.001.0001_R) [169]; Leahy T11006:12–T11006:20, T11013:20–T11014:8; Rush T10972:1–T10972:31; Better T11299:4–T11299:10, T11316:13–T11317:22

35 Exhibit 528 – Statement of Leech (WIT.7507.002.0001) [53]–[63]

36 Exhibit 525 – HRL Technology Report – Kilmore East Fire (VPO.001.039.0016) at 0056

37 Lane T11104:10–T11104:28; Sweeting T11361:4–T11361:18, T11366:6–T11366:29, T11376:28–T11377:10

38 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [14]; Coleman T10931:17–T10932:16

39 Exhibit 505 – Further Statement of Murphy (WIT.3004.021.0001) [9]–[10], [13]–[15]; Exhibit 513 – Statement of Court (WIT.3004.021.0292) [34]

40 Exhibit 505 – Further Statement of Murphy (WIT.3004.021.0001) [13]–[15]; Exhibit 513 – Statement of Court (WIT.3004.021.0292) [34]; Court T10959:22–T10960:11, T10960:15–T10960:17

41 Exhibit 513 – Statement of Court (WIT.3004.021.0292) [39]–[42]

42 Submissions of the State of Victoria – Kilmore East (Other than Cause) (RESP.3000.005.0181) [18], Attachment 2 (RESP.3000.005.0255) [2.36], [2.61]–[2.67], [2.93]; Court T10965:1–T10965:12

43 Exhibit 513 – Statement of Court (WIT.3004.021.0292) [44], [58]; Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [43]–[52]; Crowe T10987:13–T10987:18; Court T10964:28–T10964:31

44 Exhibit 657 – Statement of Murphy (WIT.3010.001.0362) [28]–[29]; Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [17]; Williamson T4436:25–T4437:7

45 Exhibit 652 – Statement of Dixon (WIT.3004.021.0348) [18], [28]; Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [16]; Exhibit 505 – Further Statement of Murphy (WIT.3004.021.0001) [22]; Exhibit 861 –Statement of Ryan (WIT.3024.006.0001) [202]

46 Exhibit 505 – Further Statement of Murphy (WIT.3004.021.0001) [14], [18], [37]; Murphy T1262:20–T1263:19, T1263:22–T1263:28

47 Exhibit 41 – Statement of Murphy (WIT.3004.001.0001) [23]; Exhibit 505 – Further Statement of Murphy (WIT.3004.021.0001) [14], [18]–[20], [30], [37]; T1262:20–T1263:19, T1263:22–T1263:28

48 Exhibit 505 – Further Statement of Murphy (WIT.3004.021.0001) [30], [56], [59]; Exhibit 506 – Statement of Creak, Annexure 4 (WIT.3004.008.0347); Murphy T1264:3–T1264:21, T1265:18–T1266:11

49 Creak T10871:10–T10871:21; Kreltszheim T1286:22–T1286:23

50 Exhibit 505 – Further Statement of Murphy (WIT.3004.021.0001) [61]

51 Exhibit 669 – Statement of Fitzgerald (WIT.3026.001.0154) [14]

52 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [17], Annexure 6 (WIT.004.002.1459) at 1466; Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [57]–[58]

53 Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [47]

54 Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [62]; Exhibit 132 – Statement of Williamson (WIT.3004.009.0029) [38]–[41]; Crowe T10988:11–T10988:13, T10988:26–T10989:1

55 Exhibit 513 – Statement of Court (WIT.3004.021.0292) [75]

56 Exhibit 513 – Statement of Court (WIT.3004.021.0292) [77]–[81]

57 Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [59]; Exhibit 132 – Statement of Williamson (WIT.3004.009.0029) [6], [8]; Williamson T4428:8–T4428:22, T4440:20–T4440:31

58 Exhibit 652 – Statement of Dixon (WIT.3004.021.0348) [42]

59 Exhibit 649 – Statement of Scully (WIT.3010.001.0418) [14], [17]; Exhibit 650 – Statement of Creedon (WIT.4011.001.0001) [67]–[70]

60 Exhibit 107 – Statement of Barca (WIT.3026.001.0001) [32]–[43]; Exhibit 44 – Statement of Munns (WIT.3004.001.0065) [32]

61 Exhibit 504 – Statement of Creak (WIT.3004.021.0148) [94]; Exhibit 505 – Statement of Murphy (WIT.3004.021.0001) [47], [50]; Exhibit 132 – Statement of Williamson (WIT.3004.009.0029) [45]

62 Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [62], [90], [94], [117]–[119]; Crowe T10988:26–T10989:1

63 Exhibit 651 – Statement of Hocking (WIT.4012.001.0001) [45]–[47]

64 Exhibit 651 – Statement of Hocking (WIT.4012.001.0001) [52]–[55]

65 Exhibit 651 – Statement of Hocking (WIT.4012.001.0001) [58]–[60], [64]

66 Exhibit 107 – Statement of Barca (WIT.3026.001.0001) [32]–[43]; Exhibit 44 – Statement of Munns (WIT.3004.001.0065) [32]

67 Lawrence T1588:30–T1589:2

68 Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [71]–[73], [86]–[89]; Crowe T10987:26–T10988:5

69 Exhibit 132 – Statement of Williamson (WIT.3004.009.0029) [51]; Williamson T4447:12–T4448:9

70 Exhibit 132 – Statement of Williamson (WIT.3004.009.0029) [54]–[61]; Williamson T4448:10–T4455:31

71 Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [91]–[92]

72 Murphy T1266:28–T1266:29; Hunter T1716:1–T1716:7, T1718:3–T1719:16

73 Exhibit 640 – Statement of Butera (WIT.3010.001.0098) [36]

74 Exhibit 505 – Further Statement of Murphy (WIT.3004.021.0001) [81]–[82]; Exhibit 132 – Statement of Williamson (WIT.3004.009.0029) [61]

75 Hunter T1720:4–T1721:18

76 Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [75]; Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [18]

77 Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [94]–[95]; Crowe T10989:2–T10989:30,

78 Exhibit 767 – Interactive Presentation – INTMEN 001825 (EXH.767.0001); Exhibit 765 – Interactive Presentation – INTMEN 001810 (EXH.765.0001); Exhibit 766 – Interactive Presentation – INTMEN 001867 (EXH.766.0001); Exhibit 764 – Interactive Presentation – INTMEN 001785 and INTMEN 001979 (EXH.764.0001); Exhibit 883 – Interactive Presentation – INTMEN 001831 (EXH.883.0001); Exhibit 768 – Interactive Presentation – INTMEN 001824 (EXH.768.0001); Exhibit 772 – Interactive Presentation – INTMEN 001826 (EXH.772.0001); Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [18]; Exhibit 205 – Interactive Presentation – INTMEN 001854 (EXH.805.0001)

79 Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [109]–[111]; Crowe T10990:26–T10991:2

80 Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [18]; Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [107]; Crowe T10989:8–T10989:13, T10992:6–T10992:23

81 Keating T3246:4–T3246:11; Crowe T10989:8–T10989:13; McCormack T4100:1–T4100:5

82 Exhibit 132 – Statement of Williamson (WIT.3004.009.0029) [65]–[66]; Exhibit 548 – Summary of Burn Over Incidents (TEN.143.001.0001) at 0002; Exhibit 548 – Investigation Report Craigieburn Car (CFA.001.027.0044); Exhibit 548 – Investigation Report Sunbury Tanker 2 (CFA.001.027.0355); Exhibit 548 – Investigation Report Bulla Tanker 1 (CFA.001.027.0013); Exhibit 548 – Investigation Report Epping Tanker 1 (CFA.001.027.0128); Exhibit 548 – Investigation Report Greenvale Tanker 1 (CFA.001.027.0147); Exhibit 548 – Investigation Report Whittlesea Tanker 2 (CFA.001.027.0421); Exhibit 548 – Investigation Report Doreen Tanker 2 (CFA.001.027.0108)

83 Fitzgerald T16899:30–T16900:12, T16905:5–T16905:16

84 Fitzgerald T16908:18–T16908:28 T16912:17–T16912:19, T16913:9–T16913:12

85 Exhibit 653 – Statement of Holland (WIT.3004.021.0209) [83];

86 Exhibit 50 – Statement of Lawrence (WIT.3004.001.0197) [26]–[36]

87 Exhibit 3 – Statement of Rees, Attachment 7 (WIT.004.001.0246) at 0281; Exhibit 127 – Statement of Paterson, Attachment 3 (WIT.3004.010.0281) at 0445; Exhibit 107 – Statement of Barca (WIT.3026.001.0001) [48]; Exhibit 50 – Statement of Lawrence (WIT.3004.001.0197) [26], [36]; Cowan T3731:1–T3732:12; Lawrence T1597:24–T1597:28, T1613:17–T1613:24

88 Exhibit 107 – Statement of Barca (WIT.3026.001.0001) [48]; Exhibit 50 – Statement of Lawrence (WIT.3004.001.0197) [26], [36]; Lawrence T1597:17–T1597:28, T1613:17–T1613:24

89 Munns T1369:16–T1369:21

90 Exhibit 669 – Statement of Fitzgerald (WIT.3026.001.0154) [23], Annexure 1 (DSE.HDD.0087.0033); Exhibit 73 – Statement of McCulloch (WIT.043.001.0001_R) [16], [17], [21], Ruhr T11890:29–T11891:10

91 Exhibit 25 – Statement of Hendrie (WIT.027.001.0001) [18]–[19]

92 Exhibit 44 – Statement of Munns (WIT.3004.001.0065) at 0116; Lawrence T1577:30–T1578:11; Barca T3482:10–T3482:13

93 Exhibit 32 – Expert Report of Tolhurst on the Physical Nature of the Victorian Fires (EXP.003.001.0017) at 0022; Exhibit 3 – Statement of Rees (WIT.004.001.0001) [234]–[235]; Exhibit 557 – Meteorological Aspects of the Kilmore East Fire (BOM.901.0048) at 0060–0061; Exhibit 99 – Hurstbridge Captain Car Log (WIT.054.001.0004); Cooper T3261:18–T3261:24; Keating T3237:23–T3238:8; Waller T4360:8–T4360:22

94 Exhibit 672 – Bushfire CRC Final Report (CRC.300.007.0001_R) at 0014_R; Mortimer T11228:18–T11228:21; Spooner T478:20–T478:22

95 Exhibit 97 – Statement of O'Neill (WIT.047.001.0001_R) [21]–[22]

96 Exhibit 97 – Statement of O'Neil (WIT.047.001.0001) [24]; Exhibit 967 – Interactive Presentation – INTMEN 001821 (EXH.967.0001); Exhibit 968 – Interactive Presentation – INTMEN 001910 (EXH.968.0001); Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [18]

97 Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [144]; Exhibit 806 – Interactive Presentation – INTMEN 001847 (EXH.806.0001); Exhibit 807 – Interactive Presentation – INTMEN 001850 (EXH.807.0001); Exhibit 878 – Interactive Presentation – INTMEN 001795 and INTMEN 001856 (EXH.878.0001); Exhibit 877 – Interactive Presentation – INTMEN 001837 (EXH.877.0001); Exhibit 879 – Interactive Presentation – INTMEN 001809 (EXH.879.0001); Exhibit 884 – Interactive Presentation – INTMEN 001835 (EXH.884.0001); Exhibit 944 – Interactive Presentation – INTMEN 001800 (EXH.944.0001)

98 Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [146]; Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [18]

99 Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [18]; Exhibit 548 – Summary of Burn Over Incidents (TEN.143.001.0001) at 0001–0004; Cooper T3261:18–T3261:28

100 Exhibit 132 – Statement of Williamson (WIT.3004.009.0029) [79]–[81]

101 McGahy T2253:6–T2253:17

102 Exhibit 773 – Interactive Presentation – INTMEN 001899 (EXH.773.0001); Exhibit 774 – Interactive Presentation – INTMEN 001817 (EXH.774.0001); Exhibit 775 – Interactive Presentation – INTMEN 001891 (EXH.775.0001); Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [18]

103 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [24]

104 Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [150], [153], [166]–[167]; Exhibit 114 – Statement of O'Halloran (WIT.058.001.0001_R) [32]; Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [18]

105 Exhibit 43 – Statement of Glassford (WIT.028.001.001_R) [16]; Exhibit 972 Interactive Presentation – INTMEN 002017 (EXH.972.0001); Exhibit 973 – Interactive Presentation – INTMEN 001802 (EXH.973.0001); Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [18]; Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [150–154], [169–171], [177]; Exhibit 759 – Statement of Strickland (WIT.3004.034.0025) [32.1]

106 Exhibit 514 – Supplementary Statement of Crowe (WIT.3004.022.0001) [169]–[171], [177]; Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [18]

107 Cooper T3267:18–T3267:29

108 Exhibit 132 – Statement of Williamson (WIT.3004.009.0029) [90]; Cooper T3267:30–T3268:21

109 McGahy T2257:3–T2257:25

110 McGahy T2258:7–T2258:9

111 Exhibit 649 – Statement of Scully (WIT.3010.001.0418) [14], [17]; Exhibit 650 – Statement of Creedon (WIT.4011.001.0001) [67]–[70]

112 Exhibit 650 – Statement of Creedon (WIT.4011.001.0001) [64]–[66], [73]

113 Exhibit 651 – Statement of Hocking (WIT.4012.001.0001) [58]–[60], [64]

114 Exhibit 214 – Statement of Hollowood (WIT.3010.001.0338) [63]; Exhibit 11 – Statement of Esplin, Attachment 1 (WIT.005.001.0049) at 0113; Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048_R) at 0048_R

115 Exhibit 504 – Second Supplementary Statement of Creak (WIT.3004.021.0148) [174]–[175]

116 Exhibit 504 – Second Supplementary Statement of Creak (WIT.3004.021.0148) [174]–[175]

117 Exhibit 653 – Statement of Holland (WIT.3004.021.0209) [21]

118 Exhibit 653 – Statement of Holland (WIT.3004.021.0209) [88]

119 Exhibit 533 – Statement of Barrow (WIT.121.001.0001_R) [131]

120 Exhibit 649 – Statement of Scully (WIT.3010.001.0418) [16], [26]; Exhibit 640 – Statement of Butera (WIT.3010.001.0098) [38]; Exhibit 657 – Statement of Murphy (WIT.3010.001.0362) [24], [34]

121 Exhibit 650 – Statement of Creedon (WIT.4011.001.0001) [58]–[61]

122 Exhibit 640 – Statement of Butera (WIT.3010.001.0098) [39]; Exhibit 649 – Statement of Scully (WIT.3010.001.0418) [26]–[27]

123 Exhibit 854 – Statement of Beasley (WIT.3004.042.0001) [112.2]; Beasley T17858:21–T17859:7, T17861:1–T17861:6

124 Exhibit 505 – Further Statement of Murphy (WIT.3004.021.0001) [66]; Murphy T1267:1–T1267:15

125 B Teague, R McLeod, S Pascoe, *2009 Victorian Bushfires Royal Commission: Interim Report,* Parliament of Victoria, Melbourne, August 2009, [9.101]–[9.149]

126 Caughey T1687:5–T1687:21, T1690:1–T1690:11, T1688:12–T1688:22; Rees T2420:16–T2420:21

127 Exhibit 149 – Statement of Henshaw (WIT.3004.009.0096) [70]–[72]

128 Exhibit 159 – Fire Information Release in Relation to Kinglake and Flowerdale (DSE.HDD.0017.0643) at 0643; Exhibit 149 – Statement of Henshaw (WIT.3004.009.0096) [83]

129 Exhibit 149 – Statement of Henshaw (WIT.3004.009.0096) [81]; Henshaw T4808:4–T4808:9

130 Exhibit 365 – Statement of Billing (WIT.3010.005.0018) [48]

131 Exhibit 654 – Statement of Humberstone (WIT.3010.002.0108) [26], [33], [35]–[37]

132 Exhibit 541 – Statement of Lanyon (WIT.3010.002.0001) [15]–[17]

133 Exhibit 722 – Expert Report of McCaw on Fuel Management (EXP.026.001.0001) at 0016; McCaw T14900:14–T14901:8

134 Exhibit 722 – Expert Report of McCaw on Fuel Management (EXP.026.001.0001) at 0016; McCaw T14902:2–T14903:2

135 Exhibit 722 – Expert Report of McCaw on Fuel Management (EXP.026.001.0001) at 0016–0017; McCaw T14904:14–T14904:24

136 McCaw T14904:31–T14905:16

137 Exhibit 3 – Statement of Rees (WIT.004.001.0001) [112]; Exhibit 505 – Further Statement of Murphy (WIT.3004.021.0001) [64]

138 Exhibit 640 – Statement of Butera (WIT.3010.001.0098) [12]–[18]

139 Williamson T4474:24–T4475:7; McGahy T2246:14–T2246:24; Hendrie T863:16–T863:19; Keating T3224:3–T3224:15, T3226:30–T3227:1

140 Exhibit 505 – Further Statement of Murphy (WIT.3004.021.0001) [21], [23], [78]

141 Exhibit 122 – Statement of Sutton (WIT.3024.001.0008) [68], Annexure 2 (DSE.CD03.0001.0074), Annexure 9 (DSE.CD03.0001.0035); Murphy T1268:8–T1268:16; Tolhurst T1737:8–T1737:23



# THE HORSHAM FIRE

6

# 6 THE HORSHAM FIRE

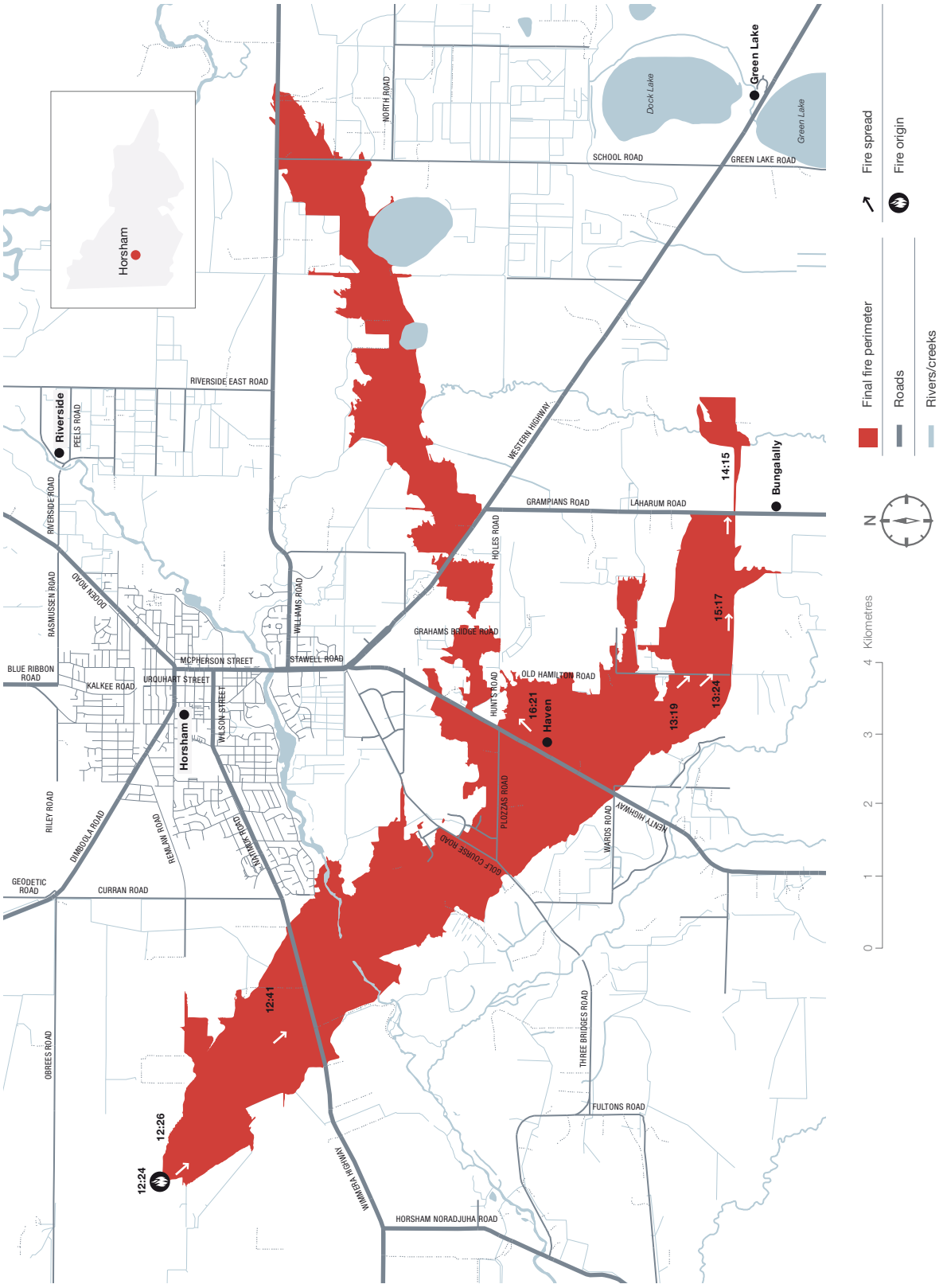
Horsham Rural City is about 300 kilometres north-west of Melbourne, in the Wimmera region. The areas directly affected by the fire of 7 February 2009 were Vectis and Haven, to the west and south of Horsham respectively.[1]

The Horsham fire ignited at about 12:20; it was a grass fire and in the first hour spread rapidly, covering just over 10 kilometres. Initially it travelled south-east, past the western edge of Horsham, before crossing the Wimmera River. When the wind changed it travelled east-north-east, south of Horsham. The fire was stopped at about 18:00, having burnt 13 houses, many other structures, and livestock and hay. Figure 6.1 shows the extent of the fire.

## OVERVIEW

| | |
|---|---|
| **Maximum temperature** | The maximum temperature recorded was 47.6°C at Horsham.[2] |
| **Minimum relative humidity** | The minimum relative humidity recorded was 8 per cent at Horsham automatic weather station at 14:00.[3] |
| **Wind** | The maximum winds recorded before the south-westerly wind change were north-westerly at 63 kilometres an hour at Horsham AWS at 12:59.[4]<br>The south-westerly wind change was recorded by the Horsham AWS at 16:28 at 61 kilometres an hour.[5]<br>The maximum winds recorded after the south-westerly wind change were south-south-westerly at 46 kilometres an hour at Horsham AWS at 17:49.[6] |
| **Fire danger index** | The maximum Grassland Fire Danger Index was 312 at Horsham AWS at 13:00.[7] |
| **Cause** | Electrical failure.[8] |
| **Fatalities** | No fatalities.[9] |
| **Casualties** | No casualties.[10] |
| **Houses destroyed** | Thirteen houses.[11] |
| **Overall area burnt** | 2,346 hectares.[12] |
| **Firefighting resources** | On 7 February, 168 CFA and 186 NEO personnel attended the fire. They were supported by 47 CFA appliances, 34 NEO appliances and 4 aircraft.[13] |

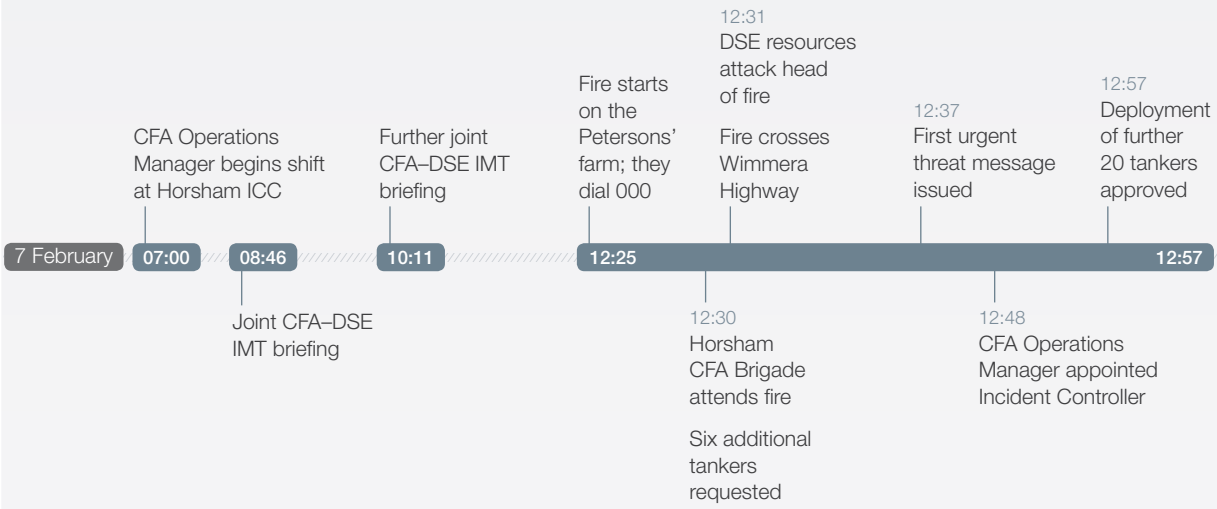
Figure 6.1 The Horsham fire

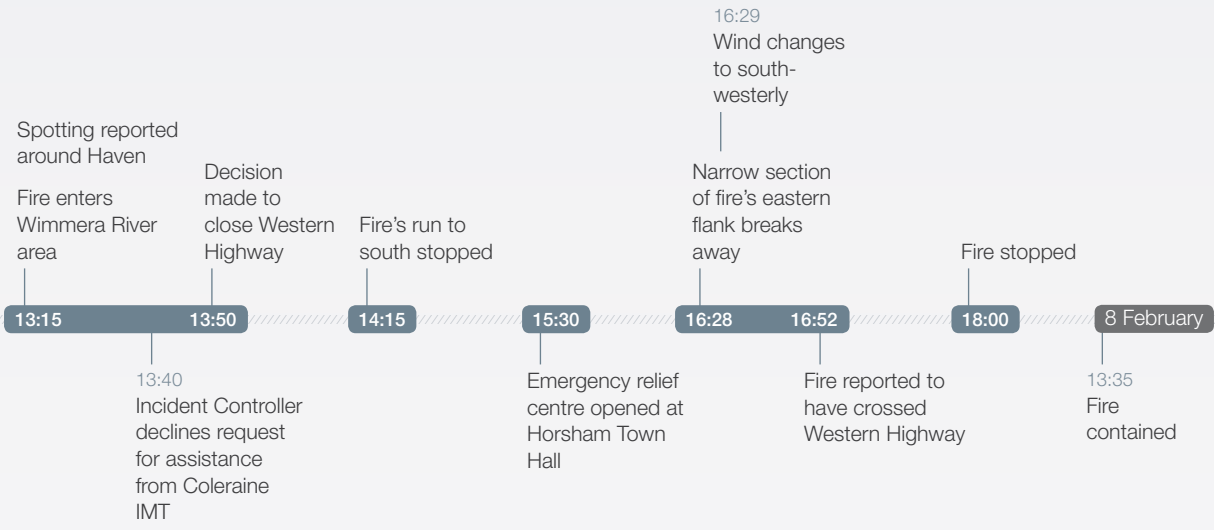



Source: Exhibit 994 – Vectis Fire – Fire Spread Map.[14]

## Horsham 7–8 February

The following time line summarises events associated with the Horsham fire. For the most part, the times given are approximate. Further details about the events are provided in the accompanying narrative.




Spotting reported around Haven
Fire enters Wimmera River area
Decision made to close Western Highway
Fire's run to south stopped
16:29
Wind changes to south-westerly
Narrow section of fire's eastern flank breaks away
Fire stopped
13:15
13:50
14:15
15:30
16:28
16:52
18:00
8 February
13:40
Incident Controller declines request for assistance from Coleraine IMT
Emergency relief centre opened at Horsham Town Hall
Fire reported to have crossed Western Highway
13:35
Fire contained

## 6.1 SEQUENCE OF EVENTS

### 6.1.1 PREPARATION

On 4 February Mr Dale Russell, Operations Manager for Country Fire Authority Region 17, spoke with Mr Geoff Evans, the Department of Sustainability and Environment Manager of Land and Fire for Wimmera District, to establish incident management team plans for the forthcoming total fire ban days—in particular, 7 February. Staff were rostered off earlier in the week to ensure that as many as possible were available on 7 February.[15]

Mr Russell was aware that every level 3 incident control centre had to be ready for a 'hot start' on 7 February, which he understood to mean that each incident control centre was to be staffed and immediately ready to begin dealing with an incident. Measures were introduced to allow for a staggered start on 7 February. An AIIMS (Australasian Inter-Service Incident Management System) structure sheet had been prepared on 6 February: it outlined the incident management team roles for the day shift on 7 February, involving 42 people.[16]

In the lead-up to 7 February fire crews were allocated and firefighting appliances were formed into strike teams to be sent to other regions if required. In addition, fire spotters were detailed for aerial surveillance.[17]

Mr David Eltringham, Municipal Emergency Resource Officer for Horsham Rural City Council, and Sergeant Damien Ferrari, Municipal Emergency Response Coordinator, ascertained the availability of water carts and pre-positioned earth-moving equipment west of Horsham in order to reduce the response time if a fire came from the west; this step was taken because of the forecast and the expected wind change. They received regular updates, including weather forecasts, from other agencies—particularly the CFA and DSE.[18]

Table 6.1 summarises the state of preparedness for the Horsham fire.

**Table 6.1 The Horsham fire – IMT preparedness**

| | |
|---|---|
| **Pre-designated level 3 ICC** | Yes[19] |
| **Pre-formed IMT at ICC** | Yes[20] |
| **Pre-identified level 3 IC** | Yes[21] |
| **Pre-identified IMT members** | Yes[22] |
| **Time fire started** | 12:20[23] |
| **Time full IMT in place** | Approx 10:11, 7 February 2009[24] |
| **Safety adviser appointed** | No[25] |

### 6.1.2 7 FEBRUARY

The Incident Control Centre at Natimuk Road in Horsham is a DSE work centre in CFA Region 17. It had been set up as a joint CFA–DSE level 3 ICC. At 07:00 Mr Russell began his shift. At 08:46 he and Mr Evans conducted an incident management team briefing and discussed the IMT structure chart, the weather conditions expected for the day, the availability of graders and dozers, and other matters. They had planned that there would be a staggered start at the Horsham ICC in order to ensure staggered shift finishes.[26]

At 10:11 Mr Russell and Mr Evans held a further IMT briefing as the pre-arranged personnel arrived at the Horsham ICC. By the time of the second briefing one fire spotter aircraft was already in the air. One of the two spotter aircraft was in the air all day.[27]

#### Origin and cause

At 12:20 the power went off at the home of Mr Alan Peterson. Shortly after this he observed blue smoke in the direction of the power line that ran across his farm. At 12:25 the Petersons telephoned 000.[28]

A single-wire earth return, or SWER, electricity line runs east–west across the Peterson property; the line is known as the Remlaw Spur and was constructed in 1963 or 1964. At some time before 7 February the first of the three coach screws that held the pole cap in place on top of pole 15 came out. The 7 February fire was started by a conductor that fell when the remaining two coach screws came loose as a result of wind-induced vibration enabling the pole cap to become detached.[29]

The failure of the pole cap to secure the conductor on pole 15 might have been avoided had there been a shorter inspection cycle: pole 15 had not been inspected for about four-and-a-half years. The risk of failures of the kind that started the Horsham fire would be reduced if centre-phase pole-top assemblies were replaced by new P-bracket pole-top assemblies.[30]

When the conductor hit the ground the fuse on the isolating transformer at the start of the Remlaw Spur operated as expected: it cut power by opening the circuit within 0.3 seconds. But sufficient current flowed before the fuse blew to cause the fire to start.[31]

Inspection cycles for electrical assets are discussed in Chapter 4 of Volume II.

**Fire run, response and management**

Because the fire began on private property, the CFA became the lead agency and Mr Russell became the Incident Controller. Mr Graham Parkes of Parks Victoria was the Deputy Incident Controller.[32]

From its point of origin north of Remlaw Road in Vectis, the fire was fanned by strong winds; it moved rapidly, reaching a rate of spread averaging a little over 10 kilometres an hour in the first hour.[33]

The CFA responded at 12:27 and was at the fire, close to the point of origin, at 12:30. The initial response involved four tankers—the standard 'hot day' response. A further six tankers were requested immediately, and 10, then 20, then 30 tankers were subsequently deployed over a relatively short period. The aerial observer was at the scene of the fire less than 10 minutes after it started.[34]

The fire travelled south-east and, after crossing the Wimmera Highway at 12:31, entered a paddock containing only limited fuel. In favourable weather conditions there would have been a good chance of stopping the fire at this point. DSE personnel attacked the head of the fire but were unable to stop its spread.[35]

Having travelled along the south-western edge of Horsham, the fire crossed the Wimmera River and moved away from Horsham. CFA, DSE and private firefighters put a great deal of effort into securing the eastern flank of the fire in order to prevent the fire burning into the township of Haven and were largely successful.[36]

The first threat message for the fire was issued at 12:37, less than 20 minutes after the fire had started. The message warned that Haven, McKenzie Creek and communities through to Wonwondah might be directly affected by the fire. The Horsham Incident Control Centre issued threat messages at regular intervals throughout the afternoon.[37]

The majority of these messages were made available through the DSE website and reported on 774 ABC radio throughout the day. A number of the threat messages were, however, either not uploaded to the CFA website or reported out of time. For example, it appears that the CFA did not release the urgent threat message issued at 13:26.[38]

At 12:43 Mr Russell met with the operations officers in the Horsham ICC to discuss the communications plan and asked that the fire be sectorised because of the congestion on channel 77. CFA sector commander for the Haven area, Mr Robert McGennisken, described the situation as 'pandemonium on the fire ground radio'. The congestion occurred because 30 tankers were sought independently, not in strike teams, creating communications and coordination problems.[39]

The Coleraine ICC contacted Mr Russell at 13:40 to ask for additional trucks to help with the Coleraine fire. Mr Russell advised that they were unable to release any trucks because of the fire at Horsham and suggested they contact the Regional Emergency Coordination Centre with the request.[40]

At 13:50 Mr Russell made the decision to close a 37-kilometre section of the Western Highway. By this time power company workers had already replaced the old pole cap with a new P-bracket pole-top assembly, restoring power to the area.[41]

Mr Russell and Mr Parkes issued a joint media release at 14:00, providing further information about the type and size of the fire and the roadblocks in operation. Shortly after this Mr Russell spoke with Mr Richard Bourke, Regional Duty Officer at the Regional Emergency Coordination Centre, about deploying strike teams to Green Lake (14 kilometres south-east of Horsham) in an effort to anticipate where the fire would go.[42]

The fire's run to the south stopped at 14:15. Mr Russell was informed by local brigade captain Mr Graham Hill at 14:47 that the Dimboola forward command vehicle had been involved in a burnover but that no-one had been injured. During the fire one CFA unit had requested a doorknock to notify residents of possible evacuation, but Mr Russell felt it was too dangerous to do that.[43]

The wind changed to a west-north-westerly at 15:17 and then to a westerly at 15:30. The fire turned east and travelled close to the southern edge of Horsham.[44]

An emergency relief centre was opened at Horsham Town Hall at about 15:30. About 90 people registered at the centre on 7 February; some of them had had their homes burnt.[45]

At 16:19 Mr Russell spoke again with Mr Bourke, confirming that an additional four tankers available at Donald, in Region 20, would be required. These strike teams went to the staging area at Horsham showground and from there were deployed to the fire.[46]

The fire then burnt into the back of the golf course and towards Golf Course Road. Once it had entered the golf course, the fairways funnelled it towards the clubhouse, which was destroyed. From Golf Course Road to Old Hamilton Road the fire ran as fingers, or tongues, rather than as a wall of flame. It was substantially checked at Old Hamilton Road, although part of it continued to the east. At times it spotted several hundred metres ahead of the main fire front.[47]

**Image 6.1**



Source: Courtesy of *Herald & Weekly Times.*

The wind swung further to the south-west at 16:29, and this drove the flames toward the east-north-east. The fire crossed Old Hamilton Road, spotted across Grahams Bridge Road, and continued across the Western Highway on the outskirts of Horsham, near the Wimmera Lakes Caravan Park. The rate of spread of the fire during this period was estimated at 2.2 kilometres an hour.[48]

At 17:00 Mr Russell authorised a further urgent threat message. It confused the direction of the wind with the direction of the fire and as a result wrongly said the fire was burning in a westerly (rather than easterly) direction and that it was expected to change to a south-westerly (rather than north-easterly) direction.[49]

ABC local radio in Western Victoria, however, appeared to have been broadcasting the correct details to the Horsham community. Throughout the afternoon Mr Parkes reported on air the effects of the wind change on the fire area, correctly naming the communities east and north-east of the fire as being at risk.[50]

The fire's forward spread was stopped at about 18:00, just north of the Horsham–Lubeck road.[51]

Despite a downgrade message being issued at 18:35, 3AW broadcast a warning at 19:00, referring to homes having been destroyed in Horsham and blazes 'currently threatening Haven, McKenzie Creek, Bugle Alley and Green Lake'.[52]

At 19:34 the fire in Horsham was announced as being 'less of a threat'. During an interview at 19:45 on 774 ABC radio. Mr Russell Rees, CFA Chief Officer, referred to '… a significant fire running in and around Vectis'.[53]

At 19:38 Mr Russell spoke with Mr Parkes and police about displaced local residents who had self-evacuated or been prevented from returning home by the roadblocks. There were 25 people in the Horsham Town Hall at that time. It was agreed that these people would be escorted home in order to allay their fears and enable them to extinguish any flare-ups at their homes during the night.[54]

The fire was declared contained at 13:35 on 8 February. The relief centre was closed on the same day. The Municipal Emergency Coordination Centre was de-activated on 11 February and became the Council's recovery centre.[55]

The Horsham fire was a 'classic grass fire that burnt under the influence of available ground fuel and weather factors such as: the prevailing wind, relative humidity and temperature'. Mr Russell described the firefighting effort on the day as 'guerrilla' firefighting: 'It is basically house-to-house combat. We were after asset protection. The weather was such that you could not really, in very close quarters here, mount a concerted attack on the front because there was no front as such'.[56]

At the fire's height 44 CFA tankers and about 30 DSE units of various types were involved, plus earth-moving equipment and private units. Mineral earth containment lines were constructed to secure the eastern flank of the fire to stop it entering Horsham.[57]

Although property was lost, the combined efforts of CFA and DSE personnel, landowners and private firefighting units, along with the absence of continuous fuel, limited the fire's impact. In all, 2,346 hectares were burnt and 13 houses were destroyed, as was the clubhouse of Horsham Golf Club. Numerous sheds, plus about 160 kilometres of fencing, 54 sheep, 226 other livestock and 484 tonnes of fodder and hay, were also lost.[58]

The Commission heard evidence of radio congestion problems resulting in the air observer, Mr Trevor Coulthard, being unable to get through to the Horsham IMT. It took 20 to 40 minutes before the problem was resolved, and during this time the fire was spotting profusely. Mr Russell expressed the view that these problems could not be resolved without creating further problems with radio coverage. Both Mr Coulthard and Mr McGennisken disagreed. Mr Coulthard opined that there should be a dedicated frequency for aircraft, as there had been until the mid-1990s. Mr McGennisken suggested that an alternative solution could be to use the regional channel.[59]

## 6.2 ROADBLOCKS

Mr McGennisken described the impact of roadblocks restricting access for private firefighters: 'A lot of people were trying to get into the fire ground to gain access to give us help and were denied access. We can't afford that. We need those people here to help us. That's what makes the CFA so great, we all help each other'.[60]

Sergeant Mick Salter, the Deputy Municipal Emergency Response Coordinator and Assistant Forward Commander for the police, agreed that total road closures at roadblocks were often excessive and counterproductive and that they prevented people coming in with mini–firefighting units and mopping up smaller fires behind the fire front.[61] Chapter 2 in Volume II discusses the question of roadblocks.

## 6.3 CONCLUSIONS

The Commission was impressed with the pre-planning and pre-positioning that ultimately contributed to successful suppression of the fire.

As a result of experience with a bushfire in the Grampians in 2006, Horsham Rural City Council had a representative at the Horsham Incident Control Centre. This arrangement meant that the Municipal Emergency Coordination Centre was not always set up in the event of an emergency because the Council's presence at the Horsham ICC might be sufficient to ensure that any operational requirements were met.[62]

On 7 February the Municipal Emergency Resource Officer, Mr Eltringham, worked out of the ICC. This appeared to be effective in improving coordination between the ICC and the Municipal Emergency Coordination Centre, although there were some communication and record-keeping problems with the operation of the MECC. Sergeant Ferrari attended the Horsham Police Operations Centre, where he performed the dual roles of Municipal Emergency Response Coordinator and police Forward Commander. Police liaison officers at the ICC kept the MERC informed of the Municipal Emergency Resource Officer's requests.[63]

Considerable difficulties were also experienced in radio communication between the Horsham ICC and some personnel at the fire ground. Mr McGennisken gave evidence that he was unable to raise the Horsham ICC, not just on his radio but also using multiple radios from other CFA vehicles.[64] Communications are discussed in Chapter 3 of Volume II.

The use of roadblocks at the time of the Horsham fire caused community concern. It appears the roadblocks were operated in accordance with the agreed CFA, DSE and Victoria Police guidelines as at 7 February. Strict enforcement of the guidelines was, however, a source of frustration and conflict between police and firefighters for several reasons:

- People who came to help their neighbours fight fires and individuals trying to return to their families were prevented from doing so.
- Private firefighting units and tankers were prevented from entering the fire ground.
- A maintenance crew responsible for the restoration of circuit breakers at the pumping station for the Horsham water supply was held up, delaying resumption of provision of Horsham's water and the refilling of CFA tankers.
- Some firefighters trying to return home at the end of their duty were denied access to their homes.[65]

Chapter 2 in Volume II discusses the question of roadblocks.

1 Exhibit 282 – Statement of Eltringham, Attachment 1 (WIT.4003.001.0015) at 0029

2 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0058

3 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0087–0088

4 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0087–0088

5 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0087–0088

6 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0087–0088

7 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [49]

8 Exhibit 267 – Statement of Peterson (WIT.7516.001.0001_R) [8]; Exhibit 258 – Statement of Power (WIT.7002.001.0001) [6], [17]

9 Exhibit 11 – Statement of Esplin, Attachment 1 (WIT.005.001.0049) at 0081

10 Exhibit 3 – Statement of Rees (WIT.004.001.0001) at 0098

11 Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048_R) at 0048_R

12 Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19.13]

13 Exhibit 939 – Details Regarding Emergency Response (CFA.600.005.0195) at 0195, 0198; Exhibit 939 – Day by Day Breakdown – Horsham (DSE.HDD.0048.0545_08); Exhibit 939 – Aircraft Data 0809 (DSE.HDD.0048.0544_20) at 0544_26

14 Exhibit 994 – Vectis Fire – Fire Spread Map (CFA.600.006.0007)

15 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [33]–[34]; Russell T7453:12–T7453:29

16 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [34], [37], [45], [60], [66], Annexure 5 (WIT.3004.013.0214)

17 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [46], [67]

18 Exhibit 274 – Statement of Ferrari (WIT.3010.003.0317) [5]–[7]; Exhibit 282 – Statement of Eltringham (WIT.4003.001.0001) [2], [57]–[58]

19 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [2], [60]

20 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [34], [37], [45], [60], Annexure 5 (WIT.3004.013.0214)

21 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [34], [37], [45], [60]–[61], Annexure 5 (WIT.3004.013.0214); Russell T7448:4–T7448:5, T7448:25–T7448:26

22 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [34], [37], [45], [60], Annexure 5 (WIT.3004.013.0214)

23 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [49], Annexure 11 (WIT.3004.013.0241) at 0247; Exhibit 282 – Statement of Eltringham (WIT.4003.001.0001) [16]; Russell T7310:1–T7310:4

24 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [66]

25 Exhibit 548 – Correspondence – Safety Advisors (CORR.0911.0107_R)

26 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [1]–[6], [58], [60], [66]

27 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [66]–[67]; Russell T7454:21–T7454:28

28 Exhibit 267 – Statement of Peterson (WIT.7516.001.0001_R) [15], [18]; Exhibit 269 – Statement of Russell, Annexure 11 (WIT.3004.013.0241) at 0241

29 Exhibit 267 – Statement of Peterson (WIT.7516.001.0001_R) [8]; Exhibit 258 – Statement of Power (WIT.7002.001.0001) [6], [17]

30 Exhibit 629 – SP AusNet Distribution BM Audit Report 2005 (DOC.ESV.003.0165) at 0172; Exhibit 258 – Statement of Power (WIT.7002.001.0001) [13]; Knop T7338:9–T7338:29; Power T7387:5–T7387:26

31 Exhibit 258 – Statement of Power (WIT.7002.001.0001) [19]; Exhibit 257 – Statement of Knop, Annexure 46 (WIT.3020.002.0322) at 0324; Exhibit 266 – Statement of McDonald (WIT.7001.001.0001) [65], 'Exhibit 3' (WIT.7001.001.0047) at 0047–0048; McDonald T7426:31–T7427:21, T7430:19–T7430:23

32 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [61], [63]; Russell T7448:2–T7448:5

33 Exhibit 256 – Statement of Brennan (WIT.3019.001.0001) [16], Attachment 3 (WIT.3019.001.0019_R) at 0025_R, 0032_R; Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [49], Annexure 11 (WIT.3004.013.0241) at 0244; McGennisken T7481:21–T7481:23

34 Exhibit 256 – Statement of Brennan (WIT.3019.001.0001) [16], Attachment 3 (WIT.3019.001.0019_R) at 0032_R; Russell T7311:12–T7311:18, T7316:1–T7316:5

35 Exhibit 256 – Statement of Brennan (WIT.3019.001.0001) [16], Attachment 3 (WIT.3019.001.0019_R) at 0032_R

36 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [55], Annexure 10 (WIT.3004.013.0239); Exhibit 255 – Star Tool – Horsham Fire (EXH.255.0001); Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [43]; Russell T7315:19–T7315:31

37 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [104], Annexure 15 (WIT.3004.013.0280); Russell T7456:4–T7456:6

38 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [106]–[108], Annexure 16 (WIT.3004.013.0282), Annexure 17 (WIT.3004.013.0285), Annexure 18 (WIT.3004.013.0287), Annexure 19 (WIT.3004.013.0289), Annexure 20 (WIT.3004.013.0291); Exhibit 4 – Statement of Rees (WIT.004.002.0001) [50]; Submissions of Counsel Assisting – Horsham Fire (SUBM.202.005.0001) [6.7]; Russell T7456:4–T7456:8, T7456:17–T7456:27

39 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [73], [100]; Exhibit 272 – Statement of McGennisken (WIT.089.001.0001_R) [11], [53]–[58]

40 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [75]

41 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [77]; Exhibit 267 – Statement of Peterson (WIT.7516.001.0001_R) [23]

42 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [64], [78], [106], Annexure 16 (WIT.3004.013.0282), Annexure 17 (WIT.3004.013.0285), Annexure 18 (WIT.3004.013.0287), Annexure 19 (WIT.3004.013.0289), Annexure 20 (WIT.3004.013.0291); Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [45]; Russell T7456:4–T7456:8, T7456:17–T7456:27

43 Exhibit 273 – Statement of Arthur (WIT.3010.004.0483) [74]; Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [80]

44 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [64], [78], Annexure 11 (WIT.3004.013.0241) at 0244; Exhibit 4 – Statement of Rees (WIT.004.002.0001) at 0008

45 Exhibit 282 – Statement of Eltringham (WIT.4003.001.0001) [66]

46 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [85]

47 Exhibit 256 – Statement of Brennan (WIT.3019.001.0001) [20]; Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [55]; Brennan T7317:16–T7317:18, T7320:6–T7320:10; Coulthard T7468:1–T7468:11, T7468:25–T7469:10; Russell T7311:7–T7311:11, T7311:29–T7312:5, T7312:16–T7312:21, T7313:17–T7313:20, T7315:2–T7315:5

48 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [55]

49 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [109], Annexure 20 (WIT.3004.013.0291)

50 Exhibit 79 – Transcript – ABC Western Victoria (CFA.001.015.0310) at 0336–0342; Exhibit 79 – Transcript – ABC Western Victoria (CFA.001.015.0347) at 0378–0380; Exhibit 79 – Transcript – ABC Western Victoria (CFA.001.015.0382) at 0393–0403

51 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [55], [97]–[98], Annexure 11 (WIT.3004.013.0241) at 0244–0245, 0248; Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) at 0008; Exhibit 271 – Statement of Coulthard (WIT.088.001.0001_R) [31]; McGennisken T7482:2–T7482:10; Russell T7311:29–T7312:3, T7314:23–T7314:31, T7457:15–T7457:18

52 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [110]; Exhibit 191 – Statement of Graystone, Annexure 5 (WIT.3026.001.0094) at 0120

53 Exhibit 7 – Transcript – 774 ABC Radio (SUMM.001.002.0001) at 0423, 0430

54 Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [95]

55 Exhibit 282 – Statement of Eltringham (WIT.4003.001.0001) [69]–[70]; Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [55], [97]–[98], Annexure 11 (WIT.3004.013.0241) at 0244–0245, 0248; Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) at 0008; Exhibit 271 – Statement of Coulthard (WIT.088.001.0001_R) [31]; McGennisken T7482:2–T7482:10; Russell T7311:29–T7312:3, T7314:23–T7314:31, T7457:15–T7457:18

56 Exhibit 256 – Statement of Brennan, Attachment 3 (WIT.3019.001.0019_R) at 0025_R; Russell T7313:20–T7313:25

57 Exhibit 272 – Statement of McGennisken (WIT.089.001.0001_R) [17], [19], [21]–[22]; Russell T7451:16–T7453:13, T7454:15–T7454:20

58 Exhibit 256 – Statement of Brennan, Attachment 3 (WIT.3019.001.0019_R) at 0025_R; Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [50]–[51], Annexure 9 (WIT.3004.013.0236); Exhibit 282 – Statement of Eltringham (WIT.4003.001.0001) [75]; Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19.13]; Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048_R) at 0048_R

59 Exhibit 271 – Statement of Coulthard (WIT.088.001.0001_R) [18]–[19], [23]; McGennisken T7492:20–T7493:4; Russell T7462:22–T7463:3; Coulthard T7469:11–T7470:6, T7470:29–T7471:9, T7475:8–T7475:31

60 McGennisken T7491:3–T7491:7

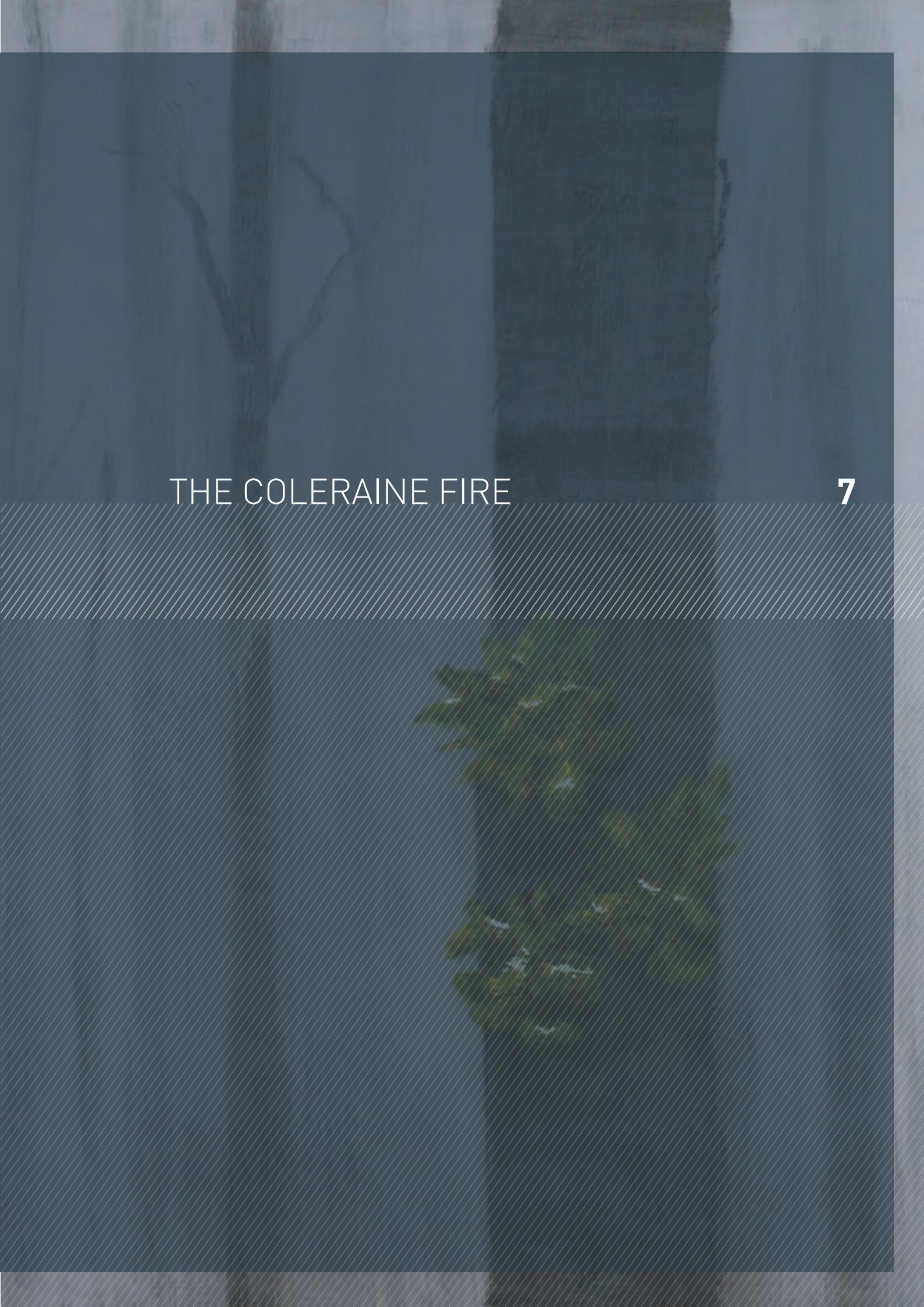
61 Exhibit 275 – Statement of Salter (WIT.3010.004.0726_M) [35]

62 Exhibit 282 – Statement of Eltringham (WIT.4003.001.0001) [27]–[29], [33]

63 Exhibit 275 – Statement of Salter (WIT.3010.004.0726_M) [13], [24]; Exhibit 282 – Statement of Eltringham (WIT.4003.001.0001) [61]–[62], [64]; Exhibit 274 – Statement of Ferrari (WIT.3010.003.0317) [12], [14]–[15], [20]

64 Exhibit 272 – Statement of McGennisken (WIT.089.001.0001_R) [53]; McGennisken T7491:15–T7492:3; Russell T7461:5–T7461:17

65 Exhibit 272 – Statement of McGennisken (WIT.089.001.0001_R) [37], [39], [41]–[45]; McGennisken T7485:3–T7485:16, T7485:24–T7487:31, T7489:1–T7489:29



# THE COLERAINE FIRE

7

# 7 THE COLERAINE FIRE

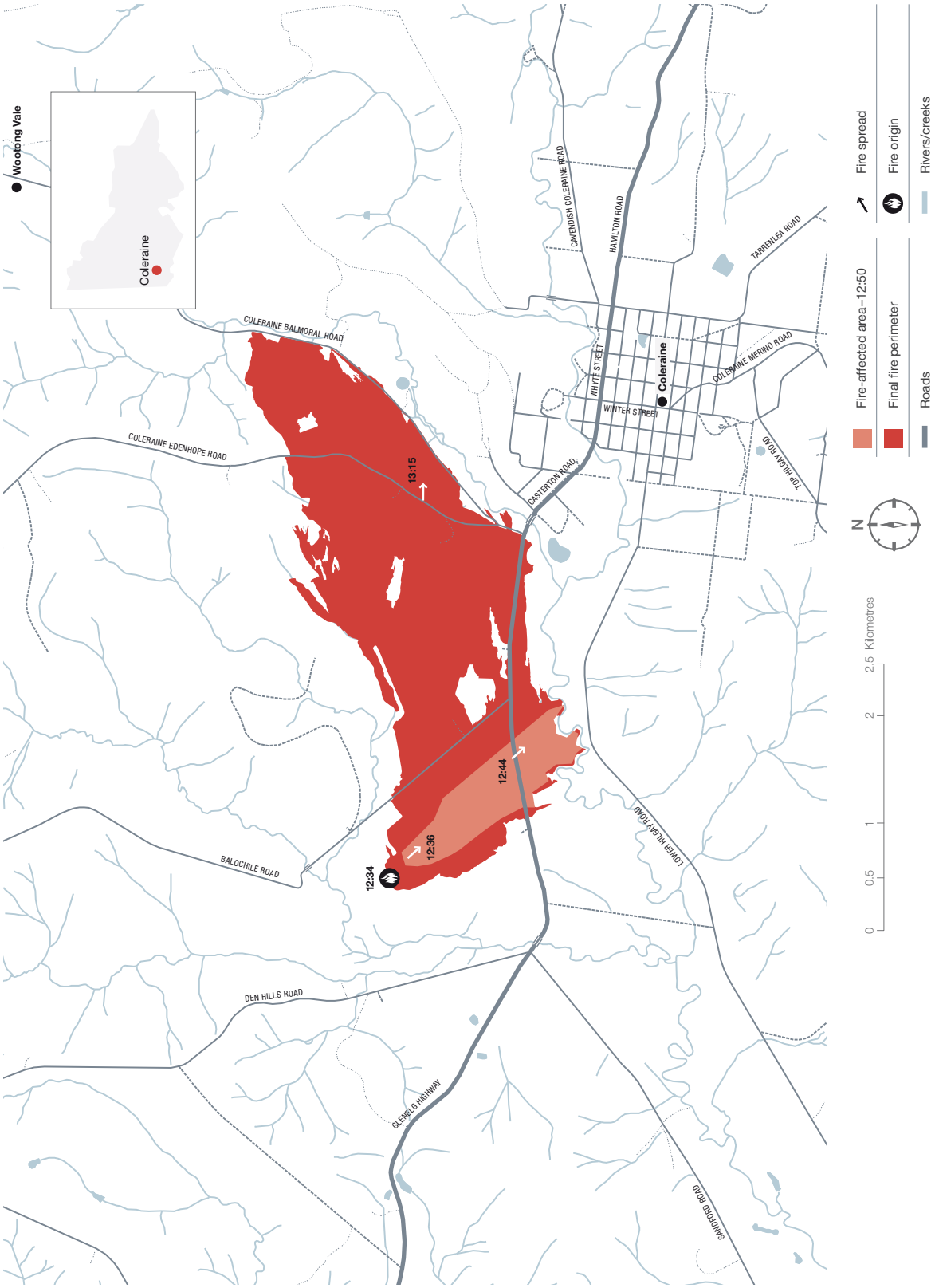
Coleraine is in Southern Grampians Shire in Western Victoria. The town is about 35 kilometres west of Hamilton and 350 kilometres west of Melbourne.

At about 12:30 on 7 February 2009 fire broke out in a paddock on private farmland about 5 kilometres west-north-west of the township. The grass fire travelled rapidly, and at one point fears were held for the township. The fire was contained at 17:30. It had burnt 713 hectares and destroyed one house, farm infrastructure, fencing and the Coleraine Avenue of Honour, which was bordered by cypresses. Figure 7.1 shows the extent of the fire.

## OVERVIEW

| | |
|---|---|
| **Maximum temperature** | The maximum temperatures recorded were 43˚C at Hamilton automatic weather station at 13:00 and 42.1˚C at Casterton AWS at 12:00.[1] |
| **Minimum relative humidity** | The minimum relative humidity recorded was 8.9 per cent at Hamilton AWS at 13:30 and 8.9 per cent at Casterton AWS at 12:00.[2] |
| **Wind** | The maximum winds recorded before the wind change were north-westerly at 40 kilometres an hour at Casterton AWS at 11:00.[3]<br>The wind change came through at about 12:55.[4]<br>The maximum winds recorded after the wind change were westerly at 40 kilometres an hour at Casterton AWS at 13:35.[5] |
| **Fire danger index** | The maximum Grassland Fire Danger Index was over 100 at both Hamilton AWS and Casterton AWS.[6] |
| **Cause** | Electrical failure.[7] |
| **Fatalities** | No fatalities.[8] |
| **Casualties** | One casualty.[9] |
| **Houses destroyed** | One house.[10] |
| **Overall area burnt** | 713 hectares.[11] |
| **Firefighting resources** | On 7 February, 279 CFA and 64 NEO personnel attended the fire. They were supported by 55 CFA appliances, 6 NEO appliances and 3 aircraft.[12] |

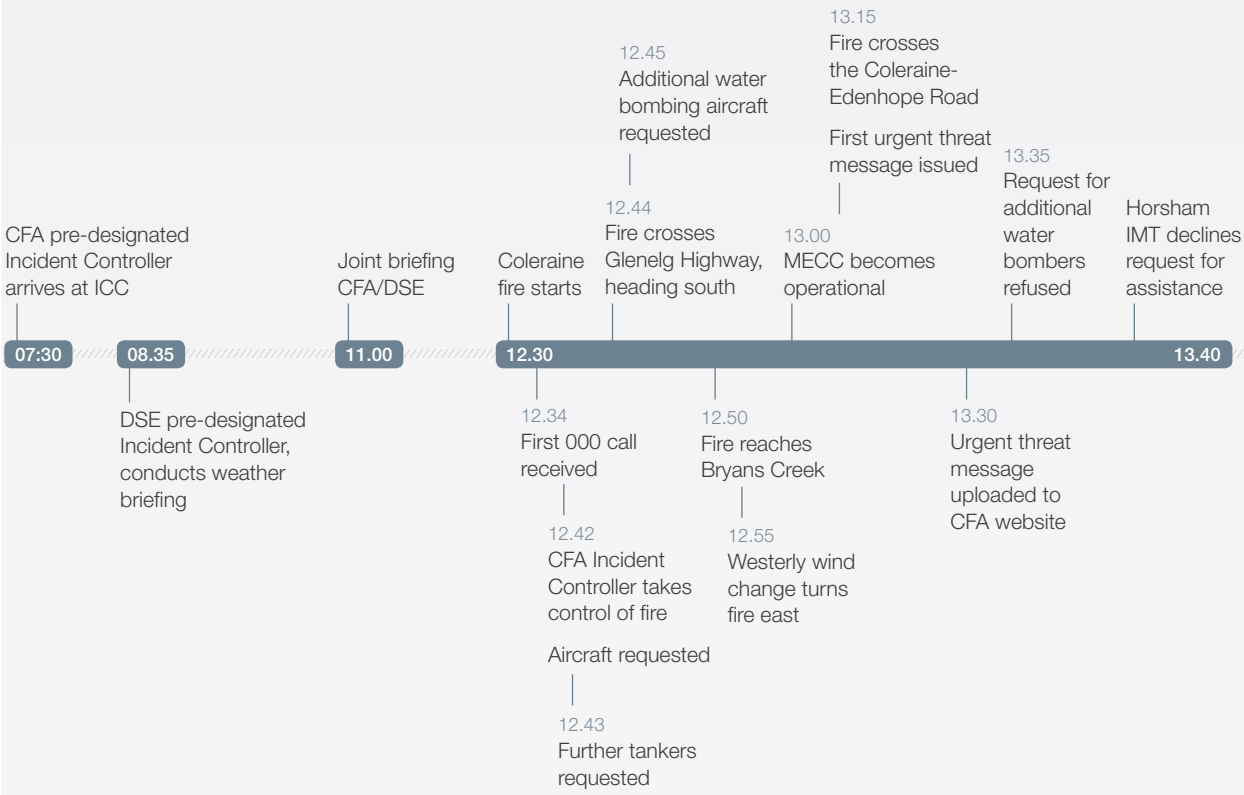
Figure 7.1 The Coleraine fire

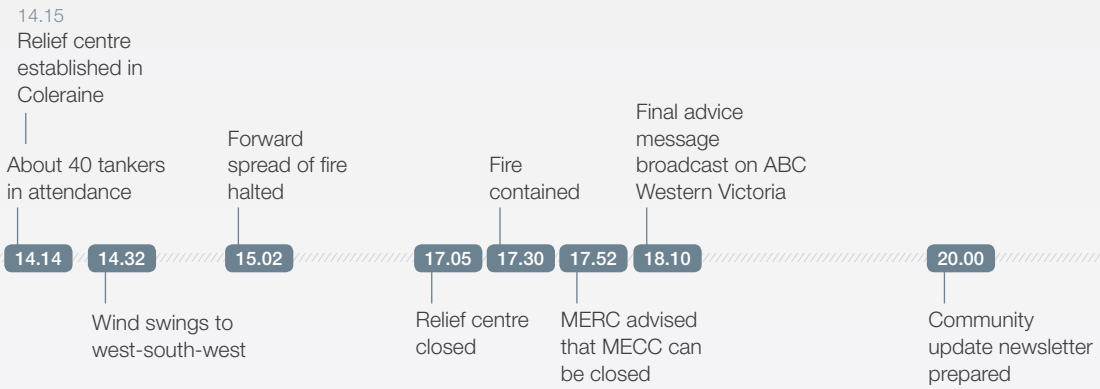



Source: Exhibit 994 – Coleraine Fire – Fire Spread Map.[13]

## Coleraine 7 February

The following time line summarises events associated with the Coleraine fire. For the most part, the times given are approximate. Further details about the events are provided in the accompanying narrative.




14.14
14.15
Relief centre established in Coleraine
About 40 tankers in attendance
14.32
Wind swings to west-south-west
15.02
Forward spread of fire halted
17.05
Relief centre closed
17.30
Fire contained
17.52
MERC advised that MECC can be closed
18.10
Final advice message broadcast on ABC Western Victoria
20.00
Community update newsletter prepared

## 7.1 SEQUENCE OF EVENTS

### 7.1.1 PREPARATION

In the light of the weather forecasts for 7 February, fire and emergency agencies prepared specifically for extreme weather with a high fire risk. The Country Fire Authority and the Department of Sustainability and Environment in Region 4 pre-established a joint incident management team to enable a 'hot start' from 07:30 on 7 February. Mr William Speirs, a CFA level 3 Incident Controller, was rostered for that role; Mr Andrew Morrow, also a level 3 Incident Controller, was the rostered DSE Incident Controller.[14]

The CFA and DSE have a long history of working together in the region. All incident management teams are joint teams and have practised and worked together many times. Mr Speirs described the working relationship as 'extremely good'.[15]

As well as establishing and resourcing incident management teams, the CFA, DSE and local councils placed resources—among them firefighters, two fixed-wing water bombers positioned at Casterton, bulldozers, and contractors with other heavy machinery and water tankers—on standby. Some local brigades also placed crews on standby at their stations.[16]

Victoria Police rostered on extra members and ascertained the status of other members, so that they could be called on in the event of a protracted incident. In addition, Southern Grampians Shire Council prepared the Municipal Emergency Coordination Centre for activation.[17]

Table 7.1 summarises the state of preparedness for the Coleraine fires.

**Table 7.1 The Coleraine fire – IMT preparedness**

| | |
|---|---|
| **Pre-designated level 3 ICC** | Yes[18] |
| **Pre-formed IMT at ICC** | Yes[19] |
| **Pre-identified level 3 IC** | Yes[20] |
| **Pre-identified IMT members** | Yes[21] |
| **Time fire started** | Between 12:15 to 12:30[22] |
| **Time full IMT in place** | 07:30, 7 February 2009[23] |
| **Safety adviser appointed** | No[24] |

### 7.1.2 7 FEBRUARY

There are four possible recognised level 3 incident control centres in the Coleraine area. On 7 February the ICC was at Heywood, about 70 kilometres south of Coleraine. Mr Speirs arrived there at 07:30.[25]

About an hour later Mr Morrow conducted a briefing, outlining the weather forecast for the day and providing details of a fire at Penola, just over the Victoria – South Australia border. He spoke of the resources available in the region, among them the two water bombers at Casterton, but said he thought the likelihood of support from elsewhere in the state was low.[26]

Later that morning, at 11:00, Mr Morrow and Mr Speirs held a joint briefing. Mr Speirs said the high winds and rising temperature forecast for the day would limit aircraft movement.[27]

On the morning of 7 February the weather was relatively calm. One fire, caused by lightning, was reported early in the day, near the Victoria – South Australia border. This fire was quickly extinguished.[28]

### Origin and cause

At about 12:30 a fire started in a paddock on private farmland about 5 kilometres west-north-west of Coleraine.[29]

A single-wire earth return, or SWER, electricity line suspended by six power poles ran across the property. The fire started after the tie wire that held the conductor in place on the top of pole 3 broke, allowing the conductor to fall from the pole. The tie wire could have been the original, installed in 1961 or 1962. It appears to have broken as a result of fatigue and corrosion and had already had one break in it before 7 February. That break probably occurred after Powercor, the operator of the line, had last inspected the line, in September 2004, in accordance with its asset inspection policy.[30]

The conductor remained suspended between poles 2 and 4. It swung in the wind, repeatedly striking the side of pole 3. It also repeatedly hit the branches of a nearby tree. The contact between the conductor and both the pole and the tree presented two possible points of ignition. The State of Victoria submitted to the Commission that the contact between the conductor and the pole was the cause of the fire, but the Commission is of the view that the more probable cause was contact with the tree, causing arcing that ignited foliage near the top of the tree, which subsequently fell to the ground. The point of origin of the resultant fire was the base of the tree. There could also have been a second point of ignition at the base of pole 3, caused by contact between the conductor and the pole. Powercor supported this view.[31]

The limitations of the electrical protection systems that can be installed on a SWER network contributed to the start of the Coleraine fire. The protection devices on a SWER line are often unable to distinguish between the current that flows to earth when a SWER conductor hits a tree or power pole and the current that flows to earth as part of the ordinary operation of a SWER system. The result is that the conductor remained energised despite its repeat arcing against the tree and power pole, increasing the opportunity for the arcing to start the fire. The risk of ignition of this kind is a feature of SWER lines.[32]

The age of electrical assets and the limitations of SWER lines are discussed in Chapter 4 of Volume II.

### Fire run, response and management

From the point of origin the fire travelled to the south-east, through grain-crop stubble and undulating grassland towards the valley country. At first it ran up a hill from the paddock in which it started. Then, influenced by the wind, it travelled downhill towards the Glenelg Highway and Bryans Creek.[33]

The CFA received the first call about the Coleraine fire at 12:34; the caller was a person who lived about a kilometre west of the point of the fire's origin. Five tankers responded initially. At about 12:42 Mr Speirs was alerted to the fire. Because the fire had started on private land, the CFA was the control agency and Mr Spiers became the Incident Controller.[34]

At 12:42 water-bombing aircraft were requested. The fixed-wing water bombers, working out of Casterton, dropped four loads on the fire before being obliged to move to Hamilton because of poor flying conditions. From there they dropped a further two loads. Another eight tankers were requested from the fire ground at 12:43.[35]

The fire moved rapidly, covering the kilometre from the point of origin to the Glenelg Highway in about eight minutes. At about 12:44 it crossed the highway, heading south and reaching Bryans Creek at 12:50.[36]

Shortly after 12:45 the Municipal Emergency Resource Officer for Southern Grampians Shire Council, Mr Lyle Tune, and the Municipal Emergency Response Coordinator, Senior Sergeant Nick Finnegan, received reports that a fire had started near Coleraine. Senior Sergeant Finnegan contacted Mr Tune shortly before 13:00 and asked that the Municipal Emergency Coordination Centre be activated. The MECC was operational shortly after 13:00. There was concern that the forecast wind change would push the fire into the town.[37]

A westerly wind change reached the fire ground at about 12:55, turning the fire to the east and taking the path of the fire north of Coleraine. The eastern flank of the fire became the fire front. At 12:57 Mr Speirs and Mr Morrow discussed Mr Speirs' intention to divert two additional strike teams to protect the town. Throughout the afternoon a steady stream of CFA, DSE and private resources were devoted to the fire.[38]

The first urgent threat message was issued at 13:15. It warned that the communities of Muntham, Coleraine and Hilgay might be directly affected by the fire. The message was uploaded to the CFA website at 13:30. After the fire crossed the Coleraine–Balmoral road a further urgent threat message was issued, at 13:41. Additional urgent threat messages and then message downgrades were also successfully released.[39]

The fire crossed the Coleraine–Edenhope road at 13:15, heading east along a creek line. By 13:37 it had covered about 200 hectares and was bearing towards steep valley country. There was concern that if it reached the valleys it would split into fingers and become more difficult to control. At 13:35 Mr Speirs was informed by the logistics officer that additional water bombers were unavailable because of the Horsham fire, and at 13:40 the Horsham ICC declined a request for additional tankers from the Coleraine ICC for this reason.[40]

By 14:14 about 40 tankers were present. Mr Speirs had asked for another strike team and had told the Regional Emergency Coordination Centre that more resources might be needed.[41]

A relief centre was established at about 14:15 in Coleraine to cater for people who wanted to evacuate their residences. No-one attended the centre, and it was closed at about 17:05.[42]

The fire continued its run towards the valley country, coming within about a kilometre of Coleraine. At 14:32, however, a west-south-westerly wind change turned the fire in a more northerly direction, away from Coleraine.[43]

The fire ran to the north-east until its forward spread was halted at 15:02. It remained active around the edges until 17:30, when it was reported as contained on the western side of the Coleraine–Balmoral road. From the time the forward spread of the fire was halted crews worked blacking out the fire. The final perimeter of the fire was about 16 kilometres.[44]

Mr Speirs told the Commission he had not expected the head of the fire to be stopped so soon and that this was as a result of firefighters working to 'pull the fire up' in steep country. He described the firefighters' work as 'nothing short of fantastic'.[45]

The Municipal Emergency Coordination Centre received only a few requests for assistance, and there was no need to seek resources from other municipalities. During the day Mr Tune arranged for earth-moving equipment and personnel and for a community bus to be placed on standby to assist with transportation of the elderly if necessary. The MECC closed at 17:52 and went into 'recovery mode'.[46]

A final advice message was issued at 18:07, saying the fire had been contained. This message was broadcast on ABC Western Victoria at 18:10.[47]

At about 20:00 a community update newsletter was prepared, and CFA Community Safety personnel hand-delivered copies to people living in and around the fire-affected area. The newsletter detailed the fire's impact, the losses and ongoing suppression work, and provided recovery information.[48]

The Coleraine fire was particularly fast-running: the forward rate of spread peaked at as much as 9 kilometres an hour, although generally it was much less than this. The fire largely burnt in paddocks where fuel loads were low, and the flame heights were minimal. Along roadsides, where fuel loads were greater, flame heights were 2 to 3 metres. The efforts of firefighters and local property owners, and the two wind changes, prevented the fire from reaching Coleraine and limited the forward spread in less than three hours.[49]

During the entire course of the fire the IMT for the Coleraine fire planned for the predicted path of the fire, managed resources, issued warnings, provided communications support for radio black spots, and directed the establishment of roadblocks.[50]

The Coleraine Incident Management Team also issued a number of statements, warnings and messages during the day. In addition, Mr Speirs spoke to 774 ABC radio and local ABC radio to convey messages. As well as the warnings being issued, police attended properties throughout the fire zone, advising residents to implement their fire plans.[51]

It appears that the integrated Emergency Coordination Centre did not post all threat messages on the CFA website. As a consequence, several radio updates, including those issued by 774 ABC radio, referred to out-of-date information.[52]

Late on 7 February the Incident Controller instructed that the roadblocks that had been erected earlier in the day were to stay in place overnight. There were, however, reports of traffic travelling along three of the roads that had been closed. The last roadblock was removed at 09:30 on 8 February.[53]

In comparison with some other fires on 7 February, the Coleraine fire had a relatively small impact. Nevertheless, as noted, it did destroy one house, farm infrastructure, fencing and the cypress-lined Coleraine Avenue of Honour. A local resident sustained burns when trying to move stock from the path of the fire.[54]

In all, 44 CFA brigades attended the fire, with 54 appliances and 274 personnel. DSE personnel, private firefighters, forest industry brigades and fixed-wing water bombers also contributed.[55]

A large number of farmers and landowners in the area keep private firefighting appliances to defend their properties and help fight fires. These private resources made a valuable contribution to the firefighting effort on 7 February. They are often the first resources involved in an attack on a fire in the Western District.[56]

## 7.2 CONCLUSIONS

Although throughout the day Mr Speirs had contact with personnel in the Coleraine Incident Management Team, the Regional Emergency Coordination Centre and divisional and sector commanders, he was not aware that predictive and situational maps for the fire had been prepared in the RECC on 7 February. The IMT carried out its own prediction and analysis, however, and was not hindered by the lack of consultation with and support from the RECC.[57]

The overall local effort—including the advance planning, the efficient response to the fire, and the rapid deployment of resources (among them the water bombers)—and the favourable wind change resulted in the fire's run being stopped reasonably quickly, and there was only limited damage. The Commission was impressed and commends the cooperative approach on the part of both the CFA and DSE in the region: it has developed into a good working relationship. This led to improved incident and emergency planning and was reflected in the effective response.

The warnings the Coleraine Incident Control Centre issued for the Coleraine fire were generally timely and accurate.

Because the Coleraine fire was contained about five hours after it began, it did not require the same level of municipal resources as other fires that occurred on 7 February.

The roadblocks appear to have been operated in accordance with the guidelines agreed by the CFA, DSE and Victoria Police, but strict enforcement of the guidelines became a source of frustration between police and firefighters for two main reasons:

- Some people in private firefighting appliances or CFA personnel in private vehicles were prevented from attending the fire ground.
- A truck that was transporting fire retardant to Hamilton airport was delayed until approval from the Incident Controller was received, delaying the fire retardant's arrival at the airport.[58]

Chapter 2 in Volume II looks at the question of roadblocks.

1 Exhibit 277 – Statement of Speirs, Annexure 7 (WIT.3004.014.0048) at 0049; Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [64]

2 Exhibit 277 – Statement of Speirs, Annexure 7 (WIT.3004.014.0048) at 0049; Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [64]

3 Exhibit 277 – Statement of Speirs, Annexure 7 (WIT.3004.014.0048) at 0052

4 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [35]

5 Exhibit 277 – Statement of Speirs, Annexure 7 (WIT.3004.014.0048) at 0052

6 Exhibit 277 – Statement of Speirs, Annexure 7 (WIT.3004.014.0048) at 0051; Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [64]. Note that whilst the evidence refers only to the Fire Danger Index, given the topography of the Coleraine area, it is likely that this was measured using the Grass Fire Danger Index

7 Submissions of the State of Victoria – Coleraine Fire (RESP.3000.005.0011) [8]–[11]; Exhibit 257 – Statement of Knop, Annexure 34 (WIT.3020.002.0272) at 0273–0274; Exhibit 280 – Statement of Power (WIT.7002.002.0001) [25]

8 Exhibit 3 – Statement of Rees (WIT.004.001.0001) at 0100

9 Exhibit 289 – Statement of Nagorcka, Annexure 1 (WIT.3004.012.0007_R) at 0011_R; Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [143]

10 Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048_R) at 0048_R

11 Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19]

12 Exhibit 939 – Details Regarding Emergency Response (CFA.600.005.0195) at 0195, 0198; Exhibit 939 – Day by Day Breakdown – Coleraine (DSE.HDD.0048.0545_09); Exhibit 939 – Aircraft Data 0809 (DSE.HDD.0048.0544_20) at 0544_26

13 Exhibit 994 – Coleraine Fire – Fire Spread Map (CFA.600.006.0011)

14 Exhibit 277 – Statement of Speirs, Annexure 3 (WIT.3004.014.0038); Speirs T7525:4–T7525:8

15 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [44]; Speirs T7520:15–T7520:18, T7523:19–T7523:30, T7524:11–T7524:17

16 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [29], [47], [51]

17 Exhibit 284 – Statement of Finnegan, Attachment 20 (WIT.3010.003.0403) at 0404; Exhibit 285 – Statement of Tune (WIT.4005.001.0001) [40]

18 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [14(a)], [23]

19 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [43]

20 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [45]

21 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [24], [43]; Speirs T7525:4–T7525:10, T7528:21–T7528:28

22 Exhibit 279 – Statement of Cooper (WIT.7508.001.0001_R) [14]–[18]; Cooper T7534:7–T7534:27

23 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [43]

24 Exhibit 548 – Correspondence – Safety Advisors (CORR.0911.0107_R)

25 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [43], [45]

26 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [47], [76]

27 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [53]–[54]

28 Speirs T7525:11–T7525:15

29 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [31], [32], Annexure 7 (WIT.3004.014.0048) at 0048; Exhibit 279 – Statement of Cooper (WIT.7508.001.0001_R) [14]; Exhibit 289 – Statement of Nagorcka (WIT.3004.012.0001) [16]

30 Exhibit 279 – Statement of Cooper (WIT.7508.001.0001_R) [2]–[3]; Cooper T7532:5–T7532:10; Exhibit 281 – Tie Wire (EXH.281.0001); Exhibit 289 – Statement of Nagorcka (WIT.3004.012.0001) [17], Annexure 1 (WIT.3004.012.0007_R) at 0014_R; Exhibit 257 – Statement of Knop (WIT.3020.002.0133_R) [18(c)], [29], [45]; Exhibit 539 – Statement of Gates (WIT.123.001.0001_R) [17]; Exhibit 280 – Statement of Power (WIT.7002.002.0001) [9]–[10], [12]; Power T7581:7–T7581:12, T7595:14–T7595:22, T12706:5–T12706:9; Knop T7572:3–T7572:5

31 Submissions of the State of Victoria – Coleraine Fire (RESP.3000.005.0011) [8]–[11]; Exhibit 257 – Statement of Knop, Annexure 34 (WIT.3020.002.0272) at 0273–0274; Exhibit 280 – Statement of Power (WIT.7002.002.0001) [25]

32 Exhibit 280 – Statement of Power (WIT.7002.002.0001) [26]; Exhibit 266 – Statement of McDonald (WIT.7001.001.0001) [66]; McDonald T7600:7–T7600:17, T7601:12–T7602:1, T7607:24–T7608:9

33 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [31]–[33], Annexure 7 (WIT.3004.014.0048) at 0048–0049; Exhibit 289 – Statement of Nagorcka, Annexure 1 (WIT.3004.012.0007_R) at 0013_R; Exhibit 278 – Star Tool – Coleraine Fire (EXH.278.0001)

34 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [32], [49], [61], Annexure 7 (WIT.3004.014.0048) at 0048; Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [54]; Speirs T7517:10–T7517:11

35 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [62]–[63], [66], [88]; Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [54]–[55]; Speirs T7521:26–T7522:2, T7525:20–T7525:21

36 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [34]

37 Exhibit 285 – Statement of Tune (WIT.4005.001.0001) [44], [46]–[47]; Exhibit 284 – Statement of Finnegan (WIT.3010.003.0324) [35], Annexure 17 (WIT.3010.003.0383) at 0383; Exhibit 4 – Statement of Rees (WIT.004.002.0001) [62]

38 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [35], [75], [79], Annexure 7 (WIT.3004.014.0048) at 0053; Speirs T7521:6–T7521:17; T7525:16–T7525:22

39 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [94]–[96], [116], Annexure 13 (WIT.3004.014.0174), Annexure 14 (WIT.3004.014.0177), Annexure 15 (WIT.3004.014.0180), Annexure 16 (WIT.3004.014.0184), (WIT.3004.014.0185), (WIT.3004.014.0187), (WIT.3004.014.0189), Annexure 17 (WIT.3004.014.0193), Annexure 19 (WIT.3004.014.0198), Annexure 20 (WIT.3004.014.0201), (WIT.3004.014.0203)

40 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [36], [111], [113]; Exhibit 269 – Statement of Russell (WIT.3004.013.0001) [75]

41 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [124]

42 Exhibit 285 – Statement of Tune (WIT.4005.001.0001) [54]; Exhibit 284 – Statement of Finnegan (WIT.3010.003.0324) [45], Annexure 17 (WIT.3010.003.0383) at 0384–0386; Exhibit 283 – Statement of New (WIT.3010.004.0062) [37]

43 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [131], Annexure 6 (WIT.3004.014.0046)

44 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [39]–[40], [136], [153], [162], Annexure 7 (WIT.3004.014.0046); Speirs T7519:25–T7519:28

45 Speirs T7519:21–T7519:30

46 Exhibit 285 – Statement of Tune (WIT.4005.001.0001) [53], [55]; Exhibit 284 – Statement of Finnegan (WIT.3010.003.0324) [45]–[46], Annexure 17 (WIT.3010.003.0383) at 0383–0384, 0386; Exhibit 283 – Statement of New (WIT.3010.004.0062) [50]

47 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [161], Annexure 20 (WIT.3004.014.0200) at 0200–0201; Exhibit 79 – Transcript – ABC Western Victoria (CFA.001.015.0413) at 0416–0417

48 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [163], Annexure 22 (WIT.3004.014.0209)

49 Exhibit 277 – Statement of Speirs, Annexure 7 (WIT.3004.014.0048) at 0051; Exhibit 257 – Statement of Knop, Annexure 33 (WIT.3020.002.0266) at 0266; Speirs T7519:21–T7519:30, T7520:18–T7520:22

50 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [57]–[160]

51 Exhibit 283 – Statement of New (WIT.3010.004.0062) [43]; Speirs T7525:26–T7525:30

52 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [120], [130], [148], Annexure 19 (WIT.3004.014.0198); Exhibit 7 – Transcript – 774 ABC Radio (SUMM.001.002.0001) at 0253–0254, 0320, 0332, 0344, 0364, 0368, 0381, 0400; Exhibit 79 – Transcript – ABC Western Victoria (CFA.001.015.0347) at 0347

53 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [153]–[156], [169]

54 Exhibit 283 – Statement of New (WIT.3010.004.0062) [41]; Exhibit 289 – Statement of Nagorcka, Annexure 1 (WIT.3004.012.0007_R) at 0011_R; Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [41], [143], [146]

55 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [22]; Speirs T7521:26–T7522:2, T7523:7–T7523:18; Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [64]

56 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [20]; Speirs T7522:13–T7522:30; Exhibit 286 – Statement of Wall (WIT.7509.001.0001_R) [15]–[24]; Exhibit 287 – Statement of Fitzgerald (WIT.7510.001.0001_R) [21]–[26]

57 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [165]–[167]; Speirs T7518:6–T7518:23, T7519:2–T7519:13

58 Exhibit 277 – Statement of Speirs (WIT.3004.014.0001) [169]; Exhibit 283 – Statement of New (WIT.3010.004.0062) [51]–[52]; Exhibit 284 – Statement of Finnegan (WIT.3010.003.0324) [38]



Source: Courtesy of the *Herald & Weekly Times*.

# THE POMBORNEIT–WEERITE FIRE 8



# 8 THE POMBORNEIT–WEERITE FIRE

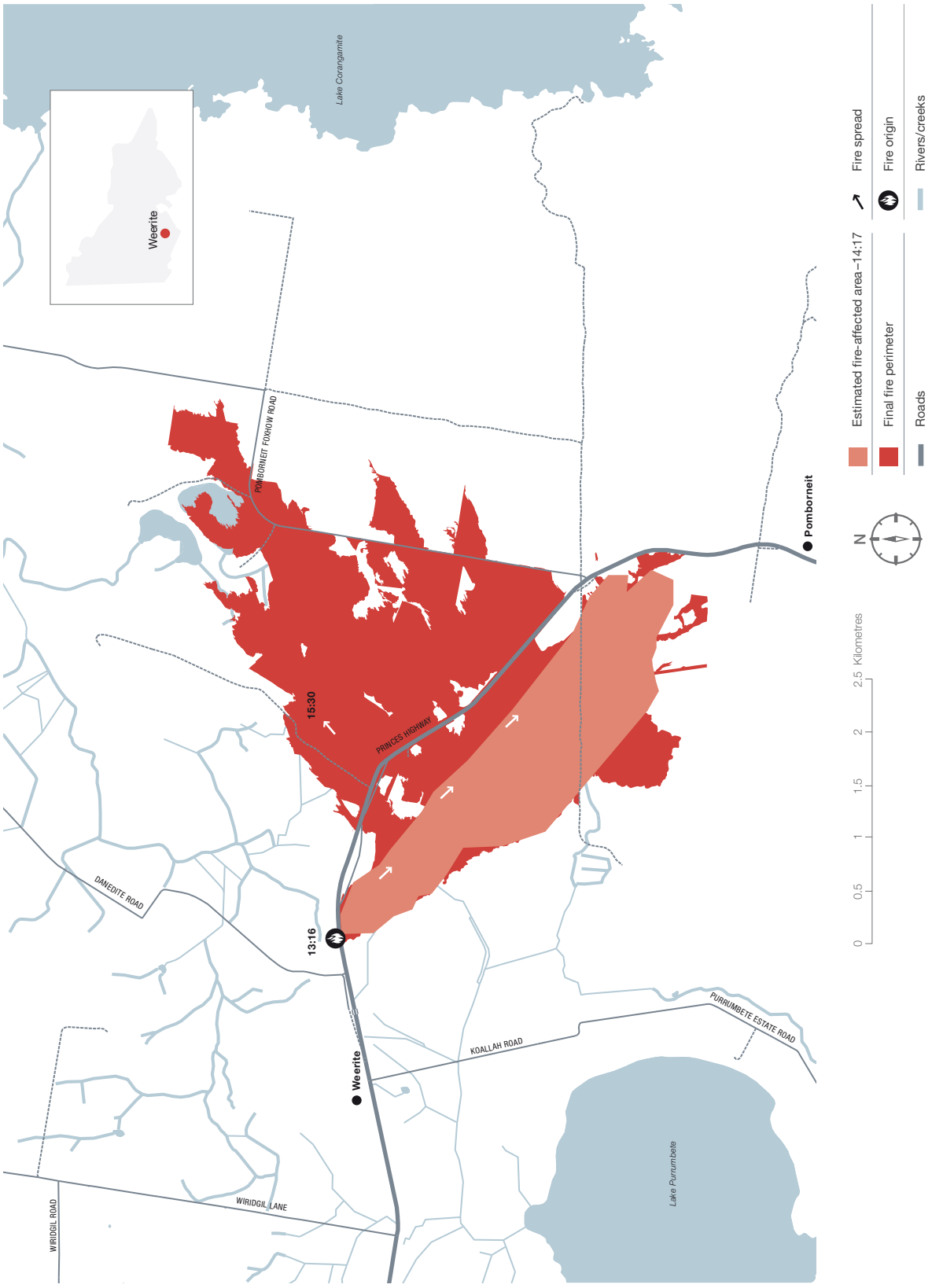
Pomborneit–Weerite is in Corangamite Shire, in Western Victoria. The town of Pomborneit is about 30 kilometres west of Colac and 160 kilometres west-south-west of Melbourne.[1]

The Pomborneit–Weerite grass fire was relatively short-lived, being active for about five hours on 7 February 2009 but burning over 1,000 hectares. It started at about 13:15 and quickly burned through grazing land and across a railway line and roads. There was a rapid local response, supported by incident management based in Colac. The fire was contained on 7 February. Damage and losses were limited to stock, crops, hay, fencing and some private infrastructure.[2] Figure 8.1 shows the extent of the fire.

## OVERVIEW

| | |
|---|---|
| **Maximum temperature** | The maximum temperature recorded was 45.1°C at Mortlake automatic weather station at 13:30.[3] |
| **Minimum relative humidity** | The minimum relative humidity recorded was 7.9 per cent at Mortlake AWS at 13:30.[4] |
| **Wind** | At about 13:00, the Mt Porndon fire tower recorded north-north-westerly winds of about 100 kilometres an hour, with gusts up to 113 kilometres an hour.[5]<br>The maximum winds recorded at Mt Gellibrand AWS before the wind change were north-westerly at 90 kilometres an hour at 14:00.[6]<br>The wind change came through at about 14:15.[7]<br>The maximum winds recorded after the wind change were south-westerly at 115 kilometres an hour at Mt Gellibrand AWS at 17:00.[8] |
| **Fire danger index** | The maximum Grassland Fire Danger Index was greater than 100 at Mortlake AWS at 13:30.[9] |
| **Cause** | Electrical failure.[10] |
| **Fatalities** | No fatalities.[11] |
| **Casualties** | No casualties.[12] |
| **Houses destroyed** | No houses.[13] |
| **Overall area burnt** | 1,008 hectares.[14] |
| **Firefighting resources** | On 7 February, 191 CFA and 50 NEO personnel attended the fire. They were supported by 45 CFA appliances, 10 NEO appliances and 2 aircraft.[15] |

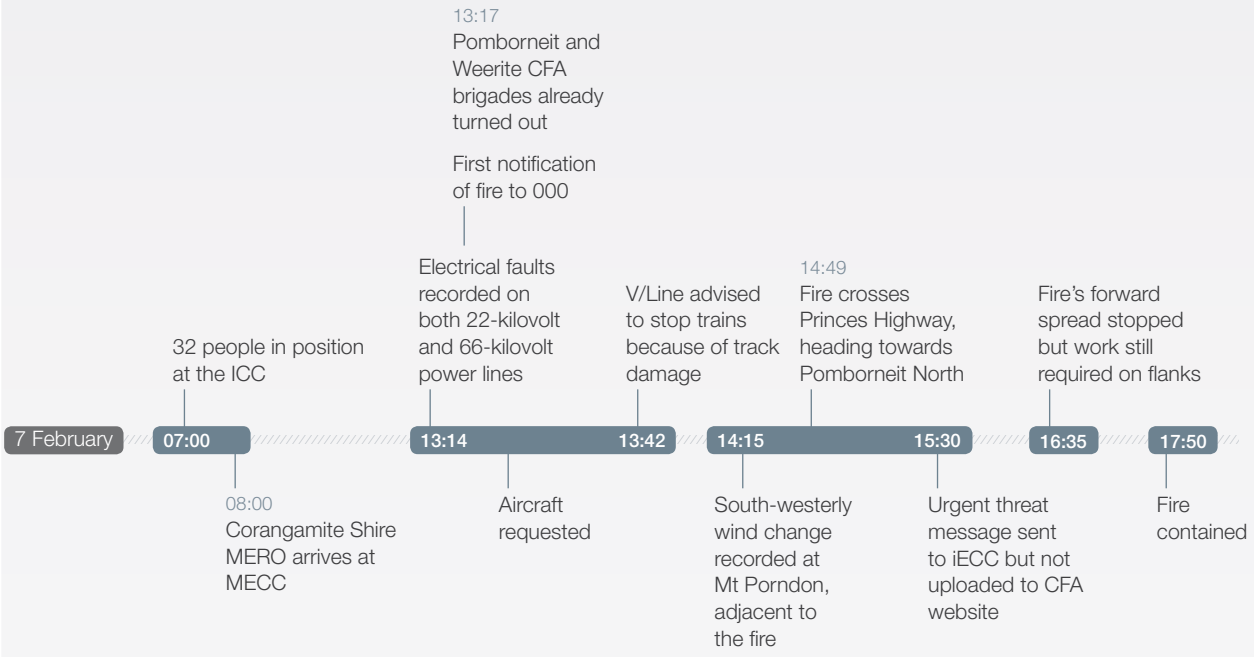
Figure 8.1 The Pomborneit–Weerite fire




Source: Exhibit 994 – Weerite Fire – Fire Spread Map.[16]

## Pomborneit–Weerite 7 February

The following time line summarises events associated with the Pomborneit–Weerite fire. For the most part, the times given are approximate. Further details about the events are provided in the accompanying narrative.



## 8.1 SEQUENCE OF EVENTS

### 8.1.1 PREPARATION

On 6 February Mr Malcolm Fallon, Operations Manager for Country Fire Authority Region 6, held a teleconference with representatives of local councils, the Department of Human Services, the State Emergency Service and Victoria Police. On the basis of his understanding of the statewide CFA teleconference of 3 February, he explained the need for preparation and asked each agency for a verbal report to confirm the level of preparedness. Each municipality said it was ready.[17]

Mr David Rourke, Major Projects Manager in South-West Region for the Department of Sustainability and Environment, arranged for Corangamite Shire to ensure that the Municipal Emergency Coordination Centre and its staff were ready for an immediate start on 7 February.[18]

Because of a shortage of incident management team personnel, CFA Region 6 established only one incident control centre, at Colac. Mr Fallon said the region runs only one level 3 ICC in order to avoid problems with transferring IMT staff between incidents.[19]

Mr Fallon was the pre-designated level 3 Incident Controller, regardless of where a fire started. Before 7 February all major and support roles in the Colac IMT had been filled, including a Safety Adviser.[20]

Elsewhere in the region—at Lismore, Camperdown, Cobden and Timboon—level 2 IMTs had been established and were ready to function. If necessary, the level 2 ICCs could function as divisional commands of the Colac level 3 ICC.[21]

Table 8.1 summarises the state of preparedness for the Pomborneit–Weerite fire.

**Table 8.1 The Pomborneit–Weerite fire – IMT preparedness summary**

| | |
|---|---|
| **Pre-designated level 3 ICC** | Yes[22] |
| **Pre-formed IMT at ICC** | Yes[23] |
| **Pre-identified level 3 IC** | Yes[24] |
| **Pre-identified IMT members** | Yes[25] |
| **Time fire started** | Approx 13:17[26] |
| **Full IMT in place by** | 07:00, 7 February 2009[27] |
| **Safety adviser appointed** | Yes[28] |

### 8.1.2 7 FEBRUARY

By 07:00 on 7 February 32 personnel from the CFA and the Department of Sustainability and Environment jointly staffed the IMT and were at the ICC 'ready to go'. During the course of the morning IMT personnel were updated on the weather and available resources.[29]

At 08:00 Mr Kevin Kittel, the Corangamite Shire Municipal Emergency Resource Officer, arrived at the Municipal Emergency Coordination Centre. The primary location for the MECC on 7 February was the Killara Centre in Camperdown. The MECC was made ready, and the Colac ICC was advised of this by email. Senior Sergeant Stephen Thompson, the Municipal Emergency Response Coordinator, inspected the MECC at 10:00 and returned at 12:00.[30]

In the field, preparations were also well advanced. Pomborneit and Weerite fire crews were pre-positioned at their local stations; they were 'dressed ready to go', which was their practice on fire ban days. At 13:00 six to eight members were in the station, a further 10 to 15 members were available at short notice from their homes, and a further member was at the Mt Porndon fire lookout.[31]

### Origin and cause

At about 13:15 on 7 February Ms Kerry-Lynne Callow was travelling along the Princes Highway from Camperdown towards Geelong. She described what she saw as she drove over the Weerite railway overpass:

> In front and to my left down the road was a flare, which was quite unusual. It only lasted … one, two [or] three seconds. It wasn't a long event. It appeared to be behind—in the same line of vision was a single pole with a transformer on it and, while it appeared to be behind that, it was suspended in the air. It was a blue flare that was stationary a while and then sort of rolled back on itself in a yellow flame.[32]

She went on to say the flare was at the height of the wires, suspended in mid-air, and was similar to blanket-style lightning or a broad flame that was there for a couple of seconds and then 'just rolled back'.[33]

While she was watching the transformer on the left-hand side of the road, Ms Callow became aware that there was a fire on her right: 'It was a fairly intense little fire', with naked flames, directly on the south side of the road (the opposite side to the Colac–Camperdown power line), 'probably 6 by 6 feet' with 'flames at waist height'. As soon as it was safe to do so, Ms Callow parked her car and phoned 000 on her mobile phone. She described the fire as a fast-moving grass fire. The 000 operator recorded the location of the fire as on the Princes Highway, near Danedite Road, at Weerite.[34]

Ms Regina Beal lives in a house on a farm at Weerite, 2.3 kilometres from the intersection of the Princes Highway and Danedite Road. The Commission received a statement from her but she was not able to attend personally to give evidence. It was thus not possible to properly assess the reliability of her account. Her statement indicates that after lunch on 7 February, she saw a silver flash near the rail overpass and noted that the power in her house faltered; she saw smoke nearby and phoned 000. Records show the first emergency call was received at 13:17.[35]

The Colac–Camperdown power line, constructed in 1949 and operated by Powercor, runs along the north side of the Princes Highway at Weerite. The poles carry three rows of 66-kilovolt copper conductors, which between them carry 66,000 volts, and below them one row of 22-kilovolt aluminium conductors, which between them carry 22,000 volts. At 13:14 on 7 February the Colac–Camperdown power line recorded electrical faults on both the 22- and the 66-kilovolt power lines. The latter tripped to 'lock out', stopping the flow of electricity along that section of the line.[36]

The electrical fault occurred as a result of the clashing of the 66- and 22-kilovolt conductors or the 22- and 22-kilovolt conductors, or both. There is a long history of clashing conductors on this line in the general area of the clashing that occurred on 7 February. The clashing caused the emission of molten particles, which ignited vegetation by the side of the Princes Highway.[37]

Chapter 4 in Volume II discusses in detail systemic matters relating to fires caused by electrical incidents.

### Fire run, response and management

Shortly before 13:06 the electricity flickered at the CFA station in Pomborneit. On the basis of past experience Mr Terrence Place, CFA captain for over 30 years, left the station in a slip-on unit to check the Colac–Camperdown power line on the Princes Highway, expecting a fire caused by electrical assets. When he saw fire he called the Camperdown station, seeking additional resources. Because of the potential danger, the Pomborneit tanker also turned out, as did a vehicle from the Weerite CFA station.[38]

The Chocolyn, Stonyford and Tesbury brigades were paged at 13:17, along with the Weerite and Pomborneit brigades. The Weerite brigade turned out within minutes. Soon after, the Camperdown, Tesbury and Chocolyn brigades were all in attendance.[39]

Mr Place described the speed of the fire's spread: 'I have been to plenty of fires in my time … and the speed of [this] fire was just phenomenal'.[40]

Initially Mr Place was the local Incident Controller. Once it had been established that the fire could not be quickly brought under control, however, the Deputy Group Officer directed him to establish and crew an operations point at the Pomborneit station, where there was better radio coverage and the ability to link to the level 3 Colac Incident Management Team.[41]

That IMT was situated at the DSE office in Colac, which has been the region's incident control centre for eight years. It was well prepared early on 7 February and had just completed a state update briefing when the fire was reported. Mr Fallon was the pre-designated Incident Controller for 7 February and assumed that position.[42]

At 13:21 the State Air Desk was asked for two aircraft to assist with firefighting. Three aircraft had been made available for the region—two water bombers and one observation aircraft. At the time the water-bombing aircraft could not be deployed because of the weather conditions. The observation aircraft did, however, become airborne.[43]

After a request at 13:34 for a further 10 tankers, the response continued to build. The fire was still travelling at speed: firefighters' reports to the Incident Controller noted that the fire travelled 4 to 5 kilometres in about seven minutes.[44]

The initial run of the fire was south-easterly, crossing and damaging the Geelong–Warrnambool railway line, then running parallel to the line. V/Line was contacted at 13:42, so that it could stop trains using the damaged line.[45]

The first urgent threat message was posted on the CFA website at 14:15, for Scollers Road, Caters Road Settlement and Swan Marsh.[46]

The expected south-westerly wind change was reported as passing Mt Porndon, about 5 kilometres south of the fire area, at 14:15. The change arrived earlier than expected and pushed the fire north-east, towards Lake Corangamite. The south-westerly wind fanned the fire: flames up to 6 metres high were reported by ground observers.[47]

Personnel at the fire ground were not warned before the south-westerly wind change. There were no red flag warnings of the arrival of the change. Mr Mark Gunning, a CFA Fire Investigation Officer, was on the fire ground during the afternoon. He expressed concern about warnings: in his opinion, information about the wind speed and change was 'ad hoc', and he said very little information was provided about the approaching front.[48]

Mr Fallon acknowledged that there was little warning of the wind change. He explained that Colac ICC would usually receive warning of the change as it passed through Cobden, Mt Porndon or Camperdown, to the west. Upon that information being received from these localities, in normal circumstances it would be conveyed to the fire ground. Mr Fallon told the Commission that on 7 February the change reached the fire ground at exactly the same time as it reached these other areas, making it impossible to provide prior warning.[49]

At 14:25 an awareness message was posted for Pomborneit, Stonyford and Swan Marsh.[50]

The fire then crossed the Princes Highway at 14:49 and headed north towards Pomborneit North. During the next one-and-a-half hours it burned unchecked, heading in a north-north-easterly direction towards stony country.[51]

At about the time the fire crossed the Princes Highway a helicopter positioned at Colac was able to become airborne. It dropped two loads of water and was then retasked to fires near Kinglake, which were considered a higher priority. Containment lines and the firefighting effort prevented the fire entering the Stony Rises (elevated basalt lava flows north-east of Pomborneit), which, because of the rocky terrain, would have increased the firefighting difficulty and greatly extended the time and effort required on the fire ground.[52]

At 15:30 an urgent threat message from the Colac Incident Management Team was sent to the integrated Emergency Coordination Centre. The 15:30 message was not, however, posted on the CFA website. It also took more than 25 minutes for iECC staff to upload a subsequent urgent threat message.[53]

The fire's forward spread was halted at 16:35, but work on the flanks was still required.[54]

At 17:43 advice was received from the operations point that 'control status' was not far away. Considerable damage to rail sleepers on the Melbourne–Warrnambool line was also reported. By this time the fire was said to be quiet with an occasional flare-up.[55]

At 19:18 a message was posted on the CFA website, saying that the threat had been downgraded to alert status.[56]

Emergency relief centres were established at the Camperdown Community Centre and the Colac Performing Arts Centre. These were closed at about 20:30 because the 10 people who had used them moved to a local hotel.[57]

The Municipal Emergency Coordination Centre was closed at about 22:30 on 7 February.[58]

The fire was listed as contained at 17:50 on 7 February. In all, 191 CFA and 50 Networked Emergency Organisation personnel attended the fire, supported by 2 NEO dozers and 2 aircraft. In all, 1,008 hectares were burnt, but damage and losses were limited to stock, crops, hay, fencing and some private infrastructure.[59]

## 8.2 CONCLUSIONS

The Commission was informed that the level of planning was the highest it had ever been for the region. In the Commission's view, this high level of preparedness helped the Colac Incident Management Team operate cohesively on the day, given the nature of the fire the team faced.[60]

From early on the fire moved very quickly. Mr Place said that, had there not been the rapid initial response, there would have been more serious consequences. He thought that the rapid initial response helped greatly to limit the fire's impact.[61]

The Commission notes the construction of containment lines in an effort to prevent the fire reaching the Otway Range. This appeared a prudent measure, as it was suggested to the Commission that, were it not for the earlier than expected wind change, the fire may have reached the Otway Range.[62]

The messages issued by the IMT were timely and clearly described the fire and its direction. There was also clear advice in the threat messages for road closures during the afternoon. Delays in uploading messages at the integrated Emergency Coordination Centre, while concerning, do not appear to have had any adverse impact on how the fires were fought or on community safety. Advice on the closure of the Geelong–Warrnambool railway line and the Princes Highway appears to have been acted on without incident. Traffic diversions were identified, and the iECC was notified.[63]

At times, communications between the ICC and the Regional Emergency Coordination Centre were not good, and the incident management changeover plan was delayed on the afternoon of 7 February.[64] These deficiencies did not, however, materially impair incident management.

Requests to the Municipal Emergency Coordination Centre for equipment such as water tankers and graders were received and acted on, and the equipment was despatched. It was reported that the MECC had difficulty obtaining from the Colac ICC reliable information about the location and movement of the fire. At times this resulted in the MECC having difficulty directing tankers and graders to where they were needed. Overall, though, planning and coordination between municipal, police and emergency services officers in response to the Pomborneit fire appeared sound.[65]

Mr Fallon noted the close cooperation between the CFA and DSE in his region. He stated that both agencies had developed a model relationship that continues to strengthen, this being 'testament to the years of hard work put into the region by both organisations'.[66]

1 Exhibit 677 – Statement of Kittel (WIT.4004.001.0001) [10], Attachment 1 (WIT.4004.001.0016) at 0017

2 Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [48], [55]–[58]; Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19]

3 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) at 0011

4 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) at 0011

5 Exhibit 305 – Statement of Place (BFP.005.001.0028_R) [21]

6 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0050

7 Exhibit 4 – Statement of Rees (WIT.004.002.0001) [68]; Rees T64:27–T64:30

8 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0050

9 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) at 0011. Note that, although the evidence refers only to the Fire Danger Index, because of the geographic nature of the Pomborneit–Weerite area it is likely that this was measured using the Grassland Fire Danger Index.

10 Exhibit 311 – Event Record – 7 February (PAL.003.001.0322); Exhibit 289 – Statement of Vercelli (WIT.3020.002.0093) [28]–[33]; Exhibit 432 – PSCC Event No. 3196 (PAL.009.001.1011); Exhibit 432 – PSCC Event No. 3416 (PAL.009.001.1022; Exhibit 432 – Event No. 11285 (PAL.009.001.1163); Exhibit 432 – Event No. 12463 (PAL.009.001.1172); Exhibit 432 – Event No. 13219 (PAL.009.001.1176); Power T9859:10–T9860:27, T9862:7–T9862:18, T9863:2–T9863:8, T9864:1–T9864:16, T9866:28–T9867:3, T9867:6–T9867:20; Polvere T7986:27–T7986:30; Blackburn T9902:7–T9902:14, T9907:15–T9907:27

11 Exhibit 3 – Statement of Rees (WIT.004.001.0001) at 0102

12 Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [58]

13 Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [56]–[58]; Fallon T7844:21–T7844:23

14 Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19]

15 Exhibit 939 – Details Regarding Emergency Response (CFA.600.005.0195) at 0195, 0198; Exhibit 939 – Day by Day Breakdown – Pomborneit (DSE.HDD.0048.0545_10); Exhibit 939 – Aircraft Data 0809 (DSE.HDD.0048.0544_20) at 0544_27

16 Exhibit 994 – Weerite Fire – Fire Spread Map (CFA.600.006.0012)

17 Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [30]

18 Exhibit 450 – Statement of Rourke (WIT.3024.002.0163) [20]

19 Fallon T7956:16–T7956:28

20 Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [62], [64]; Fallon T7956:29–T7956:31; Exhibit 548 – Correspondence – Safety Advisors (CORR.0911.0107_R)

21 Fallon T7957:1–T7957:15

22 Fallon T7956:16–T7956:28

23 Fallon T7956:29–T7956:31

24 Fallon T7840:2–T7840:9

25 Fallon T7956:29–T7956:31

26 Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [48]

27 Fallon T7956:29–T7956:31

28 Exhibit 548 – Correspondence – Safety Advisors (CORR.0911.0107_R)

29 Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [62], [64]; Fallon T7956:29–T7956:31

30 Exhibit 677 – Statement of Kittel (WIT.4004.001.0001) [39], [47]–[49], [52]–[54]

31 Fallon T7845:11–T7845:19; Place T7866:2–T7866:8

32 Exhibit 302 – Statement of Callow (WIT.7511.002.0001_R); Callow T7847:5–T7847:6, T7847:22–T7847:24, T7848:17–T7848:26

33 Callow T7854:8–T7854:14

34 Exhibit 430 – Triple Zero Calls – Transcript (BFP.006.001.0001) at 0002–0003; Exhibit 302 – Statement of Callow (WIT.7511.002.0001_R) at 0001_R; Callow T7850:21–T7851:17, T7851:23–T7851:27

35 Exhibit 314 – Statement of Beal (VPO.001.027.0015_R) at 0016_R; Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [48]; Exhibit 430 – Triple Zero Calls – Transcript (BFP.006.001.0001) at 0002–0003; Fallon T7959:1–T7959:5

36 Exhibit 280 – Statement of Power (WIT.7002.003.0001) [9]–[10]; Exhibit 311 – Event Record – 7 February (PAL.003.001.0322); Exhibit 302 – Statement of Callow (WIT.7511.002.0001_R) at 0001_R; De Vercelli T7970:22–T7970:31

37 Exhibit 311 – Event Record – 7 February (PAL.003.001.0322); Exhibit 289 – Statement of Vercelli (WIT.3020.002.0093) [28]–[33]; Exhibit 432 – PSCC Event No. 3196 (PAL.009.001.1011); Exhibit 432 – PSCC Event No. 3416 (PAL.009.001.1022); Exhibit 432 – Event No. 11285 (PAL.009.001.1163); Exhibit 432 – Event No. 12463 (PAL.009.001.1172); Exhibit 432 – Event No. 13219 (PAL.009.001.1176); Power T9859:10–T9860:27, T9862:7–T9862:18, T9863:2–T9863:8, T9864:1–T9864:16, T9866:28–T9867:3, T9867:6–T9867:20; Polvere T7986:13–T7986:30; Blackburn T9902:7–T9902:14, T9907:15–T9907:27

38 Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [69]; Place T7868:29–T7870:12, T7872:4–T7872:13

39 Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [48], [74]; Place T7871:12–T7871:20, T7872:4–T7872:13, T7877:5–T7877:11

40 Place T7865:27, T7871:22–T7871:25

41 Place T7872:20–T7872:29

42 Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [5], [60]–[62]; Fallon T7840:2–T7840:9, T7840:14–T7840:19

43 Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [19], [77], [80], [128]

44 Fallon T7841:10–T7841:18, T7959:9–T7959:11

45 Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [50], [79]; Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [66]; Fallon T7840:23–T7840:28

46 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [73]–[74]

47 Exhibit 309 – Statement of Fallon, Annexure 8 (WIT.3004.015.0157) at 0159; Rees T64:25–T64:30; Fallon T7841:19–T7841:31

48 Gunning T7910:16–T7911:8; Fallon T7960:17–T7960:31, T7962:1–T7962:11

49 Fallon T7960:17–T7961:6

50 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [73]–[74]

51 Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [96]–[106]

52 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [71]; Fallon T7841:28–T7843:25, T7844:10–T7844:16

53 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [73]–[74]; Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [104]–[105], [118]–[120]

54 Exhibit 309 – Statement of Fallon, Annexure 8 (WIT.3004.015.0157) at 0160

55 Exhibit 309 – Statement of Fallon, Annexure 8 (WIT.3004.015.0157) at 0161

56 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [73]–[74]

57 Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [118]; Exhibit 677 – Statement of Kittel (WIT.4004.001.0001) [55], [63]

58 Exhibit 677 – Statement of Kittel (WIT.4004.001.0001) [63]

59 Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [48], [55]–[58]; Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19]; Exhibit 939 – Details Regarding Emergency Response (CFA.600.005.0195) at 0195; Exhibit 939 – Day by Day Breakdown – Pomborneit (DSE.HDD.0048.0545_10) at 0545_10; Exhibit 939 – Aircraft Data 0809 (DSE.HDD.0048.0544_20) at 0544_27; Fallon T7834:12–T7834:18

60 Fallon T7955:9–T7955:12

61 Place T7871:27–T7872:3

62 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [71]; Fallon T7843:18–T7843:25, T7844:10–T7844:16

63 Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [81]–[82], [87], [104], [115]

64 Fallon T7963:14–T7963:29, T7962:12–T7962:14

65 Exhibit 677 – Statement of Kittel (WIT.4004.001.0001) [48]–[49], [52]–[54], [67]

66 Exhibit 309 – Statement of Fallon (WIT.3004.015.0001) [127]



# THE CHURCHILL FIRE

9

# 9 THE CHURCHILL FIRE

Churchill is about 160 kilometres south-east of Melbourne, in Latrobe City and Wellington Shires, which are part of the Latrobe Valley.

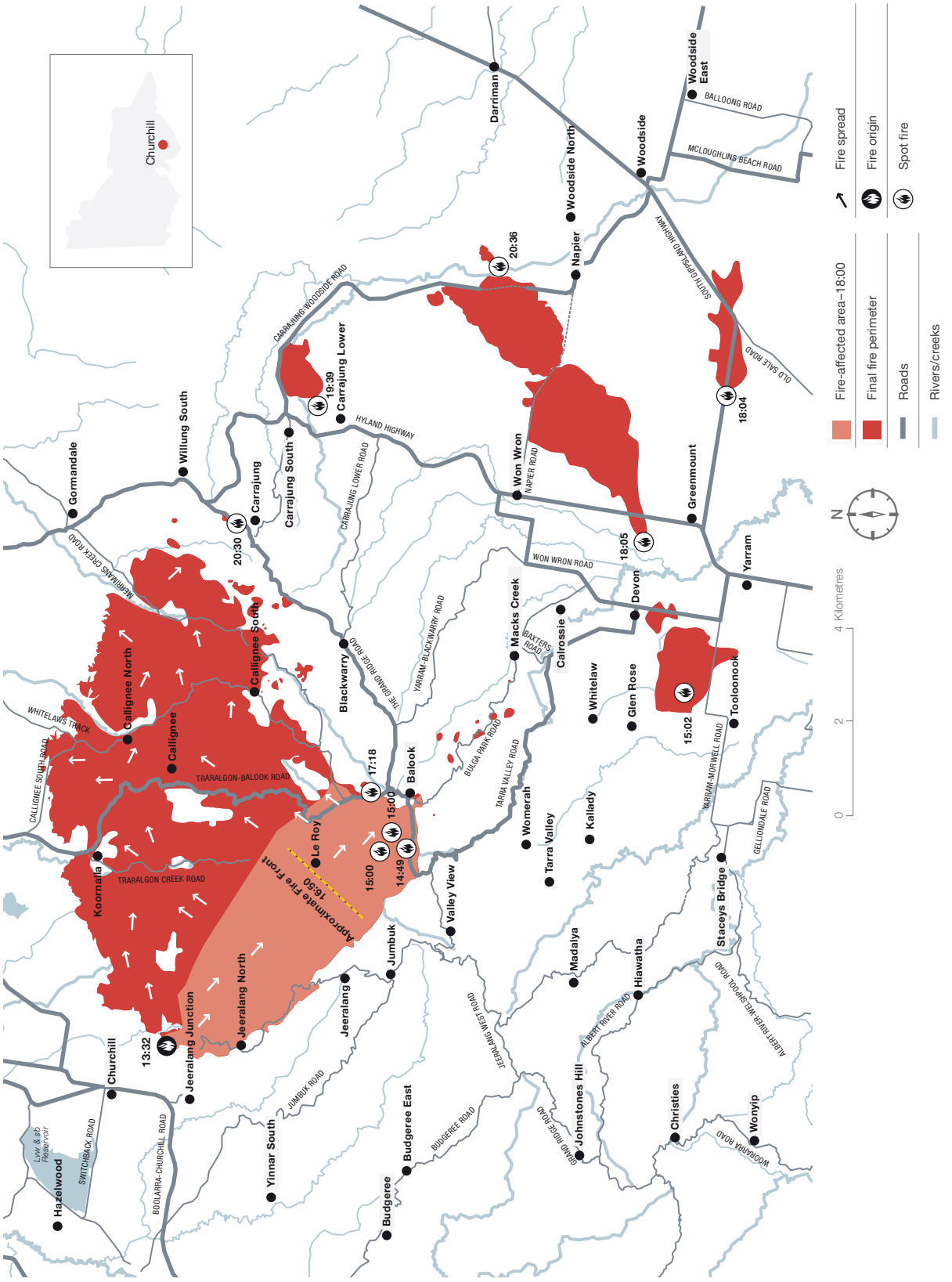
The Churchill fire started at about 13:32 on 7 February 2009, 3 kilometres south-east of the Churchill fire station. During the afternoon and early evening the fire travelled rapidly, affecting Jeeralang North, Balook, Le Roy, Koornalla, Callignee, Callignee North, Callignee South, Hazelwood South, Hazelwood North, Traralgon South, Devon, Yarram and Carrajung South. The Loy Yang power station, part of Victoria's critical infrastructure, is about 25 kilometres from Churchill and came under threat.

Although the fire was at its most destructive on 7 February, it was not reported as controlled until 19 February. Eleven people died as a result of the fire, 145 houses were destroyed, and more than 25,861 hectares were burnt. Figure 9.1 shows the extent of the fire.

## OVERVIEW

| | |
|---|---|
| **Maximum temperature** | The maximum temperature recorded was 46.1°C at Latrobe Valley automatic weather station at 16:02.[1] |
| **Minimum relative humidity** | The minimum relative humidity recorded on 7 February was 8 per cent at Latrobe Valley AWS at 15:43.[2] |
| **Wind** | The maximum winds recorded before the wind change were north-north-westerly at 44 kilometres an hour at Latrobe Valley AWS at 15:43.[3]<br>The south-westerly wind change was recorded by the Latrobe Valley AWS at 18:18.[4]<br>The maximum winds recorded after the wind change were 46 kilometres an hour at Latrobe Valley AWS at 18:20.[5] |
| **Fire danger index** | The maximum Forest Fire Danger Index was 103 at Latrobe Valley AWS at 16:00.[6] |
| **Cause** | Suspicious.[7] |
| **Fatalities** | Eleven fatalities.[8] |
| **Casualties** | Thirty-five casualties.[9] |
| **Houses destroyed** | One hundred and forty-five houses.[10] |
| **Overall area burnt** | 25,861 hectares.[11] |
| **Firefighting resources** | On 7 February 409 CFA and 167 NEO personnel attended the fire. They were supported by 76 CFA appliances, 29 NEO appliances and 4 aircraft. 33 HVP firefighters also provided support.[12] |

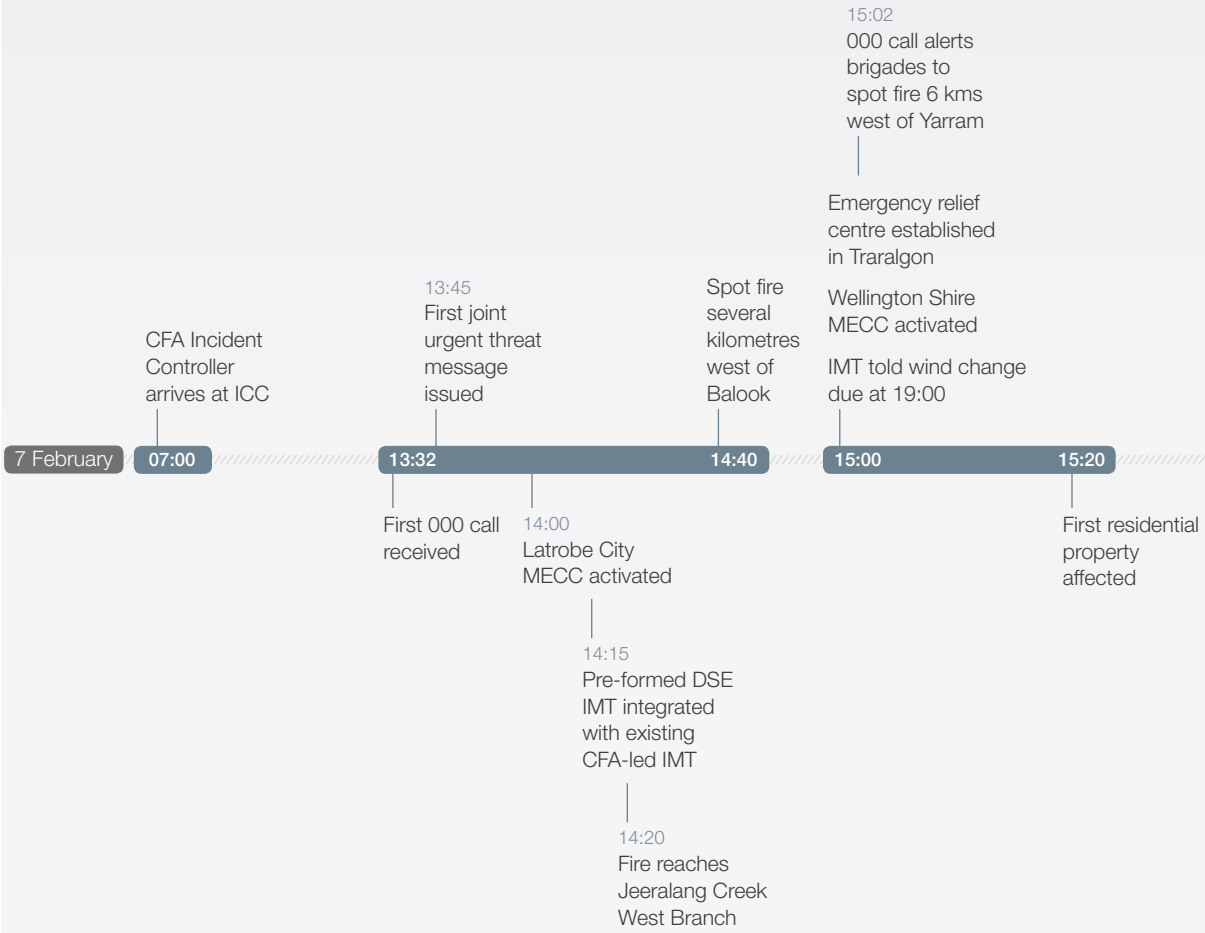
Figure 9.1 The Churchill fire

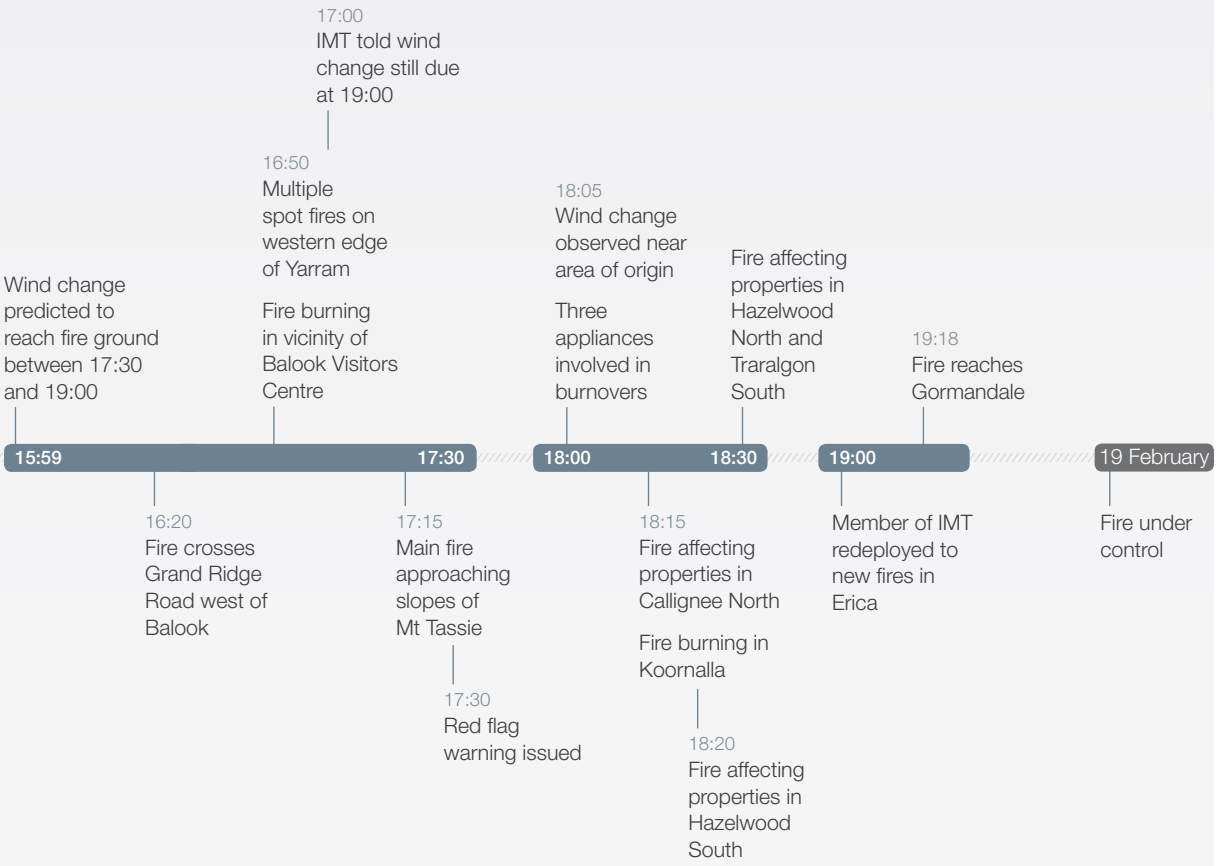



Source: Exhibit 994 – Churchill Fire – Fire Spread Map.[13]

## Churchill 7–19 February

The following time line summarises events associated with the Churchill fire. For the most part, the times given are approximate. Further details about the events are provided in the accompanying narrative.




Wind change predicted to reach fire ground between 17:30 and 19:00
15:59
16:20
Fire crosses Grand Ridge Road west of Balook
16:50
Multiple spot fires on western edge of Yarram
Fire burning in vicinity of Balook Visitors Centre
17:00
IMT told wind change still due at 19:00
17:15
Main fire approaching slopes of Mt Tassie
17:30
Red flag warning issued
17:30
18:00
18:05
Wind change observed near area of origin
Three appliances involved in burnovers
18:15
Fire affecting properties in Callignee North
Fire burning in Koornalla
18:20
Fire affecting properties in Hazelwood South
18:30
Fire affecting properties in Hazelwood North and Traralgon South
19:00
Member of IMT redeployed to new fires in Erica
19:18
Fire reaches Gormandale
19 February
Fire under control

## 9.1 SEQUENCE OF EVENTS

### 9.1.1 PREPARATION

Before 7 February the Country Fire Authority and the Department of Sustainability and Environment had already been providing support in response to the Delburn fires (see Chapter 3).[14]

The CFA had been managing the Delburn fires using a level 2 incident management team at the Traralgon DSE office since 29 January. Mr Peter Lockwood was the day-shift Incident Controller on 7 February. Authorised to perform the role of a level 3 Incident Controller subject to the guidance of a mentor, he arrived at the Traralgon Incident Control Centre at 07:00, in readiness for starting work at 08:00 following a handover from the night-shift Incident Controller. He spent the morning focusing on the Delburn fires.[15]

In addition to the continuing management requirements of the Delburn fires, as a precautionary measure DSE established a further incident management team that was pre-positioned at the Traralgon DSE office on 7 February. Mr Lawrie Jeremiah, a DSE recovery manager and qualified level 3 Incident Controller, was rostered on.[16]

The Latrobe City Municipal Emergency Coordination Centre had been opened at the direction of Senior Sergeant Brendan Scully, who was the Municipal Emergency Response Coordinator, on 29 January in response to the Delburn fires. It was de-activated on 6 February, although it remained ready to operate. As Senior Sergeant Scully explained, 'We just needed to unlock the door and sit down and resume co-ordination duties'.[17]

Table 9.1 summarises the state of preparedness for the Churchill fire.

**Table 9.1 The Churchill fire – IMT preparedness**

| | |
|---|---|
| **Pre-designated level 3 ICC** | Yes[18] |
| **Pre-formed IMT at ICC** | Yes (in place from Delburn fire)[19] |
| **Pre-identified level 3 IC** | No[20] |
| **Pre-identified IMT members** | Yes[21] |
| **Time fire started** | Approximately 13:32[22] |
| **Full IMT in place by** | IMT already in place for Delburn fires |
| **Safety adviser appointed** | No[23] |

### 9.1.2 7 FEBRUARY

#### Origin and cause

At about 13:32 on 7 February a caller to 000 reported a fire about 3 kilometres south-east of Churchill fire station, near the intersection of Glendonald and Jelleff's Outlet Roads. The fire had started in the bottom of a natural basin—the Bennett's Creek catchment—in the vicinity of forests managed by Hancock Victorian Plantations. The vegetation in the area consisted of blue-gum and pine plantations of varying ages with an understorey of shrubs, wire grass, blackberry and other surface fuels. The overall fuel hazard was very high.[24]

CFA investigators and Victoria Police determined the cause of the Churchill fire to be suspicious. In order that the criminal investigations and proceedings not be prejudiced, the Commission heard no evidence about the cause of the fire.

#### Fire run, response and management

At 13:35 air attack supervisor Mr David O'Toole, who was already airborne, described a 'significant column of dark smoke'—'hundreds of feet' high—south-east of Churchill. Although Mr O'Toole was 10 kilometres from Churchill at the time, he 'knew that the fire was going to be unstoppable as direct attack would likely fail'. It was estimated that 10 minutes after it started the fire had travelled about a kilometre.[25]

A Hancock Victorian Plantations surveillance plane (with pilot and observer) had been flying a circuit around the Latrobe Valley since early in the day. At about the same time as Mr O'Toole reported his observations, the plane responded to a CFA request to divert to Churchill, where it did reconnaissance work, continuing this until 16:30. HVP's first-attack helicopter was at Latrobe Valley airport with the pilot on standby ready to fly; it assisted with the initial attack within 15 minutes of the fire being reported.[26]

Crews from Churchill fire station were first alerted to the fire by a member of the public who reported it directly to the station. Crew members were able to see a smoke column emanating from the plantation to the south-east of the station. By the time the first crew arrived at the scene the fire had spread rapidly to the south-east and was burning on both sides of Jelleff's Outlet Road. Even at this early stage the fire behaviour was extreme, with crowning in the plantation.[27]

As the Churchill pumper crew made their way towards Glendonald Road they reported that 'a huge plume of smoke was already evident'. A request was made for 20 more tankers along with air support. Fire-bombing was of limited value because of the extreme wind and erratic flying conditions. The water was dispersing before hitting the ground.[28]

Initially Mr Steven Barling, captain of the Churchill fire brigade and a divisional commander, took on the role of Incident Controller before handing over to the Traralgon Incident Control Centre.[29]

While monitoring the Delburn fires at about 13:45, Mr Lockwood, who was at the Traralgon ICC, noticed in the CFA Incident Management System a fire at Churchill, in a pine plantation on Glendonald Road. He promptly informed the HVP liaison officer, and they discussed the plantations in the area, the possible run of the fire and its potential impact.[30]

The first urgent threat message was issued at 13:45 for the communities of Hazelwood South, Jeeralang, Jeeralang North and Jeeralang Junction. The CFA and DSE continued to issue warnings throughout the afternoon. Between 13:45 and 17:30 a further seven fire information releases were issued, warning communities that were likely to be affected before the forecast arrival of the south-westerly wind change. Mr Lockwood also did interviews with local ABC radio and 774 ABC.[31]

In addition to official warnings, firefighters liaised with police to warn communities of the fire and the expected wind change. Police also warned communities on their own initiative. Forward Commander Sergeant Clinton Wilson used any spare police capacity to warn residents—particularly those in Callignee, Traralgon South and Koornalla.[32]

In view of the rapid spread of the fire and the significant spotting, the first crews on the scene could not engage in direct attack from the start. The focus quickly turned to advising residents and protecting houses in the Glendonald Road area.[33]

Mr Bruce Mongan, Sector Commander, directed some firefighting crews to the east of the area of origin, with the aim of stopping the fire before it reached houses, and sent other crews to Jelleff's Outlet Road to protect properties. He asked police to arrange roadblocks around the fire. By 14:00 additional crews had turned out and were being deployed along Thomson Road. The fire continued to spread quickly, crowning uphill to the south-east, through the broad valley of Bennett's Creek and towards the community of Balook.[34]

Municipal Emergency Resource Officer Ms Sheryl English received a call from the Municipal Emergency Response Coordinator about 13:45, informing her of the outbreak of the Churchill fire. The Latrobe City Municipal Emergency Coordination Centre was activated at about 14:00.[35]

Observations by air crew record that before 14:10 the fire was cresting the ridge along which Jeeralang North Road runs, and by 14:20 the head of the fire had reached Jeeralang Creek West Branch. The fire had travelled about 7 kilometres in 50 minutes. From his aircraft Mr O'Toole reported that a spot fire had become established in steep country several kilometres west of Balook at 14:40, in the headwaters of Little Traralgon Creek. Several further spot fires were reported by a fire tower observer in the same area during the following 20 minutes.[36]

At about 14:15, following discussions between the DSE State Duty Officer, the Regional Duty Officer and the Area Manager, 'it was agreed that the existing CFA-led IMT already managing the Delburn fires at the Traralgon ICC would manage the new fire'. As a result, the pre-formed DSE IMT was integrated with the existing CFA-led IMT that was managing the Delburn fires, and Mr Lockwood was the Incident Controller for both incidents. Mr Jeremiah was assigned the role of Deputy Incident Controller.[37]

This was in accordance with prevailing practice: the fire had started on private land and Mr Lockwood was from the CFA. He was, however, less qualified and less experienced than Mr Jeremiah and, as noted, was authorised to occupy the level 3 Incident Controller position only when supervised by a mentor. No mentor was appointed on 7 February.[38]

In its interim report the Commission said this method of selection was flawed, and it recommended that the CFA and DSE develop procedures aimed at ensuring that Incident Controllers are appointed on the basis of competency, regardless of the point of ignition of a fire. The CFA and DSE have since implemented this recommendation.[39]

With the exception of the position of safety adviser, all other key roles were filled in the Churchill incident management team. Appointing a safety adviser is mandatory for all level 3 incidents under a joint CFA–DSE standard operating procedure.[40] The appointment of safety advisers is discussed in Chapter 3 of Volume II.

By 14:45 the fire had burnt through steep terrain and a pine plantation and had damaged a microwave communication tower.[41]

During the first IMT meeting, at 15:00, staff were told by Planning Officer Mr Andy Gillham that the south-westerly wind change was due at 19:00. At the time Mr Ross Pridgeon, who headed the Strategic Planning Unit, produced one of two maps developed during the day. This map took no account of the potential effect of the predicted wind change. The second map, issued at 21:00, failed to incorporate any prediction of future fire spread: it simply showed an estimate of the fire spread at that time.[42]

By 15:00 emergency relief centres were established in Traralgon and Morwell. Further relief centres were established, in Sale and Yarram, later in the evening. The Wellington Shire Municipal Emergency Coordination Centre was activated shortly after 15:00.[43]

As a result of a 000 call at 15:02, brigades were alerted to a spot fire in the Mays Bush – Jack River Reserve, 6 kilometres west of Yarram. This was 14 kilometres from spot fires in the Little Traralgon Creek headwaters and about 20 kilometres south-east of the head of the fire.[44]

Efforts to protect assets continued during the afternoon. At about 15:00 Mr Mongan released the Toongabbie tanker, whose crew wanted to return to protect Toongabbie. Throughout the afternoon, before the wind change, he and Mr David Street, crew leader on the Traralgon East tanker, attended properties along Jeeralang West Road, doorknocking, issuing warnings and helping residents. Despite their efforts, the spreading flank fire destroyed a home at the intersection of Thomson Road and Jeeralang North Road at about 15:20. This was the first home to be burnt by the Churchill fire.[45]

At 15:59 a local forecast for the Churchill area received by the incident management team had predicted the wind change reaching the fire ground between 17:30 and 19:00. Gusty south-westerly winds were expected to follow the change. Despite receipt of this forecast, staff at the next IMT meeting, at 17:00, were given by the Planning Officer the predicted wind change time (19:00) that had been given to the 15:00 meeting.[46]

Image 9.1 shows the view of the fire from the Yarram CFA station.

**Image 9.1**




Source: Courtesy of the *Herald & Weekly Times*.

The fire was reported as crossing Grand Ridge Road west of Balook at 16:20; 30 minutes later it was said to be burning in the vicinity of the Balook Visitors Centre. Multiple spot fires were recorded in grassland on the western edge of the township of Yarram, and by about 17:15 the main fire was approaching the slopes of Mt Tassie and spotting to the mountain's east side.[47]

The spot fires increasingly strained resources as crews and equipment were diverted to the emerging fire threat some distance from the head of the fire. The Yarram spot fires threatened the Carter Holt Harvey Mill, but CFA crews managed to save the mill with the help of crews from Hancock Victorian Plantations.[48]

**Box 9.1 Forest industry brigades**

Under Victoria's *Country Fire Authority Act 1958* Hancock Victorian Plantations is required to maintain seven industry brigades to help protect its plantations. The company maintains crew and appliances well in excess of this statutory requirement.[49] Ms Linda Sewell, Chief Executive Officer of HVP, explained why HVP kept more crews: 'Our application of resources is not about what our legal requirement is. It is what we believe is necessary in order to protect our people, our plantations and the communities in which our plantations are'.[50]

HVP firefighters are trained through the CFA and DSE. They carry pagers and are alerted about attendance at fires in the same way as CFA brigades.[51]

Although a forest industry brigade is responsible only for fire suppression on plantation holdings of the owner or group of owners who formed the brigade, the Commission was advised that HVP crews regularly attend fires outside the company's plantations, often some distance away. More than 50 per cent of the fires HVP's forest industry brigades attend are not on HVP land.[52]

On 7 February HVP was in a high state of readiness. Personnel were located across HVP depots and in fire towers at Flynn, Longford and Stockdale, and heavy machinery—bulldozers, graders, and so on—was at various locations. Twelve HVP firefighters were patrolling for arson activity.[53]

HVP's response to the firefighting effort was rapid and included subsequent despatch of resources to Yarram. The HVP Churchill office had staff ready for deployment to any fire that might break out on the day. In addition, an HVP fire coordinator was acting as a liaison officer at the ICC in Traralgon.[54]

At about 17:30 the incident management team received information about the impact of the wind change at Bunyip; this suggested the change would probably arrive earlier than 19:00. The Incident Controller directed that all aircraft be grounded and that red flag warnings be issued.[55]

Despite this, the air attack supervisor, Mr O'Toole, who had difficulty communicating with the incident management team throughout the day, received from the team no direct communication about the predicted change in the weather. Rather, having noticed the wind becoming erratic at 17:27, he asked the air base for an update on the forecast change. A few minutes later the base told him he should return immediately because a severe wind change was imminent. Mr O'Toole landed only minutes before the change arrived. He explained that if he and his pilot had still been airborne when the wind changed it would have posed 'a significant threat to our safety'.[56]

At 17:47 the wind change passed through Boolarra, 5 kilometres south-west of where the fire had started and about 26 kilometres west of the head of the fire. It was recorded at the Yarram automatic weather station at 18:03 and reached the fire's area of origin by 18:05.[57]

The wind change turned the fire to the north-east, causing spotting towards Callignee, Traralgon South and Koornalla. A 13-kilometre-long uncontrolled flank of fire, running from the area of origin through to the east side of Mt Tassie, developed. Heavy fuel loads, steep terrain and the extreme weather caused the fire to produce huge pieces of airborne burning debris. Witnesses described the fire as 'travelling as a mass of embers that ignited the surrounding vegetation almost instantly on their arrival, then propagating more burning debris to become airborne again'. No warnings were issued for Koornalla, Callignee, Callignee South and Callignee North before the wind change.[58]

It was after the wind change that the fire was at its most dangerous; it progressively burned through Hazelwood North, Hazelwood South (where two people died), Koornalla (where four people died), Traralgon South, Callignee (where four people died), Callignee South, Callignee North, Jeeralang (where one person died), Jeeralang North, Devon, Yarram and Carrajung South and on to Won Wron State Forest.[59] Chapter 17 in this volume discusses the circumstances surrounding the 11 deaths that occurred.



Between 18:00 and 18:50 reports said that the fire was affecting properties in Koornalla, Callignee North, Hazelwood South, Hazelwood North and Traralgon South.[60]

During the course of the fire three CFA tankers were involved in burnovers. Additionally, a fourth tanker, Traralgon Tanker 1, was placed in a very dangerous position. All the burnovers occurred during suppression activities on Glendonald Road shortly after 18:00, when the wind change arrived. In each case the crews had heard a red flag warning at about 17:30, advising of an expected wind change at 19:00. The early arrival of the wind change, about an hour earlier than predicted, caught crews by surprise.[61]

The Glengarry West tanker report said the burnover hit with 'great ferocity'. Three crew members were unable to return to the tanker because of the fire's intensity and were forced to break into an indoor swimming pool area to take shelter. One crew member, Mr Norm Ingliss, remained on the tanker deck operating a fog spray. He sustained minor burns to his hands and face. The crew leader, Mr Graeme Chesterton, remained in the cabin and, while lying on the cabin floor, sent out a mayday call.[62]

Mr Chesterton described the experience of the burnover as 'terrifying', stating that he was fearful for his safety and that of his crew.[63] He also described what happened when the wind change arrived:

> I could see embers start to fall. It was like they were coming from everywhere. … It became very smoky and everything started to burn rapidly. There were spot fires on the ground all around me and the trees started burning. At that stage I guessed I had about 10 to 15 seconds until I would have to make a move. Within those 15 seconds, the conditions deteriorated so rapidly that I realised it wasn't safe to leave the truck … At that time I did not know where all my crew members were. I thought they could be on the back of the truck, or out and around the house. I made the decision to make a mayday call at that stage. I said on the radio 'Mayday call, Mayday call, Glengarry West tanker'. I would then have said something along the lines of 'we are completely surrounded by fire'.[64]

The crew estimated that the burnover took more than 10 minutes. Some on the fire ground were seriously affected by these events. Mr Mongan testified that as he and his crew took shelter he heard two mayday calls on the radio. But there was nothing he could do to help: 'Hearing the messages made an impact on me at the time because I wasn't able to do something to assist the crews in any way'.[65]

At about 19:00 a separate fire had started near Erica. Personnel and resources were redeployed to deal with this fire, drawing them away from the Churchill fire.[66]

At 19:18 the fire had reached Gormandale.[67]

The spread of the Churchill fire had slowed by about 20:00, although the fire continued to move north-east.[68]

### 9.1.3 AFTER 7 FEBRUARY

Although much of the fire was brought to a halt on 8 February, some areas were inaccessible, and burning continued in heavily fuelled areas. The fire was not listed as controlled until 18:00 on 19 February.[69]

The Latrobe City Municipal Emergency Coordination Centre received 247 requests for assistance during the Churchill fire. The MECC ceased operating on 20 February. The emergency relief centre in Traralgon was attended by thousands of people in the days and weeks following the fire.[70]

The Churchill fire burnt more than 25,861 hectares, resulted in the death of 11 people, and destroyed 145 homes.[71]

## 9.2 INCIDENT MANAGEMENT

The IMT for the Churchill fire did not prepare an incident action plan for 7 February. Mr Geoffrey Kennedy, operations officer, said he would not have expected to see an incident shift plan for a fire like this, because of the fire's speed and rapidly changing nature. (An 'incident shift plan' is an alternative name for an 'incident action plan'.) Indeed, the AIIMS manual recognises that it can be 'extremely difficult' to develop a written plan during rapidly escalating incidents. In such cases, the manual specifies that 'an assessment of the situation should still occur and an objective be determined'. The State of Victoria submitted that objectives for the incident were in fact determined and that these objectives were firefighter safety and the protection of life and property.[72]

In 2002, when reporting on the deaths resulting from the Linton fire, the coroner noted that one of the roles of an incident action plan is to put senior members of the incident management team in a position:

> … to consider, analyse and evaluate all relevant material so that the appropriate direction … can be given to those on the fire ground not possessed of all requisite information needed to make appropriate decisions, in terms of safety and operational effectiveness.[73]

Mr Barling stated to the Commission that, although he had some interaction during the fire with Mr Brett Mitchell, the deputy operations officer, he did not receive a plan and nor was he given strategic direction. He said he made his own decisions about deployment of crew and sector command.[74] Firefighters on the fire ground did their best in the circumstances, under the direction of their local superiors.

The State Emergency Response Plan provides that the decision to recommend evacuation rests with the control agency—in this case, the fire agencies. In accordance with then-current agency practice, however, the incident management team did not consider evacuation of any towns or localities affected by the Churchill fire.[75]

On 7 February the Operations Unit's ability to adequately manage and track resources for the fire was limited by the Planning Unit's failure to produce any lists or charts detailing which resources had been sent to the fire and which remained available for deployment. This, at least in part, appeared to be because information was not being passed 'up the chain of command' from the field. It resulted in confusion about the identity, location and roles of the personnel on the fire ground and difficulties with communication and resourcing decisions. Inevitably, it led to inefficiencies and uncertainty.[76]

On the fire ground Mr Barling used 'T-cards'—a manual system of recording resources involving the use of paper cards shaped like a 'T'—to track the tankers under his control. Information from the T-card system was not used for making resource decisions in the Churchill Incident Management Team.[77] Chapter 3 in Volume II discusses in detail the management of resources.

The planning officer, Mr Andrew Gillham, inaccurately reported to successive IMT meetings that the wind change was expected to affect the Churchill fire at 19:00, despite local forecasts provided by the Bureau of Meteorology saying the change could arrive as early as 17:30. The idea that a wind change would arrive at 19:00 was widely held among members of the IMT and repeated in many contexts—including in Incident Management System data, in media interviews and in logs used by personnel. Senior officers in the IMT used the forecast of a wind change at 19:00 in a red flag warning that was issued at about 17:30; others were advised that the change would arrive at 18:30. The change actually reached the fire ground at about 18:18.[78]

This confusing array of wind change predictions, combined with the integrated Emergency Coordination Centre's failure to provide to the IMT crucial and accurate wind change information it had on hand from 16:50—meant that predictive mapping work done by members of the Churchill IMT, although of some use in estimating the spread of the fire, failed to take into account the impact of the most recent and accurate weather information available and the impact of the wind change.[79]

The IMT did not provide a communications plan to crews on the ground. Throughout the day there were communication difficulties, including difficulties communicating between firefighting crews and between air crew, ground crew and the IMT.[80]

An example of these problems was highlighted in the CFA investigation of a burnover involving Boolarra Tanker 3. The investigators found there was a lack of communication between the incident control centre and the tanker crew throughout the day and concluded that the tanker was engaged in suppression activities while being unaware of the ICC or the command structure on the fire ground. The tanker did not receive the red flag warning directly: rather, it 'monitored', or overheard, it being issued to other areas. The investigators' report concluded:



> The Communications Plan was established at the ICC but was not transmitted to local crews for adoption at the fire line. The local brigades used a fire ground channel as no Communications Plan was established. Communication occurred between the local group members but not to the ICC or to strike teams from outside region 10.[81]

On detailed examination, it was found that record keeping by the IMT and personnel on the fire ground did not comply with the standard operating procedures of both the CFA and DSE. Specifically, important details about the dissemination of red flag warnings were not recorded.[82]

### 9.2.1 PROTECTION OF CRITICAL INFRASTRUCTURE

A central objective of the incident management team—using CFA, DSE, MFB and Loy Yang personnel—on 7 February was the protection of critical state infrastructure in the Latrobe Valley. Among the assets protected were the Hazelwood power station and mine, the Loy Yang power station, the open-cut mine at Morwell, Bass Link power assets, Mt Tassie communication towers, and the SP AusNet microwave tower.[83]

Loy Yang is a vital piece of Victoria's infrastructure. Although criticised for some shortcomings, the Churchill Incident Management Team deserves credit for its effective planning and management to protect Loy Yang. IMT staff and fire crews worked well with Loy Yang staff. Communication between the IMT and Loy Yang staff was excellent, and this contributed to the successful implementation of Loy Yang's emergency management plans and helped ensure that the infrastructure was not significantly affected by the fires.[84] Loy Yang management is also to be commended for its level of preparation for major fires.

**Box 9.2 One example of many**

Throughout 7 February Mr Craig Wood, a long-serving CFA volunteer and captain of the Willung South fire brigade, and his crew focused on suppression and asset protection in response to the Churchill fire, at times placing themselves at great risk.

Along with many others, Mr Wood and his crew helped divert the fire away from Traralgon South and protect the Loy Yang power station. They helped evacuate to safety a number of people from Callignee. The bravery of all those involved is commended.

During the day Mr Wood's own farm came under threat and was left unprotected. He described the choice he faced: 'My task was far greater than my own farm'. This, he said, was something he 'tucked … into the back of my mind' as he instead turned to 'concentrate on what you need to do for the betterment of the larger and broader community'.[85]

Mr Wood and his crew provide just one example of the courage and generosity of men and women who fought the fires on 7 February.

## 9.3 CONCLUSIONS

There were numerous examples of courage, initiative and professionalism where crews responded to local situations. This might not have influenced the spread of the fire, but at the local level it increased community and firefighter safety, protected houses and property, and supported local crews who were both fighting the fires and risking their own homes and businesses.

It is the Commission's view that the incident management team for the Churchill fire demonstrated shortcomings in management and planning. The CFA's appointment of an inexperienced Incident Controller who required mentoring—and did not receive it—contributed to these deficiencies.

Broad objectives such as firefighter safety and protection of life and property do not alone constitute the necessary strategic and operational direction for managing a rapidly unfolding, complex event such as the Churchill fire. Although incident action plans might not have been completed for other fires, the Commission considers that the absence of such a plan in the Churchill IMT contributed to the lack of organisation and affected the efficiency of those working on the Churchill fire.

The training received by the crews who successfully sheltered during burnover events is commendable. The crews' survival is testimony to effective training and good tanker design, and it highlights the progress made since the Linton tragedy in 1998.

The absence of a circulated communications plan—combined with the already noted absence of an incident action plan and the lack of awareness of resources on the fire ground—contributed to the communication difficulties. The Commission recognises that operational communications pose continuing challenges, but a lack of communication planning or planning advice is inexcusable.

The planning officer's inaccurate reporting of the time of the wind change reflects the IMT's lack of understanding of the importance of local forecasts, and the vital wind change information contained within them, for communities and for firefighter safety. Chapter 2 in Volume II discusses the importance of accurately interpreting local weather forecasts.

The Strategic Planning Unit should have taken into account the impact of the wind change when preparing predictive maps. The maps the unit produced were of little assistance to the planning officer and the IMT as a whole.[86]

Inconsistent information about the wind change was conveyed to firefighters on the ground—in the form of a red flag warning or otherwise. This failure to promptly transmit accurate information about the change meant that firefighters on the ground were exposed to considerable risk during burnovers.

Warnings for communities affected by the fire before the wind change were generally adequate. No warning was issued for the community of Koornalla, however, and the communities of Callignee, Callignee South and Callignee North were inadequately warned about the wind change. After the wind change the Churchill IMT's warnings lacked clarity and priority, and this imposed unnecessary risks on these communities and on firefighters.

If a safety adviser had been appointed at the Churchill IMT this would have sharpened the focus on safety. The absence of such an officer might well have contributed to the late and inaccurate transmission of red flag warnings to some crews on the fire ground. The CFA investigated the burnovers and interviewed affected crew members. But members of the Churchill IMT were not consulted or interviewed during the investigation; nor were they alerted to the conclusions of the investigation before giving evidence to the Commission. Chapter 3 in Volume II discusses firefighter safety in more detail.

Crew on the Churchill fire ground experienced practical difficulties in maintaining log books. The IMT at Traralgon was, however, operating in an office environment and had access to administrative support. While acknowledging that other IMTs might also have failed to maintain adequate records, the Commission considers that the example of the Churchill IMT emphasises the need to record red flag warnings and other life-saving messages in accordance with standard operating procedures.

Communication between the Churchill IMT and Hancock Victorian Plantations was excellent. HVP management is to be commended for its level of preparation for major fires. HVP's crews should be acknowledged for their firefighting efforts on 7 February. Their commitment to protecting the local community—not just their own assets—impressed the Commission. The company lost assets worth tens of millions of dollars in the 7 February fires, including 16,684 hectares of plantation.[87]

Although roadblocks were sought and put in position, concerns were expressed about the manner in which the guidelines were implemented. At a police debrief on 20 March Forward Commander Sergeant Wilson expressed concern about traffic management—including placement of roadblocks allowing free access to areas affected or threatened by fire, suitable designation of roadblocks, and confusion about who should be allowed through. Chapter 2 in Volume II discusses roadblocks in detail.

1 Exhibit 557 – Meteorological Aspects of the Churchill Fire (BOM.901.0001) at 0026
2 Exhibit 557 – Meteorological Aspects of the Churchill Fire (BOM.901.0001) at 0026
3 Exhibit 557 – Meteorological Aspects of the Churchill Fire (BOM.901.0001) at 0026
4 Exhibit 557 – Meteorological Aspects of the Churchill Fire (BOM.901.0001) at 0026
5 Exhibit 557 – Meteorological Aspects of the Churchill Fire (BOM.901.0001) at 0026
6 Exhibit 557 – Meteorological Aspects of the Churchill Fire (BOM.901.0001) at 0045
7 Exhibit 214 – Statement of Hollowood (WIT.3010.001.0338) [68]
8 Exhibit 214 – Statement of Hollowood (WIT.3010.001.0338) [68]
9 Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [23]

10 Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048_R) at 0048_R

11 Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19]

12 Exhibit 939 – Details Regarding Emergency Response (CFA.600.005.0195) at 0195, 0198; Exhibit 939 – Day by Day Breakdown – Churchill (DSE.HDD.0048.0545_11); Exhibit 939 – Aircraft Data 0809 (DSE.HDD.0048.0544_20) at 0544_26; Exhibit 425 – Statement of Sewell (WIT.7519.001.0001) [58]–[59]

13 Exhibit 994 – Churchill Fire – Fire Spread Map (CFA.600.006.0008)

14 Exhibit 408 – Statement of Tainsh (WIT.3024.003.0353) [33], [44]; Exhibit 455 – Statement of Jeremiah (WIT.3024.003.0275) [23]

15 Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [8], [27]–[28], [40]; Exhibit 408 – Statement of Tainsh (WIT.3024.003.0353) [33]

16 Exhibit 408 – Statement of Tainsh (WIT.3024.003.0353) [44]; Exhibit 455 – Statement of Jeremiah (WIT.3024.003.0275) [19]–[20]

17 Exhibit 427 – Statement of English (WIT.4008.001.0001) [60], [62], [65]; Exhibit 404 – Statement of Scully (WIT.3010.008.0001) [26]

18 Exhibit 127 – Statement of Paterson, Annexure 8 (WIT.3004.010.1057)

19 Exhibit 408 – Statement of Tainsh (WIT.3024.003.0353) [66]; Exhibit 455 – Statement of Jeremiah (WIT.3024.003.0275) [28]

20 Exhibit 455 – Statement of Jeremiah (WIT.3024.003.0275) [28]; Jeremiah T10187:4–T10187:13

21 Exhibit 395 – Statement of Gillham (WIT.3024.004.0069) [8], [33]; Exhibit 400 – Statement of Kennedy (WIT.3024.003.0294) [11], [29]; Exhibit 401 – Statement of Mitchell (WIT.3024.003.0315_R) [8], [18]; Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [62]; Exhibit 393 – Statement of Pridgeon (WIT.3024.004.0110) [26], [32]; Exhibit 396 – Statement of Hunter (WIT.3004.018.0287) [4]; Exhibit 397 – Statement of Oldroyd (WIT.3004.018.0230) [3], [6], [14]; Gillham T9386:13–T9386:20; Jeremiah T10195:20–T10195:22; Sewell T9716:10–T9717:12

22 Exhibit 388 – Statement of Keating, Annexure 1 (WIT.3004.018.0009) at 0009; Sewell T9722:18–T9722:20

23 Exhibit 548 – Correspondence – Safety Advisors (CORR.0911.0107_R)

24 Exhibit 388 – Statement of Keating, Annexure 1 (WIT.3004.018.0009) at 0009, (WIT.3004.018.0080) at 0080, 0093; Sewell T9722:12–T9722:20

25 Exhibit 413 – Statement of O'Toole (WIT.3024.004.0165) [33], [36]; Exhibit 417 – Statement of Mongan (WIT.3004.018.0216) [30]; O'Toole T9557:18–T9557:27

26 Exhibit 425 – Statement of Sewell, Appendix 10 (HVP.004.001.0001); Sewell T9728:13–T9728:18, T9729:20–T9729:30

27 Exhibit 388 – Statement of Keating, Annexure 1 (WIT.3004.018.0009) at 0010

28 Exhibit 415 – Statement of Barling (WIT.3004.017.0304) [20]–[22]; Exhibit 417 – Statement of Mongan (WIT.3004.018.0216) [26]; Exhibit 413 – Statement of O'Toole (WIT.3024.004.0165) [58]; O'Toole T9565:6–T9565:14

29 Exhibit 415 – Statement of Barling (WIT.3004.017.0304) [27]

30 Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [47]–[48]

31 Exhibit 387 – Chronology of Major Events – Churchill Fire (TEN.106.001.0001) at 0001–0035; Exhibit 191 – Statement of Graystone, Annexure 5 (WIT.3026.001.0094) at 0102

32 Exhibit 415 – Statement of Barling (WIT.3004.017.0304) [30]; Exhibit 398 – Statement of Wilson (WIT.3010.009.0147) [20]–[21], [26]

33 Exhibit 388 – Statement of Keating, Annexure 1 (WIT.3004.018.0009) at 0010

34 Exhibit 417 – Statement of Mongan (WIT.3004.018.0216) [35]–[37]; Exhibit 415 – Statement of Barling (WIT.3004.017.0304) [24]; Exhibit 388 – Statement of Keating, Annexure 1 (WIT.3004.018.0009) at 0010

35 Exhibit 427 – Statement of English (WIT.4008.001.0001) [64]–[65]; Exhibit 404 – Statement of Scully (WIT.3010.008.0001) [26]

36 Exhibit 388 – Statement of Keating, Annexure 1 (WIT.3004.018.0009) at 0010, 0013

37 Exhibit 408 – Statement of Tainsh (WIT.3024.003.0353) [66]; Exhibit 455 – Statement of Jeremiah (WIT.3024.003.0275) [26]–[28]

38 Exhibit 455 – Statement of Jeremiah (WIT.3024.003.0275) [7]–[9]; Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [8]; Lockwood T9201:25–T9203:14; Barca T3465:20–T3465:25

39 B Teague, R McLeod, S Pascoe, *2009 Victorian Bushfires Royal Commission,* Interim Report, Parliament of Victoria, Melbourne, August 2009, Recommendation 9.2; Exhibit 547 – Statement of Haynes (WIT.3004.023.0011) [160]

40 Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [62]; Exhibit 455 – Statement of Jeremiah (WIT.3024.003.0275) [56]; Exhibit 548 – Standard Operating Procedure – Safety Advisors (CORR.0911.0109); Haynes T12050:25–T12051:2

41 Exhibit 388 – Statement of Keating, Annexure 1 (WIT.3004.018.0009) at 0013

42 Exhibit 455 – Statement of Jeremiah, Annexure 3 (DSE.0029.0256.0015); Exhibit 393 – Statement of Pridgeon (WIT.3024.004.0110) [27]–[29], [37]; Pridgeon T9345:21–T9348:31, T9350:2–T9350:31

43 Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [67]; Exhibit 427 – Statement of English (WIT.4008.001.0001) [75]; Exhibit 428 – Statement of Adams (WIT.4009.001.0001) [46]–[47], [51], Annexure 6 (WIT.4009.001.0273) at 0275

44 Exhibit 388 – Statement of Keating, Annexure 1 (WIT.3004.018.0009) at 0013

45 Exhibit 417 – Statement of Mongan (WIT.3004.018.0216) [41], [43]–[46]; Exhibit 388 – Statement of Keating, Annexure 1 (WIT.3004.018.0009) at 0013

46 Exhibit 403 – Spot Fire Weather Forecast (EXH.403.0002); Exhibit 455 – Statement of Jeremiah, Annexure 4 (DSE.0029.0256.0016) at 0016; Gillham T9395:7–T9395:30

47 Exhibit 388 – Statement of Keating, Annexure 1 (WIT.3004.018.0009) at 0013–0014

48 Exhibit 411 – Statement of Taylor (WIT.3024.004.0001) [80]–[90]; Exhibit 409 – Statement of Stamkos (WIT.3024.003.0329) [73]–[82]; Exhibit 410 – Statement of Walpole (WIT.3004.018.0345) [10]–[40]; Exhibit 412 – Statement of Mynard (WIT.3004.018.0101) [57]

49 Sewell T9716:31–T9717:4

50 Sewell T9717:5–T9717:9

51 Exhibit 425 – Statement of Sewell (WIT.7519.001.0001) [14], [18]–[19]; Sewell T9715:13–T9715:30

52 Exhibit 425 – Statement of Sewell (WIT.7519.001.0001) [44], [93]

53 Exhibit 425 – Statement of Sewell (WIT.7519.001.0001) [56], Appendix 10 (HVP.004.001.0001); Sewell T9728:13–T9728:18, T9729:20–T9729:30

54 Exhibit 425 – Statement of Sewell (WIT.7519.001.0001) [56]

55 Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [77]; Lockwood T9200:2–T9200:4

56 Exhibit 413 – Statement of O'Toole (WIT.3024.004.0165) [70], [71]; O'Toole T9567:1–T9567:18, T9567:26–T9567:27, T9568:5–T9568:25

57 Exhibit 388 – Statement of Keating, Annexure 1 (WIT.3004.018.0009) at 0014

58 Exhibit 388 – Statement of Keating, Annexure 1 (WIT.3004.018.0009) at 0014–0015; Keating T9193:10–T9194:19; Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [85]–[88]; Gillham T9395:29–T9395:30, T9405:4–T9405:20, T9406:11–T9406:28, T9409:6–T9409:10, T9414:2–T9414:7

59 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [88]; Exhibit 294 – Interactive Presentation – INTMEN 001827 (EXH.294.0001); Exhibit 296 – Interactive Presentation – INTMEN 001828 (EXH.296.0001); Exhibit 297 – Interactive Presentation – INTMEN 001841 (EXH.297.0001); Exhibit 298 – Interactive Presentation – INTMEN 001787 (EXH.298.0001); Exhibit 299 – Interactive Presentation – INTMEN 002059 (EXH.299.0001); Exhibit 300 – Interactive Presentation – INTMEN 001788 (EXH.300.0001); Exhibit 388 – Statement of Keating, Annexure 1 (WIT.3004.018.0009) at 0014–0015

60 Exhibit 388 – Statement of Keating, Annexure 1 (WIT.3004.018.0009) at 0014–0015; Keating T9196:15–T9196:28

61 Exhibit 389 – Investigation Report Glengarry West Tanker 1 (CFA.001.026.0138) at 0146; Wood T9753:26–T9754:9

62 Exhibit 389 – Investigation Report Glengarry West Tanker 1 (CFA.001.026.0138) at 0146; Chesterton T9682:2–T9682:3

63 Exhibit 418 – Statement of Chesterton (SUMM.044.003.1345) at 1349; Chesterton T9679:24–T9680:3

64 Exhibit 418 – Statement of Chesterton (WIT.3004.018.0353) [14]–[17]

65 Exhibit 389 – Investigation Report Glengarry West Tanker 1 (CFA.001.026.0138) at 0147; Exhibit 417 – Statement of Mongan (WIT.3004.018.0216) [54]

66 Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [80]; Exhibit 400 – Statement of Kennedy (WIT.3024.003.0294) [71]

67 Exhibit 388 – Statement of Keating, Annexure 1 (WIT.3004.018.0009) at 0015

68 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [89]

69 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [90]; Exhibit 388 – Statement of Keating, Annexure 1 (WIT.3004.018.0009) at 0015

70 Exhibit 427 – Statement of English (WIT.4008.001.0001) [67], [76]; Exhibit 404 – Statement of Scully (WIT.3010.008.0001) [30]

71 Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19]; Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048_R) at 0048_R; Exhibit 214 – Statement of Hollowood (WIT.3010.001.0338) [68]

72 Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0088; Submissions of the State – Churchill Fire (RESP.3000.005.0075) [49]; Kennedy T9482:3–T9482:6

73 Exhibit 546 – Linton Report (TEN.132.001.0001) at 0386

74 Barling T9590:2–T9590:28

75 Exhibit 11 – Statement of Esplin, Attachment 2 (WIT.005.001.0123) at 0184

76 Exhibit 400 – Statement of Kennedy (WIT.3024.003.0294) [48]; Kennedy T9466:2–T9466:12; Mitchell T9495:8–T9495:12

77 Barling T9593:12–T9594:13; Kennedy T9485:1–T9485:18

78 Exhibit 387 – Chronology of Major Events – Churchill Fire (TEN.106.001.0001) at 0023; Exhibit 2 – IMS Data (WIT.004.002.1459) at 1488; Exhibit 403 – Spot Fire Weather Forecast (DSE.0028.0248.0216); Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [48], [67], [73]–[74], Annexure 13 (WIT.7520.001.0115), Annexure 16 (WIT.7520.001.0124) at 0126; Exhibit 411 – Statement of Taylor (WIT.3024.004.0001) [99], Annexure 2 (DSE.0078.0639.0123_R) at 0129_R; Exhibit 400 – Statement of Kennedy (WIT.3024.003.0294) [66]; Exhibit 415 – Statement of Barling (WIT.3004.017.0304) [42]; Barling T9598:6–T9599:10; Lockwood T9212:13–T9212:17, T9236:9–T9236:12, T9297:2–T9297:14; Gillham T9391:28–T9392:10

79 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0074; Submissions of Counsel Assisting the 2009 Bushfires Royal Commission, (SUBM.202.008.0001) [2.37]

80 Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [63]; Exhibit 417 – Statement of Mongan (WIT.3004.018.0216) [67]; Exhibit 415 – Statement of Barling (WIT.3004.017.0304) [38]–[40]; Exhibit 413 – Statement of O'Toole (WIT.3024.004.0165) [48]–[50]; Barling T9596:19–T9597:13

81 Exhibit 389 – Statement of Lockwood, Annexure 16 (CFA.001.026.0171_R) at 0190_R

82 Submissions of Counsel Assisting the 2009 Bushfires Royal Commission, (SUBM.202.008.0001) [7.33]–[7.52]

83 Exhibit 394 – Statement of Demetrios (WIT.079.001.0001_R) [29]–[31]; Exhibit 576 – Statement of Murphy (WIT.3006.001.0263) [16]; Exhibit 136 – Letter from Metropolitan Fire and Emergency Services Board To Counsel Assisting the 2009 Victorian Bushfires Royal Commission (TEN.051.001.0001) at 0002; Keating T9187:24–T9187:29

84 Exhibit 389 – Statement of Lockwood (WIT.7520.001.0001) [52]; Exhibit 394 – Statement of Demetrios (WIT.079.001.0001_R) [11]

85 Wood T9776:11–T9777:7, T9785:22–T9785:25

86 Exhibit 393 – Statement of Pridgeon (WIT.3024.004.0110) [29]; Pridgeon T9358:25–T9359:3

87 Exhibit 425 – Statement of Sewell (WIT.7519.001.0001) [77]



# THE MURRINDINDI FIRE

10

# 10 THE MURRINDINDI FIRE

Murrindindi is a small settlement in the Shire of Murrindindi, approximately 100 kilometres north-east of Melbourne.

The Murrindindi fire started at about 14:55 on 7 February 2009, to the north of a sawmill in Wilhelmina Falls Road, Murrindindi. It travelled rapidly and by 16:30 was affecting Narbethong.[1] Following a wind change that arrived at about 18:15, the fire swept through the communities of Marysville, Buxton and Taggerty. It continued to burn for weeks in heavily forested public land and was not formally declared contained until 5 March. By this time the Kilmore East and Murrindindi fires, which had merged, had burnt 168,542 hectares and, among other things, threatened Melbourne's water catchments.[2]

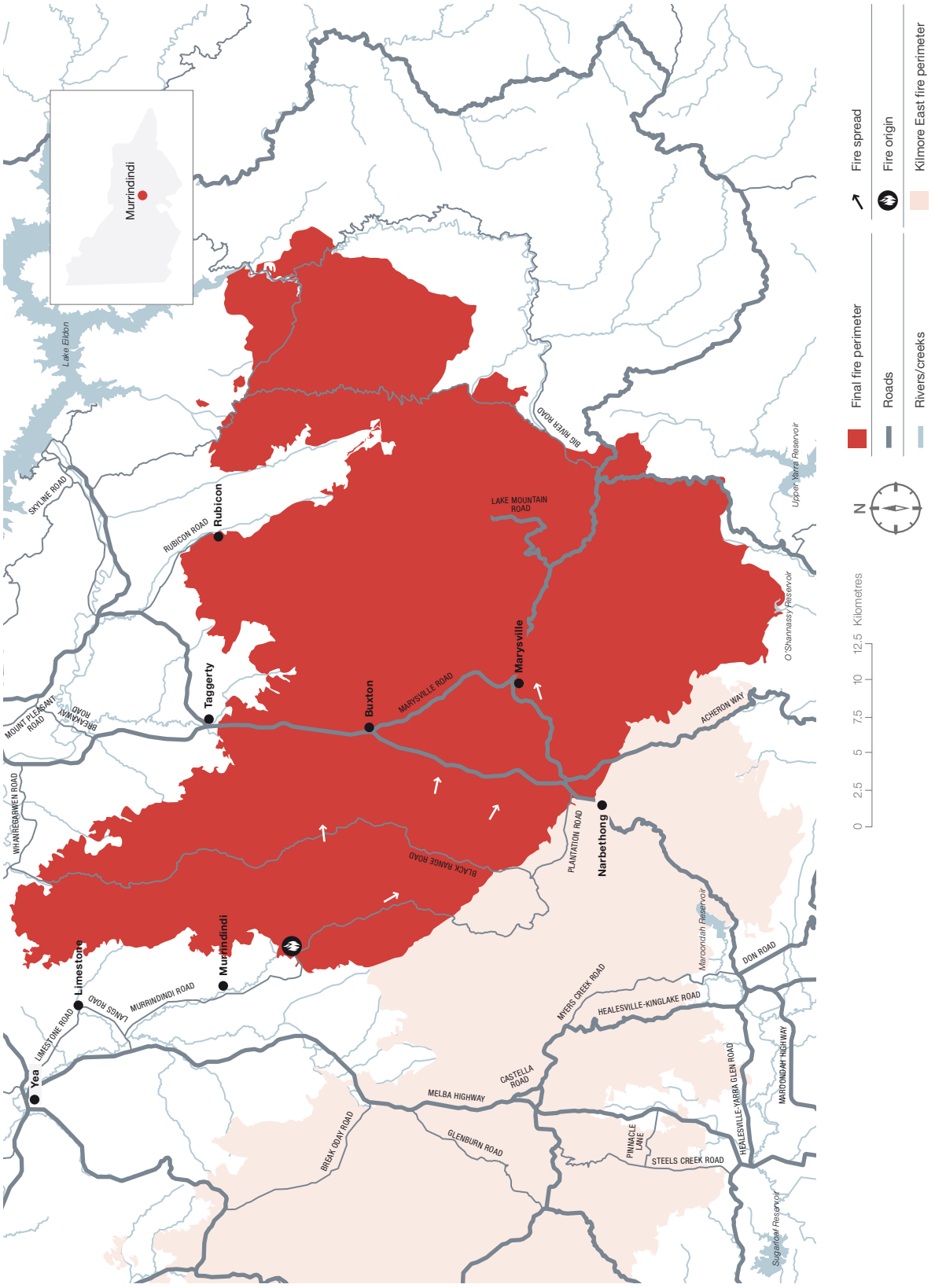
The fire resulted in the deaths of 40 people, and more than 500 houses were destroyed or damaged, mainly in and around Marysville, Narbethong and Buxton. The commercial centre of Marysville was destroyed, as was the core of the town's economic activity in tourism and hospitality. Much of the town's public infrastructure—including the police station, primary school, kindergarten and health clinic—was also destroyed.

Figure 10.1 shows the extent of the fire.

## OVERVIEW

| | |
|---|---|
| **Maximum temperature** | The maximum temperature recorded was 44.6°C at Coldstream automatic weather station at 17:34.[3] |
| **Minimum relative humidity** | The minimum relative humidity recorded was 8 per cent at Coldstream AWS at 17:28.[4] |
| **Wind** | The maximum wind recorded before the wind change was a north-north-easterly at 46 kilometres an hour at Coldstream AWS at 13:00.[5]<br>The wind change was recorded at 52 kilometres an hour at Coldstream AWS at 17:48.[6]<br>The maximum wind recorded after the wind change was a south-westerly at 57 kilometres an hour at Coldstream AWS at 17:51.[7] |
| **Fire danger index** | The maximum Forest Fire Danger Index was 110 at Coldstream AWS at 13:00.[8] |
| **Cause** | Suspicious.[9] |
| **Fatalities** | Forty fatalities.[10] |
| **Casualties** | Seventy-three casualties.[11] |
| **Houses destroyed** | 538 houses.[12] |
| **Overall area burnt** | The combined area burnt by the Murrindindi and Kilmore East fires was 168,542 hectares.[13] |
| **Firefighting resources** | On 7 February, 195 CFA and 311 NEO personnel attended the fire. They were supported by 45 CFA appliances, 22 NEO appliances and 3 aircraft.[14] |

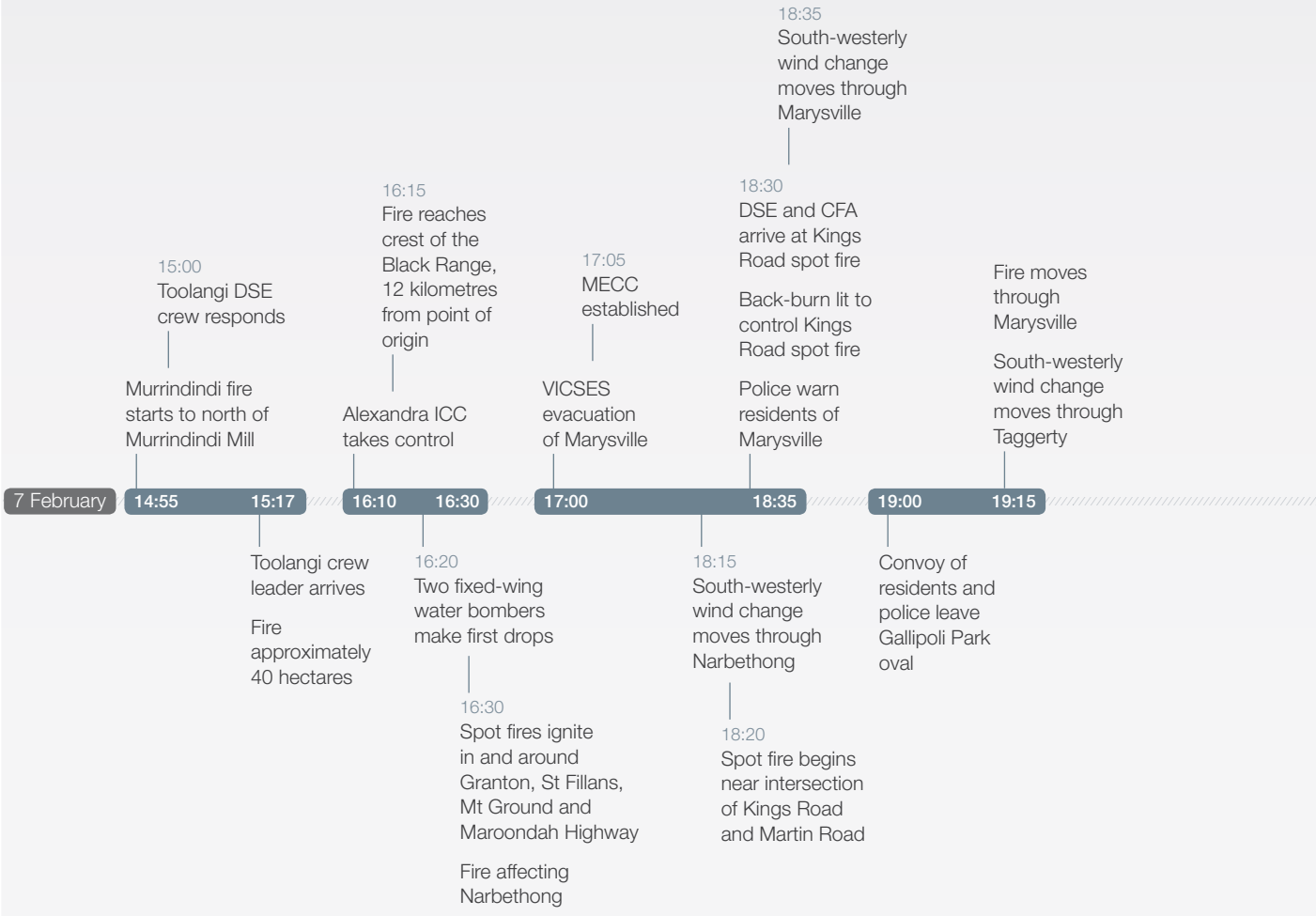
Figure 10.1 The Murrindindi fire




Source: Exhibit 994 – Murrindindi Fire – Fire Spread Map.[15]

## Murrindindi 7 February – 7 March

The following time line summarises events associated with the Murrindindi fire. For the most part, the times given are approximate. Further details about the events are provided in the accompanying narrative.




Fire reaches Buxton
19:30
Murrindindi and Flowerdale tankers recalled to Yea
20:00
22:00
8 February
02:30
5 March
7 March
MECC closed
20:20
Alexandra crew fall back from Buxton to Taggerty
20:35
Most DSE crews fall back to Alexandra to protect town
Fire south of Taggerty
Road to Taggerty cleared for ambulance access to Marysville
Fire contained

## 10.1 SEQUENCE OF EVENTS

### 10.1.1 PREPARATION

Mr Peter Farrell, Department of Sustainability and Environment Land and Fire Manager for the North-East Area, participated in the Chief Fire Officer's briefing on 5 February. In the days leading up to 7 February he directed staff at Benalla 'to start compiling teams of available people to undertake both incident management roles and also on ground firefighting roles' to provide for the staffing of incident control centres in the region. He did not, however, 'look at the detail of who had been allocated to which control centre' and relied on staff to give him advice on the availability of incident management team personnel.[16]

The Country Fire Authority's preparation for 7 February was overseen by the CFA Region 12 Operations Manager, Mr Peter Creak. In the lead-up to 7 February he prepared an 'incident management team planner' that identified personnel available for deployment to either of the two incident control centres that had been designated level 3 ICCs in CFA Region 12 for that day—Kilmore and Alexandra. Although the names of DSE personnel appeared on the planner, there was little integration between the CFA and DSE in the establishment at Alexandra of a level 3 ICC. The Alexandra ICC was based at the DSE facility there and staffed by DSE officers. Mr Creak positioned level 2 ICC resources and facilities in the region, including at the Yea and Alexandra Group Centres.[17]

Alexandra was one of the seven level 3 ICCs in DSE's North-East Area. It later became the ICC for the Murrindindi fire.[18]

To staff these facilities there were 16 level 3–accredited Incident Controllers across the North-East Area (two from DSE and 14 from the CFA). A further three (one from DSE and two from the CFA) were trained to perform a level 3 role but required mentoring. Five DSE and three CFA Incident Controllers were identified in Mr Creak's planner as available to work the day shift on 7 February and could, if directed, have been at the Alexandra ICC. Not all of them, however, were qualified as level 3 Incident Controllers.[19]

The usual practice in Region 12 was to send the necessary staff to the activated ICCs when fire incidents demanded, rather than pre-position personnel in incident management teams. Mr Farrell was advised on 6 February that 'all available key IMT staff were available'. He was satisfied that the rostered staff were appropriate for a level 1 or level 2 incident and that the local mutual aid plan provided for enough level 3 Incident Controllers, including those from the CFA, if the situation demanded it. This arrangement differed from that in other regions, where fully formed level 3 IMTs were positioned in response to the Chief Officers' requests for a 'hot start'.[20]

Sergeant David Rowles, the Municipal Emergency Response Coordinator, and Mr Ian Ellett, the Municipal Emergency Resource Officer, prepared for 7 February by notifying key personnel so as to ensure they were contactable and on standby to activate the municipal emergency coordination centre and by placing council equipment, including a large water tanker and grader, on standby for the CFA.[21]

Table 10.1 summarises the state of preparedness for the Murrindindi fire.

**Table 10.1 The Murrindindi fire – IMT preparedness**

| | |
|---|---|
| **Pre-designated level 3 ICC** | Yes[22] |
| **Pre-formed IMT at ICC** | Yes but incomplete[23] |
| **Pre-identified level 3 IC** | None specific to that ICC[24] |
| **Pre-identified IMT members** | Yes but deficient[25] |
| **Time fire started** | 14:55[26] |
| **Full IMT in place by** | 8 February[27] |
| **Safety adviser appointed** | No[28] |

### 10.1.2 7 FEBRUARY

Before the Murrindindi fire was reported the Alexandra IMT was already depleted because a number of staff members—including a level 2 mapping officer, two level 3 situation officers, five level 2 operations officers and a level 3 information officer—had been sent to help deal with the Kilmore East and Bunyip fires.[29]

At 12:00 only one level 1 Incident Controller, one level 1 and one level 2 operations officer, one level 3 planning and one level 3 logistics officer, and one air attack supervisor were at the Alexandra ICC.[30]

#### Origin and cause

At 14:55 Mr Colin Hind, the DSE fire tower operator at Mt Despair, saw smoke about 5 kilometres north-north-west of the sawmill in Wilhelmina Falls Road. He saw the fire move quickly to the south along the western side of the road and alerted the CFA and DSE. He told Ms Janice Joyce, the Glenburn CFA communications officer, 'I have a fire at the old mill in Murrindindi. Get everything you've got to throw at this.'[31]

Police investigations determined the cause of the Murrindindi fire to be suspicious.[32] In order that criminal investigations and proceedings not be prejudiced, the Commission heard no evidence about the cause of the fire.

#### Initial fire run, response and management

Fanned by a strong north-north-westerly wind, the fire spread quickly through grassed paddocks, entered a privately owned blue-gum plantation to the south of the sawmill, and moved rapidly into Toolangi State Forest. It reportedly travelled 2 kilometres in about five minutes.[33]

CFA resources from the Yea Group were the first to arrive at 15:08. DSE also deployed all available local resources that had not been sent to the Kilmore East fire. Some crews were delayed because they had to take indirect routes in order to avoid roads affected by fire. The initial attack on the fire involved one tanker, two slip-on units and one first-attack bulldozer.[34]

This initial response was managed by the CFA. Mr David Webb Ware, captain of the Glenburn brigade, initially assumed control and contacted the Yea Group headquarters. From that time until control passed to the Alexandra ICC, Mr Neil Beer, the Yea Group Officer, was the Incident Controller. In charge of a level 2 ICC at the CFA's Yea Group headquarters, he oversaw the subsequent response, established a staging area and sectorised the fire.[35]

DSE resources and personnel were concurrently being directed from Alexandra to the fire. There was no integration of DSE and CFA resources and personnel during the initial attack.[36]

**Box 10.1 The Toolangi DSE crew**

The Toolangi DSE crew independently responded to the fire at 15:00, with Mr Mike Lauder, a senior ranger for DSE, as crew leader. By the time the crew arrived, at 15:17, the fire was well alight, had burnt about 40 hectares, and was too large for first attack to be contemplated.[37]

Under Mr Lauder's direction, the crew travelled in convoy from the fire's point of origin to Murrindindi scenic reserve. He knew people were camping there. Not long after arriving, Mr Lauder realised that they—the crew and the 19 campers—were cut off to the north by the fire and were trapped. He directed crew and campers into the river, about 150 metres away. The children sheltered in the DSE vehicles in the river. The crew protected the campers for the next hour-and-a-half. The pumps on the slip-on units were used to spray water on both the vehicles and the surrounding vegetation. No-one was injured, although some campers and crew members suffered from smoke inhalation and were later treated by ambulance officers. One crew member spent the night in hospital.[38]

The Commission commends the Toolangi crew for its initiative and for protecting the campers.

For the first two hours of the fire there was no information officer at the Alexandra ICC, so the first official warnings were prepared and distributed by the Benalla Integrated Fire Agency Coordination Centre.[39]

The Alexandra CFA Group was in a building separate from the designated ICC. It contacted community radio station UGFM shortly after 15:00, advising that a fire had broken out at the Murrindindi Mill. UGFM began broadcasting warnings about the fire at 15:16. This was the first of many warnings the station issued. UGFM often transmitted well ahead of warnings broadcast on 774 ABC radio and through the CFA website, despite not being part of the official distribution list and relying heavily on local connections and knowledge.[40]

Mr Andy Willans, Mt Gordon fire tower observer, began watching the fire soon after it ignited. By 15:30 he had no doubt that Marysville was at risk, but he was unable to communicate his observations to the incident management team until about 16:00 due to congestion on radio channels and phone lines. He evacuated the tower at about 16:30 for his own safety and returned home to defend his property. The tower was badly damaged in the fire.[41]

He gave a dramatic account of the fire.

> In that first half hour, from a tiny little trundle of smoke that I spotted and was able to give a bearing to, it grew in such incredible stature. I'd seen nothing like it. It terrified me. In the next half hour to when it breached the Black Range Road, I guess it would have doubled the amount of smoke, its height, its width. It was enormous. The following half hour until I left it was massive. It's beyond description. This thing was huge, absolutely huge. I can't explain it. And it was alive. This thing was just full of ember, ash, burning materials. This thing was absolutely alive.[42]

Mr Peter Cobb, a Marysville ranger and a crew leader for DSE, made a number of observations about the location of spot fires and the behaviour of the main fire between 16:00 and 17:00. Mr Willans quite rightly commended Mr Cobb for his bravery in making these observations from the fire ground. The incident control centre, however, was unaware of Mr Cobb's observations, and it is not clear to the Commission to whom Mr Cobb was reporting.[43] As detailed later in this chapter, the failure of the incident management team to better use these and other sources of information compromised planning and warnings to local communities and firefighters.

**Subsequent fire run and response**

After entering Toolangi State Forest the fire rapidly increased in intensity and developed a large convection column. It crowned almost immediately, and fire activity was reported as 'very, very intense' with flames up to 20 metres high.[44]

DSE and Murrindindi Shire personnel deployed additional bulldozers and graders to construct control lines. DSE ground crews were deployed to communities to the east and west of the Black Range. All crews concentrated on community and asset protection.[45]

Early assessments were that the fire would burn largely in forested areas, so DSE was appointed control agency. The DSE Incident Management Team based at the Alexandra ICC, about 40 kilometres north of Marysville, took control of the fire at 16:15. No handover was, however, conducted between the level 2 IMT at the CFA Yea Group headquarters and the level 3 Alexandra IMT. During subsequent confusion about which IMT was managing the fire, CFA crew on the ground continued to report to Mr Beer at Yea.[46]

Mr Andrew Miller, a Parks Victoria employee who was the local duty officer on 7 February, assumed the role of Incident Controller when the fire started. Although he held only level 1 qualifications as an Incident Controller, it was the usual practice in DSE at that time for the duty officer to assume the role of Incident Controller for first attack. Mr Miller's incident control experience was, however, limited, to 'some responsibilities' as a level 1 Incident Controller and 'a couple of short stints in what was probably a level 2 incident'. He was less qualified and less experienced than Mr Peter Rice, the CFA Alexandra Group Officer, who was a level 3 Incident Controller also in Alexandra but in the building that was the CFA Group Office, a short distance from the Alexandra ICC.[47]



The fire moved rapidly to the south-east at about 11 kilometres an hour; it was a rolling ground and crown fire producing spot fires to the south and east of the main front. It burned up the western slopes of the Black Range, a ridge running north–south at 700 to 800 metres above sea level. Adjacent is the Acheron River valley, which runs from Narbethong in the south through Buxton to Taggerty in the north, on the eastern side of the range.[48]

On its initial run the Murrindindi fire burned through public forested land of mainly very tall, mature mountain and alpine ash, with mixed species, including wattles, at lower elevations. These forests are typically moist, but by the end of January 2009 they were as 'dry as a chip', as Mr Lauder put it. They also carried a very high fuel load—up to 50 tonnes a hectare. Ash trees have long ribbons of bark that hang loosely from their trunk and branches; these are easily ignited and can be transported long distances by a convection column, causing spot fires ahead of the main fire.[49]

### Initial police and municipal support

At about 16:00 Inspector Ross Smith, Manager of the Mitchell–Murrindindi Police Service Area and Forward Commander for the Kilmore East fire, contacted Sergeant Rowles, telling him there was a fire at the Murrindindi Mill and recommending that he begin his duties as Municipal Emergency Response Coordinator and activate the Municipal Emergency Coordination Centre. Sergeant Rowles contacted one of the Deputy Municipal Emergency Resource Officers, Mr Mark Leitinger, and asked him to open the MECC. He also contacted Mr Miller, the Incident Controller.[50]

People started arriving to activate the MECC soon after 16:00. It was still being set up when Sergeant Rowles arrived at 17:05.[51]

From the time the MECC was open it received a constant flow of telephone calls and inquiries from organisations, agencies and the public. The logs kept for the MERC, the MERO and the MECC show that only a small proportion of the requests received on 7 February were requests for resources. Sergeant Rowles received many requests that were outside the scope of his coordination role as MERC—for example, police operational calls to establish roadblocks. Mr Ian Ellett, the MERO for Murrindindi Shire, observed that many requests came directly from agencies such as the CFA, Victoria Police and Victoria State Emergency Service, rather than from the relevant ICC. In the week following the fire, a large number of requests were received directly from residents of Murrindindi Shire and from the general community.[52]

The information flow from the ICC to the MECC was limited, especially in the early stages of the response on 7 February. Sergeant Rowles stated, 'The CFA Liaison Officer did everything he could to find out where the fire was heading but was only able to supply me with very limited information'.[53]

### The Black Range

At about 16:15 the fire reached the top of the Black Range, 12 kilometres from its point of origin. The strong north-north-westerly winds launched it from the top of the range, propelling burning bark, leaves and branches up to 15 kilometres to the south-east. This intense fire burning through extremely dry forest, combined with the weather conditions and the topography, created ideal conditions for spotting.[54]

At 16:20 Mr Peter Weeks of radio UGFM received a telephone call from his partner, Ms Judy Blakeney, who was working in the Alexandra ICC. She told him they were receiving reports of ember attack at Narbethong and Buxton. Mr Miller then spoke with Mr Weeks and confirmed that he could broadcast that information on UGFM. Mr Weeks told listeners the fire was burning into the Black Range and was heading towards Narbethong, on the other side of the range.[55]

Burning debris ignited spot fires up to 15 kilometres ahead of the main firefront, in and around Granton, Narbethong, St Fillans, Mt Gordon and the Maroondah Highway at about 16:30. The hundreds of spot fires that started within a kilometre of the firefront were quickly drawn back into the main fire by the convection column. Spot fires that started between 1 and 10 kilometres from the main firefront spread independently for a time before being drawn back into the main fire. The spot fires even further away behaved independently of the main fire for considerable periods, and some became so large they created a second wave of spot fires further to the south-east.[56]

New fires that had been created by spotting and were moving towards the Marysville area hampered fire crews, who continued to work on asset protection under these extremely difficult conditions.[57]

At 16:31 UGFM broadcast an interview with Mr Rice, who warned residents in the Buxton area, down to Narbethong and back to the south side of Acheron to be aware of the fire. At 16:37 the UGFM announcer reiterated that the Murrindindi Mill fire was burning along the Black Range and could impinge on Narbethong, Taggerty and Buxton.[58]

At 16:47 an urgent threat message for the township of Narbethong was read on 774 ABC radio; the message was posted to the CFA website at 16:55 and repeated at 17:10. 774 ABC radio interviewed Mr Greg Esnouf of the CFA at 17:25; he mentioned the Murrindindi fire but did not identify any communities as being under threat.[59]

DSE monitored the fire from the air. Mr Shaun Lawlor, who was based at the DSE's Ovens office, was called on to perform the role of air attack supervisor at about 15:30. He arrived over the fire's point of origin at about 16:50. By this time two fixed-wing bombers had already dropped retardant over the Narbethong area and were returning to Mansfield for reloading. Mr Lawlor asked one plane to continue with this work and the other to make a drop east of a spot fire that had started 500 metres west of Mt Gordon. He watched as this was done and concluded it was ineffective. He explained, 'The retardant normally drops to tree level and penetrates the canopy, covering the surface and surface fuels, which in turn impedes the progress of the fire'. On this occasion, however, 'the retardant dispersed and blew away before reaching the tree canopy level due to the strength of the wind'. Mr Lawlor decided the operation was not only ineffective but also unsafe, and he directed the planes to return to base and await further instructions.[60]

The two planes were operating in extreme conditions. On arriving back at the air base, one of the pilots discovered that his emergency locator transmitter had been activated on his last drop. (An emergency locator transmitter usually activates in the event of a crash, to send out a signal to help search and rescue crews find the aircraft.) It appears the transmitter had activated because the turbulence the aircraft was experiencing resembled the impact of a crash.[61]

Mr Lawlor went on a reconnaissance flight over Narbethong and Marysville shortly after 16:50.[62] He described what he told Mr William Twitchett, deputy operations officer, at about 17:10:

> I advised Bill that there was a small spot fire approximately 500 metres to the west of Mt Gordon fire tower and that it was unsafe to send crews into that area. I confirmed that Narbethong was under direct attack and that there was also … between the Marysville log dump and the adjoining trout farm [a spot fire] which was becoming quite active. I also advised Bill that Marysville and Buxton were not being impacted by the fire but that if the predicted south west wind change occurred they would be directly in the path of the new fire front. At this time the main fire front was extremely active and located seven to ten kilometres south of Marysville in the vicinity of Mt Strickland.[63]

The information Mr Lawlor provided, in combination with the observations of Mr Willans and Mr Cobb, could have provided a reasonably complete picture of the fire's behaviour and its potential impact had it been collated and analysed by the incident management team long before the fire reached Marysville.

Situation officer Mr John Steer was asked at 16:55 to 'check the weather front and prepare a Situation Report', but he did not seek a local weather forecast until after the wind had changed. Although Mr Steer was familiar with local weather forecasts and had used them before, he told the Commission he had not 'previously sought a spot weather forecast so early in a fire'. His experience was limited to using local weather forecasts when preparing incident action plans for the following day.[64] This failure to ask for a local weather forecast was to become crucial because the incident management team did not have to hand accurate information about local weather conditions on which to base warnings for firefighters and communities potentially in the path of the fire.

At 17:00 an information officer arrived at the Alexandra ICC. Despite this, warnings continued to be relayed to the Benalla Integrated Fire Agency Coordination Centre for distribution.[65]

At 17:11 radio UGFM broadcast an urgent bushfire information alert for Marysville:

> … there is spotting occurring in quite a lot of places to the west of the Mt Gordon Tower and also around the trout farm just near Mt Gordon. Now that means it's getting very close to the Marysville area so residents of the Marysville area […] I would be very … This is unofficial I must say to you but residents in the Marysville area should enact their bushfire plan I would think at this point in time.[66]



This was the first warning broadcast for residents of Marysville. It was based on information conveyed to Mr Weeks of UGFM by Ms Blakeney in the Alexandra ICC. Soon after that broadcast UGFM's main transmitter site lost power, and the station was off air until 17:49.[67]

Shortly before 17:00 Mr Rice deployed a number of CFA crews to Buxton, Taggerty and Narbethong.[68]

Mr Lawlor continued flying in the area of Narbethong, Buxton and Marysville to gather intelligence on the fire's location and behaviour. At about 17:30, as he and his pilot were trying to fly directly over Marysville, the helicopter began an unplanned descent and it took some time for the pilot to regain control and ascend. Mr Lawlor and his pilot concluded that the unplanned descent was caused by the fire drawing so much air from the surrounding area that the air density decreased, compromising the operation of the helicopter. They remained in the air, however, monitoring the fire's location and behaviour near Marysville until around 17:45, when they returned to refuel.[69] The Commission commends the efforts of the pilot and Mr Lawlor, who, in extreme conditions, continued to monitor the fire in order to provide real-time information about what was happening.

### Evacuation

The State Emergency Response Plan provides that the decision to recommend the evacuation or relocation of people rests with the Incident Controller.[70] In accordance with agency practice, though, the incident management team did not consider evacuation of any towns or localities affected by the Murrindindi fire.

Nor did firefighters on the ground consider evacuating Marysville. Many residents of Marysville and Buxton did, however, make the decision to leave in advance of the fire. Mr Glen Fiske, the Marysville CFA captain, provided advice in keeping with the CFA's policy on evacuation during bushfires. At 7 February 2009 that policy precluded CFA personnel from advising residents whether to stay or go or providing specific advice to leave in the event of a bushfire. When asked for advice, Mr Fiske told people it was their decision whether to stay or go, but if they were leaving they should use the Buxton–Marysville road.[71]

By this stage many people were preparing to leave Marysville and Buxton. Between 16:30 and 17:00 Ms Josephine Hunter, Deputy Controller of the Marysville Victoria State Emergency Service, heard reports on the CFA radio that the fire had reached Narbethong. After consulting Mr Fiske and Mrs Pauline Harrow, a CFA communications officer, she decided to put the VICSES evacuation plan for Marysville into action. The plan contained a list of local people who might need help evacuating their homes in an emergency.[72]

After telling local police and VICSES she intended to implement the evacuation plan, Ms Hunter began telephoning the people on the evacuation list, advising them to gather at the Cumberland Hotel to be evacuated later if necessary. Two VICSES members drove to the retirement village and some of the other addresses on the list and urged people to enact their bushfire plan. People who were leaving were told to go to Alexandra. Those who wanted assistance with evacuation were told to go to the Cumberland and wait there for further instructions. All this activity was interrupted at about 17:45 by the need to free a local resident who had become trapped in her car by a fallen tree. By the time she had been released it was plain that Marysville was under direct threat. Ms Hunter and Mr Ian Bates, controller of Marysville VICSES, went to the Cumberland to evacuate anyone who was waiting there but found the place deserted. The owner of the hotel had already evacuated everyone who had gathered there to Alexandra.[73]

### Incident control

Once it had been determined that first attack had been unsuccessful, Mr Tony Lovick, an accredited level 2 Incident Controller, was appointed to replace Mr Miller as Incident Controller. He did not arrive at the Alexandra ICC until about 17:30, by which time the fire was out of control in the Black Range, had reached Narbethong and was threatening Marysville. DSE again did not appoint Mr Rice, the CFA-endorsed level 3 Incident Controller who was also in Alexandra, only a short distance from the Alexandra ICC. DSE did not appoint a level 3–accredited Incident Controller to manage the fire until the morning of 8 February, 16 hours after the fire had started.[74] The Commission considers this delay in appointing a level 3 Incident Controller unacceptable.

At about 17:45 Mr Gregory Williamson, a CFA Divisional Commander in charge of all resources in Marysville, was told 'there was to be a 50 to 60 kilometre an hour south-west wind change in about an hour and a half'. Mr Williamson told the Commission that before this time he had not been aware of a predicted wind change. During the next hour a number of other firefighters received information about the predicted wind change through red flag warnings issued not by the incident management team but by Group Officers Beer and Rice. In some cases, however, no predicted arrival time for the change was conveyed.[75]

A further urgent threat message for Narbethong, Marysville, Buxton and Healesville was issued at 17:45 and re-issued at about 18:15. There was no mention of the expected effect of the forecast south-westerly change. The messages were posted on the CFA website at 17:52 and 18:35 respectively. They were also read on 774 ABC at 18:10, 18:15 and 18:50.[76]

By 17:55 members of the incident management team were aware that residents of Marysville were taking refuge on the oval at Gallipoli Park. They did not consider providing protection for these people. Mr Lovick viewed the oval as quite a safe area; in any event, he regarded the deployment of resources at Marysville as a matter for Mr Williamson as Division Commander. But the IMT did not alert Mr Williamson to the gathering on the oval.[77]

### The Kings Road spot fire and back-burn

At 18:20 Mr Williamson became aware that a spot fire was burning near the intersection of Kings Road and Martin Road. After discussions with DSE crew leaders Mr Ben Giovanetti, Mr Peter Cobb and Mr James Cowell, he despatched two CFA strike teams (about 50 crew), 31 DSE crew and four crew leaders to the fire.[78]

By the time the DSE officers arrived at Kings Road, at about 18:30, the spot fire was burning about 100 metres from houses. The fire was between 20 and 30 metres in diameter and was burning towards the south-east. When the CFA crews arrived and assembled along Kings Road, Mr Williamson instructed them to help support the DSE officers protect houses with whatever water they had in their tankers. (Because of the high demand for water and the corresponding drop in water pressure, some parts of Marysville in higher elevations, including Kings Road, had no running water.)[79]

Mr Williamson, Mr Cowell and Mr Cobb discussed lighting a back-burn between the northern edge of the spot fire and the southern boundary of Marysville, to 'remove the fuel between the main fire and Marysville before the wind change … in case the main fire front were to reach Marysville'.[80]

Shortly afterwards the back-burn was lit along 250 metres of the southern track, to the west of the intersection of Martin Road and Kings Road. From that point Mr Williamson and Mr Giovanetti travelled in the direction of the reservoir.[81]

Although the Commission heard evidence that members of the incident management team were made aware that CFA and DSE crews intended to light a back-burn in Marysville, the crews did not receive the requisite Incident Controllers' approval for such an undertaking. It appears that the IMT did not appreciate—and consequently did not inform those on the fire ground—that there was insufficient time to safely attempt the back-burn.[82]

### Evacuation of Marysville

Mr Weeks interviewed Mr Lovick on UGFM at 18:36. Mr Lovick referred to intensive spotting right through Buxton, Taggerty and Marysville and to the south-westerly wind change that was expected to reach the area at about 19:15.[83]

Not long after 18:30 a number of police officers who had just arrived in Marysville from Alexandra began driving around the town, using the police car siren to alert residents, informing them of the approaching fire and advising them to leave.[84]

Some of the police officers continued on to the oval at Gallipoli Park, where they found about 200 people with some 60 cars and other vehicles. It was widely understood in the community that the oval was to be a gathering point in an emergency. By the time the police reached the oval Marysville was engulfed in thick, dark smoke and trees next to the oval were on fire. The fire was roaring. The police officers realised there was a pressing need to evacuate and that there was very little time to do so.[85] Senior Constable Ian Hamill recounted:

> We drove into the centre of the crowd and I got out of the police vehicle and waved my arms above my head to try and gain the crowd's attention. I yelled 'Ladies and Gentlemen' a couple of times and when I had everyone's attention I told the crowd that we only had two or three minutes to leave. I said that the fire fighters were not able to reach us and that I needed everyone to stay calm. I then instructed everyone to get into their cars and drive in convoy to the Alexandra Secondary College which I knew to be the nominated refuge in town and which I also believed to be a safe location.[86]

Senior Constable Hamill was impressed by the calm response to his instruction: 'Everyone just piled in, just one conga line, so to speak, and out the driveway they went'. One person who stayed at the oval and took shelter in a nearby lake saw the convoy leaving shortly before 19:00; he remarked, 'The convoy left in an orderly fashion, the police did a good job there'.[87]

Another two police officers who had doorknocked at a few houses and driven along some streets sounding their siren arrived at the oval after the convoy had started to leave.[88] Senior Constable Kenneth Dwight described the situation on the oval:

> There was no protection on the oval and no fire trucks; we had no protection for anyone. If you had six trucks you could circle the wagons and put water up and protect them. But, with nothing, they all were just going to burst into flames. I have enough experience and knowledge of fire behaviour to know that if they stayed there they would all burst into flames eventually and there would be people running everywhere.[89]

**Box 10.2 Case study: evacuation**

Senior Constables Kenneth Dwight, Peter Collyer and Ian Hamill made the decision that evacuating the people gathered at the Gallipoli Park oval would be safer than allowing the people to stay there. They were confident that evacuation was possible because they had recently driven down the Buxton–Marysville road and it had been passable.[90]

Senior Constables Dwight, Collyer and Hamill, along with Senior Constable Andrew Walker, who directed the people on the oval to drive in convoy to Alexandra, had to make snap judgments using very limited information. They exercised initiative and sound judgment. Although acknowledging that this approach went against prevailing policy and that the evacuation was risky because the Buxton–Marysville road could have become blocked, the Commission commends the officers for their bravery and decisiveness. They made a controversial decision, but they made it with the safety of the public foremost in their minds and successfully delivered those involved to a safer place.[91]

Volunteers in two VICSES vehicles drove along the streets of Marysville trying to warn any residents remaining in the town. They used the vehicles' public address system, calling out 'SES Rescue, all vehicles evacuating Marysville are to head to Alexandra only'. When they reached the corner of Falls Road and Mount Kitchener Avenue, embers started coming in through the vehicles' windows, and they decided it was too dangerous to stay. They went to the rear of the convoy, waiting as cars joined and advising people to keep going to Alexandra.[92]

As the convoy drove north along the Buxton–Marysville road the smoke cleared. The police and the VICSES personnel were able to warn many residents along that road and in Buxton of the approaching fire by going from door to door.[93]

The Commission commends the police and the VICSES volunteers involved in evacuating Marysville and Buxton for their courage and presence of mind.

### The wind change

The south-westerly wind change moved through Narbethong between 18:15 and 18:45, through Marysville between 18:35 and 19:05, and through Taggerty between 19:15 and 19:45. By this time the fire had travelled 40 kilometres, with an average speed of nearly 11 kilometres an hour. The main firefront was almost 5 kilometres wide, and the fire's north-eastern flank was 40 kilometres long. As the wind turned to the south-west, at about 35–45 kilometres an hour, the north-eastern flank of the fire became the main firefront. At this time the fire was near Marysville and, in addition to the existing spot fires, it began producing new spot fires in the forest on the town's southern outskirts, in the town itself and to the town's north. Protecting houses was hazardous.[94]

Following the passage of the wind change through Narbethong, spot fires in the Narbethong area joined and burned towards Marysville.[95]

The wind change increased the fire's intensity along its north-eastern flank, back as far as the point of origin. Fire crews working near the Murrindindi Mill saw the initial gusts of wind blow embers straight over the containment line to the north-east, placing the communities of Limestone and Murrindindi under threat for the first time.[96]

The arrival of the wind change also meant that embers were falling in Marysville. Mr Williamson gave the order for all crews working on the back-burn to retreat from Kings Road to the oval at Gallipoli Park.[97] He told the Commission:

> I now know that if I had not made this call to evacuate and if crews had not left at this time, we would have lost 60 to 70 people within 30 seconds to one minute later. Kit bags in the back of vehicles caught on fire due to ember attack and many of the DSE vehicles suffered damage to parts such as mirrors and plastic components which melted due to the intensity of the fire as the crews were driving towards the Marysville football oval.[98]

The Commission heard evidence about the danger to which firefighters in the vicinity of Kings Road were exposed.[99] One of those firefighters, CFA Yarck brigade captain, Mr Thomas Jones, described the short drive down to Gallipoli Park:

> It was pretty horrific. I ran off the road a couple of times. The smoke was that thick … you just could not—if anyone has been skiing up at Mount Buller or wherever in a white-out and if you have experienced that, that's what it was like, except you're surrounded by fire. It's something I don't want to have to go through again.[100]

The crew of Yarck Tanker 2, who had been working on the back-burn, were caught outside their vehicle when the wind changed and were saved only by the crew of Yarck Tanker 1, who picked them up and took them through fire to Alexandra. Yarck Tanker 2 was damaged beyond repair and Yarck Tanker 1 sustained serious damage to its gear box.[101]

At about 19:15 the fire front moved through Marysville.[102]

Mr Fiske and others took shelter at the CFA station in Marysville. Still other people, among them Mr Daryl Hull, remained at Gallipoli Park. Mr Hull described his experience:

> … everything was on fire. I could see the trees on the other side of the lake catching fire at the top, and then the fire quickly burned around the lake. There were fingers of orange flame creeping through the grass on the banks, as though the fire were a living thing. Then I saw that the island had caught fire, and so I moved out into the middle of the lake …
>
> The smoke suddenly got very thick and very very dark, the colour of charcoal, and was bubbling towards me over the lake. I knew the fire was about to hit and at that point I thought I might die. Then there was an explosion and everything was luminous orange, and embers began to shower down on me. The embers hissed as they hit the water around me. To take cover from the embers I ducked underneath the water. From under the water I could see the embers descending, like orange lights through green glass. I would surface for a breath, sheltering under the branch I had found, and then duck under the water again. When I surfaced I could see the school going up in flames in front of me.[103]

After the firestorm swept through Marysville people again gathered at Gallipoli Park. Among them were CFA and DSE firefighters who had retreated from Kings Road after the wind change, residents and personnel who had sheltered in the CFA shed and at the DSE office, and residents who had survived the fire in their homes. Mrs Harrow counted 65 people other than firefighters at the oval.[104]

**Image 10.1**



Source: Courtesy of the *Herald & Weekly Times*.

Video footage taken by Mr Hull conveys the shock and distress of those on the oval that night. Some people were relieved when reunited with loved ones. But there was also a growing anxiety about the many people who could not be accounted for. Senior Constable Ian Thompson attended to a stream of people who reported that family members and friends were missing; after a couple of hours he was able to leave the oval to search for survivors and offer assistance. Dr Lachlan Fraser, although injured himself, treated people with first aid supplies from his car. As the night wore on, people left the oval to see what remained of their homes or businesses and to look for survivors.[105]

After the fire had engulfed Marysville, it moved to the north-east along the Acheron River valley, through the town of Buxton and along the Steavenson River valley between Marysville and Buxton. Spotting distances of 5 kilometres were reported. The fire reached Buxton at 19:30.[106]

An urgent threat message was issued at 19:35. It was posted to the CFA website at 19:50 and was read on 774 ABC radio at 20:19 and recapped at 20:30.[107] It said:

> The Murrindindi Mill fire in the Mount Despair State Forest is burning in a north easterly direction and is spotting well ahead of the fire. The fire has directly impacted on Narbethong and Marysville. Marysville residents are encouraged to assemble at a muster point at the town oval. The community of Buxton can expect to come under direct attack from this fire. Healesville residents are advised to remain on high alert for the prospect of ember attack.[108]

Although by 19:25 there was an awareness that new alerts were needed for Taggerty, Acheron, Molesworth, Thornton, Rubicon, Snobs Creek, Eildon, Alexandra and nearby communities between Murrindindi and Yea, these were not included in the message issued at 19:35. Warnings to these communities were not issued until 22:00. At 20:31, however, UGFM broadcast another interview with Mr Lovick, in which he said the fire was spotting a considerable distance and was across the Maroondah Highway 2 or 3 kilometres south of Taggerty. He also expressed his anxiety about Rubicon and Thornton overnight and the next day.[109]

Because of concern for firefighters' safety, all Murrindindi tankers and the Flowerdale tanker were recalled to Yea at about 20:00.[110]

By 20:20 the Alexandra crew had fallen back from Buxton to Taggerty and was planning to protect the edge of the town from the approaching fire. By 20:35, however, most crew members had fallen back to Alexandra; only a few remained for life and property protection.[111]

Early in the morning of 8 February, the Kilmore East and Murrindindi fires merged.[112]

### Warnings

The next urgent threat message, distributed at 20:22, contained warnings for residents of Murrindindi and Limestone, to the north and north-east of the fire's point of origin. This message was posted on the CFA website at 20:33 and was read on 774 ABC at 20:48 and 21:00. It was re-issued at 20:45, posted on the CFA website at 21:00, and read on 774 ABC at 21:19. The message provided inaccurate information about the direction of the fire; this was remedied in a message prepared at 20:30. The amended message was, however, not distributed by the Benalla Integrated Fire Agency Coordination Centre, and so was not posted to the CFA website or read on 774 ABC.[113]

At 21:04 UGFM broadcast an interview with Mr Rice of the CFA's Alexandra Group. After saying the fire had reached Narbethong, Marysville and Buxton, Mr Rice said, 'The edge of the fire as I take it is sort of half way between Buxton and Taggerty at this stage. We are making a stand on the fire on the southern side of Taggerty township down around south Cathedral Lane area'.[114]

From 20:57 onwards the Alexandra Incident Control Centre distributed alerts and threat messages. It issued an alert message for residents of Alexandra at 21:49, advising them that a firebreak was being constructed around the town and that they should have their fire plans in place. This message was posted on the CFA website at 22:05.[115]

The strong south-westerly winds after the wind change funnelled fire along the valleys. Lightning strikes were recorded across the fire ground between 16:51 and 21:48: they were produced by the huge pyrocumulonimbus cloud that had developed above the fire. The lightning triggered yet other fires between the Murrindindi and Bunyip fires.[116]

By about 22:00 the fire was just south of Taggerty. Although the weather conditions had moderated, the fire had generated so much energy it took several hours for its momentum to slow. It was not until the early hours of 8 February that any change in fire behaviour was observable and suppression activities in the cleared and semi-cleared agricultural land around Taggerty could begin.[117]

At 22:02 an urgent threat message was issued for the communities of Taggerty, Acheron, Thornton, Rubicon, Snobs Creek, Eildon, Alexandra and Molesworth. The message was posted on the CFA website at 22:40 and was read on 774 ABC at 22:32, 22:52 and 23:05.[118]

The Alexandra Incident Control Centre issued a further urgent threat message at 23:35.[119] The message repeated the contents of the previous one and provided the following further information:

> An update on the Marysville township:
>
> We understand that everyone is safe in Marysville and are assembled at Gallipoli Park. There are reports that a number of houses have been burnt, so stay tuned to ABC radio as further details come to hand.

This message was posted on the CFA website at 23:45 and was read on 774 ABC at 23:42. Updated messages to similar effect, including the statement that everyone in Marysville was safe, were distributed at regular intervals during the early morning of 8 February and were posted on the CFA website. The statement that everyone was safe in Marysville appeared in incident situation reports prepared by the Office of the Emergency Services Commissioner during Sunday 8 February.[120]

Obviously, not everyone in Marysville was safe at the time the Alexandra ICC distributed these messages. Mr Lovick explained the basis for the statement in his evidence:

> At this stage of the evening [22:54], and until much later in the morning [of 8 February], we understood that most of the residents at Marysville were safe and gathered at the oval. Although I was troubled by Greg Williamson's comments [that people were going into houses, the houses were burning, and no one was coming out] and considered that possibly there may be some fatalities, there was no confirmation. The fact that there was a large crowd of residents at Gallipoli Park indicated to me that any fatalities would be few. It wasn't until after shift changeover when people started coming off the line (between 0800 and 0900 hours on 8 February) that we had more information to indicate fatalities from the Murrindindi fire. Even then information about fatalities was still vague and not first hand.[121]

The wide distribution of the inaccurate statement that everyone in Marysville was safe is at best highly regrettable—the community deserved better than this.

#### Relief centres

A number of emergency relief centres were opened on 7 February. One of them, at Yea, was used largely by people who had evacuated because of the Kilmore East fire. Another, at Alexandra Secondary College, hosted many people who had evacuated from Marysville and Buxton.[122]

Marysville resident Mrs Mary Kenealy described her experience at the Alexandra emergency relief centre:

> The volunteers who worked there were extremely kind and they did their best in the extreme conditions of the day. The conditions those poor people were working in gave them no chance and the whole place seemed badly under-prepared.
>
> The first thing we did at the relief centre was sign in on Red Cross forms. We sat down for a little while and the centre gradually started to fill up with people. As I sat in the relief centre, things around me seemed to be in total chaos. It appeared that no-one was organised. The centre started filling with smoke and it became very hot inside because there was no power and therefore no air conditioning.[123]

These observations lend weight to recommendation 6.4 in the Commission's Interim Report—that councils review their municipal emergency management plans to ensure that there is adequate provision for relocation during bushfires.[124]

At 23:00 a third emergency relief centre was opened, this time at the memorial hall in Healesville, in the neighbouring Shire of Yarra Ranges. This centre was open 24 hours a day until 11 February and then between 08:00 and 20:00 until 23 February, when it opened again for 24 hours because of the risk of fire. The centre closed permanently on 24 February.[125]

### 10.1.3 AFTER 7 FEBRUARY

In the early hours of 8 February DSE crews led by Mr Williamson began the difficult and dangerous task of clearing the road from Marysville to Buxton and Taggerty of fallen and sometimes still burning trees. They reached Taggerty at 02:30 and then turned around and cleared the road again in order that ambulances could reach Marysville. The people who remained on the oval in Marysville were able to drive out to Alexandra along this road at about noon.[126]

In the days following 7 and 8 February the Murrindindi Municipal Emergency Coordination Centre continued to oversee and assist in the relief and recovery efforts. From 7 to 13 February the MECC was fully staffed and operated 24 hours a day. It remained open until 7 March.[127]

In the week following the fires the Alexandra emergency relief centre was relocated to the Alexandra Leisure Centre. It remained open for a number of weeks.[128]

Although the fire in cleared agricultural land was contained, the fire burning in heavily forested public land continued for weeks and was not formally declared contained until 5 March. By this time the Kilmore East and Murrindindi fires, which had merged, had burnt 168,542 hectares.[129]

The Murrindindi fire resulted in the death of 40 people. (The circumstances of their deaths are discussed in Chapter 18.) More than 500 houses were destroyed or damaged, mainly in and around Marysville, Narbethong and Buxton. The commercial centre of Marysville was destroyed, as was the core of the town's economic activity in tourism and hospitality. Much of the town's public infrastructure—including the police station, primary school, kindergarten and health clinic—was also destroyed.[130]

## 10.2 FUEL MANAGEMENT

Although some fuel-reduction burns had been conducted in the areas burnt by the Murrindindi fire, they were not of consequence. Burns carried out in preceding years on the edge of the forested areas around Marysville and the town's 'strategic firebreak' had little, if any, effect on the fire's momentum as it swept towards and then through Marysville on 7 February.[131] Fuel management is discussed in detail in Chapter 7 of Volume II.

## 10.3 INCIDENT MANAGEMENT

On 7 February 2009 only three members of the incident management team held level 3 qualifications—the planning officer, the logistics officer and the situation officer. The situation officer did not assume his position until about two hours after the fire had begun. No safety adviser was appointed to the Alexandra Incident Control Centre on the day.[132]

The incident management team did not prepare an incident action plan until the early hours of 8 February, when the IMT meeting focused on 'getting an Incident Action Plan out'. This reveals a weakness in planning. The AIIMS manual recognises that it can be 'extremely difficult' to develop a written plan in the initial stages of a rapidly escalating incident but specifies that in such cases 'an assessment of the situation should still occur and an objective be determined'. An IMT meeting at 17:30 on 7 February concluded that the 'objectives' were 'firstly firefighter safety and then to protect people and assets, particularly around Marysville, Narbethong and Buxton'. There is no evidence, however, that these objectives were communicated to the fire ground, and nor was a strategy developed to achieve them.[133]

In 2002, in the inquest into the deaths resulting from the Linton fire, the coroner noted that one of the roles of an incident action plan is to put senior members of the incident management team in a position 'to consider, analyse and evaluate all relevant material so that the appropriate direction … can be given to those on the fire ground not possessed of all requisite information needed to make appropriate decisions, in terms of safety and operational effectiveness'.[134]

The incident management team issued no red flag warning about the wind change, although it did issue a 'weather warning'. There is no evidence that the weather warning was acknowledged up and down the chain of command, as is required for a red flag warning under DSE guidelines.[135] The poor understanding of the potential impact of the wind change contributed to the dangers faced by firefighters when they tried to light a back-burn at Kings Road in Marysville.

Incident management is discussed in detail in Chapter 2 of Volume II.

## 10.4 EMERGENCY MANAGEMENT

**Box 10.3 Case study: the Municipal Emergency Management Plan**

The Commission did not consider in detail the emergency management arrangements of all municipalities affected by the January and February 2009 fires, although it did make some inquiries into the arrangements of the Shire of Murrindindi. The following case study details how these arrangements affected the response to the fires.

The main impact of the Murrindindi fire was felt in the Shire of Murrindindi, which encompasses the townships of Narbethong, Granton, Marysville, Buxton and Taggerty. The fire burned into the Shire of Yarra Ranges but did not affect any population centres in that municipality. Murrindindi Shire also contains the townships of Kinglake, Kinglake West, Pheasant Creek, Hazeldene, Flowerdale and Glenburn, which were severely affected by the Kilmore East fire.[136] Together, these fires tested Murrindindi's municipal emergency management arrangements.

The Murrindindi Municipal Emergency Management Plan, or MEMP, was first adopted in 1996 and has been regularly updated since. As required by Victoria's Emergency Management Act 1986, the Murrindindi MEMP is audited once every three years by the Director of Victoria State Emergency Service. It was last audited in October 2007, when it was assessed as complying with the guidelines issued by the Coordinator in Chief under the Act. The MEMP sets out the general framework for prevention of, the response to and recovery from emergencies affecting the shire.[137]

Despite the Murrindindi MEMP being assessed as complying with the guidelines of the Emergency Management Act, the Commission considers the emergency management planning that existed for Murrindindi Shire lacked the substance, detail and precision needed to respond adequately to the events of 7 February. The following points are of particular note:

- The MEMP did not include planning for preventing or responding to bushfire. The shire has a fire prevention plan, but the plan's development and review are divorced from the municipal emergency management planning process.
- The MEMP did not include a plan for the evacuation of Marysville or any other township in the municipality or locations identified to be at risk of bushfire. There was no detail covering matters such as the following:
  - the roads on which evacuation might take place
  - the size and nature of the population
  - any vulnerable members of the community who might need assistance to evacuate
  - any sites used by vulnerable groups such as schools and hospitals
  - any places of refuge and possible emergency relief centres.

Local emergency management planning also failed to identify who would take what action to effect an evacuation and the triggers for that action. The MEMP simply repeated the general delineation of responsibilities for evacuation set out in the State Emergency Response Plan.

Although municipal emergency management planning did not extend to the practicalities of evacuating Marysville, Marysville VICSES had given the subject some thought. In 2006 and 2007, in consultation with local police and with assistance from Murrindindi Shire Council, Marysville VICSES compiled a list of elderly people and others who might need assistance evacuating their homes in an emergency.[138] As detailed earlier in this chapter, VICSES implemented its plan on 7 February.

Murrindindi Shire Council also kept a list of vulnerable residents—including the elderly, people with disabilities and people of a non–English speaking background—who might need special consideration. This list was not used on 7 February.[139]

The dissemination of public information and warnings about the Murrindindi fire did not occur in the manner described in the Murrindindi MEMP; nor was information released in conjunction with the municipal emergency response coordinator. And the procedure for releasing emergency information to radio UGFM, set out in the Murrindindi MEMP, was not followed.[140]

### 10.4.1 WATER SUPPLY

The urban water supply system for Marysville and Buxton had limited capacity to supply water for firefighting purposes. The system had been designed for normal domestic and commercial use, with some, but not unlimited, capacity for firefighting.

Marysville's water supply comes from the Steavenson River, from which it is diverted by a turbine about 200 metres below Steavenson Falls on the eastern edge of the town. The water is diverted from the river to Aub Cuzens Reservoir, on the south-western edge of Marysville, which has a capacity of 100 megalitres. Under normal conditions the reservoir can hold enough water to supply the towns of Marysville and Buxton for four to six months.[141]

From the reservoir water flows into the Marysville reticulation network and on to Buxton. The water supply is driven by gravity, and water pressure to most properties in Marysville and Buxton is usually 'good'.[142]

In response to the extreme fire weather warnings issued on 5 February for 7 February, Goulburn Valley Water district managers were instructed to ensure that water storages were as full as possible. Aub Cuzens Reservoir was full on 6 February.[143]

On 9 February the reservoir was holding 80 megalitres. Some 20 megalitres of water had flowed out of the reservoir during the three-day period—the equivalent of a month's water for Marysville and Buxton.[144]

When the power failed at 17:15 on 7 February the control valve on the Buxton pipeline automatically closed, and from about 17:30 no water flowed into the Buxton tank. The tank was probably empty by 21:30, leaving Buxton residents without water.[145]

In addition, water could not flow quickly enough through the pipes in the Marysville reticulation network to meet the high demand for water as the fire approached the town. Water pressure dropped throughout the network, and there was no water flow in parts of the town at higher elevations. More than half of Marysville was without water on the evening of 7 February.[146]

Fire damaged some parts of Marysville's reticulation network, although this had no impact on the town's water supply because the reservoir was full. Only one water main failed. None of the damage would, however, explain the loss of water pressure in Marysville on 7 February. The loss resulted from extreme demands placed on a system that had been designed for normal domestic and commercial use, with only limited capacity to supply water for fighting fires.[147]

Water was restored to dwellings in Marysville by the evening of Monday 9 February; Buxton's water supply was restored by the evening of 10 February. Residents were advised to boil water for drinking in Buxton until 18 February and in Marysville until 24 March. Repairs to the supply main to Aub Cuzens Reservoir started in March and were completed on 10 April.[148]

### 10.4.2 ROADBLOCKS

Throughout the afternoon of 7 February roadblocks were established in order to restrict the movement of traffic into areas of fire activity.[149]

On 8 February numerous full road closures from Buxton to Marysville were activated at the request of the incident management team. This was done to prevent access to Marysville and to areas where fires were still burning, among them Taggerty, Thornton, Kathkin, Narbethong and Yea.[150]

Road closures, full and partial, were introduced so as to prevent access to areas that were unsafe or that needed to be restricted pending further investigation. Senior Sergeant Gary Barton explained that the intention was to preserve crime scenes, to protect property and to protect people from the continuing fires, and that a further reason for the closures was the state of the roads.[151]

Even after the fires were controlled and the roads were safe, access to Marysville was restricted. Under Victoria's *Coroners Act 1985* the coroner issued directions to Victoria Police that access to Marysville was to be restricted while the search for remains was conducted. These directions remained in force until about 21 March.[152]

After the coroner's directions had been lifted Superintendent Peter Billing considered, taking account of advice from the Department of Human Services and Murrindindi Shire, that it was inappropriate to allow unrestricted access to Marysville. Access was restricted at this time on the basis of the common law obligation of police to protect life and property, including by denying people access to areas reasonably believed to be unsafe. Police limited access to those residents who had obtained safety information about the remaining risks in the town. A system of stickers for vehicles and wristbands for residents was introduced, so that residents could move more freely through the roadblocks. The restrictions remained in operation until 30 March, when the roads to Marysville were re-opened.[153]

### 10.4.3 COMMUNICATIONS

One of the problems identified in a police debrief after the fires was police radio communications—in particular, the incompatibility between radios used by metropolitan and regional police. The metropolitan radio network is digital but the regional system is analogue.[154] This issue is discussed in Chapter 3 in Volume II.

## 10.5 CONCLUSIONS

The failure to direct and subsequently check staff allocations to incident control centres before 7 February contributed to the deficiencies in the incident management team with responsibility for the Murrindindi fire. The Commission acknowledges that Mr Peter Farrell, the DSE Land and Fire Manager for the North-East Area, was already overseeing the Nariel ski hut fire before 7 February, but the approach he adopted, along with that of Mr Peter Creak, Operations Manager of CFA Region 12, of deploying staff to ICCs as required, was flawed and indicative of poor judgment in the lead-up to 7 February.

In the Commission's view, a Level 1 Incident Controller was an unsuitable choice for the position of Incident Controller for the Murrindindi fire, the incident management team was inadequately prepared, and it took too long to appoint a level 3 Incident Controller. This is not a criticism of those individuals who were underqualified for the positions they held in the IMT. The Commission does, however, criticise the lack of coordination between the CFA and DSE in planning for the day, their decision to work from separate facilities in Alexandra, and in particular the staff who oversaw these arrangements. These limitations led to shortcomings in the Alexandra IMT's management of the fire.

In its interim report the Commission recommended that the CFA and DSE develop procedures to ensure that Incident Controllers are appointed on the basis of their competency, regardless of the land tenure at the point of a fire's ignition. Murrindindi is an example: a DSE level 1 and then level 2 Incident Controller managed the fire during 7 February while in the same town a CFA level 3 Incident Controller operated separately from a group centre. The Commission was advised that the CFA and DSE have acted on this recommendation.[155]

The Commission considers that the broad objectives of firefighter safety and protection of life and property adopted by the Alexandra Incident Management Team in lieu of an incident action plan did not provide the necessary strategic and operational direction for managing a fast-moving, complex fire with large numbers of resources. Although incident action plans might not have been completed for other fires on 7 February, the absence of such a plan or clear objectives in the Alexandra IMT on the afternoon of 7 February is indicative of the lack of experience of the level 1 and level 2 Incident Controllers, and it contributed to inadequate organisation and limited the efficiency of those working on the Murrindindi fire.

The Alexandra IMT was further hindered by a lack of information on which to base planning and strategic decisions. It did not receive or make proper use of the full range of available information on fire behaviour. Had it received and analysed this information promptly, there would have been no doubt that Narbethong was under direct attack and that Marysville and Buxton 'would be directly in the path of the new fire front' after the wind change.[156]

The IMT did not seek local weather forecasts from the Bureau of Meteorology until well after the wind change had passed through Marysville; nor did it take account of the progression of the wind change across Victoria. The Commission considers this wind change information should have come from the integrated Emergency Coordination Centre, and the IMT's failure to ask for a local weather forecast during the afternoon of 7 February avoidably deprived it of important information. The earlier than expected arrival of the south-westerly change and the lack of warning

for people in Marysville endangered the safety of firefighters and residents.[157] The lack of a red flag warning, as well as limited fire weather information, meant that timely and accurate wind change information was not conveyed to all firefighters, including those about to embark on a dangerous back-burning operation in Marysville.

The failure to appoint a safety adviser probably contributed to the IMT attaching insufficient priority to communicating wind change information to firefighters and deprived the Incident Controller of an important source of advice about the occupational health and safety implications of tactical fire suppression decisions. Firefighter safety is discussed in greater detail in Chapter 3 of Volume II.

Lighting the back-burn at Marysville was a dangerous tactic and offered little likelihood of protecting the town. The firefighters concerned were well-intentioned but did not have the information they needed to make informed and reasoned judgments, and personnel in the IMT, who had more information, were not involved in making the decision. As it turned out, the back-burn made no difference to the effect of the fires when they arrived, but it did place the firefighters in an extremely dangerous situation. It is fortunate no-one was seriously injured or killed. Nevertheless, the firefighters displayed considerable courage in performing their task and should be commended for this.

The lack of a pre-positioned information officer and the relaying of warnings via the Benalla Integrated Fire Agency Coordination Centre, even after an information officer had been appointed, delayed the issuing of public warnings about the Murrindindi fire.

The warnings that were in fact issued by the Alexandra IMT on 7 February did not keep pace with the fast-changing situation. The first warning to Narbethong was issued when the fire was already there. The first warning to Taggerty was issued as the fire was on the southern edge of the town. The Commission does not criticise the individuals concerned, each of whom performed soundly in difficult circumstances. It does, however, stress the importance of pre-positioned IMTs on days of extreme fire danger and considers that greater emphasis should be given to collecting and analysing information and disseminating it to communities and firefighters on the ground.

The maintenance of roadblocks in the days and weeks after the fire was a source of continuing difficulty and frustration for residents of Marysville, Narbethong, Buxton and Taggerty who had remained in their homes and for those who had left but wanted to return. Introduction of the system of stickers to allow residents to move more freely through roadblocks was a sensible response to a complex situation: it allowed people access to Marysville while at the same time managing the safety and privacy of residents and the needs of the coronial inquiries. Issues around roadblocks are discussed in greater detail in Chapter 2 of Volume II.

Any emergency incident that necessitates the participation of police from both metropolitan and regional forces will face challenges with communications. The incompatibility between metropolitan and regional police radios is inefficient and could, in some situations, compromise safety. This matter is discussed in Chapter 3 of Volume II.

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1 Exhibit 348 – Statement of Rice (WIT.3004.016.0091) [70]–[71]; Rice T8522:8–T8522:23; Exhibit 350 – Statement of Beer (WIT.3004.016.0016) [79]; Exhibit 345 – Statement of Steer (WIT.3024.003.0026) [26], [29]; Exhibit 370 – Statement of Weeks (WIT.105.001.0001_R) [19]; Exhibit 349 – Statement of Kennedy (WIT.102.001.0001_R) [9], [11]; Exhibit 6 – Revised Statement of Waller (WIT.002.002.0001) [338];

2 Exhibit 787 – Further Statement of Fogarty, Annexure 1 (WIT.3024.005.0260) at 0261; Exhibit 361 – Statement of Anderson (WIT.3032.001.0001) [33]; Exhibit 6 – Revised Statement of Waller (WIT.002.002.0001) [341]

3 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0094

4 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0094

5 Exhibit 557 – Meteorological Aspects of the Murrindindi Fire (BOM.901.0172) at 0189

6 Exhibit 557 – Meteorological Aspects of the Murrindindi Fire (BOM.901.0172) at 0189

7 Exhibit 557 – Meteorological Aspects of the Murrindindi Fire (BOM.901.0172) at 0189

8 Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0094

9 Exhibit 214 – Statement of Hollowood (WIT.3010.001.0338) [65]

10 Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [20]

11 Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [20]

12 Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048_R) at 0048_R

13 Exhibit 787 – Further Statement of Fogarty, Annexure 1 (WIT.3024.005.0260) at 0261

14 Exhibit 939 – Details Regarding Emergency Response (CFA.600.005.0195) at 0195, 0198; Exhibit 939 – Day by Day Breakdown – Murrindindi (DSE.HDD.0048.0545_13); Exhibit 939 – Aircraft Data 0809 (DSE.HDD.0048.0544_20) at 0544_26

15 Exhibit 994 – Murrindindi Fire – Fire Spread Map (DSE.HDD.0165.0053)

16 Farrell T8502:19–T8502:21, T8502:27–T8503:1, T8503:5–T8503:13, T8503:18–T8504:03

17 Exhibit 339 – Statement of Miller (WIT.3024.003.0093) [25]; Exhibit 506 – Statement of Creak (WIT.3004.008.0309) [16], Annexure 2 (WIT.3004.008.0338), Annexure 4 (WIT.3004.008.0347); Creak T8279:6–T8279:8, T8279:28–T8279:31, T8280:4–T8280:11, T8280:23–T8280:26, T8281:13–T8281:16, T8283:3–T8283:5; Rice T8515:18–T8515:21; Miller T8320:13–T8320:19

18 Exhibit 347 – Statement of Farrell (WIT.3024.003.0154) [23]; Farrell T8499:25–T8499:28

19 Exhibit 506 – Statement of Creak, Annexure 4 (WIT.3004.008.0347) at 0347; Exhibit 254 – Statement of Farrell, Annexure 3 (DSE.HDD.0012.2636_R) at 2746_R; Farrell T8500:5–T8500:25

20 Farrell T8503:5–T8503:11, T8503:18–T8504:09; Creak T8287:16–T8287:25, T8290:3–T8290:12

21 Exhibit 377 – Statement of Ellett (WIT.4006.001.0001) [55]–[56]

22 Exhibit 673 – DSE–CFA Local Mutual Aid Plan – North East Area 2008–09 (CFA.001.033.0023) at 0028

23 Exhibit 347 – Statement of Farrell (WIT.3024.003.0154) [11]

24 Farrell T8503:28–T8504:9

25 Exhibit 347 – Statement of Farrell (WIT.3024.003.0154) [11]

26 Hind T8208:21–T8208:25

27 Exhibit 375 – Statement of Caddell (WIT.3024.003.0050) [11]–[12]

28 Edgar T16751:3–T16751:4

29 Exhibit 347 – Statement of Farrell (WIT.3024.003.0154) [7]–[8]; Exhibit 339 – Statement of Miller (WIT.3024.003.0093) [30]; Exhibit 55 – Statement of Hunter (WIT.3004.001.0129) [4]; Exhibit 6 – Statement of Waller (WIT.002.002.0001) [333]

30 Exhibit 339 – Statement of Miller (WIT.3024.003.0093) [19]; Miller T8318:10–T8318:28

31 Exhibit 331 – Statement of Hind (TEN.101.001.0001_R) at 0001_R, Statement of Hind (SUMM.044.002.0579_R) at 0579_R–0581_R; Hind T8208:21–T8210:5; Exhibit 332 – Statement of Searle (SUMM.044.002.3033_R), Attachment (DSE.HDD.0021.0899_R), (DSE.HDD.0021.0900_R); Exhibit 333 – Statement of Joyce (SUMM.044.003.1952_R) at 1953_R–1954_R

32 Exhibit 214 – Statement of Hollowood (WIT.3010.001.0338) [65]

33 Lawlor T8197:6–T8197:21

34 Exhibit 130 – Supplementary Statement of Waller (WIT.3024.001.0073) [44]; Exhibit 6 – Revised Statement of Waller (WIT.002.002.0001) [334]; Exhibit 350 – Statement of Beer (WIT.3004.016.0016) [49]

35 Exhibit 350 – Statement of Beer (WIT.3004.016.0016) [63]; Beer T8567:26–T8567:28, T8569:5–T8569:14; Webb Ware T8227:2–T8227:8; Creak T8290:13–T8290:31

36 Exhibit 338 – Supplementary Statement of Creak (WIT.3004.017.0001) [36]; Miller T8324:23–T8325:12

37 Exhibit 6 – Revised Statement of Waller (WIT.002.002.0001) [334]; Exhibit 335 – Statement of Lauder (SUMM.044.002.2177_R) at 2178_R; Lauder T8247:31–T8248:9

38 Exhibit 335 – Statement of Lauder (SUMM.044.002.2177_R) at 2177_R–2180_R; Lauder T8249:6–T8249:17, T8250:12–T8250:31

39 Exhibit 339 – Statement of Miller (WIT.3024.003.0093) [53]; Miller T8319:19–T8320:12

40 Exhibit 374 – Statement of Skelton (WIT.3024.003.0207) [23], [38], Annexure 6 (DSE.HDD.0017.0415); Exhibit 7 – Transcript – 774 ABC Radio (SUMM.001.002.0001) at 0299; Exhibit 370 – Statement of Weeks (WIT.105.001.0001_R) [17]–[18], [21]

41 Exhibit 93 – Statement of Willans (WIT.051.001.0001) [17], [23]–[27]; Willans T3028:8–T3028:15, T3037:2–T3037:25; Bowdern T8434:16–T8434:20

42 Willans T3033:7–T3033:18

43 Exhibit 360 – Statement of Cobb (WIT.3024.004.0032) [35]–[46]; Willans T3031:22–T3032:6; Bowdern T8437:15–T8437:24

44 Exhibit 6 – Statement of Waller (WIT.002.002.0001) [335]; Lawlor T8197:12–T8197:21; Webb Ware T8227:28–T8228:2

45 Exhibit 339 – Statement of Miller (WIT.3024.003.0093) [46], [57]; Exhibit 6 – Revised Statement of Waller (WIT.002.002.0001) [335]–[336]

46 Exhibit 347 – Statement of Farrell (WIT.3024.003.0154) [28]; Exhibit 339 – Statement of Miller (WIT.3024.003.0093) [59]; Beer T8572:10–T8572:23; Miller T8327:25–T8327:26; Rice T8524:22–T8525:17

47 Exhibit 547 – Statement of Haynes (WIT.3004.023.0011) [148]–[152]; Exhibit 339 – Statement of Miller (WIT.3024.003.0093) [17]; Exhibit 348 – Statement of Rice (WIT.3004.016.0091) [14]; Creak T10897:19–T10897:30, T9033:1–T9033:26; Miller T8314:19–T8314:24, T8315:18–T8315:23

48 Exhibit 557 – Meteorological Aspects of the Murrindindi Fire (BOM.901.0172) at 0180; Lawlor T8198:2–T8198:22

49 Lawlor T8194:18–T8195:6; Lauder T8242:28–T8243:8

50 Exhibit 372 – Statement of Rowles (WIT.3010.005.0313) [18]–[19], Attachment 3 (WIT.3010.005.0358_02) at 0358_02; Exhibit 377 – Statement of Ellett (WIT.4006.001.0001) [63]

51 Exhibit 372 – Statement of Rowles, Attachment 3 (WIT.3010.005.0358_02) at 0358_02

52 Exhibit 372 – Statement of Rowles (WIT.3010.005.0313) [20], Attachment 1 (WIT.3010.005.0325), Attachment 3 (WIT.3010.005.0358_02); Exhibit 377 – Statement of Ellett (WIT.4006.001.0001) [80]–[81], Attachment 8 (WIT.4006.001.0356), Attachment 9 (WIT.4006.001.0446), Attachment 10 (WIT.4006.001.0699)

53 Exhibit 372 – Statement of Rowles (WIT.3010.005.0313) [19]

54 Lawlor T8198:14–T8198:16, T8198:26–T8199:1

55 Exhibit 370 – Statement of Weeks (WIT.105.001.0001_R) [19]

56 Exhibit 329 – STAR Tool – Murrindindi Fire (EXH.329.0001); Exhibit 6 – Revised Statement of Waller (WIT.002.002.0001) [338]; Lawlor T8198:24–T8198:26, T8198:29–T8200:15

57 Exhibit 6 – Revised Statement of Waller (WIT.002.002.0001) [339]

58 Exhibit 370 – Statement of Weeks (WIT.105.001.0001_R) [20]

59 Exhibit 7 – Transcript – 774 ABC Radio (SUMM.001.002.0001) at 0323, 0336–0337, 0344; Exhibit 374 – Statement of Skelton (WIT.3024.003.0207) [28], Annexure 7 (DSE.HDD.0002.8370); Exhibit 346 – Statement of Rattray-Wood (WIT.3024.003.0229) [29]

60 Exhibit 337 – Statement of Lawlor (WIT.3024.003.0190) [6], [17]–[18]; Lawlor T8258:1–T8758:14, T8264:15–T8264:23

61 Lawlor T8265:2–T8266:12

62 Exhibit 337 – Statement of Lawlor (WIT.3024.003.0190) [10]

63 Exhibit 337 – Statement of Lawlor (WIT.3024.003.0190) [16]

64 Exhibit 345 – Statement of Steer (WIT.3024.003.0026) [33]; Steer T8477:11–T8478:1

65 Miller T8319:19–T8320:3, T8380:9–T8380:19

66 Exhibit 370 – Statement of Weeks (WIT.105.001.0001_R) [22]

67 Exhibit 370 – Statement of Weeks (WIT.105.001.0001_R) [22]

68 Exhibit 353 – Statement of Jones (WIT.3004.016.0177) [44]; Exhibit 348 – Statement of Rice (WIT.3004.016.0091) [72]–[75]; Rice T8529:3–T8529:21

69 Exhibit 337 – Statement of Lawlor (WIT.3024.003.0190) [19], [21]–[24]

70 Exhibit 443 – Statement of Overland, Annexure 1 (WIT.3010.009.0244) at 0272

71 Exhibit 101 – Statement of Rhodes, Attachment (WIT.3004.003.0049) at 0049–0051, Attachment (WIT.3004.002.0864) at 0864–0868; Exhibit 3 – Statement of Rees, Annexure 6 (WIT.004.001.0238) at 0240–0241; Exhibit 359 – Statement of Fiske (WIT.3004.017.0261) [7]

72 Exhibit 367 – Statement of Hunter (WIT.3009.001.0001) [13], [16]; Hunter T8955:2–T8955:15

73 Exhibit 367 – Statement of Hunter (WIT.3009.001.0001) [16]–[22]; Kenealy T8126:14–T8127:2; Hunter T8956:21–T8956:24, T8957:11–T8958:7

74 Exhibit 340 – Statement of Lovick (WIT.3024.003.0001) [15]–[19]; Farrell T8506:18–T8507:1; Lovick T8378:1–T8378:3, T8371:23–T8371:30; Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [20]; Exhibit 347 – Statement of Farrell (WIT.3024.003.0154) [57], [75]

75 Exhibit 371 – Revised Statement of Williamson (WIT.3024.004.0138) [49], Annexure 2, (DSE.HDD.0048.0037); Exhibit 556 – Statement of Creighton (VPO.001.040.0177) at 0185; Exhibit 348 – Statement of Rice (WIT.3004.016.0091) [90]; Williamson T10495:15–T10495:21, T10496:31–T10497:6; Webb Ware T8234:9–T8234:17; Rice T8534:21–T8535:10; Beer T8574:20–T8575:24

76 Exhibit 346 – Statement of Rattray-Wood (WIT.3024.003.0229) [36], [38]; Exhibit 374 – Statement of Skelton (WIT.3024.003.0207) [33]–[34], Annexure 11 (DSE.HDD.0004.0028), Annexure 12 (DSE.HDD.0004.0029); Exhibit 3 – Statement of Rees, Annexure 31 (WIT.004.001.0509) at 0576, 0589; Exhibit 7 – Transcript – 774 ABC Radio (SUMM.001.002.0001) at 0371–0372, 0373–0375, 0396–0397

77 Miller T8344:26–T8355:8; Lovick T8388:20–T8389:16

78 Exhibit 371 – Revised Statement of Williamson (WIT.3024.004.0138) [57]; Exhibit 360 – Statement of Cobb (WIT.3024.004.0032) [25], [58]

79 Exhibit 353 – Statement of Jones (WIT.3004.016.0177) [64]; Exhibit 357 – Statement of Malcolm (WIT.3004.017.0251) [32]; Exhibit 360 – Statement of Cobb (WIT.3024.004.0032) [57]; Jones T8638:21–T8638:23, T8640:3–T8640:8, T8640:21–T8641:8; Williamson T10499:22–T10499:25

80 Exhibit 360 – Statement of Cobb (WIT.3024.004.0032) [60]

81 Cobb T8772:18–T8772:22; Williamson T10503:5–T10503:28

82 Miller T8351:4–T8351:25, T8532:9–T8532:30; Exhibit 343 – Statement of Bowdern (WIT.3024.003.0068) [61]; Bowdern T8445:22–T8445:26

83 Exhibit 370 – Statement of Weeks (WIT.105.001.0001_R) [24]

84 Exhibit 351 – Statement of Hamill (WIT.3010.006.0194) [10]; Exhibit 363 – Statement of Collyer (WIT.3010.006.0183_R) [25]; Exhibit 373 – Statement of Thompson (WIT.3010.009.0291) [9], [16]

85 Exhibit 181 – Statement of Wasley (WIT.073.001.0001_R) [46]; Exhibit 369 – Statement of Brown (WIT.108.001.0001_R) [19]–[23]; Exhibit 339 – Statement of Miller (WIT.3024.003.0093) [82]; Exhibit 351 – Statement of Hamill (WIT.3010.006.0194) [11]; Lovick T8387:27–T8387:28, T8388:24–T8388:28; Rice T8535:24–T8535:28; Collyer T8828:26–T8828:31; Brown T8996:15–T8997:2, T8998:7–T8998:16; Wasley T5721:19–T5721:25; Collery T8416:20–T8416:26; Miller T8343:23–T8344:1; Hamill T8598:6–T8598:23

86 Exhibit 351 – Statement of Hamill (WIT.3010.006.0194) [12]

87 Exhibit 39 – Statement of Hull (WIT.030.001.0001_R) [15]; Hamill T8599:14–T8599:23

88 Exhibit 64 – Statement of Dwight (WIT.037.001.0001_R) [40]; Exhibit 363 – Statement of Collyer (WIT.3010.006.0183_R) [27]–[30]; Dwight T2066:18–T2067:29; Collyer T8841:23–T8843:12

89 Exhibit 64 – Statement of Dwight (WIT.037.001.0001_R) [41]

90 Hamill T8598:15–T8598:25, T8600:24–T8601:4; Dwight T2066:16–T2066:21, T2067:7–T2067:21; Collyer T8842:25–T8843:12, T8848:28–T8849:12

91 Hamill T8600:24–T8601:11; Dwight T2068:18–T2069:9

92 Exhibit 367 – Statement of Hunter (WIT.3009.001.0001) [26]–[27]; Exhibit 368 – Statement of Bates (WIT.110.001.0001_R) [18]–[21]

93 Exhibit 363 – Statement of Collyer (WIT.3010.006.0183_R) [33]–[36]; Exhibit 351 – Statement of Hamill (WIT.3010.006.0194) [20]; Exhibit 367 – Statement of Hunter (WIT.3009.001.0001) [28]; Exhibit 368 – Statement of Bates (WIT.110.001.0001_R) [23]–[24]; Exhibit 29 – Statement of Ferguson (WIT.022.001.0001_R) [23]; Exhibit 336 – Statement of Rishworth (WIT.098.001.0001_R) [30]; Collyer T8849:25–T8852:15; Hamill T8602:3–T8603:3; Ferguson T935:31–T936:4

94 Exhibit 557 – Meteorological Aspects of the Murrindindi Fire (BOM.901.0172) at 0184; Exhibit 130 – Statement of Waller (WIT.3024.001.0073) [56]; Lawlor T8202:10–T8203:8

95 Exhibit 130 – Statement of Waller (WIT.3024.001.0073) [53]; Lawlor T8263:17–T8263:23

96 Exhibit 334 – Statement of Webb Ware (WIT.3004.016.0205) [47]–[48]

97 Exhibit 371 – Revised Statement of Williamson (WIT.3024.004.0138) [73]

98 Exhibit 371 – Revised Statement of Williamson (WIT.3024.004.0138) [73]

99 Exhibit 357 – Statement of Malcolm (WIT.3004.017.0251) [41]–[44]; Exhibit 353 – Investigation Report Yarck Tankers 1 and 2 (CFA.001.028.0001); Jones T8647:4–T8648:10; Williamson T10507:27–T10508:11; Cobb T8776:7–T8776:28; Rice T8535:5–T8535:10

100 Jones T8646:6–T8646:12

101 Exhibit 353 – Investigation Report Yarck Tankers 1 and 2 (CFA.001.028.0001) at 0007–0008; Exhibit 338 – Statement of Creak (WIT.3004.017.0001) [130]; Jones T8647:7–T8649:4

102 Lawlor T8202:10–T8202:12, T8204:12–T8204:14

103 Exhibit 359 – Statement of Fiske (VPO.001.030.0197_R) at 0201_R–0202_R; Exhibit 39 – Statement of Hull (WIT.030.001.0001_R) [16]–[17]

104 Exhibit 353 – Statement of Jones (WIT.3004.016.0177) [81]; Exhibit 360 – Statement of Cobb (WIT.3024.004.0032) [68]; Exhibit 357 – Statement of Malcolm (WIT.3004.017.0251) [44]–[46]; Exhibit 371 –Statement of Williamson (WIT.3024.004.0138) [82]; Exhibit 95 – Statement of Fraser (WIT.048.001.0001_R) [32]; Exhibit 39 – Statement of Hull (WIT.030.001.0001_R) [20]; Exhibit 362 – Statement of Glenn (WIT.066.001.0001_R) [27]–[29]; Exhibit 358 – Statement of Harrow (WIT.3004.016.0247) [14]; Fraser T3057:25–T3058:8; Glenn T8820:11–T8820:23; Harrow T8720:30–T8721:13; Thompson T10526:5–T10526:16

105 Exhibit 39 – Statement of Hull, Attachment 2 (WIT.030.001.0012); Exhibit 355 – Statement of Gleeson (WIT.3004.016.0152) [51]–[55]; Exhibit 373 – Statement of Thompson (WIT.3010.009.0291) [31]–[33]; Exhibit 95 – Statement of Fraser (WIT.048.001.0001_R) [34]–[35]; Malcolm T8708:9–T8708:18

106 Exhibit 13 – Statement of Newman (WIT.009.001.0001_R) [14]; Lawlor T8204:22–T8204:28

107 Exhibit 3 – Statement of Rees, Annexure 31 (WIT.004.001.0509) at 0606; Exhibit 7 – Transcript – 774 ABC Radio (SUMM.001.002.0001) at 0445–0446, 0452–0454

108 Exhibit 346 – Statement of Rattray-Wood (WIT.3024.003.0229) [42], Attachment 9 (DSE.HDD.0017.0409)

109 Exhibit 346 – Statement of Rattray-Wood (WIT.3024.003.0229) [41], [50]; Exhibit 370 – Statement of Weeks (WIT.105.001.0001_R) [27]

110 Exhibit 338 – Statement of Creak (WIT.3004.017.0001) [127]–[128], [130]

111 Exhibit 339 – Statement of Miller (WIT.3024.003.0093) [95]–[96]

112 Exhibit 340 – Statement of Lovick (WIT.3024.003.0001) [56]

113 Exhibit 346 – Statement of Rattray-Wood (WIT.3024.003.0229) [43]–[44], Attachment 10 (DSE.HDD.0016.0541), Attachment 11 (DSE.0156.1320.0350), Attachment 12 (DSE.0017.0115.0037); Exhibit 3 – Statement of Rees, Annexure 31 (WIT.004.001.0509) at 0617, 0623; Exhibit 7 – Transcript – 774 ABC Radio (SUMM.001.002.0001) at 0462–0463, 0468–0469, 0472, 0478–0479

114 Exhibit 370 – Statement of Weeks (WIT.105.001.0001_R) [28]

115 Exhibit 346 – Statement of Rattray-Wood (WIT.3024.003.0229) [47], [49], Attachment 13 (DSE.HDD.0058.0013), Attachment 15 (DSE.HDD.0058.0018); Exhibit 3 – Statement of Rees, Annexure 31 (WIT.004.001.0509) at 0634

116 Exhibit 557 – Meteorological Aspects of the Murrindindi Fire (BOM.901.0172) at 0184–0185; Exhibit 6 – Revised Statement of Waller (WIT.002.002.0001) [318]; Williams T740:23–T740:30, T743:13–T744:22

117 Lawlor T8204:30–T8205:13

118 Exhibit 346 – Statement of Rattray-Wood (WIT.3024.003.0229) [50], Attachment 16 (DSE.HDD.0058.0022); Exhibit 3 – Statement of Rees, Annexure 31 (WIT.004.001.0509) at 0643; Exhibit 7 – Transcript – 774 ABC Radio (SUMM.001.002.0001) at 0524, 0534, 0541

119 Exhibit 346 – Statement of Rattray-Wood (WIT.3024.003.0229) [56], Attachment 17 (DSE.HDD.0058.0025)

120 Exhibit 3 – Statement of Rees, Annexure 31 (WIT.004.001.0509) at 0653, 0669–0670, 0672, 0677, 0681, 0697, 0707–0708; Exhibit 7 – Transcript – 774 ABC Radio (SUMM.001.002.0001) at 0559–0560; Exhibit 346 – Statement of Rattray-Wood (WIT.3024.003.0229) [62], [65], [67]–[68], [71], [74], [76], Attachment 19 (DSE.HDD.0058.0030), Attachment 20 (DSE.HDD.0058.0035), Attachment 21 (DSE.HDD.0058.0040), Attachment 22 (DSE.HDD.0058.0042), Attachment 24 (DSE.HDD.0052.0363), Attachment 25 (DSE.HDD.0052.0365), Attachment 26 (DSE.HDD.0058.0048); Exhibit 5 – Statement of Esplin, Attachment 19 (WIT.005.001.1661) at 1758, 1767; Esplin T372:6–T372:13

121 Exhibit 340 – Statement of Lovick (WIT.3024.003.0001) [53]; Lovick T8406:23–T8407:15

122 Exhibit 377 – Statement of Ellett (WIT.4006.001.0001) [82]–[84]

123 Exhibit 323 – Statement of Kenealy (WIT.101.001.0001_R) [46]–[47]

124 B Teague, R McLeod, S Pascoe, *2009 Victorian Bushfire Royal Commission: Interim Report,* Parliament of Victoria, Melbourne, August 2009 [6.71]–[6.73] and Recommendation 6.4

125 Exhibit 378 – Statement of Jack (WIT.4007.001.0001) [78]–[79]

126 Exhibit 371 – Revised Statement of Williamson (WIT.3024.004.0138) [91]–[96]; Exhibit 360 – Statement of Cobb (WIT.3024.004.0032) [81]; Exhibit 362 – Statement of Glenn (WIT.066.001.0001_R) [30]–[32]; Exhibit 369 – Statement of Brown (WIT.108.001.0001_R) [28]; Thompson T10527:30–T10528:3

127 Exhibit 377 – Statement of Ellett (WIT.4006.001.0001) [95]

128 Exhibit 323 – Statement of Kenealy (WIT.101.001.0001_R) [57]; Exhibit 377 – Statement of Ellett (WIT.4006.001.0001) [84], [98];

129 Exhibit 787 – Further Statement of Fogarty, Annexure 1 (WIT.3024.005.0260) at 0261; Lawlor T8205:14–T8205:20

130 Exhibit 214 – Statement of Hollowood (WIT.3010.001.0338) [65]; Exhibit 11 – Statement of Esplin, Attachment 1 (WIT.005.001.0049) at 0055, 0073–0076

131 Lawlor T8202:22–T8203:8

132 Exhibit 339 – Statement of Miller (WIT.3024.003.0093) [19]; Exhibit 345 – Statement of Steer (WIT.3024.003.0026) at [15], [33]

133 Exhibit 340 – Statement of Lovick (WIT.3024.003.0001) [25], [55], [57], [66]; Exhibit 475 – AIIMS Manual (TEN.121.001.0001) at 0089

134 Exhibit 546 – Linton Report (TEN.132.001.0001) at 0386

135 Exhibit 340 – Statement of Lovick (WIT.3024.003.0001) [39]; Lovick T8386:25–T8387:3; Exhibit 400 – Guideline 8.1.10: Communicating Essential Fire Ground Information (DSE.HDD.0012.1158) at 1159–1160; Rice T8535:11–T8535:18

136 Exhibit 484 – Map of the Murrindindi Shire Showing Fire Affected Areas (MAV.001.001.0037); Exhibit 11 – Statement of Esplin, Attachment 1 (WIT.005.001.0049) at 0061–0062, 0066, 0071, 0073–0076

137 Exhibit 377 – Statement of Ellett (WIT.4006.001.0001) [27], [33], Attachment 2 (WIT.4006.001.0021) at 0037, Attachment 4 (WIT.4006.001.0259) at 0260–0261

138 Exhibit 367 – Statement of Hunter (WIT.3009.001.0001) [13]; Hunter T8952:27–T8954:7

139 Exhibit 377 – Statement of Ellett, Attachment 2 (WIT.4006.001.0021) at 0050; Exhibit 377 – Correspondence – List of Disabled or Elderly Residents (CORR.0910.0081)

140 Exhibit 365 – Statement of Billing (WIT.3010.005.0018) [20]–[21]; Billing T8899:13–T8901:11; Exhibit 370 – Statement of Weeks (WIT.105.001.0001_R) [32]–[34]; Rice T8528:3–T8528:19, T8529:23–T8530:7; Weeks T9022:9–T9024:28

141 Exhibit 361 – Statement of Anderson (WIT.3032.001.0001) [13], Annexure 2 (WIT.3032.001.0021); Anderson T8785:17–T8786:19

142 Exhibit 361 – Statement of Anderson (WIT.3032.001.0001) [14]–[15], [18]–[20]; Anderson T8786:20–T8787:13, T8788:2–T8788:21

143 Exhibit 361 – Statement of Anderson (WIT.3032.001.0001) [25]–[26]; Anderson T8790:19–T8790:29

144 Exhibit 361 – Statement of Anderson (WIT.3032.001.0001) [29], [33(c)]; Anderson T8791:7–T8791:25

145 Exhibit 361 – Statement of Anderson (WIT.3032.001.0001) [30]–[33]; Anderson T8793:8–T8793:28

146 Exhibit 348 – Statement of Rice (WIT.3004.016.0091) [89]; Exhibit 556 – Statement of Creighton (VPO.001.040.0177) at 0183; Exhibit 379 – Statement of Jowett (WIT.109.001.0001_R) [48]; Exhibit 498 – Statement of Liesfield (WIT.7528.001.0001) at 0003; Exhibit 361 – Statement of Anderson (WIT.3032.001.0001) [33(a)], [58]–[63], Annexure 11 (WIT.3032.001.0048); Exhibit 555 – Statement of Ackerman (VPO.001.034.0294) at 0297; Rice T8533:15–T8534:15; Jones T8640:13–T8641:8; Anderson T8795:5–T8795:27, T8798:11–T8800:3

147 Exhibit 361 – Statement of Anderson (WIT.3032.001.0001) [38], Annexure 8 (WIT.3032.001.0034) at 0042; Anderson T8795:28–T8796:26

148 Exhibit 361 – Statement of Anderson (WIT.3032.001.0001) [33], [45]–[51]; Anderson T8800:4–T8801:12

149 Exhibit 372 – Statement of Rowles (WIT.3010.005.0313) [27]; Exhibit 351 – Statement of Hamill (WIT.3010.006.0194) [4]–[5]; Hamill T8594:8–T8594:29

150 Exhibit 364 – Statement of Barton (WIT.3010.005.0001) [26], [28]; Exhibit 364 – Police Day Book Notes for Alexandra Forward Commander Post (TEN.104.001.0001); Barton T8873:1–T8873:10

151 Exhibit 364 – Statement of Barton (WIT.3010.005.0001) [29]; Barton T8873:23–T8874:7, T8874:15–T8874:16

152 Exhibit 366 – Traffic Management Points During the Victorian Bushfires (VPO.300.002.0269) at 0276–0278; Walshe T11817:5–T11817:16; Billing T8918:29–T8919:19

153 Exhibit 366 – Traffic Management Points During the Victorian Bushfires (VPO.300.002.0269) at 0278–0280; Exhibit 385 – Statement of Cherry (WIT.107.001.0001_R) [37]; Exhibit 349 – Statement of Kennedy (WIT.102.001.0001_R) [21]–[22], [35]–[37]; Exhibit 13 – Statement of Newman (WIT.009.001.0001_R) [19]–[20]; Exhibit 77 – Statement of Walter (WIT.041.001.0001_R) [74]–[79]; Exhibit 366 – Statement of Rishworth (WIT.098.001.0001_R) [40]; Exhibit 377– Statement of Ellett (WIT.4006.001.0001) [93]; Cherry T9160:20–T9161:11; Kennedy T8551:28–T8552:7; Barton T8876:22–T8877:11; Newman T345:12–T346:9; Collery T8423:5–T8423:10, T8424:6–T8425:11; Glenn T8824:14–T8825:19; Billing T8919:8–T8921:21

154 Billing T8912:16–T8913:19

155 B Teague, R McLeod, S Pascoe, *2009 Victorian Bushfire Royal Commission: Interim Report,* Parliament of Victoria, Melbourne, August 2009, Recommendation 9.2; Exhibit 547 – Statement of Haynes (WIT.3004.023.0011) [160]

156 Exhibit 340 – Statement of Lovick (WIT.3024.003.0001) [19]; Lovick T8370:7–T8370:8, T8377:12–T8377:14; Exhibit 337 – Statement of Lawlor (WIT.3024.003.0190) [16]; Steer T8477:29–T8477:31

157 Exhibit 340 – Statement of Lovick, Annexure 4 (DSE.HDD.0052.0275); Exhibit 343 – Statement of Bowdern (WIT.3024.003.0068) [61]; Exhibit 345 – Statement of Steer, Annexure 3 (DSE.HDD.0048.0016) at 0019; Exhibit 357 – Statement of Malcolm (WIT.3004.017.0251) [41]–[44]; Exhibit 353 – Investigation Report Yarck Tankers 1 and 2 (CFA.001.028.0001); Exhibit 557 – Meteorological Aspects of the Murrindindi Fire (BOM.901.0172) at 0184, 0210–0212; Steer T8482:26–T8482:30, T8486:2–T8490:29; Lovick T8375:24–T8375:31; Miller T8351:4–T8351:25, T8532:9–T8532:30; Bowdern T8445:22–T8445:26; Jones T8647:4–T8648:10; Williamson T10507:27–T10508:11; Cobb T8776:7–T8776:28; Rice T8535:5–T8535:10



# THE REDESDALE FIRE

11

# 11 THE REDESDALE FIRE

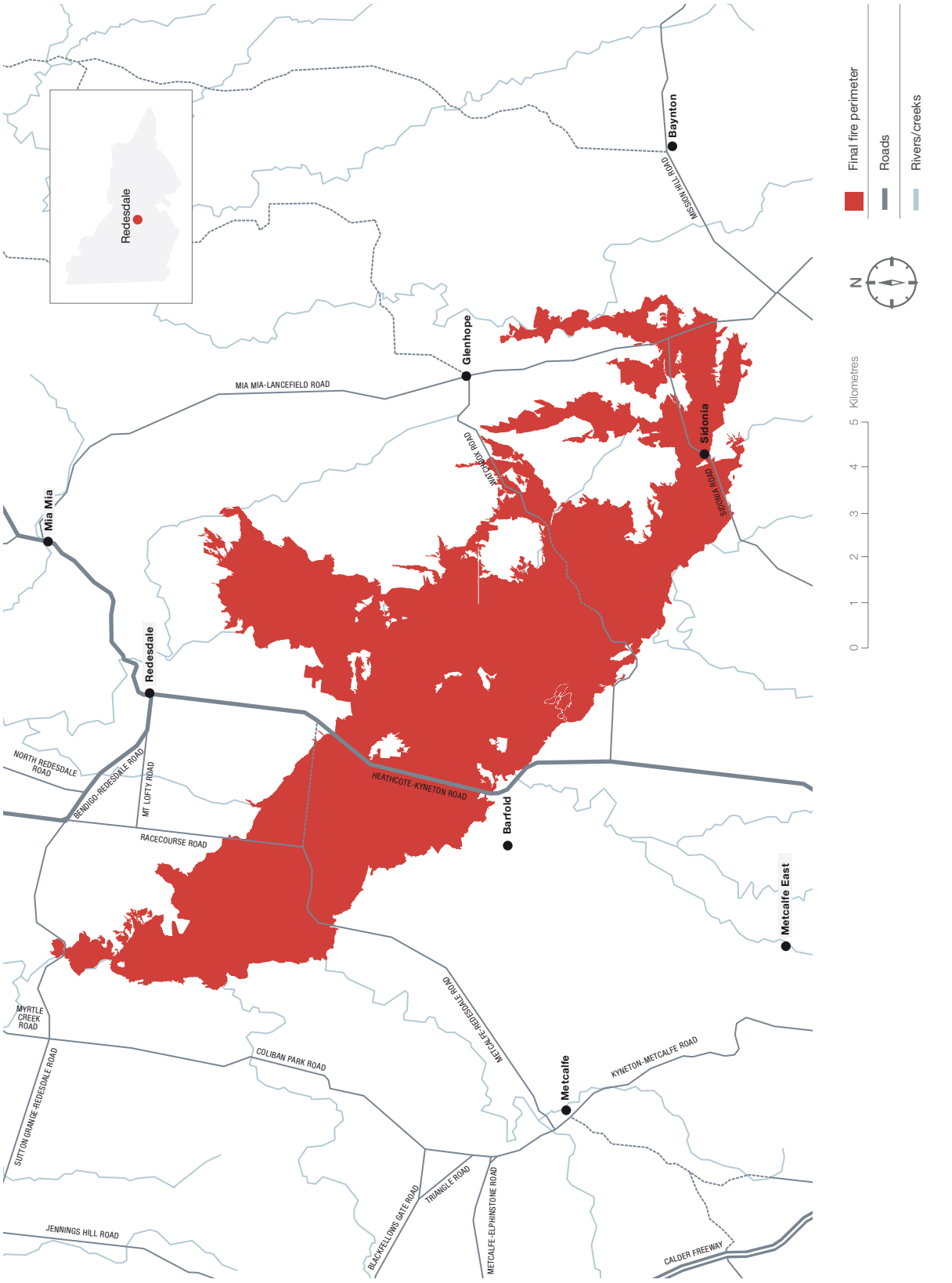
The township of Redesdale is on the Kyneton–Heathcote road, south of Lake Eppalock. It is 95 kilometres north-west of Melbourne and 35 kilometres south-east of Bendigo.

The Redesdale fire was reported at 15:11 on 7 February 2009 and burned towards the south-east for about 19 kilometres. After the south-westerly wind change arrived at 18:35, the fire turned to the north and north-east. It affected four municipalities—Greater Bendigo, Mount Alexander, Macedon Ranges and Mitchell—destroying 14 houses and burning 7,086 hectares. It was the first of two fires in the region on that day, the second originating in Maiden Gully, 8 kilometres north-west of Bendigo, at 16:20. Figure 11.1 shows the extent of the Redesdale fire.

## OVERVIEW

| | |
|---|---|
| **Maximum temperature** | The maximum temperature recorded was 44.7°C at Redesdale automatic weather station at 16:00.[1] |
| **Minimum relative humidity** | The minimum relative humidity recorded was 7 per cent at Redesdale AWS between 16:00 and 17:30.[2] |
| **Wind** | The maximum winds recorded before the wind change were north-north-westerly at 50 kilometres an hour at Redesdale AWS at 15:30.[3]<br>The wind change was recorded by the Redesdale AWS at 18:35 at 39 kilometres an hour.[4]<br>The maximum winds recorded after the wind change were south-westerly at 42 kilometres an hour at Redesdale AWS at 19:00.[5] |
| **Fire Danger Index** | The maximum Fire Danger Index was 87.2 at Redesdale AWS at 16:00.[6] |
| **Cause** | Undetermined.[7] |
| **Fatalities** | No fatalities.[8] |
| **Casualties** | One casualty.[9] |
| **Houses destroyed** | Fourteen houses.[10] |
| **Overall area burnt** | 7,086 hectares.[11] |
| **Firefighting resources** | On 7 February, 536 CFA and 127 NEO personnel attended the fire. They were supported by 103 CFA appliances, 21 NEO dozers and 1 aircraft.[12] |

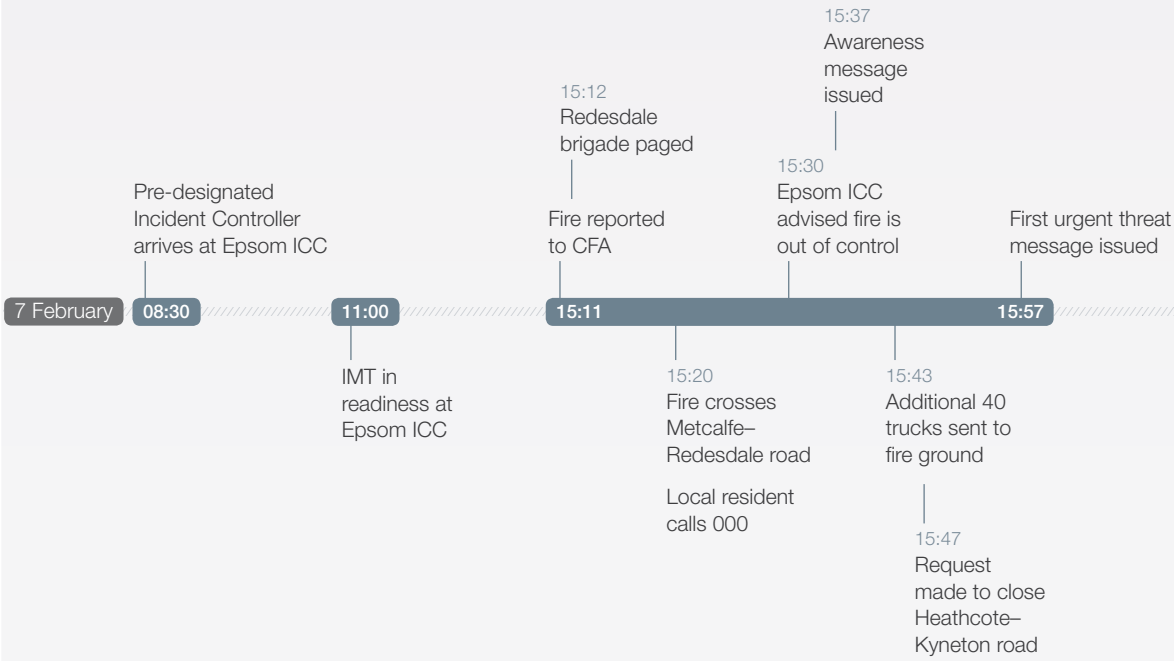
Figure 11.1 The Redesdale fire

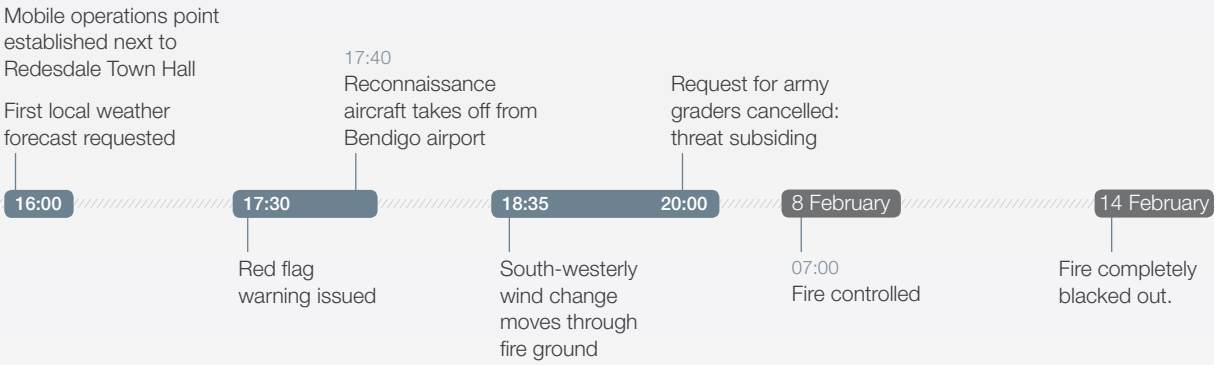



Source: Exhibit 994 – Redesdale Fire – Final Fire Perimeter.[13]

## Redesdale 7 February – 14 February

The following time line summarises events associated with the Redesdale fire. For the most part, the times given are approximate. Further details about the events are provided in the accompanying narrative.




Mobile operations point established next to Redesdale Town Hall
First local weather forecast requested
16:00
17:30
Red flag warning issued
17:40
Reconnaissance aircraft takes off from Bendigo airport
18:35
20:00
South-westerly wind change moves through fire ground
Request for army graders cancelled: threat subsiding
8 February
07:00
Fire controlled
14 February
Fire completely blacked out.

## 11.1 SEQUENCE OF EVENTS

### 11.1.1 PREPARATION

On 6 February Mr John Deering, Operations Manager of Country Fire Authority Region 2, and Mr Andrew Matthews, the Department of Sustainability and Environment acting Area Land and Fire Manager, established a joint level 3 incident management team at the Epsom Incident Control Centre, for a 'hot start' the following day. Many of the IMT members selected for the hot start were at the ICC on 6 February and used that day to test and confirm ground observer arrangements and begin fire behaviour prediction work. Those present also participated in a practice scenario involving a multi-agency response to a level 3 fire.[14]

On the morning of 7 February Mr Deering and his DSE counterpart, Mr James Dalton, ensured that all units in the IMT were preparing for the day ahead. For example, the Planning Section carried out fire behaviour predictions and ensured that the ground observer team was in place; the Information Unit prepared templates for fire information releases and established contact with the ABC and local media. A fully staffed IMT was ready from 11:00 on 7 February. Mr Deering arrived at 08:30 that day and took a joint leadership role with Mr Dalton. Both were accredited level 3 Incident Controllers.[15]

Superintendent Peter Bull was the Divisional Emergency Response Coordinator for the division, which takes in the municipalities of Greater Bendigo, Mount Alexander and Macedon Ranges. By Friday 6 February he had ascertained that each of these municipalities was prepared to activate its Municipal Emergency Coordination Centre if required.[16]

Table 11.1 summarises the state of preparedness for the Redesdale fire.

**Table 11.1 The Redesdale fire – IMT preparedness**

| | |
|---|---|
| **Pre-designated level 3 ICC** | Yes[17] |
| **Pre-formed IMT at ICC** | Yes[18] |
| **Pre-identified level 3 IC** | Yes[19] |
| **Pre-identified IMT members** | Yes[20] |
| **Time fire started** | Approx 15:11[21] |
| **Full IMT in place by** | 11:00, 7 February 2009[22] |
| **Safety adviser appointed** | No[23] |

### 11.1.2 7 FEBRUARY

#### Origin and cause

VicFire was notified of the fire at Redesdale at 15:11 on 7 February. The fire was initially reported to have started at Coliban Park Road, about 2 kilometres to the west of Redesdale on the western side of the Coliban River. Fire investigators subsequently discovered that the fire actually started on the eastern side of the river.[24]

Ms Samantha Siddle lives on a property at Racecourse Road, Redesdale, very close to the fire's point of origin. Ms Siddle first smelled smoke at around 15:00. She got into her car and drove across her property in search of the origin of the smoke. Within about 15 minutes, however, her paddocks were on fire. At 15:20, having returned to her home, she called 000 to report the fire.[25]

DSE fire tower observers in the Mount Ida and Fryers Ridge fire towers also saw the fire soon after it had started.[26]

Victoria Police has investigated the cause of ignition of the Redesdale fire but has made no determination.[27]

### Fire run, response and management

At 15:12 the Redesdale, Metcalfe, Sutton Grange and Langley–Barfold brigades were sent to attend the fire. The ground observer crew that had been pre-positioned on 6 February was also promptly dispatched. Nine minutes after the initial report the fire crossed the Metcalfe–Redesdale road.[28]

Mr Peter Wilson, Group Officer with the CFA Metcalfe group, was the initial level 1 Incident Controller at the fire ground. The Epsom IMT shadowed the first response, preparing to assume control on the basis that the first attack was unlikely to succeed. At 15:30 Mr Wilson telephoned to advise the ICC that the fire was beyond the control of the initial resources of the responding brigades and asked that the Epsom IMT assume control. From that time until about 09:00 the following day Mr Deering was the level 3 Incident Controller.[29]

Shortly after 15:25 Mr Andrew Chapman, captain of the Elphinstone brigade, went to the Elphinstone fire station, where he learnt of the Redesdale fire. One of the first to arrive at the fire, he intended to set up a control point at the corner of the Kyneton–Redesdale road and Siddles Road. While on his way there he realised that the fire had travelled past this point and was out of control. The control point was eventually established with Deputy Group Officer Mr Dave Penno at the Heathcote–Kyneton road and Perry's Lane intersection.[30]

The first alert the Elphinstone brigade received came at about 15:26, while Mr Chapman was on his way towards the fire. The Mia Mia brigade also received this alert.[31]

At the ICC Mr Deering was not directly involved in decisions about allocation of resources on the fire ground. He left those tactical decisions to the commanders in the field, conceiving his role as more strategic. He and Mr Dalton had discussed beforehand how they would work together: Mr Dalton took responsibility for internal management of the IMT and Mr Deering concentrated on external relationships, including keeping the integrated Emergency Control Centre and the public informed.[32]

On becoming aware of the fire at Redesdale the Epsom ICC information officer prepared an awareness message for the communities of Metcalfe, Metcalfe East, Barfold, Langley and Redesdale, distributing it by email at 15:37. The message was broadcast on 774 ABC radio at 15:50 and on ABC Bendigo at 15:53.[33]

Thirty additional tankers were requested at 15:43; 40 appliances eventually attended the fire. At 15:47 Superintendent Bull received a request from DSE to close the Heathcote–Kyneton road.[34]

Police working independently of each other operated roadblocks to the north and south of the fire. Communications between the Epsom ICC and police to the north of the fire were better than those with police to the south, who had great difficulty tracking the fire's progress because of a lack of information and received no requests to establish roadblocks. In some cases residents wanting to return to their properties managed to bypass road closures, gaining access to their properties via back roads and tracks.[35]

When the fire was first reported Mr John Cutting, manager of the Bendigo Regional Emergency Coordination Centre on 7 February, immediately sent Mr Craig Brittain, CFA Operations Officer, to the fire ground; Mr Brittain was accompanied by Mr Andrew Gill as his deputy. The two men arrived at the fire within 40 minutes and made contact with Mr Chapman.[36]

Mr Chapman briefed them both, and together they formulated a strategy, sectorised the fire and appointed three senior CFA volunteers as sector commanders.[37]

Superintendent Bull was already at the Epsom ICC when the Redesdale fire began, and for a period he performed the roles of police liaison, command operations and Divisional Emergency Response Coordinator simultaneously. He promptly relayed the ICC's requests for tankers and graders to Sergeant Grant Morris, the Bendigo Municipal Emergency Response Coordinator. Sergeant Morris sent the requests to the Municipal Emergency Resource Officer for Greater Bendigo, who arranged for the equipment to be provided.[38]

Just over 6 kilometres from the fire's point of origin, and before 16:00, the fire crossed the Kyneton–Redesdale road in several places before reaching the community of Barfold. It was deemed too dangerous to attack the head of the fire, so the majority of resources were concentrated on its eastern flank. The Bendigo Regional Emergency Coordination Centre redirected to the Redesdale fire two strike teams that had been assembled in CFA Region 2 to respond to the Kilmore East fire.[39]

An emergency relief centre was established at the Redesdale community hall soon after the fire started, and Sergeant Morris was advised of the establishment of an evacuation centre at Barrack Reserve at Heathcote.[40]

At about 16:00 an operations point was established in a mobile control vehicle. The fire crossed Watchbox Road at about 16:49.[41]

Mr Andrew Howlett, the Epsom ICC planning officer, asked for local weather forecasts at 16:00 and at 17:00. The Bureau of Meteorology issued the forecasts within 30 minutes of the request being received, and the forecasts were passed on to the Operations Unit and the information officers. Fire prediction maps were produced in the Epsom ICC at 15:55, 18:14 and 20:11 and were projected onto a screen for everyone in the IMT to see.[42]

The first urgent threat message was issued at 15:57; subsequent threat messages were prepared, distributed and broadcast in a timely manner on 7 February, telling local communities of the fire's location and the timing and impact of the wind change.[43]

Dozers and graders, supported by slip-on units and tankers, were used to establish containment lines along the north-eastern flank of the fire. Mr Brittain asked that graders create a firebreak in front of Redesdale township. More work was done near Mia Mia; this work was limited by difficult terrain, but crews were able to establish effective containment lines along most of the fire's north-eastern flank before the wind changed. Tanker crews were unable to attack the head of the fire before the wind change and instead supported the crews by direct attack on the flanks of the fire, building containment lines, and assisting with protection of property.[44]

It is apparent from log entries made by Mr Howlett and Mr Leslie Vearing, the operations officer at the Epsom ICC, that both the Planning Unit and the Operations Unit became aware shortly before 17:30 that the forecast wind change would arrive between 18:30 and 19:00. Within minutes a red flag warning was transmitted from the Epsom ICC to the Redesdale operations point and passed on to all stations on the fire ground.[45]

Mr Robert Jarvis of Parks Victoria had been on standby at Bendigo airport as air attack supervisor for the Epsom ICC. By 17:40 the wind had begun to moderate and he was able to take off in his aircraft and do some reconnaissance in the area of the fire. Mr Jarvis provided to Mr Vearing information about the location of the head of the fire and the northern flank. He was hampered in his work, however, by extreme turbulence and poor visibility. He was on approach to Bendigo airport when the wind changed.[46]

At 17:46, the incident management team produced an incident action plan summary, which detailed where the fire was, where it was travelling, the towns it was near and the incident management team's objectives—to protect life and assets in the fire area and track and hold the eastern edge of the fire ahead of the wind change. The summary also detailed the means by which the eastern edge was to be held.[47]

By 18:00 the fire had reached the locality of Sidonia, where it burnt a number of private blue-gum plantations.[48]

Between 18:35 and 18:46 the south-westerly wind change moved through the fire ground, pushing the eastern flank of the fire towards the communities of Redesdale, Mia Mia and Heathcote. The firefighters' efforts to secure the north-eastern flank of the fire during the afternoon proved effective, and the fire did not reach these communities. Once the wind change had passed, weather conditions eased and firefighters were able to attack the fire directly on all flanks.[49]

Soon after 20:00 Mr Vearing was sufficiently confident that the fire would be contained overnight to cancel an earlier request that the Army provide graders. He decided DSE did not need to allocate any further resources to the Redesdale fire.[50]

Residents and firefighters in the area affected by the Redesdale fire do not appear to have experienced the difficulties and frustrations with police roadblocks that were experienced in other areas.[51] This could be because the Redesdale fire burned largely in open country and was brought under control relatively quickly.



The fire's average rate of spread was 6 kilometres an hour. During the course of the afternoon the fire spread rapidly though grassland, at up to 12 kilometres an hour, while slowing to as low as 1 kilometre an hour in areas of heavy fuel and forest.[52]

The Redesdale fire was controlled by 07:00 on 8 February, although in the following days there were some break-outs as a result of strong southerly winds. During this time firefighters continued to secure the fire perimeter; this involved redeploying resources from the nearby Bendigo fire. The fire was not listed as contained until 09:56 on 10 February. It was completely blacked out by 14 February.[53]

As noted, the Redesdale fire burned in four separate municipalities. It started in the City of Greater Bendigo, burned mainly in Mount Alexander Shire, and extended to Mitchell and Macedon Ranges Shires.[54]

The fire was observed as a 'blanket of fire' spreading across the landscape, with a flame front 20 metres deep and a flame height of 1 to 2 metres over grassland. It developed into a crown fire in some forested areas, including in the Mt Lofty reserve.[55]

Fourteen houses and more than 50 sheds and outbuildings were destroyed, as were the Baynton church, a bridge, two olive plantations and a vineyard. Two CFA forward control vehicles were damaged.[56]

## 11.2 CONCLUSIONS

The efficient way in which information was gathered and shared by the incident management team enabled assessment of communities at risk, prompt preparation and distribution of informative warnings, and the setting up of appropriate road closures. Most crucially, it allowed the IMT to develop the firefighting strategy, which involved a concentrated effort to secure the north-eastern flank before the wind change, thus improving the protection of the Redesdale, Mia Mia and Heathcote communities further to the north-east. This approach was finalised within an hour of the Epsom ICC assuming control of the incident and was effectively implemented in the two hours before the wind change arrived.[57]

In the Commission's view, the Epsom IMT's effective management of the Redesdale fire is testament to good planning and agency cooperation in the lead-up to a day of extreme fire danger—in particular pre-positioning properly qualified and experienced staff in an IMT. It also highlights the value of focusing on gathering and sharing information within the IMT, between fire agencies and with the public.

Fire agencies' response to the Redesdale fire was, however, impeded by communication difficulties. Radio communications between Redesdale divisional command and the fire ground were poor. Mobile telephone communications were intermittent, and ground observers were unable to transmit information electronically via broadband internet connection. At times Mr Brittain was unable to make contact with sector commanders, and it was necessary to bring them to the operations point at Redesdale for briefings. Mr Brittain attributed these difficulties to various causes, among them the topography of the area, heat and smoke, and radio black spots.[58] Communications issues are considered in more detail in Chapter 3 of Volume II.

Members of Victoria Police responding to the Redesdale fire also had problems with radio communications. Although they appear to have had better radio reception than CFA members, their communications were impeded by the high volume of radio traffic directed through the police communications network, D24.[59]

The Commission heard evidence that Mount Alexander and Macedon Ranges Shires provided a great deal of support, considering that Greater Bendigo and Mitchell Shires were fully occupied with other fires in their municipalities. The detail of the emergency response within the Mount Alexander and Macedon Ranges Shires is, however, largely unknown because no statements were provided to the Commission for the Municipal Emergency Response Coordinator and Municipal Emergency Resource Officers for those municipalities.[60]

1 Exhibit 557 – Meteorological Aspects of the Redesdale Fire (BOM.901.0213) at 0227

2 Exhibit 557 – Meteorological Aspects of the Redesdale Fire (BOM.901.0213) at 0227

3 Exhibit 557 – Meteorological Aspects of the Redesdale Fire (BOM.901.0213) at 0227

4 Exhibit 557 – Meteorological Aspects of the Redesdale Fire (BOM.901.0213) at 0227

5 Exhibit 557 – Meteorological Aspects of the Redesdale Fire (BOM.901.0213) at 0227

6 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [112]

7 Exhibit 462 – Statement of Kelleher (VPO.001.027.0175) at 0177–0178

8 Exhibit 3 – Statement of Rees (WIT.004.001.0001) at 0106

9 Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [21]

10 Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048_R) at 0048_R

11 Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19.10]

12 Exhibit 939 – Details Regarding Emergency Response (CFA.600.005.0195) at 0195, 0198; Exhibit 939 – Day by Day breakdown – Redesdale (DSE.HDD.0048.0545_16); Exhibit 939 – Aircraft data 0809 (DSE.HDD.0048.0544_20) at 0544_27

13 Exhibit 994 – Redesdale Fire – Final Fire Perimeter (CFA.600.006.0004)

14 Exhibit 452 – Statement of Deering (WIT.3004.019.0192) [25], [29], Annexure 6 (WIT.3004.019.0272) at 0272; Exhibit 460 – Statement of Cutting (WIT.3004.020.0001) [21]; Exhibit 466 – Statement of Vearing (WIT.3024.004.0215) [15]; Exhibit 458 – Statement of Gilmore (WIT.3004.019.0001) [12]

15 Exhibit 452 – Statement of Deering (WIT.3004.019.0192) [5], [35]; Exhibit 466 – Statement of Vearing, Annexure 4 (DSE.HDD.0052.0651) at 0687; Deering T10151:13–T10151:18

16 Exhibit 454 – Statement of Bull (WIT.3010.009.0001) [11], Attachment 6 (WIT.3010.009.0057)

17 Exhibit 452 – Statement of Deering (WIT.3004.019.0192) [23]–[25], [29], Annexure 5 (WIT.3004.019.0269), Annexure 6 (WIT.3004.019.0272) at 0272; Exhibit 466 – Statement of Vearing (WIT.3024.004.0215) [15], [17]; Exhibit 460 – Statement of Cutting (WIT.3004.020.0001) [21]; Exhibit 458 – Statement of Gilmore (WIT.3004.019.0001) [12]

18 Exhibit 452 – Statement of Deering (WIT.3004.019.0192) [5], [23]–[26], [29], Annexure 5 (WIT.3004.019.0269), Annexure 6 (WIT.3004.019.0272) at 0272; Exhibit 466 – Statement of Vearing (WIT.3024.004.0215) [15], [17], Annexure 4 (DSE.HDD.0052.0651) at 0687; Exhibit 460 – Statement of Cutting (WIT.3004.020.0001) [21]; Exhibit 458 – Statement of Gilmore (WIT.3004.019.0001) [12]

19 Exhibit 452 – Statement of Deering (WIT.3004.019.0192) [5], [26], [35]–[38], Annexure 5 (WIT.3004.019.0269) at 0269; Exhibit 466 – Statement of Vearing, Annexure 4 (DSE.HDD.0052.0651) at 0687; Exhibit 458 – Statement of Gilmore (WIT.3004.019.0001) [17]; Deering T10151:13–T10151:18, T10152:9–T10152:22

20 Exhibit 452 – Statement of Deering (WIT.3004.019.0192) [5], [23]–[26], [29], Annexure 5 (WIT.3004.019.0269), Annexure 6 (WIT.3004.019.0272) at 0272; Exhibit 466 – Statement of Vearing (WIT.3024.004.0215) [15], [17], Annexure 4 (DSE.HDD.0052.0651) at 0687; Exhibit 460 – Statement of Cutting (WIT.3004.020.0001) [21]; Exhibit 458 – Statement of Gilmore (WIT.3004.019.0001) [12]

21 Exhibit 462 – Statement of Flett (VPO.001.027.0169) at 0171; Deering T9958:11–T9958:16

22 Exhibit 452 – Statement of Deering (WIT.3004.019.0192) [5], [26], Annexure 5 (WIT.3004.019.0269) at 0269; Exhibit 466 – Statement of Vearing, Annexure 4 (DSE.HDD.0052.0651) at 0687; Deering T10151:13–T10151:18

23 Exhibit 548 – Correspondence – Safety Advisors (CORR.0911.0107_R)

24 Exhibit 466 – Statement of Vearing (WIT.3024.004.0215) [28]; Exhibit 2 – IMS Data (WIT.004.002.1459) at 1512; Exhibit 441 – Map of Redesdale (TEN.119.001.0002); Exhibit 462 – Statement of Flett (VPO.001.027.0169) at 0170; Brittain T9971:31–T9972:4

25 Exhibit 459 – Statement of Siddle (WIT.115.001.0001_R) [12]–[18]; Siddle T10290:18–T10292:21

26 Exhibit 452 – Statement of Deering (WIT.3004.019.0192) [46]; Exhibit 462 – Incident Information Summary – Redesdale Fire (TEN.129.001.0002); Exhibit 94 – Land and Fire Areas and Fire Towers (DOC.VGS.002.0001)

27 Exhibit 462 – Statement of Kelleher (VPO.001.027.0175) at 0177–0178

28 Exhibit 452 – Statement of Deering (WIT.3004.019.0192) [36], [46]; Exhibit 462 – Statement of Booker (SUMM.044.002.0277) at 0277–0278; Exhibit 468 – Statement of Howlett (WIT.3004.020.0289) [35]; Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0194–0195, 0210–0211; Exhibit 453 – Fire Prediction Maps (TEN.127.001.0001); Deering T9960:3–T9960:10, T10151:23–T10152:8, T10153:14–T10153:15, T10159:5–T10161:13

29 Exhibit 458 – Statement of Gilmore (WIT.3004.019.0001) [31]; Exhibit 452 – Statement of Deering (WIT.3004.019.0192) [40]; Deering T9960:11–T9960:15

30 Exhibit 462 – Statement of Chapman (SUMM.044.002.0109) at 0109–0111

31 Exhibit 462 – Statement of Chapman (SUMM.044.002.0109) at 0109

32 Exhibit 452 – Statement of Deering (WIT.3004.019.0192) [75]; Deering T10154:4–T10154:27

33 Exhibit 469 – Statement of Downes (WIT.3004.020.0314) [19]–[20], Annexure 5 (WIT.3004.020.0340); Exhibit 452 – Statement of Deering (WIT.3004.019.0192) [77], Annexure 10 (WIT.3004.019.0324); Exhibit 144 – ABC Local Radio – Disc 1 (TEN.052.001.0001); Exhibit 7 – Transcript – 774 ABC Radio (SUMM.001.002.0001) at 0290–0291

34 Exhibit 460 – Statement of Cutting (WIT.3004.020.0001) [35], [39]–[40], [45]; Exhibit 439 – Statement of Brittain (WIT.3004.020.0251) [30]; Exhibit 454 – Statement of Bull (WIT.3010.009.0001) [19]; Brittain T9974:30–T9975:3; Cutting T10321:28–T10322:1; Deering T9960:23–T9960:31

35 Exhibit 454 – Statement of Bull (WIT.3010.009.0001) [29]–[30]; Exhibit 473 – Statement of Brundell (WIT.3010.006.0215) [14], [20]–[22]; Exhibit 439 – Statement of Brittain (WIT.3004.020.0251) [72]–[74]

36 Exhibit 439 – Statement of Brittain (WIT.3004.020.0251) [25], [28]–[29], [31], [35]; Brittain T9970:17–T9971:11, T9972:5–T9973:20; Exhibit 462 – Statement of Chapman (SUMM.044.002.0109) at 0111

37 Exhibit 439 – Statement of Brittain (WIT.3004.020.0251) [38], Annexure 5 (WIT.3004.020.0274); Brittain T9974:5–T9974:21

38 Exhibit 454 – Statement of Bull (WIT.3010.009.0001) [28]–[29]; Bull T10172:17–T10172:31; Exhibit 464 – Statement of Morris (WIT.3010.007.0298) [21]–[22]; Exhibit 465 – Statement of Malone (WIT.4010.001.0001) [60]

39 Exhibit 460 – Statement of Cutting (WIT.3004.020.0001) [35], [39]–[40], [45]; Exhibit 439 – Statement of Brittain (WIT.3004.020.0251) [30]; Cutting T10321:28–T10322:1; Deering T9960:23–T9960:31; Brittain T9974:30–T9975:3

40 Exhibit 439 – Statement of Brittain (WIT.3004.020.0251) [43]; Exhibit 464 – Statement of Morris (WIT.3010.007.0298) [31]

41 Exhibit 439 – Statement of Brittain (WIT.3004.020.0251) [45]; Exhibit 466 – Statement of Vearing (WIT.3024.004.0215) [33]; Deering T9961:3–T9961:12, T9962:15–T9962:16; Brittain T9975:2–T9975:25

42 Exhibit 468 – Statement of Howlett (WIT.3004.020.0289) [35]; Exhibit 22 – Statement of Williams, Annexure 1 (WIT.013.001.0012) at 0194–0195, 0210–0211; Exhibit 453 – Fire Prediction Maps (TEN.127.001.0001); Deering T10159:5–T10161:13

43 Exhibit 469 – Statement of Downes (WIT.3004.020.0314) [23], [26], [31], [35], [37]; Exhibit 144 – ABC Local Radio – Disc 1 (TEN.052.001.0001); Exhibit 452 – Statement of Deering (WIT.3004.019.0192) [76]–[94]; Exhibit 7 – Transcript – 774 ABC Radio (SUMM.001.002.0001)

44 Exhibit 439 – Statement of Brittain (WIT.3004.020.0251) [46], [49]–[50]; Exhibit 466 – Statement of Vearing (WIT.3024.004.0215) [40]–[42]

45 Exhibit 468 – Statement of Howlett, Annexure 3 (WIT.3004.020.0305) at 0307; Exhibit 466 – Statement of Vearing, (WIT.3024.004.0215) [45], Annexure 5 (DSE.HDD.0052.0793) at 0794, Annexure 6 (DSE.HDD.0052.0745) at 0748; Exhibit 439 – Statement of Brittain, Annexure 6 (WIT.3004.020.0276)

46 Exhibit 463 – Statement of Jarvis (VPO.001.012.0032) at 0032–0033; Exhibit 466 – Statement of Vearing (WIT.3024.004.0215) [43], [48]

47 Exhibit 854 – CFA Wildfire – Redesdale – Coliban Rd – Fire 81 (DSE.0045.0363.0019); Beasley T17864:21–T17866:20

48 Exhibit 458 – Statement of Gilmore (WIT.3004.019.0001) [57]; Deering T9964:4–T9964:12

49 Deering T9961:3–T9961:26, T9963:13–T9963:18

50 Exhibit 466 – Statement of Vearing (WIT.3024.004.0215) [54], [57]

51 Exhibit 444 – Statement of Elder (WIT.114.001.0001_R) [56]; Exhibit 459 – Statement of Siddle (WIT.115.001.0001_R) [21]; Exhibit 462 – Redesdale Debriefing Report – Pastoria Fire Brigade (CFA.001.011.0043) at 0046; Exhibit 462 – Redesdale Debriefing Report – Kyneton Fire Station (CFA.001.011.0033) at 0034

52 Deering T9959:8–T9959:12

53 Exhibit 4 – Supplementary Statement of Rees (WIT.004.002.0001) [107]–[108]; Deering T9963:23–T9963:27, T9957:20–T9957:21, T9958:6–T9958:10

54 Deering T9962:17–T9962:20

55 Deering T9959:18–T9959:29

56 Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048_R) at 0048_R; Deering T9957:20–T9957:27, T9963:28–T9964:12

57 Exhibit 452 – Statement of Deering (WIT.3004.019.0192) [41]; Deering T9961:2–T9962:26, T10160:8–T10160:27

58 Exhibit 439 – Statement of Brittain (WIT.3004.020.0251) [60], [62]; Exhibit 462 – Redesdale Debriefing Report – Pastoria Fire Brigade (CFA.001.011.0043) at 0044; Brittain T9980:25–T9981:1, T9981:3–T9981:20

59 Exhibit 473 – Statement of Brundell (WIT.3010.006.0215) [17]

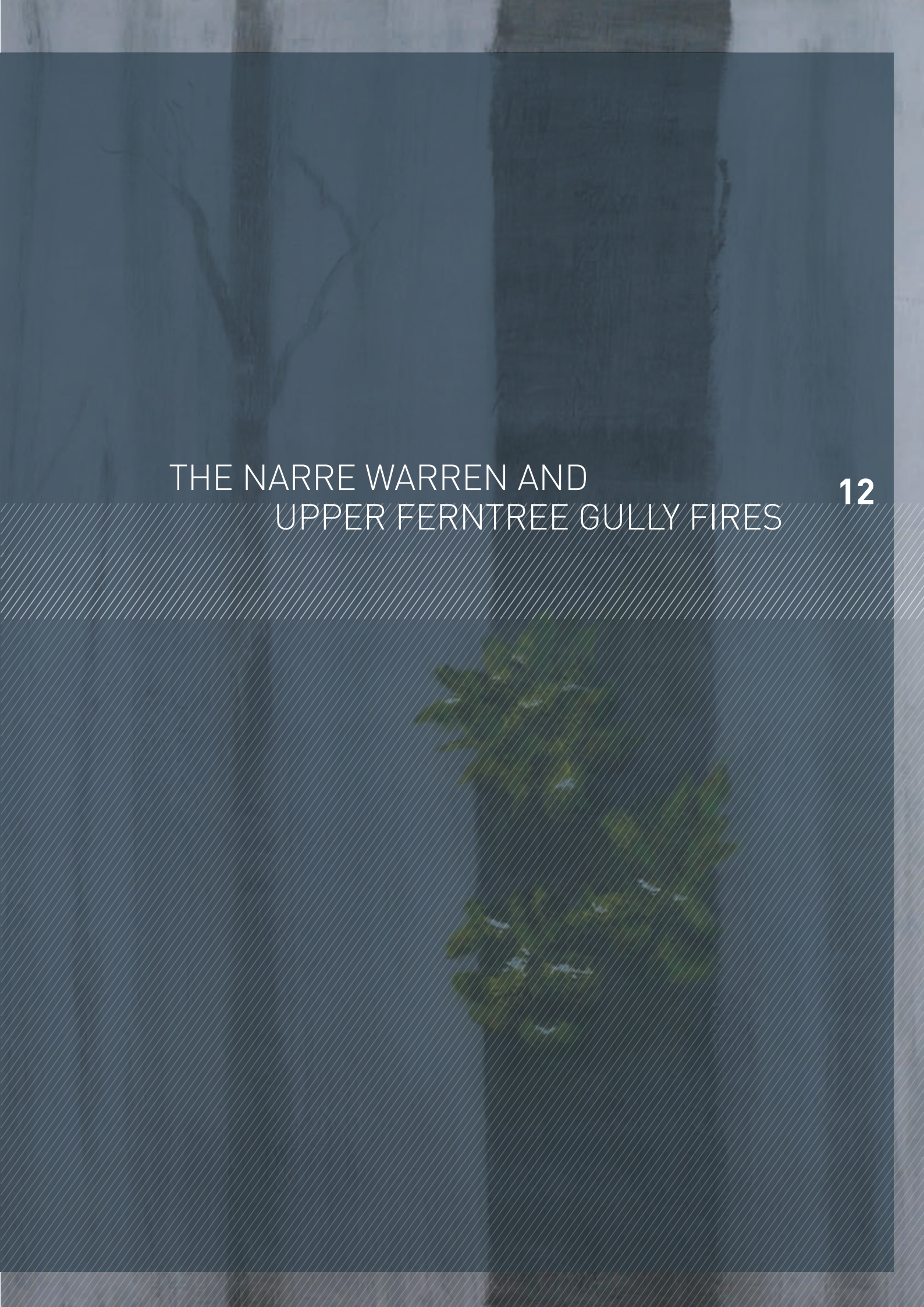
60 Deering T9962:20–T9962:25



Source: Courtesy of the *Herald & Weekly Times*.

# THE NARRE WARREN AND UPPER FERNTREE GULLY FIRES

12



# 12 THE NARRE WARREN AND UPPER FERNTREE GULLY FIRES

On 7 February 2009 a number of small fires burned at the rural–urban interface in Melbourne's south-east; among them were three fires in Narre Warren (one at Harkaway and two at Lynbrook) and one in Upper Ferntree Gully. The fires burned in grass reserves and scrubland, on residential streets, and in homes and gardens.

Each of the fires might have resulted in far greater and more widespread destruction than eventuated. In particular, the Harkaway and Upper Ferntree Gully fires could have caused severe damage, the latter having had the potential to run into the Dandenong Ranges. In total, seven houses were destroyed.

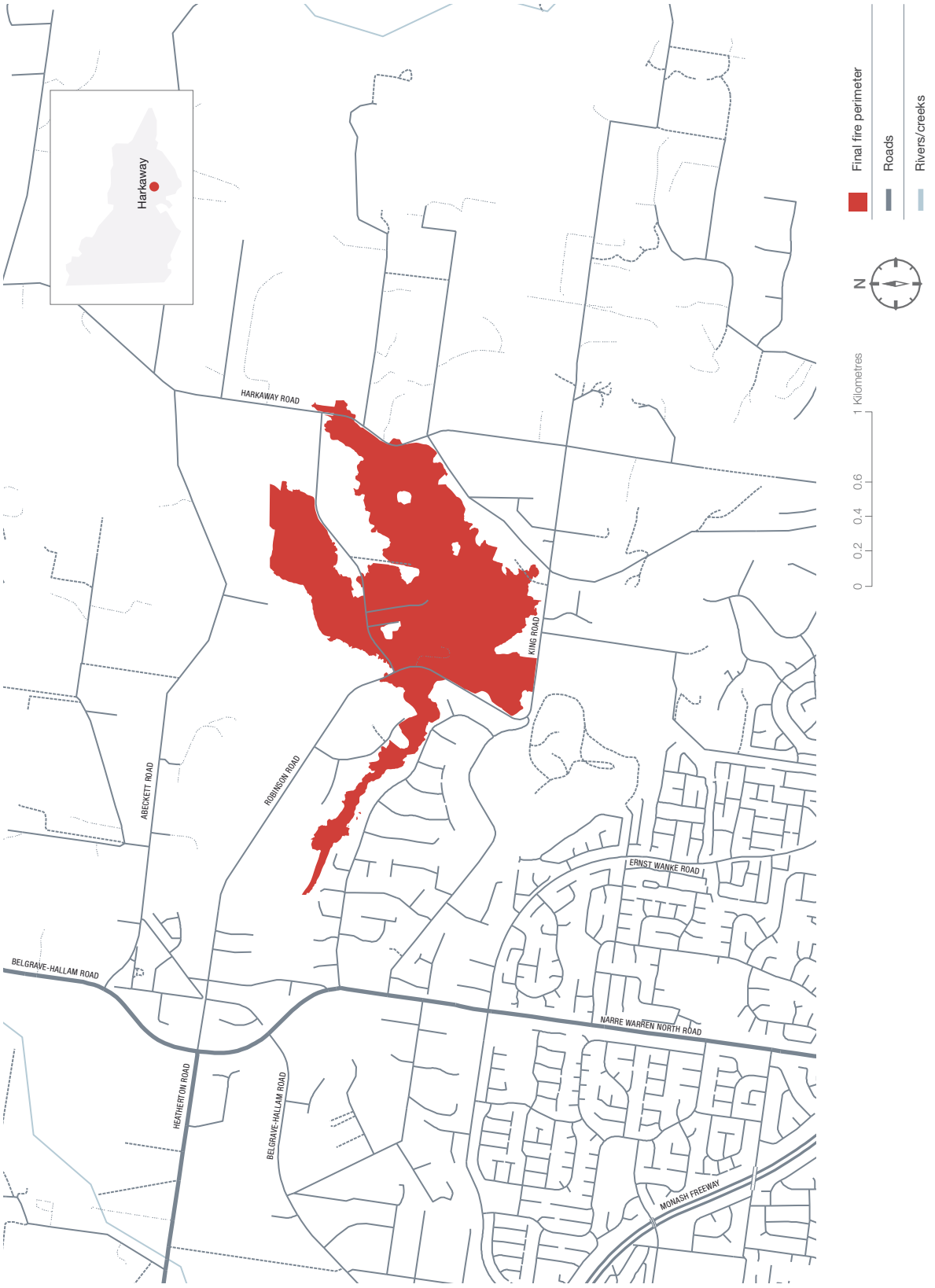
Figures 12.1, 12.2 and 12.3 show the extent of the fires.

**Image 12.1**



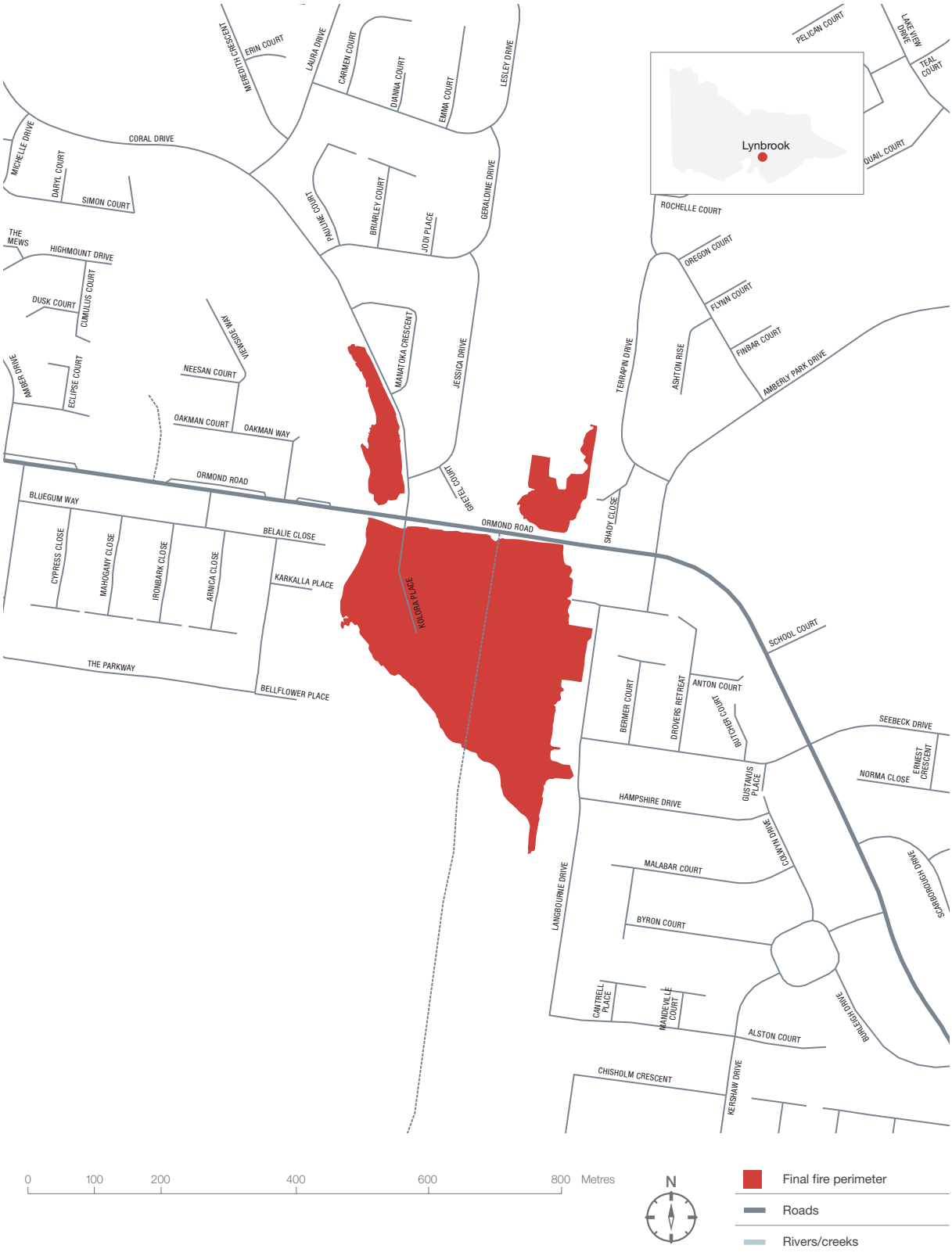
Source: Courtesy of the *Herald & Weekly Times*.

**Figure 12.1 The Harkaway fire**



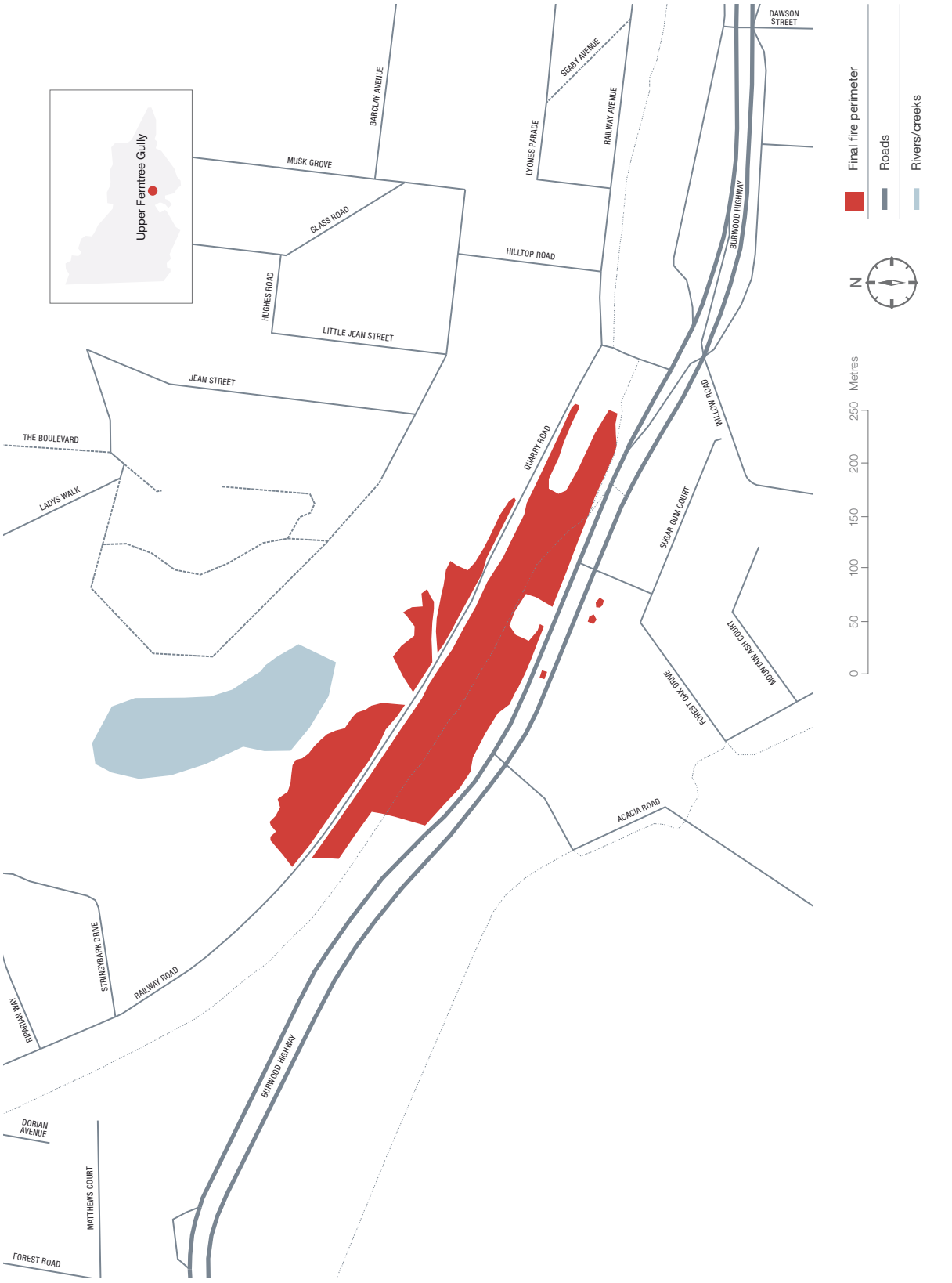

Source: Exhibit 994 – Harkaway Fire – Final Fire Perimeter.[1]

Figure 12.2 The Lynbrook—Coral Drive fire




Source: Exhibit 994 – Lynbrook Fire – Final Fire Perimeter.[2]

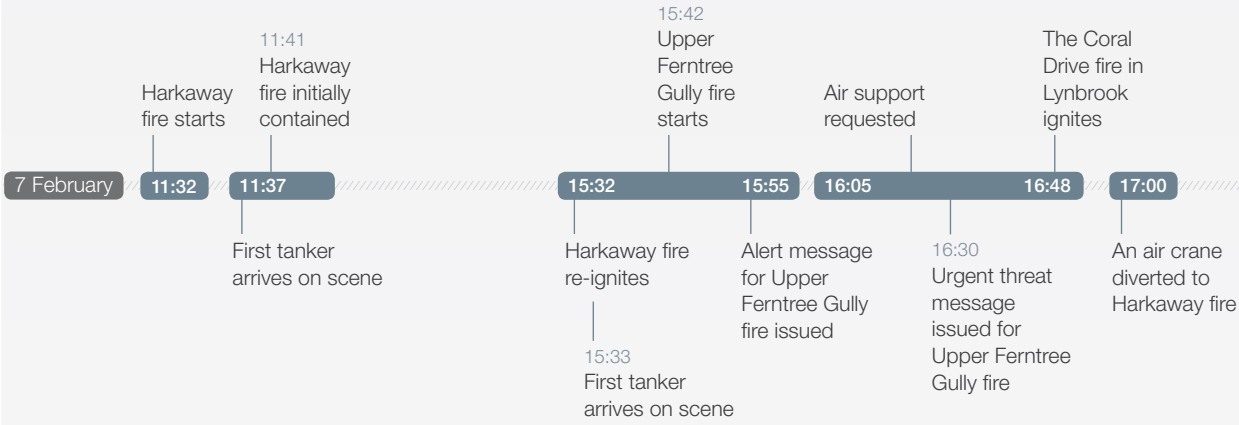
**Figure 12.3 The Upper Ferntree Gully fire**

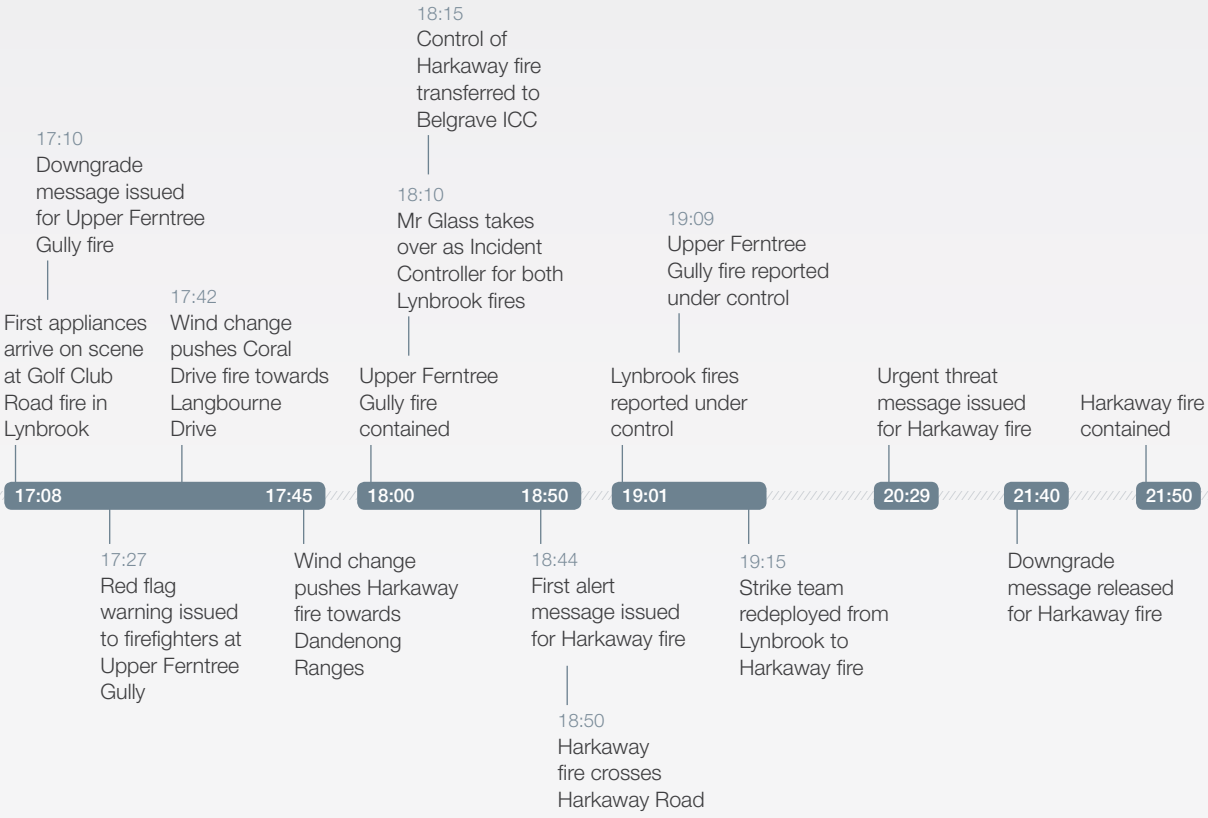



Source: Exhibit 994 – Upper Ferntree Gully Fire – Final Fire Perimeter.[3]

## Narre Warren and Upper Ferntree Gully 7 February

The following time line summarises events associated with the Narre Warren and Upper Ferntree Gully fires. For the most part, the times given are approximate. Further details about the events are provided in the accompanying narrative.




17:10
Downgrade message issued for Upper Ferntree Gully fire
First appliances arrive on scene at Golf Club Road fire in Lynbrook
17:42
Wind change pushes Coral Drive fire towards Langbourne Drive
18:15
Control of Harkaway fire transferred to Belgrave ICC
18:10
Mr Glass takes over as Incident Controller for both Lynbrook fires
Upper Ferntree Gully fire contained
19:09
Upper Ferntree Gully fire reported under control
Lynbrook fires reported under control
Urgent threat message issued for Harkaway fire
Harkaway fire contained
17:08
17:45
18:00
18:50
19:01
20:29
21:40
21:50
17:27
Red flag warning issued to firefighters at Upper Ferntree Gully
Wind change pushes Harkaway fire towards Dandenong Ranges
18:44
First alert message issued for Harkaway fire
18:50
Harkaway fire crosses Harkaway Road
19:15
Strike team redeployed from Lynbrook to Harkaway fire
Downgrade message released for Harkaway fire

## 12.1 NARRE WARREN

### OVERVIEW

| | |
|---|---|
| **Cause** | Harkaway: accidental.[4]<br>Lynbrook: not determined.[5] |
| **Fatalities** | No fatalities.[6] |
| **Houses destroyed** | Seven houses.[7] |
| **Overall area burnt** | Harkaway: 147 hectares.[8]<br>Lynbrook: 12 hectares.[9] |
| **Firefighting resources** | On 7 February, 294 CFA, 16 MFB and 12 NEO personnel attended the fires. They were supported by 63 CFA appliances, 4 MFB appliances, 7 NEO appliances and 2 aircraft.[10] |

### 12.1.1 SEQUENCE OF EVENTS

#### Preparation

In the lead-up to 7 February, Country Fire Authority brigades in Region 8 attended other incidents, including the Delburn fires, and planning and preparations were advanced in anticipation of fire escaping Bunyip State Park.[11] This meant that some brigades were already fatigued before 7 February.

Mr Trevor Owen, Region 8 CFA Operations Manager, prepared level 3 incident control centres at Pakenham and Moorooduc, and incident management teams were in position on the morning of 7 February. At that time Mr Owen supervised the move of MFB appliances to Dandenong, Springvale, Hallam, Frankston and Patterson River; this released CFA resources in those stations to respond to the Bunyip fire. Later in the day some of the MFB crews responded to fires in Narre Warren.[12]

From 08:00 on 7 February the Regional Emergency Coordination Centre was running at full capacity.[13]

#### The Harkaway fire

The fire at Harkaway began at about 11:32 at a home in Garden View Court. It is suspected the fire was caused by someone using an angle grinder: Victoria Police has charged a man with using a power tool in breach of regulations on a total fire ban day.[14]

The Narre Warren North tanker was the first to arrive at the Harkaway fire, arriving at 11:37. A number of CFA appliances subsequently attended, including brigades from Dandenong and Hallam. The fire was initially managed by the Narre Warren North CFA Brigade at the local level. The Incident Controller was Mr Shaun Trotter, captain of Narre Warren North Brigade. Both the Moorooduc and Belgrave Incident Control Centres monitored the fire during the early part of its run.[15]

The fire initially ran to the south-east. It was contained at 11:41 and stopped at 12:23. At 15:32, however, the fire re-ignited on the Robinsons Road side of Crawley Road when a resident cut down a smoking branch, causing burning embers to hit dry fuel on the ground. Once re-ignited, the fire ran towards the south-east under the influence of strong north-westerly winds, crossing Robinsons Road. The fire was again attended by local CFA brigades. Shortly after, additional resources were sought, including from Upper Beaconsfield, Berwick and Cranbourne. Crews worked quickly, and at 16:05 air support was requested. Initially, the Regional Emergency Coordination Centre was unable to secure air resources, but at about 17:00 an air crane en route to the Upper Ferntree Gully fire was diverted to assist.[16]

Mr Owen, the RECC Coordinator, feared that the Harkaway fire could have 'followed a similar path of destruction to that of Ash Wednesday'. He adopted a 'triage' approach and focused on developing priorities for the various fires in the area and identifying where the available firefighting resources would best be deployed.[17]

The usual Municipal Emergency Response Coordinator for the area was on leave, and no formal arrangement had been made for anyone to fill his position during his absence. Sergeant Sheree Moore performed the duties of the MERC on 7 February, although she had neither been formally appointed to that position nor been trained for the role.[18]

As the afternoon unfolded Sergeant Moore established roadblocks in the Narre Warren area to control the flow of traffic near the fires. She did this without the benefit of information from the ICC. Later in the day she was able to speak to the Deputy Incident Controller, but her experience was not satisfactory and in her opinion the police had not received adequate information. The lack of information from the ICC made it difficult to situate roadblocks safely—both for residents of the area and for police staffing the roadblocks. From 16:00 Victoria Police set up roadblocks as full road closures; these roadblocks had to be moved a number of times during the ensuing hour because of the speed of the fire.[19]

The south-westerly wind change arrived at 17:45 and pushed the fire towards the Dandenong Ranges.[20]

At about 18:15 the fire was formally escalated to the control of the Belgrave ICC. Mr Colin Brown, a CFA operations officer, became the Incident Controller.[21]

Initially, warnings for the Harkaway fire were handled by the Regional Emergency Coordination Centre. The first warning issued was an alert message at 18:44; it referred to a fire burning in a north-easterly direction between King Road, A'Beckett Road, Harkaway Road and Narre Warren North Road. Mr Brown stated that at the time the alert message was sent the fire was already 'burning out to the Harkaway Road area'. The alert warning was thus too late and of little use to residents.[22]

The fire crossed Harkaway Road at 18:50 and burnt the area between Helleur and King Roads.[23]

At 20:29 the Belgrave ICC released an urgent threat message for Harkaway, Narre Warren North and Beaconsfield Upper. Mr Brown explained that the message was issued 'because of the wind change that had come through and was driving the fire in a north-easterly direction and threatening those areas at that stage'. But the wind change had occurred two hours before, and Mr Brown was unable to explain why the message was not issued earlier.[24]

Subsequently, at 21:40, a downgrade message was released for the Harkaway fire.[25]

By 21:50 the fire was contained.[26]

An alert message was issued at 23:11, saying fire activity was continuing. At 01:25 on 8 February a downgrade message was authorised: it advised that the communities of Harkaway, Narre Warren North and Beaconsfield Upper no longer needed to be on alert.[27]

Overall, the Harkaway fire burnt 147 hectares and destroyed and damaged a number of homes, sheds, garages and outbuildings.[28]

### The Lynbrook fires

The Coral Drive fire in Lynbrook started at 16:48 in a grassy area along Coral Drive in Narre Warren South. The grassy area appears to have acted as a corridor, assisting the fire's spread to the boundaries of properties on Langbourne Drive. The cause of the fire has not been determined. Having initially run along the grassy reserve beside Coral Drive, it then headed north-east and crossed Ormond Road.[29]

At about 16:52 Mr Arthur Haynes, a CFA operations officer from the Moorooduc ICC attended the Narre Warren North CFA Control Centre to help the local Incident Controller, Mr Trotter. At 17:40 Mr Haynes became the Incident Controller for the Coral Drive fire and appointed Mr Trotter as his operations officer. Together they divided the fire into sectors and deployed resources accordingly. The strategy was to contain the fire and stop its spread into the Dandenong Ranges.[30]

Mr David Beards, captain of the Narre Warren Brigade, arrived at the Coral Drive fire at 16:55, some seven minutes after ignition. At 17:10 he was advised that a strike team was on its way but that no further resources were immediately available. Subsequently, a number of appliances attended the fire, among them MFB crews and appliances that were covering CFA stations in Dandenong, Hallam and Pakenham.[31]

Another fire, at Golf Club Road in Lynbrook, was first reported at 17:08, when a member of the public telephoned the Cranbourne fire station. The fire's point of origin was in grassland on the western side of the South Gippsland Highway, about 300 metres north of Golf Club Road. The cause of the fire has not been determined.[32]

At 17:08 appliances, including MFB resources, started arriving at the fire. A strike team arrived at 17:30, and from 17:40 onwards a number of additional appliances attended.[33]

Shortly after the fire started it crossed the South Gippsland Highway and entered grassland, threatening a landscaping business where quantities of LPG, petrol, diesel and other chemicals were stored, and damaging a shed.[34]

After the wind changed from south to south-westerly at 17:42, the Coral Drive fire headed to Langbourne Drive and into the transmission line reserve. It then spotted back onto the other side of Ormond Road. With the assistance of firefighting crews, residents of Langbourne Drive tried to defend their properties with buckets and wheelie bins full of water. A number of houses were destroyed. Those burnt on Langbourne Drive were relatively new houses built on suburban-sized blocks and positioned very close together. The land was mainly flat, and there was limited vegetation along the roads.[35]

Mr Beards stated that one of the features of the Coral Drive fire was 'that the residents banded together to help protect their properties … with buckets, hoses, anything that could carry water to assist in the fire fight'. One house that had a swimming pool was able to be saved because of the availability of water from the pool.[36]

The two Lynbrook fires were initially managed separately. At 18:10, however, Mr Ian Glass, a fire officer with the Cranbourne Brigade, took over the role of Incident Controller for both fires. By 19:01 both fires were reported as being under control. At about 19:15 the strike team was redeployed to the Harkaway fire.[37]

At some time between 19:00 and 19:30 Sergeant Moore received a phone call from Senior Sergeant Hengel (the officer normally assigned to be the Municipal Emergency Response Coordinator), who told her she should activate the Municipal Emergency Control Centre. Shortly thereafter the MECC was opened in Vesper Drive, Casey.[38]

Sergeant Moore agreed that, considering the impact of the Coral Drive fire on the houses on Langbourne Drive, it would have been prudent to establish the MECC earlier, when the damage occurred. She also acknowledged that more formal arrangements about who would fill the role in the absence of the usual MERC would have been helpful. The Commission was advised that since 7 February steps have been taken to improve the relevant police service areas' preparedness for fire.[39]

No formal warnings appear to have been issued for the Lynbrook fires, which burnt 12 hectares and destroyed homes.[40]

### 12.1.2 CONCLUSIONS

Residents of Narre Warren and police in the Casey Police Service Area were surprised by the outbreak of fire in an urban area. In its subsequent research into the three fires, the Bushfire Cooperative Research Centre found that very few residents expected to be affected by bushfire.[41]

The initial attack efforts devoted to each of the fires were successful, and the cooperative arrangements between the MFB and the CFA worked well. Effective managing, resourcing and firefighting on the ground—noting the limited availability of resources in the region from 14:30—averted possible widespread damage to the Dandenong Ranges.[42]

The Commission considers that some of the delays and confusion in communications relating to this fire, and the lack of information flowing to Victoria Police, might have been avoided by earlier escalation of incident management to the Belgrave ICC.



A delay of about two hours in issuing warning messages for any fire is not acceptable. It is unlikely, however, that the delay caused any major detriment to residents, who were apparently alerted to the fires by smoke or information received from friends, family and neighbours.[43]

## 12.2 UPPER FERNTREE GULLY

### OVERVIEW

| | |
|---|---|
| **Cause** | Unknown.[44] |
| **Fatalities** | No fatalities.[45] |
| **Houses destroyed** | No houses destroyed.[46] |
| **Overall area burnt** | 4 hectares.[47] |

### 12.2.1 SEQUENCE OF EVENTS

The Upper Ferntree Gully fire started at about 15:42, near the Burwood Highway and Quarry Road. It was difficult for firefighters to gain access to the fire because there was a railway line nearby. The cause of the fire is not known.[48]

The fire initially spread south-east through scrubland between the Burwood Highway and Quarry Road. It was spotting in various places along the edge of the Burwood Highway.[49]

From 15:42 onwards a number of brigades were dispatched to the fire. Mr Todd Small, the Ferntree Gully CFA captain, attended the scene and at 15:47 asked for five tankers and then a further three. He established an operations point behind 1140 Burwood Highway at about 16:00.[50]

Prompt warnings were issued for the fire. An alert message for Ferntree Gully and Upper Ferntree Gully was authorised at 15:55. At 16:30 an urgent threat message was sent to the integrated Emergency Coordination Centre for the residents of Quarry Road and the communities of Upper Ferntree Gully, Ferntree Gully and Tremont. The message was downgraded at 17:10.[51]

Mr Colin Brown, CFA Incident Controller at the Belgrave ICC, was informed at 16:37 that the State Duty Officer was sending an air crane to the fire. The air support was diverted, however, to protect assets at Harkaway. At 17:04 a Helitack on its way to Moorabbin for refuelling made a number of rapid drops on the fire, obtaining water from a nearby disused quarry. The Helitack's assistance was vital. Mr Brown explained that when the aircraft arrived the fire had begun to spread to the northern side of Quarry Road and was heading towards residential properties.[52] The Helitack made a single drop and caught the fire right on the cusp of a wind change from the south-west:

> By pulling that fire up they prevented the fire possibly spreading … into the Tremont – Ferny Creek area. We estimate probably within 10 to 15 minutes … [it] would have been impacting on those houses up there and this would have been a significant event.[53]

At 17:14 Mr Brown received advice that the wind change had reached Moorabbin airport, and a red flag warning was issued by radio to all vehicles in the area at 17:27.[54]

After the south-west wind change the fire spread between homes on the northern side of Quarry Road and headed towards Ferntree Gully National Park. At this time there were wind gusts of up to 90 kilometres an hour.[55]

By 17:30 there were eight tankers, three slip-ons and three pumpers on the ground. The Helitack was still working over the fire as it burned towards Lady's Walk and the Boulevard.[56]

The fire was contained by 18:00, and by 19:09 it was declared under control. Four hectares were burnt, but no houses were lost.[57]

### 12.2.2 CONCLUSIONS

The Commission notes the opportune arrival of the Helitack and commends the efforts of firefighters. This averted possible widespread damage to the Ferny Creek area and the Dandenong Ranges which posed a very significant potential threat to human life.

1 Exhibit 994 – Harkaway Fire – Final Fire Perimeter (CFA.600.006.0002)

2 Exhibit 994 – Lynbrook Fire – Final Fire Perimeter (CFA.600.006.0001)

3 Exhibit 994 – Upper Ferntree Gully Fire – Final Fire Perimeter (CFA.600.006.0003)

4 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [22]–[23], [37]–[38], Annexure 9 (WIT.3004.029.0171) at 0171; Brown T13050:16–T13050:24; Exhibit 608 – Statement of Moore, Annexure 4 (WIT.3010.007.0274) at 0274

5 Exhibit 602 – CFA Incident Report (CFA.001.025.0223); Exhibit 605 – Statement of Beards (WIT.3004.029.0056) [14]–[15], Annexure 3 (WIT.3004.029.0074); Exhibit 606 – Statement of Booth, Annexure 1 (WIT.3004.029.0006) at 0011–0012; Exhibit 602 – Bushfire CRC Supplementary Report (CRC.301.001.0001) at 0092; Exhibit 602 – Victoria Police Incident Fact Sheet (CORR.0910.0033)

6 Exhibit 3 – Statement of Rees (WIT.004.001.0001) at 0110, 0114

7 Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048_R) at 0048_R

8 Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19.4]

9 Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19.7]

10 Exhibit 939 – Details Regarding Emergency Response (CFA.600.005.0195) at 0195, 0198; Exhibit 939 – MFB Response (MFB.001.001.0040) at 0040; Exhibit 939 – Day by Day Breakdown – Narre Warren (DSE.HDD.0048.0545_20); Exhibit 939 – Aircraft Data 0809 (DSE.HDD.0048.0544_20) at 0544_25

11 Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [33], [39]

12 Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [21]–[25], [66]–[67], [123], [134]; Brown T13052:27–T13053:7

13 Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [115]

14 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [22]–[23], [37]–[38], Annexure 9 (WIT.3004.029.0171) at 0171; Brown T13050:16–T13050:24; Exhibit 608 – Statement of Moore, Annexure 4 (WIT.3010.007.0274) at 0274

15 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [39]–[45], [55]; Brown T13053:8–T13053:28

16 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [46]–[47], [49]–[53], [64]; Brown T13051:8–T13051:23; Graystone T6034:3–T6034:16, T6073:9–T6073:17

17 Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [150], [156], [161]; Owen T12936:11–T12936:16

18 Exhibit 608 – Statement of Moore (WIT.3010.007.0206) [23]; Moore T13079:16–T13079:27

19 Exhibit 608 – Statement of Moore (WIT.3010.007.0206) [36]–[40]; Moore T13081:14–T13081:28, T13082:7–T13084:12, T13085:16–T13085:30

20 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [71]; Brown T13054:8–T13054:24

21 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [71]; Brown T13054:8–T13054:24

22 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [75], Annexure 11 (WIT.3004.029.0204); Brown T13056:28–T13056:31, T13057:4–T13057:7

23 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [66], [77]–[79], [97], Annexure 4 (WIT.3004.029.0142_R) at 0142_R; Brown T13051:29–T13051:31

24 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [90], Annexure 13 (WIT.3004.029.0209); Brown T13057:22–T13057:31, T13058:3–T13058:10

25 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [95], [99], [107], Annexure 14 (WIT.3004.029.0212), Annexure 15 (WIT.3004.029.0215), Annexure 19 (WIT.3004.029.0239)

26 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [66], [77]–[79], [97], Annexure 4 (WIT.3004.029.0142_R) at 0142_R; Brown T13051:29–T13051:31

27 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [95], [99], [107], Annexure 14 (WIT.3004.029.0212), Annexure 15 (WIT.3004.029.0215), Annexure 19 (WIT.3004.029.0239)

28 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [23], Annexure 3 (WIT.3004.029.0140) at 0140, Annexure 4 (WIT.3004.029.0142_R) at 0142_R; Exhibit 606 – Statement of Booth, Annexure 1 (WIT.3004.029.0006) at 0010–0011, 0016–0026; Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19.4]

29 Exhibit 602 – CFA Incident Report (CFA.001.025.0223); Exhibit 605 – Statement of Beards (WIT.3004.029.0056) [14]–[16], Annexure 3 (WIT.3004.029.0074); Exhibit 606 – Statement of Booth, Annexure 1 (WIT.3004.029.0006) at 0011–0012; Exhibit 602 – Bushfire CRC Supplementary Report (CRC.301.001.0001) at 0092

30 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [55], [57]–[58], [63]

31 Exhibit 605 – Statement of Beards (WIT.3004.029.0056) [29]–[30], [34], Annexure 5 (WIT.3004.029.0105) at 0106; Beards T13075:3–T13075:18; Exhibit 576 – Supplementary Statement of Murphy (WIT.3006.001.0263) [12]; Murphy T12588:23–T12589:5

32 Exhibit 605 – Statement of Beards (WIT.3004.029.0056) [45], Annexure 6 (WIT.3004.029.0110) at 0110; Exhibit 608 – Statement of Moore, Annexure 5 (WIT.3010.007.0277) at 0278; Exhibit 602 – Victoria Police Incident Fact Sheet (CORR.0910.0033)

33 Exhibit 605 – Statement of Beards (WIT.3004.029.0056) [45]–[46], [48]–[49], [53]–[64]

34 Exhibit 608 – Statement of Moore, Annexure 5 (WIT.3010.007.0277) at 0277; Exhibit 602 – Victoria Police Incident Fact Sheet (CORR.0910.0033); Beards T13072:29–T13073:18

35 Exhibit 602 – Bushfire CRC Supplementary Report (CRC.301.001.0001) at 0086, 0094–0102; Exhibit 605 – Statement of Beards (WIT.3004.029.0056) [17], [32]; Murphy T12596:18–T12596:28

36 Exhibit 605 – Statement of Beards (WIT.3004.029.0056) [38]–[39]; Beards T13069:11–T13069:13, T13069:21–T13069:28; Exhibit 606 – Statement of Booth, Annexure 1 (WIT.3004.029.0006) at 0011, 0016–0026; Exhibit 602 – Bushfire CRC Supplementary Report (CRC.301.001.0001) at 0091

37 Exhibit 604 – Statement of Brown (WIT.3004.029.0056) [55], [58], [66]–[68], Annexure 1 (WIT.3004.029.0006) at 0011, 0016–0026; Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [66]; Beards T13069:11–T13069:13

38 Exhibit 608 – Statement of Moore (WIT.3010.007.0206) [52]–[55]; Moore T13084:13–T13084:21

39 Exhibit 608 – Statement of Moore (WIT.3010.007.0206) [48], [76], [88]; Moore T13086:11–T13086:18, T13085:4–T13085:11

40 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [23], Annexure 3 (WIT.3004.029.0140) at 0140, Annexure 4 (WIT.3004.029.0142_R) at 0142_R; Exhibit 606 – Statement of Booth, Annexure 1 (WIT.3004.029.0006) at 0010–0011, 0016–0026; Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19.7]

41 Exhibit 602 – Bushfire CRC Supplementary Report (CRC.301.001.0001) at 0090

42 Exhibit 595 – Statement of Owen (WIT.3004.031.0001) [144], [147]

43 Exhibit 602 – Bushfire CRC Supplementary Report (CRC.301.001.0001) at 0090–0091

44 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [25], [114], Annexure 5 (WIT.3004.029.0144), Annexure 22 (WIT.3004.029.0248) at 0248; Brown T13061:27–T13061:28

45 Exhibit 3 – Statement of Rees (WIT.004.001.0001) at 0112

46 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [28]

47 Exhibit 786 – Statement of Clow (WIT.3004.034.0004) [19.11]

48 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [25], [114], Annexure 5 (WIT.3004.029.0144), Annexure 22 (WIT.3004.029.0248) at 0248; Brown T13061:27–T13061:28

49 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [27]; Brown T13063:3–T13063:4

50 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [115]–[121], [124]

51 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [125], Annexure 23 (WIT.3004.029.0255), Annexure 24 (WIT.3004.029.0258) at 0258, Annexure 27 (WIT.3004.029.0274)

52 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [64], [74], [77], [127], [130]; Brown T13062:1–T13062:17, T13063:18–T13063:25

53 Brown T13062:11–T13062:17

54 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [133], Annexure 6 (WIT.3004.029.0146_R) at 0146_R; Brown T13063:29–T13064:2

55 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [27]; Brown T13063:12–T13063:14

56 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [136]–[137]

57 Exhibit 604 – Statement of Brown (WIT.3004.029.0112) [28], [138], [144], Annexure 29 (WIT.3004.029.0278)




Source: Courtesy of the *Herald & Weekly Times*.



# THE BEECHWORTH–MUDGEGONGA FIRE 14

# 14 THE BEECHWORTH–MUDGEGONGA FIRE

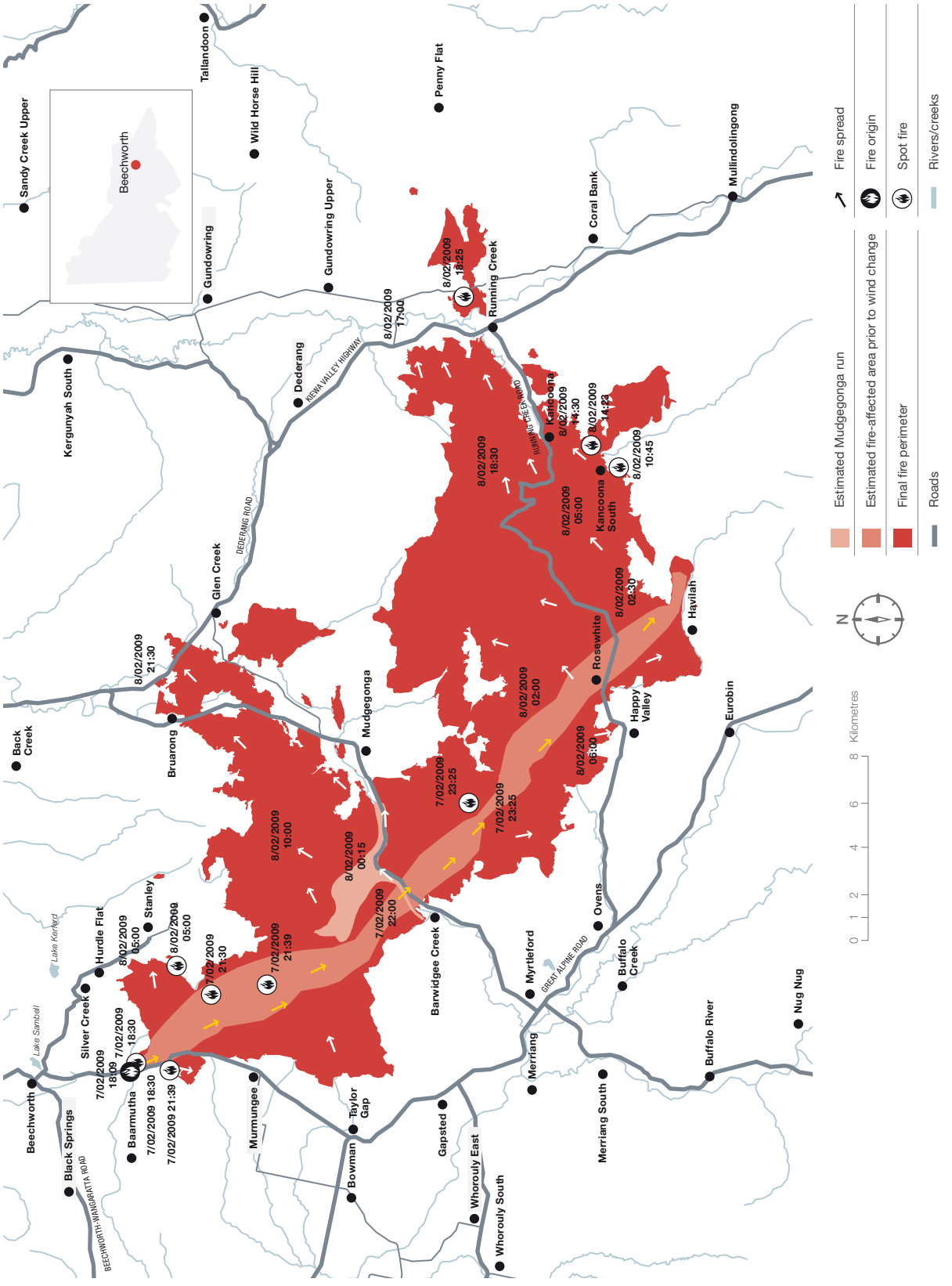
The Beechworth–Mudgegonga area is about 300 kilometres north-east of Melbourne, on the edge of the Alpine National Park and in Indigo Shire.

The 7 February 2009 fire in the area began at about 18:00 and burned fiercely until weather conditions moderated in the early hours of 8 February. The fire was not contained, however, until 16 February. Two people died, 38 houses were damaged or destroyed, and sheds, farming equipment and stock were destroyed. Overall, the fire burnt 33,577 hectares, including about 23,000 hectares of state park. Figure 14.1 shows the extent of the fire.

## OVERVIEW

| | |
|---|---|
| **Maximum temperature** | The maximum temperature recorded was 45.5°C at Wangaratta automatic weather station at 15:01.[1] |
| **Minimum relative Humidity** | The minimum relative humidity recorded was 6 per cent at Wangaratta AWS at 15:01.[2] |
| **Wind** | The maximum wind recorded before the wind change was a north-north-westerly at 35 kilometres an hour, gusting to 57 kilometres an hour, at Wangaratta AWS at 14:01.[3]<br>The south-westerly wind change was recorded by the Wangaratta AWS at 23:01 at 20 kilometres an hour.[4]<br>Ahead of the wind change the wind tended back to the north and eased to 15 to 20 kilometres an hour by 01:00 on 8 February.[5] |
| **Fire danger index** | The maximum Fire Danger Index was 126 at Wangaratta AWS at 13:30.[6] |
| **Cause** | Electrical failure.[7] |
| **Fatalities** | Two fatalities.[8] |
| **Casualties** | Twelve casualties.[9] |
| **Houses destroyed** | Thirty-eight houses.[10] |
| **Overall area burnt** | 33,577 hectares.[11] |
| **Firefighting resources** | On 7 February, 113 CFA and 97 NEO personnel attended the fire. They were supported by 23 CFA appliances, 89 NEO appliances and 2 aircraft.[12] |

Figure 14.1 The Beechworth–Mudgegonga fire

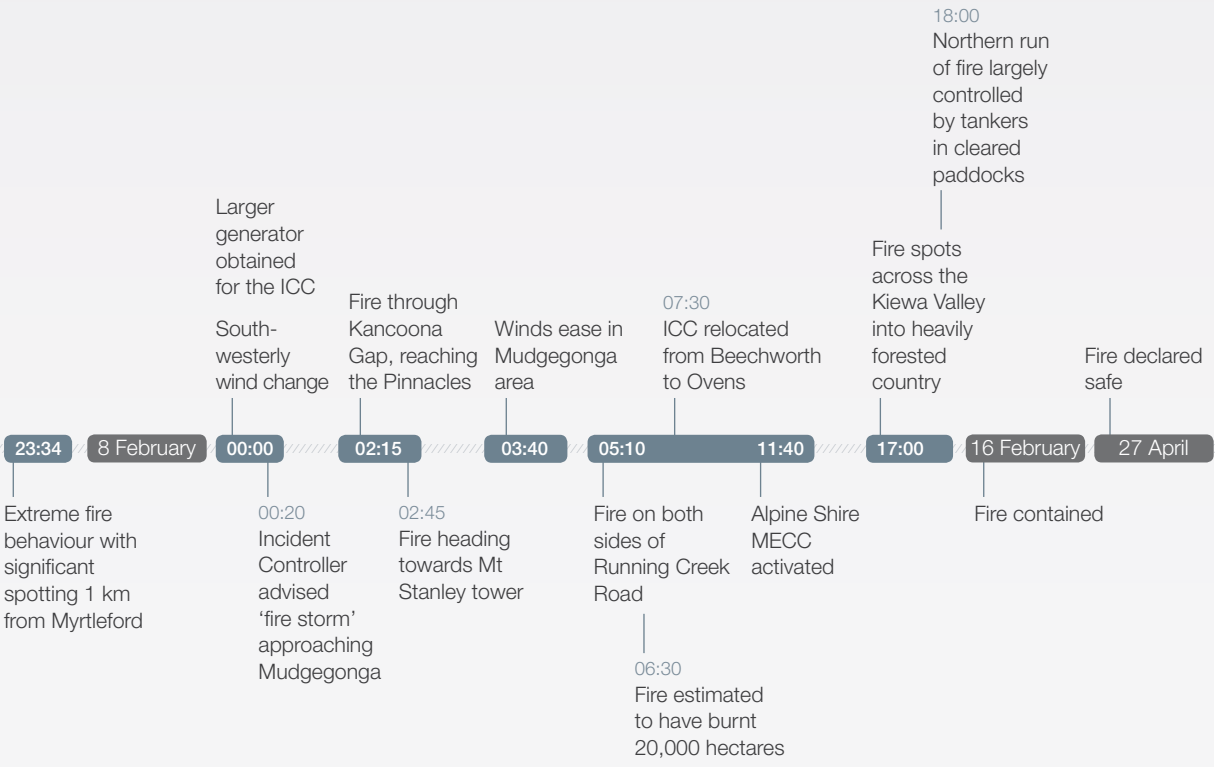



Source: Exhibit 994 – Beechworth–Library Rd Fire – Fire Spread Map.[13]

## Beechworth–Mudgegonga 1 February – 27 April

The following time line summarises events associated with the Beechworth–Mudgegonga fire. For the most part, the times given are approximate. Further details about the events are provided in the accompanying narrative.




23:34
Extreme fire behaviour with significant spotting 1 km from Myrtleford
8 February
00:00
Larger generator obtained for the ICC
South-westerly wind change
00:20
Incident Controller advised 'fire storm' approaching Mudgegonga
02:15
Fire through Kancoona Gap, reaching the Pinnacles
02:45
Fire heading towards Mt Stanley tower
03:40
Winds ease in Mudgegonga area
05:10
Fire on both sides of Running Creek Road
06:30
Fire estimated to have burnt 20,000 hectares
07:30
ICC relocated from Beechworth to Ovens
11:40
Alpine Shire MECC activated
17:00
Fire spots across the Kiewa Valley into heavily forested country
18:00
Northern run of fire largely controlled by tankers in cleared paddocks
16 February
Fire contained
27 April
Fire declared safe

## 14.1 SEQUENCE OF EVENTS

### 14.1.1 BEFORE 7 FEBRUARY

Between 1 and 3 February 38 fires started in the Department of Sustainability and Environment's North East Area. All except the Nariel ski hut fire were controlled within 48 hours. On the morning of 4 February the Nariel ski hut fire was still burning and had the potential to develop into a 'campaign' fire. There was concern that this fire could affect DSE's capacity to prepare for 7 February.[14]

Between 4 and 6 February containment lines were built around the Nariel ski hut fire. At 17:00 on 6 February the fire was declared under control, although it continued to demand resources. On 7 February 68 DSE and Networked Emergency Organisation staff were still working on the fire.[15]

In preparation for 7 February DSE arranged for personnel to be on duty at various work centres in the region and for others to be on standby. Alpine Shire Council positioned earth-moving and other equipment, including trucks and fuel trailers, at depots throughout the municipality. In addition, from the morning of 7 February the Benalla Integrated Fire Agency Coordination Centre was on standby.[16]

Table 14.1 summarises the state of preparedness for the Beechworth–Mudgegonga fire.

**Table 14.1 The Beechworth–Mudgegonga fire – IMT preparedness**

| | |
|---|---|
| **Pre-designated level 3 ICC** | Yes[17] |
| **Pre-formed IMT at ICC** | No[18] |
| **Pre-identified level 3 IC** | No[19] |
| **Pre-identified IMT members** | No[20] |
| **Time fire started** | About 18:00[21] |
| **Full IMT in place by** | 8 February 2009[22] |
| **Safety adviser appointed** | No[23] |

### 14.1.2 7 FEBRUARY

The area around Beechworth remained relatively free of fire during much of 7 February. Local firefighters and senior personnel were focusing on helping with the firefighting effort for the Kilmore East and Murrindindi fires, which by 18:00 were at their height. During the day personnel were sent to these fires, among them one of the two qualified level 3 Incident Controllers, who acted as Deputy Incident Controller for the Kilmore East fire. Only one qualified level 3 Incident Controller remained in the Beechworth area. At 18:00 a 21-member strike team was stood down to rest and told to report for duty at 06:00 on 8 February, to travel to the Kilmore East fire.[24]

#### Origin and cause

At about 18:00 on 7 February a fire started 3 kilometres south of Beechworth. A number of witnesses told the Commission they had difficulty contacting emergency services via 000.[25]

A tree had fallen on a power line on Buckland Gap Road, pulling the conductor furthest from the road off the supporting insulators at poles 169 and 170 on the Myrtleford-7 feeder. The conductor was energised when it fell, and as it fell it came into contact with pole 170. The Commission is satisfied that arcing between the conductor and pole 170 was the probable cause of the fire, which started in vegetation at the base of that pole. The incident resulted in the power supply to Beechworth being cut.[26]

The tree that fell divided into two 'leader' trunks approximately 3.5 metres above the ground. The northern side of the divided trunk was dead, possibly as a result of a lightning strike, and had probably been dead for about 18 months. Mr Colin Bertuch, an arborist for Alpine Shire Council, told the Commission that, because the dead section contained most of the tree's weight, it was likely that at some stage the tree would fall towards the road, in the direction of the power lines.[27]

The tree in question was outside the regulated clearance zone but was 'hazardous', as determined by the SP AusNet guidelines. As at 7 February SP AusNet had not identified any hazardous trees between poles 169 and 170 of the Myrtleford-7 feeder. Standard SP AusNet procedures do not incorporate a systematic method for detecting hazardous trees. Vegetation assessors—who are not trained arborists—are responsible only for identifying hazardous trees while carrying out standard assessment tasks. They are obliged to look only for 'obvious defects' and are not required to examine every tree. SP AusNet's Hazardous Tree Program, which is applied to some parts of the network, provides for qualified arborists to inspect all trees in designated areas. Had the tree that fell on the power line on 7 February previously been seen by an arborist, the potential hazard would probably have been apparent.[28]

Automatic circuit reclosers, or ACRs, are circuit breakers that open to break the circuit when a fault is recorded and then reclose the circuit to restore power. ACRs had been installed on the Myrtleford-7 feeder power line. The settings could have been changed to suppress the reclose function entirely (which could be done remotely) or to make other changes (which might have been possible remotely, depending on the model). Because the ACR was not suppressed on 7 February it reclosed twice for 1.5 seconds (in addition to the initial 1.5 seconds before the ACR first operated) before the current was stopped by the ACR tripping to lockout. This resulted in about 200 amperes of current flowing for 4.5 seconds rather than for 1.5 seconds (as it would have if the ACR had been suppressed). It is not possible to determine whether ignition of the fire occurred as a result of current flowing during the 1.5 seconds before the ACR operated for the first time or whether it occurred during the two subsequent recloses. Nevertheless, the probability of a fire starting was greater with current flowing for 4.5 seconds than with it flowing for 1.5 seconds.[29]

Chapter 4 in Volume II discusses the role of ACRs, inspection of electrical assets, and Chapter 7 in Volume II discusses vegetation management.

**Fire run, response and management**

From the point of ignition the fire burned on public land in eucalypt forest, moving south-east under the influence of a strong north-westerly wind. Initial witnesses described a small fire—only 2 to 3 square metres—burning directly under power lines on the eastern side of Buckland Gap Road (also known as the Beechworth–Myrtleford road), just south of Library Road.[30]

Mr Brian McKenzie immediately assumed the role of Incident Controller and established an Incident Control Centre at the Beechworth DSE office. Mr McKenzie was Planning Manager, Land and Fire, for the DSE Ovens District and duty officer on the day. He was a level 2 Incident Controller with extensive fire experience and an intimate knowledge of the local area, having worked for DSE and its predecessors for 33 years. The intention was to 'run [Mr McKenzie] through the first night' and if possible bring in a level 3 Incident Controller at the change of shift on the morning of 8 February.[31]

Mr McKenzie understood the importance of first attack in extreme weather conditions. On being notified of the fire at about 18:05, he immediately dispatched crews from the Beechworth DSE depot; they were at the fire within minutes. At 18:06 the strike team that had been stood down to attend the Kilmore East fire the next morning was recalled. But containment by first attack was not possible: the fire was in a difficult location; the power line was down; and weather conditions did not permit placing crews in front of the fire.[32]

There were insufficient resources to have a level 3 incident management team at every level 3 incident control centre in the area. The regional strategy was to ensure that there were sufficient resources available to manage first attack and enough people to build a team to 'come in behind' once an incident had started, wherever the fire might occur. Within an hour of the Beechworth–Mudgegonga fire being reported an IMT was ready.[33] Although the strategy proved adequate in this instance, it was found wanting in the case of other fires the Commission examined—namely, the Kilmore East and Murrindindi fires. Chapters 5 and 10 of this volume discuss how incident management evolved for those fires; Chapter 2 in Volume II discusses incident management more broadly.

An initial fire report issued at 18:20 noted that 14 personnel had been dispatched to the Beechworth–Mudgegonga fire, along with three slip-on units and one first-attack bulldozer. The report noted that the potential for losses and the risk of the fire spreading were high.[34]

Soon after the initial fire report from crews on the scene, Mr McKenzie contacted Victoria Police to ask it to establish a Municipal Emergency Coordination Centre for Indigo Shire. He also contacted Mr Mark Green, the Municipal Emergency Resource Officer for Indigo Shire, to ask for his assistance in establishing the MECC.[35]

The fire initially burned in areas where the amount of fuel had been reduced by the 2003 bushfires and by fuel-reduction burns in the autumns of 2005 and 2008. As a result, the fire's behaviour in its initial run was moderate, with flame heights of about 10 metres and spotting of about 500 metres. This meant the fire did not initially develop into a crown fire, which would have had the potential to progress much more rapidly. Between 18:00 and about 21:30 to 22:00 the fire travelled about 8 kilometres.[36]

At 18:45 Mr McKenzie telephoned the Benalla Integrated Fire Agency Coordination Centre to arrange for the issuing of an urgent threat message. The first message was issued at 19:10. It described the fire as burning 4 kilometres south of Beechworth and moving in a south-easterly direction and said the communities of Stanley, Barwidgee Creek and Mudgegonga should prepare for direct ember attack. The message was uploaded to the DSE external website at 19:30. Similar messages were released at 19:50 and 20:40. In all, 14 threat messages were released between 19:10 on 7 February and 05:15 on 8 February.[37]

In keeping with arrangements developed before the fire season, ABC Goulburn–Murray began rolling coverage of the fire soon after ignition and broadcast warnings throughout the night.[38]

At about 19:00 it became clear to DSE personnel fighting the fire that first attack had been unsuccessful and the fire would become a level 3 incident. By 19:15, 16 Country Fire Authority tankers, 12 DSE slip-on units, two first-attack bulldozers, one large bulldozer and a helicopter were at the scene.[39]

Aerial support had been sought almost immediately after the fire was reported. At about 19:40 two fixed-wing water bombers arrived and dropped retardant near the pine plantation on the fire's eastern flank in an effort to slow the fire's spread. It was getting dark, though, and the water bombers were not able to reload and return for any further drops.[40]

The primary operating difficulty the IMT faced on 7 February was the lack of electricity. The DSE office in Beechworth lost power at about the time the fire started. (A back-up generator for the district had previously been dispatched to DSE's Broadford office, which was dealing with the Kilmore East fire.) Without power, the staff found conditions difficult: the office was hot because there was no air-conditioning and staff had to use torches in order to see.[41]

Additionally, the lack of electricity seriously constrained communications and reporting and planning. The ICC was unable to fax incident reports and press releases; nor could it map fires electronically. Reports had to be phoned through to the Ovens office or the Benalla Integrated Fire Agency Coordination Centre to be written up and forwarded to the integrated Emergency Control Centre. Communication and coordination were done using mobile phones and radios.[42]

The power failure also affected the Indigo Shire MECC, which was initially set up in a 'booze bus' (mobile breathalyser unit) that had been dispatched from Wangaratta. Because of the limited space in the vehicle, police liaison officers were not able to operate from it on 7 February.[43]

By 20:30 the number of CFA tankers had increased to 20. Shortly after, a strike team from the New South Wales Rural Fire Service was sent to Beechworth to help with asset protection.[44]

A Bureau of Meteorology forecast issued at 20:36 said the south-westerly change was approaching the area and would probably reach the fire ground between 23:00 and 24:00. At about 21:30 to 22:00 the fire emerged from the fuel-reduced areas, and there was a marked increase in fire activity. A large crown fire developed, and spotting began to occur up to 9 kilometres ahead of the main firefront. The fire was still burning mainly in forested public land, although some private property and private pine plantations were affected.[45]

A further urgent threat message was issued at 21:25, warning residents of the potential impact of the wind change. Throughout the night, threat messages continued to be issued, alerting residents of Barwidgee Creek, Mudgegonga, Stanley, Yackandandah, Bruarong, Rosewhite, Murmungee, Ovens, Myrtleford, Glen Creek, Kancoona, Kancoona South, Running Creek and Dederang and along Carrolls Road (near Mudgegonga).[46]

At about 21:30 Senior Sergeant Douglas Incoll, Municipal Emergency Response Coordinator for Alpine Shire, was told of the fire and that the Indigo Shire MERC had established a temporary MECC.[47]

At 21:50 Mr McKenzie received reports of a spot fire in Mudgegonga. This was earlier than expected, and it meant the fire was spotting long distances. He issued a fire situation report at 21:59, advising that there were new spot fires east of the firefront at Barwidgee Creek.[48]

At about 22:00 the Beechworth ICC obtained a small generator from the Victoria State Emergency Service, but it provided only enough power for a floodlight to light part of the ICC.[49]

At 22:35 a further local forecast had the wind change reaching the fire area between midnight and 01:00, with a wind speed of 30–40 kilometres an hour.[50]

At 23:34 Mr McKenzie reported that there was extreme fire behaviour and significant spotting, including up to 1 kilometre from the township of Myrtleford. He issued a fire situation report saying the fire was 'going'. At about 23:46 he received word that the fire had crossed the Yackandandah–Myrtleford road; this meant the fire was moving very quickly. Between 21:30–22:00 on 7 February and 02:30–03:00 on 8 February the fire travelled 24 kilometres.[51]

The location of roadblocks in the area of the Beechworth–Mudgegonga fire on 7 February was largely determined by Victoria Police, with heavy reliance on the observations of police in the field. At the time and subsequently, the roadblocks were 'constantly' being relocated because of the encroaching fire and the immediate threat to police. Inspector David Ryan stated that police received from the ICC very little information about the location or direction of the fire. All road closures introduced on 7 February were full closures; in subsequent days some closures were only partial.[52]

### 14.1.3 8 FEBRUARY AND SUBSEQUENTLY

The predicted south-westerly wind change reached the fire ground at about midnight, turning the northern flank—which was at that stage about 32 kilometres long—into the main firefront. The fire began heading north-east, towards cleared agricultural land, mountainous forest and Mudgegonga.[53]

At about 00:20 on 8 February Mr McKenzie was told a 'firestorm' was approaching Mudgegonga and heading into the Rosewhite Valley.[54] Ms Pat Easterbrook and her husband, Lindsay, lived across the road from the two people who were killed by the fire. She described the fire as it approached Mudgegonga:

> It … sounded as though a few jets were … taking off over the top of our house. I said to Lindsay, 'What the hell is that?' He said, 'That's the fire' … [Shortly after] everything just burst into flames … It was like bombs were going off. The mountain on the left side, on the creek side, the north side, that just exploded. The tree breaks that were coming up from the creek were on fire. The shed was burning down. It was roaring down from the south side as well.[55]

At about 01:00 on 8 February, Mr Andrew Taylor, Alpine Shire Municipal Emergency Resource Officer, and Senior Sergeant Incoll were told the fire was heading towards Carrolls Road in Mudgegonga. At about 01:50 they decided to defer a decision on establishing the Alpine Shire MECC until they had further discussions with the Ovens ICC in the morning.[56]

Between midnight and 02:00 the Beechworth ICC obtained a larger generator; this provided enough power to operate some of the computers, the air-conditioning and the lights. The phones were still inoperable, though, because they were part of the La Trobe University Commander® phone system, which did not have power. A generator was also obtained and set up at the Senior Citizens Hall in Beechworth at 02:30. The Indigo Shire MECC moved to the hall, and a number of police liaison officers were then able to operate there.[57]

The only communication available to the Beechworth ICC until restoration of power in the township at about 02:00 on 8 February was radio and mobile phones. Threat messages were approved by the Incident Controller and relayed by mobile phone to the Benalla Integrated Fire Agency Coordination Centre, which then relayed them to ABC radio and the integrated Emergency Coordination Centre in Melbourne for posting to the DSE website.[58]

At about 02:15 the fire had passed through Kancoona Gap and reached the Pinnacles. At 02:45 it was heading towards the Mt Stanley tower. It was so intense that the radio communication domes on the tower melted and a building—which was two to three bricks thick and thought to be fireproof—collapsed.[59]

Soon after, the weather and the fire behaviour moderated. The fire was, however, on both sides of Running Creek Road by 05:10. At about 06:00 Mr McKenzie started deploying new crews for changeover. Resources from the New South Wales Rural Fire Service, Hancock Victorian Plantations, DSE, the CFA and the Network Emergency Organisation had all been involved in the firefighting.[60]

By 06:30 on 8 February the fire had burnt about 20,000 hectares. The IMT understood that houses had been burnt and that there might have been fatalities, although the extent of the destruction had not yet been confirmed. Access to parts of the fire was restricted because a major transmission line through the fire ground needed to be 'rebooted'. In addition, there had been many lightning strikes throughout the region, and a fire near Bogong Village also required firefighting resources.[61]

At about the same time Mr Taylor discussed with the Alpine Shire Municipal Recovery Manager the possibility of opening an emergency relief centre. They had very little information about which areas of the municipality had been burnt or were burning, so they decided to wait for further advice from Senior Sergeant Incoll.[62]

At 07:30 Mr McKenzie handed over as Incident Controller to Mr Shaun Lawlor, air attack supervisor on 7 February and DSE District Manager for the Ovens District. At the same time the incident control centre was moved from Beechworth to Ovens because the only power supply to the level 2 Beechworth ICC was provided by the generator and the fire was moving away from that area and towards the level 3 Ovens ICC. The Commission was advised that an earlier transfer of the ICC from Beechworth to Ovens was neither appropriate nor feasible since it would have necessitated the establishment of another IMT overnight. This would have been extremely difficult to resource and would have resulted in even fewer IMT resources being available for the following shift, and an interruption to information flows.[63]

The main challenge for the IMT on 8 February was to devise a strategy for bringing the fire under control. The areas of greatest concern were those between Mudgegonga and Bruarong and between Kancoona and Running Creek. The Commonwealth Government had also asked that the telecommunication towers and infrastructure on nearby Mt Big Ben be protected.[64]

At 09:30 on 8 February Senior Sergeant Incoll was informed that a dead person had been found at burnt-out premises near Mudgegonga (in Alpine Shire). Soon after, at about 10:00, Mr Taylor began preparations for activating the Alpine Shire Municipal Emergency Coordination Centre.[65]

At 11:40, following discussions with Senior Sergeant Incoll and a briefing at the Ovens ICC, the Alpine Shire MECC was activated. A call centre was established in a room adjacent to the MECC; it was staffed by Alpine Shire personnel. The purpose of the call centre was to be a central information point for the community.[66]

About midday the south-westerly wind began to increase in strength, and the fire began major runs between Mudgegonga and Bruarong in the north and Rosewhite and Running Creek in the east. As the fire approached Running Creek, between about 17:00 and 18:00, it spotted for several kilometres across the Kiewa Valley into heavily forested terrain. This area had undergone fuel-reduction burning in the autumn of 2007, and the result was that the fire behaviour moderated considerably.[67]

Shortly after 18:00 on 8 February the northern run of the fire was largely controlled by fire crews in cleared paddocks.[68]

On 9 February weather conditions moderated further, and fire crews constructed control lines and conducted back-burns. This work continued until 10:30 on 16 February, when the fire was declared contained. The fire was reported under control on 25 March.[69]

**Image 14.1**



Source: Courtesy of the *Herald & Weekly Times*.

During the fire, emergency relief centres were opened at Myrtleford, Dederang and Mudgegonga.[70]

Two people died in the Beechworth–Mudgegonga fire. The circumstances of their death are described in Chapter 20 of this volume.

Thirty-eight houses were destroyed, as well as sheds and farming equipment. Overall, the fire burnt 33,577 hectares—about 10,000 hectares of private land and the remainder state park. The fire burnt already drought-ravaged pasture, and farmers faced difficult decisions: should they slaughter their stock, try to sell them, or pay substantial sums to agist them until feed became more available.[71]

## 14.2 COORDINATION WITH THE MECC

Between 7 February and 30 March the Municipal Emergency Coordination Centre received requests for the following:

- assistance with residents' emergency evacuation and access
- equipment, machinery and water tankers
- stockfeed
- disposal of injured stock
- drinking water for people and stock
- fuel.[72]

During the initial stages of the fire the MECC received these requests for support and resources directly from the field or from residents. Mr Taylor said this led to inefficiency and frayed tempers because each direct request had to be reported to the incident control centre, which would then respond. Usually, all requests for support are channelled through the ICC or CFA regional headquarters, which avoids confusion and duplication of responses.[73]

Mr Taylor reported that in the first few days of the emergency it was difficult to obtain from the Ovens ICC information about the location and spread of the fire in the municipality. During this time the MECC relied on ABC radio and the DSE website. A liaison officer from the Ovens ICC was not provided to the MECC until Tuesday 10 February. To compensate for this, staff from the MECC went to the ICC to obtain information.[74]

## 14.3 THE IMPACT OF FUEL REDUCTION

The firefighters' experience on 7 and 8 February at Beechworth–Mudgegonga was that, because the fire burned through fuel-reduced areas, at critical stages the fire's behaviour was reduced in intensity. Mr Lawlor noted, 'If the initial phase of the fire had developed in areas where fuel loads had not been reduced, then the main run of the fire on 7 February would have been at least an extra 12 kilometres based on the observed fire behaviour on that day'. If the run had extended that extra 12 kilometres, the front would have become much wider when the wind changed to the south-west.[75]

Mr Lawlor also considered that fuel-reduction burns helped protect the telecommunications towers and infrastructure on Mt Big Ben and helped halt the fire before it spread into forested areas on the eastern side of the Kiewa Valley. If the fire had spread to that extent it would have been extremely difficult to bring it under control: the area is remote, and the terrain makes firefighting very difficult.[76]

Having observed the fire behaviour, firefighters considered that, were it not for the fuel reduction, it was highly probable that the entire Ovens Valley between Myrtleford and Bright would have been directly affected, with significant potential for further loss of life and damage to infrastructure and assets. Fuel-reduced areas were also used as a basis for the containment strategy that was implemented on 9 February.[77]

Dr Lachie McCaw, a principal research scientist for the Department of Environment and Conservation in Western Australia, and Dr Kevin Tolhurst, a senior lecturer in Fire Ecology and Management at the University of Melbourne, assessed the effect of previous burning on the Beechworth–Mudgegonga fire. Both agreed that the rate of spread and the final perimeter of the fire were greatly moderated because of previous prescribed burning.[78]

Dr McCaw agreed with Mr Lawlor that, had the same fire started in a non-fuel reduced area on a day of such extreme conditions, the fire would have become more intense, travelled faster and spotted further in the initial two hours than actually occurred. He also agreed that the effect of the reduced fuel load was to slow the run of the fire before the south-westerly wind change and that previous fuel-reduction burning helped with containing the fire by providing 'anchor points' for suppression activity.[79]

Fuel reduction is discussed in greater detail in Chapter 7 of Volume II.

## 14.4 WARNING THE PUBLIC

In addition to warnings issued by the Benalla Integrated Fire Agency Coordination Centre and the incident control centre, local police and firefighters warned residents about the impending fire. After being notified of the fire, Sergeant Geoffrey Still, Municipal Emergency Response Coordinator for Indigo Shire, asked the Yackandandah police to personally alert residents of Stanley to the potential fire risk. Other units were directed to warn residents on the southern side of the Beechworth–Stanley road and the Stanley–Myrtleford road.[80]

Senior Sergeant Incoll placed a police liaison officer at the ICC as soon as the Municipal Emergency Coordination Centre was opened. He said that once he became aware that fire was approaching an area he arranged for the Victoria State Emergency Service and police to do doorknocks in that area to warn people of the approaching fire and give them the fire agency warning.[81]

Despite the efforts of Victoria Police, the CFA and the Victoria State Emergency Service, not all residents who chose to defend their house could be personally warned or assisted. Ms Pat Easterbrook, who with her husband saved their house, said nothing could have prepared them for the impact of the inferno they experienced.[82]

## 14.5 CONCLUSIONS

With commitments to the Nariel ski hut fire before and on 7 February and to the Kilmore East and Murrindindi fires, DSE resources in the North East Area were much depleted by 18:00 on 7 February. Although this reduction in resources did not compromise the first-attack capability, it did cause some delay in getting additional resources to the Beechworth–Mudgegonga fire. The Commission notes the appropriate focus on first attack and the rapid response of ground crews.

The way the Beechworth–Mudgegonga fire started suggests that examination of the role of the particular type of electrical circuit breakers used on the power line (automatic circuit reclosers) and the management of vegetation around power lines is warranted.

On a day such as 7 February 2009 it was a high-risk strategy to develop an incident management team once a fire had started and first attack had been initiated. It did prove adequate in this instance, but the Commission, noting the shortages of staff, does not accept it was a suitable approach for such a severe day and reflected flawed judgment on the part of those concerned with regional planning and management.

Mr McKenzie did not consider that the lack of a generator and the delay in locating a back-up generator for the incident control centre interfered with the effort of firefighters on the fire ground. He said that, although the power loss created difficulty, the incident management team was 'able to cope' and did the best job it could in the circumstances. The lack of power did not delay the issuing of warnings. Mr McKenzie praised his team for working together very effectively on the night of 7 February.[83] There is no evidence that the initial absence of a level 3 Incident Controller or the lack of power adversely affected the management of the fire.

The Commission accepts Mr Lawlor's evidence that, even if aircraft had been immediately available, their effectiveness would have been limited in the conditions of the day in the absence of support from ground crews.

Although the fire did result in substantial losses, had the same fire started in a non-fuel reduced area, the fire could have resulted in far greater destruction.

The use of liaison officers was not routinely effective. In some cases liaison officers were not appointed; in others, police liaison officers, although appointed, were unable to gain the information they needed.

The Commission notes the efforts of police, the Victoria State Emergency Service and others to personally warn residents, but it considers it will never be possible to guarantee that such action will be feasible in all cases, and nor should individuals expect it. CFA material distributed to the community consistently stresses this.

1 Exhibit 557 – Meteorological Aspects of the Murmungee Fire (BOM.901.0131) at 0149

2 Exhibit 557 – Meteorological Aspects of the Murmungee Fire (BOM.901.0131) at 0149

3 Exhibit 557 – Meteorological Aspects of the Murmungee Fire (BOM.901.0131) at 0149; Exhibit 6 – Supplementary Statement of Waller (WIT.002.002.0001) at 0101

4 Exhibit 557 – Meteorological Aspects of the Murmungee Fire (BOM.901.0131) at 0150

5 Exhibit 557 – Meteorological Aspects of the Murmungee Fire (BOM.901.0131) at 0145

6 Exhibit 6 – Supplementary Statement of Waller (WIT.002.002.0001) at 0101

7 Exhibit 6 – Supplementary Statement of Waller (WIT.002.002.0001) [359]

8 Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [22]

9 Exhibit 215 – Supplementary Statement of Hollowood (WIT.3010.003.0287_R) [22]

10 Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048_R) at 0048_R

11 Exhibit 787 – Further Statement of Fogarty, Annexure 1 (WIT.3024.005.0260) at 0262

12 Exhibit 939 – Details Regarding Emergency Response (CFA.600.005.0195) at 0195, 0196, 0198; Exhibit 939 – Day by Day Breakdown – Beechworth (DSE.HDD.0048.0545_18); Exhibit 939 – Aircraft Data 0809 (DSE.HDD.0048.0544_20) at 0544_25

13 Exhibit 994 – Beechworth–Library Rd Fire – Fire Spread Map (CFA.600.006.0006)

14 Exhibit 254 – Statement of Farrell (WIT.3024.002.0219) [30]

15 Exhibit 254 – Statement of Farrell (WIT.3024.002.0219) [34], [44]

16 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [9]; Exhibit 248 – Statement of Taylor (WIT.4002.001.0001) [47]; Exhibit 254 – Statement of Farrell (WIT.3024.002.0219) [27]

17 Exhibit 254 – Statement of Farrell (WIT.3024.002.0219) [12], [14], [17]; Farrell T7288:8–T7288:11

18 Farrell T7289:30–T7290:13, T7290:21–T7290:28

19 Exhibit 254 – Statement of Farrell (WIT.3024.002.0219) [54]

20 Farrell T7290:21–T7290:28

21 Lawlor T6916:14–T6916:19

22 Farrell T7291:26–T7292:5

23 Edgar T16751:3–T16751:4

24 Exhibit 254 – Statement of Farrell (WIT.3024.002.0219) [14], [51]; Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [15], [17]–[18]; Exhibit 249 – Statement of Lawlor (WIT.3024.002.0187) [14]; Farrell T7292:5–T7292:12; Lawlor T6916:14–T6916:15

25 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [18]; Exhibit 254 – Statement of Farrell (WIT.3024.002.0219) [53]; Exhibit 230 – Statement of Johns (BCHM.001.001.0001) at 0002; Exhibit 226 – Statement of Matthews (WIT.3010.003.0172) at 0173; Exhibit 228 – Statement of Higgins (SUMM.044.002.2255_R) [6]–[11]; Higgins T6932:24–T6934:20; Lawlor T6916:14–T6916:15; Johns T6940:25–T6941:26; Matthews T6927:16–T6928:9

26 Exhibit 237 – Statement of Lane (WIT.5100.001.0001) [183]–[184]

27 Bertuch T7134:13–T7134:18, T7136:7–T7136:26, T7141:12–T7141:17, T7144:28–T7145:3, T7146:16–T7146:22

28 Exhibit 243 – Statement of Peters (WIT.5101.001.0001) [143], [146]–[153], [172]–[175], [221], Annexure 7 (WIT.5101.001.0225) at 0232; Peters T7187:3–T7187:20, T7193:31–T7195:19, T7203:23–T7204:11; Bertuch T7141:19–T7142:24

29 Exhibit 237 – Statement of Lane (WIT.5100.001.0001) [108]; Exhibit 520 – Supplementary Statement of Lane (WIT.5100.002.0001) [35], [43]; Lane T7031:21–T7031:28, T7032:10–T7032:17; Sweeting T11376:2–T11377:27

30 Exhibit 228 – Statement of Higgins (SUMM.044.002.2255_R) [3]; Exhibit 230 – Statement of Johns (BCHM.001.001.0001) at 0001; Johns T6938:17–T6938:24, T6940:18–T6940:20; Matthews T6925:9–T6926:6, T6928:15–T6928:17; Lawlor T6916:14–T6916:19; Higgins T6931:4–T6931:20

31 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [2]–[3], [8], [18]; Exhibit 254 – Statement of Farrell (WIT.3024.002.0219) [54]–[56]

32 Exhibit 254 – Statement of Farrell (WIT.3024.002.0219) [51]; Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [17]–[18]; McKenzie T7217:5–T7217:19, T7233:23–T7233:30

33 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [22]; Farrell T7288:17–T7289:4

34 Exhibit 245 – Statement of McKenzie, Annexure 2 (DSE.HDD.0032.0222_R)

35 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [21]

36 Lawlor T6915:24–T6915:27, T6916:19–T6918:10

37 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [30], Annexure 3 (DSE.0017.0115.0070), (DSE.0017.0115.0067), (DSE.0017.0115.0039); Exhibit 254 – Statement of Farrell (WIT.3024.002.0219) [59];

38 Exhibit 254 – Statement of Farrell (WIT.3024.002.0219) [65]; McKenzie T7223:24–T7223:27

39 Exhibit 254 – Statement of Farrell (WIT.3024.002.0219) [54]; Exhibit 245 – Statement of McKenzie, Annexure 4 (DSE.0001.0004.0093_R)

40 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [27]; Exhibit 249 – Statement of Lawlor (WIT.3024.002.0187) [24]–[25]; McKenzie T7229:5–T7229:10

41 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [19]–[20]; McKenzie T7215:27–T7216:2

42 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [57]

43 Exhibit 251 – Statement of Still (WIT.3010.004.0337) [38]

44 Exhibit 245 – Statement of McKenzie, Annexure 3 (DSE.0017.0115.0039), Annexure 5 (DSE.0001.0004.0092_R)

45 Lawlor T6918:11–T6918:16, T6918:30–T6919:2

46 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [30], Annexure 3 (DSE.0017.0115.0033)

47 Exhibit 250 – Statement of Incoll (WIT.3010.004.0001) [29]

48 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [38]–[39]

49 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [19]

50 Exhibit 557 – Meteorological Aspects of the Murmungee Fire (BOM.901.0131) at 0169–0170

51 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [41]–[42]; Lawlor T6918:11–T6920:7

52 Exhibit 253 – Statement of Ryan (WIT.3010.004.0408) [40]–[41], Attachment 13 (WIT.3010.004.0479)

53 Exhibit 557 – Meteorological Aspects of the Murmungee Fire (BOM.901.0131) at 0137, 0144–0146; Lawlor T6920:8–T6920:14

54 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [45]

55 Easterbrook T7169:16–T7169:31

56 Exhibit 248 – Statement of Taylor (WIT.4002.001.0001) [49]; Exhibit 250 – Statement of Incoll (WIT.3010.004.0001) [30]

57 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [19]–[20], [45]–[46]; Exhibit 251 – Statement of Still (WIT.3010.004.0337) [31]–[33], [37]–[38]; Exhibit 253 – Statement of Ryan (WIT.3010.004.0408) [25]

58 McKenzie T7223:3–T7223:6, T7223:16–T7223:23

59 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [47], [61]

60 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [51]–[53]; Lawlor T6920:8–T6920:21, T6920:26–T6921:10

61 Exhibit 249 – Statement of Lawlor (WIT.3024.002.0187) [31]–[32]; Exhibit 6 – Supplementary Statement of Waller (WIT.002.002.0001) [372]

62 Exhibit 248 – Statement of Taylor (WIT.4002.001.0001) [51]

63 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [52]; Exhibit 254 – Statement of Farrell (WIT.3024.002.0219) [71]–[72]; McKenzie T7227:16–T7227:31

64 Exhibit 249 – Statement of Lawlor (WIT.3024.002.0187) [39], [44]–[45]

65 Exhibit 250 – Statement of Incoll (WIT.3010.004.0001) [31]; Exhibit 248 – Statement of Taylor (WIT.4002.001.0001) [53]

66 Exhibit 248 – Statement of Taylor (WIT.4002.001.0001) [55]; Exhibit 250 – Statement of Incoll (WIT.3010.004.0001) [33]

67 Lawlor T6920:16–T6920:21, T6920:26–T6921:10

68 Lawlor T6921:11–T6921:25

69 Exhibit 6 – Supplementary Statement of Waller (WIT.002.002.0001) at 0100; Lawlor T6921:14–T6921:28

70 Exhibit 248 – Statement of Taylor (WIT.4002.001.0001) [59]

71 Exhibit 240 – Statement of Van Dorsser, Attachment (WIT.3010.003.0242) at 0246; Exhibit Exhibit 246 – Statement of McDonald (WIT.084.001.0001) [53]–[64]; Exhibit 787 – Further Statement of Fogarty, Annexure 1 (WIT.3024.005.0260) at 0262; Exhibit 980 – Correspondence – Houses Destroyed – Breakdown by Fire (CORR.1003.0048_R) at 0048_R

72 Exhibit 248 – Statement of Taylor (WIT.4002.001.0001) [65]

73 Exhibit 248 – Statement of Taylor (WIT.4002.001.0001) [66]

74 Exhibit 248 – Statement of Taylor (WIT.4002.001.0001) [60], [62]

75 Exhibit 249 – Statement of Lawlor (WIT.3024.002.0187) [27]–[28]; Lawlor T6922:1–T6922:16

76 Exhibit 249 – Statement of Lawlor (WIT.3024.002.0187) [45]–[47]

77 Exhibit 249 – Statement of Lawlor (WIT.3024.002.0187) [28], [49], [51]; Lawlor T6922:1–T6922:16

78 Exhibit 722 – Expert Report of McCaw on Fuel Management (EXP.026.001.0001) at 0011–0013, 0020; McCaw T14897:17–T14898:4; Tolhurst T15340:8–T15349:14

79 Exhibit 722 – Expert Report of McCaw on Fuel Management (EXP.026.001.0001) at 0011–0013; McCaw T14897:17–T14898:19

80 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [30]; Exhibit 251 – Statement of Still (WIT.3010.004.0337) [29]–[30]; Exhibit 121 – Statement of Ward (WIT.052.001.0001_R) [20]; Hollowood T7653:23–T7653:26, T7653:28–T7653:31

81 Exhibit 250 – Statement of Incoll (WIT.3010.004.0001) [40], [50]

82 Exhibit 244 – Statement of Easterbrook (WIT.085.001.0001_R) [81]–[82]

83 Exhibit 245 – Statement of McKenzie (WIT.3024.002.0144) [58]; McKenzie T7216:10–T7216:16




Source: Courtesy of the *Herald & Weekly Times*.

# CONCLUSIONS 15

# 15 CONCLUSIONS

The Commission's primary focus was to find where improvements can be made to preparation for, response to and recovery from bushfires. The Commission is conscious that this results in a light treatment of what worked well and a heavier focus on shortcomings. This is regrettable but inevitable in an inquiry of this nature. The Commission heard ample evidence of the commitment, courage and skill of men and women who worked to protect their communities and their state on Black Saturday. Where specific actions are highlighted this is done both to commend the individuals involved and to illustrate instances of exemplary actions. Space did not permit an exhaustive account of the enterprise and valour of individuals and teams on 7 February 2009. The Commission acknowledges this and offers its conclusions in the hope that its analysis will minimise the likelihood of a recurrence of a bushfire of this magnitude in the future.

This chapter summarises the main themes and trends that emerged from the Commission's fire-by-fire hearings. In some cases those themes and trends reflected systemic shortcomings that the Commission then considered in more detail at subsequent hearings. Accordingly, many of the themes and trends summarised here are discussed in detail in Volume II, which draws on a more specialised range of evidence than is summarised in this chapter.

## 15.1 FIRE CAUSES

Most of the major fires that burned in late January and in February 2009 started as a direct or indirect result of human activity:

- Failure of electricity assets was responsible for five fires—Kilmore East, Beechworth–Mudgegonga, Horsham, Coleraine and Pomborneit–Weerite.
- The causes of four fires—Murrindindi, Churchill, Delburn and Bendigo—are thought to be suspicious.
- One fire—Harkaway—was started accidentally.

Only the Bunyip fire is thought to have been the result of natural causes (lightning), although fire investigators have been unable to definitively reach this conclusion. The causes of both Lynbrook fires and the Upper Ferntree Gully and Redesdale fires are not known.

Chapters 4 and 5 in Volume II deal with electricity and arson respectively.

## 15.2 FIRE BEHAVIOUR

### 15.2.1 FUEL MANAGEMENT

Even in the catastrophic conditions experienced on 7 February, previous fuel reduction by prescribed burning slowed the rate of spread of some fires and also reduced the final size of the Beechworth–Mudgegonga fire. Where the fuel-reduced area was of insufficient size or the fuel reduction was insufficiently intense—for example, around Marysville—the areas treated did not moderate fire behaviour and so-called strategic firebreaks had little, if any, effect.

Fuel management is discussed in Chapter 7 of Volume II.

### 15.2.2 THE WIND CHANGE

In Victoria a wind change is one of the most crucial factors in managing a bushfire and the associated risks to firefighter and public safety. In most cases on 7 February, where the wind change directly impinged on the path of a fire it changed the direction of and breathed new severity into the fire. In many areas the change arrived earlier than incident management teams and firefighters expected. This, combined with inadequate planning and advice on the part of a number of IMTs, resulted in insufficient warnings for firefighters and communities.

The wind change is discussed in Chapter 1 of Volume II.

## 15.3 FIREFIGHTING EFFORTS

### 15.3.1 DETECTION, REPORTING AND FIRST ATTACK

Fires were detected in a number of ways, among them the observations of local residents, the public, firefighters and fire tower observers. In a number of cases reporting of fires to fire agencies was hindered by difficulties contacting 000—particularly for the Beechworth–Mudgegonga and Bendigo fires. Detection of fires is discussed in Chapter 3 of Volume II.

The catastrophic weather conditions of 7 February made successful first attack extremely problematic, even when firefighting resources arrived soon after ignition. At Pomborneit–Weerite, for example, firefighters were in attendance before members of the public reported the fire, but first attack still failed to suppress the grass fire. In some cases, delays in reporting or in the arrival of firefighting resources, including aerial resources, contributed to the ineffectiveness of first attack.

### 15.3.2 AERIAL SUPPORT

Before 7 February, when weather conditions were milder, aircraft had been used to good effect at the Bunyip and Delburn fires. On 7 February, however, the use of aerial support—in particular, water bombers—was limited by the weather; this restricted opportunities for aircraft to operate and limited the effectiveness of water bombing because the suppressant dispersed before it hit the vegetation. Water bombing was more effective at the Narre Warren and Upper Ferntree Gully fires, which occurred later in the day and where local water supplies allowed a number of drops in a short period.

Aerial support is discussed in Chapter 3 of Volume II.

### 15.3.3 FIREFIGHTER SAFETY

Dedicated safety advisers were appointed during the peak period of firefighting activity at only two of the fires—Bunyip and Pomborneit–Weerite.[1]

One interstate firefighter was killed while engaged in firefighting after 7 February. That sad event aside, there were very few firefighter injuries and most of those incurred were minor, although the Commission received evidence of a considerable number of crews trapped in burnovers, where fire passed over their vehicles as they sheltered inside or nearby. The small number of injuries relative to the extraordinary exposure suggests that the training and equipment provided by fire agencies contributed much to firefighter safety.

The risks faced by the crews were heightened by a failure to promptly transmit accurate information about the arrival of the wind change. Country Fire Authority and Department of Sustainability and Environment standard operating procedures recommend the use of red flag warnings to communicate time-critical information on factors that might affect firefighter safety. In a number of cases, however, inconsistent or inaccurate warnings—or no warnings at all—were sent to firefighters on the ground.

Firefighter safety is discussed in Chapter 3 of Volume II.

## 15.4 INCIDENT MANAGEMENT

### 15.4.1 AIIMS

The AIIMS structure generally proved effective in relation to fire management, but there were deficiencies. The structure was most effectively implemented in the case of incident management teams that had pre-established before 7 February. Information functions often did not receive sufficient priority or resourcing. Warnings to firefighters and communities were too often lacking in timeliness and accuracy.

Although all fires on 7 February should have been managed using the AIIMS framework, there were occasions when incident management teams were not pre-positioned and incident control was conducted by CFA Group Officers. This use of group management continued at Alexandra even after an IMT was established to manage the Murrindindi fire.

Incident management is discussed in Chapter 2 of Volume II.

### 15.4.2 PREPARATION AND RESOURCING

In the week preceding 7 February Victoria's fire agencies understood that the conditions they were to face would be extreme. Resources and personnel were already committed to the Delburn fire, and during the week additional resources and personnel were directed to the Bunyip and Nariel ski hut fires.

On 5 February the CFA and DSE Chief Fire Officers held a teleconference with key operational staff. Both officers emphasised the need for pre-formed task forces and pre-positioned incident management teams to meet the demands of the day. The CFA Chief Officer envisaged that 'the pre-designated [incident control centres] would be ready to operate in what we call a warm start or a hot start—that is, there are people there, all the facilities, the equipment is up and running and tested'.[2]

In most regions preparations for 7 February were in keeping with the Chief Officers' understanding of a 'hot start'. But in CFA Region 12 and DSE North East Region IMTs were not in place and this was not identified at the state level. In part, this was because that status was not adequately reported up the chain of command. This meant that, despite the fire agencies making every effort to warn and prepare the public before 7 February, the CFA and DSE had not adequately prepared their resources in the region that experienced the devastating Kilmore East and Murrindindi fires. As a consequence, there were extensive delays in establishing effective IMTs for those fires.

Elsewhere, firefighting and incident management staff were identified and rostered for duty while others were placed on alert; equipment was positioned and regional emergency coordination centres and the Benalla Integrated Fire Agency Coordination Centre were on standby; municipal emergency response coordinators confirmed their readiness.

The result was that, despite every effort being made to warn and prepare the public in the lead-up to 7 February, and despite the expectations of the CFA and DSE Chief Officers, regional preparations varied. Pre-positioned, pre-prepared level 3 incident management teams were not in readiness in all regions. In the regions that were poorly prepared there were extensive delays in establishing effective incident management.

### 15.4.3 MANAGEMENT OF THE FIRES

#### Leadership

Strong and effective leadership was displayed at some fires. In these cases careful planning and effective management of both the IMT and crews on the fire ground resulted in the best outcomes possible in the conditions that applied. At other fires the Commission examined IMTs, and specifically Incident Controllers, did not provide the necessary leadership to manage the ferocious fires. This largely resulted from a lack of preparation and a failure to appoint Incident Controllers with the necessary experience, training and competence.

Leadership, training and pre-positioning of Incident Controllers are discussed in Chapter 2 of Volume II.

#### Incident action plans

For a number of the fires the Commission examined incident action plans were not developed, were delayed or were developed in response to major fire damage; an example is the Murrindindi fire, where the IMT did not start preparing the plan until after midnight on 7 February, some nine hours after the fire had been reported and long after it had swept through Marysville.

Incident action planning is discussed in Chapter 2 of Volume II.

#### Information gathering and analysis

Some IMTs, such as that at Bunyip, managed their information gathering and analysis well, and this enabled them to develop an informed and viable firefighting strategy. Other IMTs, such as that at Kilmore and Alexandra, were hampered by unreliable information on which to base planning decisions. In part, this was because those IMTs did not effectively collect or make the best use of the available fireground information. Confusion on the fire ground about who actually had responsibility for managing the fire also hindered information collection.

Information analysis is discussed in Chapter 3 of Volume II.

#### Tracking of resources

At the Churchill fire there were shortcomings in management and tracking of resources because the IMT's Planning Unit inadequately identified, recorded and tracked fireground resources and personnel. This led to inefficient use of the available resources and at times increased the risks for firefighters.

Tracking of resources is discussed in Chapter 3 of Volume II.

#### Record keeping

Record keeping was inadequate, and this made it difficult to determine whether red flag warnings were sent. It also resulted in confusion about the location and roles of personnel on the fire ground and associated difficulties with communication and resourcing decisions. Inevitably, it led to inefficiencies and confusion.

#### Management of campaign fires

'Campaign' fires both before and after 7 February were managed well. The Commission notes in particular the impressive performance of regional and incident management staff during the campaign fire at Bunyip and the efforts of firefighters after 7 February to manage the Kilmore East–Murrindindi, Beechworth–Mudgegonga and Churchill campaign fires.

#### Handovers

The handover at Bunyip was effective. Pre-planning ensured the smooth transfer of control from DSE to the CFA when the fire left Bunyip State Park, then the transfer back once the fires on private land had largely been controlled. There was no formal handover at Murrindindi, which meant that CFA resources continued to report to their Group Officer, despite a DSE incident management team having taken responsibility for management of the fire. Handovers are a critical period in incident management, when information and responsibility are transferred. Every effort, including the use of incident action plans, needs to be made to ensure they occur as smoothly as possible.

## 15.5 COMMUNICATIONS

### 15.5.1 EMERGENCY CALLS

A large number of calls were made to 000 on 7 February, and a number of these were from people reporting the initial sighting of a fire. Many callers, however, were either unable to get through to an operator or had to make numerous attempts before being connected. This delayed initial responses during the crucial early stages of some of the fires. This matter was considered in the Commission's interim report. Information on the measures implemented to deal with the problem is provided in Chapter 1 of Volume II.

### 15.5.2 OPERATIONAL FIRE COMMUNICATIONS

Communications from incident control centres to firegrounds on 7 February were impeded by system congestion and inadequate planning and management. Communication difficulties between ICCs and the fire grounds were often attributed to the amount of radio traffic or the facilities at the incident control centre. In the case of the Bendigo fire, heat and smoke were said to have caused radio interference, although this was not investigated by the Commission. Some firefighters resorted to using mobile phones when unable to raise ICCs by radio. Many attempts at such communication were either unsuccessful or very delayed.

Fixed communications were also problematic. Throughout the afternoon a significant proportion of the Kangaroo Ground ICC's attempts to contact the Kilmore ICC seeking information and updates were unsuccessful.

### 15.5.3 OPERATIONAL POLICE COMMUNICATIONS

Police across the state experienced difficulties communicating with other police at a number of fires. These difficulties were a consequence of two factors—the high volume of radio traffic directed through the police communications centres on the day and the incompatibility of the digital metropolitan and analogue rural police radio networks.

Communications are discussed in Chapter 3 of Volume II.

## 15.6 WARNINGS

The nature, timeliness and quality of warnings, for both firefighters and communities, varied among the fires the Commission examined. The warnings some IMTs issued were generally timely and appropriate, taking account of the path of the fire and the potential impact of the wind change. At other fires there were delays in issuing warnings or posting warnings to the CFA and DSE websites, and warnings failed to contain vital information about the path of the fire and the predicted wind change. The level of IMTs' preparation—including the lack of pre-positioned information officers—appeared to be a central factor in determining whether timely, accurate and detailed warnings were issued.

In general, warnings were largely distributed via the CFA and DSE websites and by radio—notably ABC local radio and community radio stations such as UGFM. Where time allowed, community meetings were held, and at one fire a CFA officer sounded the fire station siren to warn residents of the approaching danger. The Standard Emergency Warning Signal was never activated on 7 February.

In addition to warnings issued by IMTs, the Commission notes the efforts at a number of fires of police, Victoria State Emergency Service personnel, and CFA and DSE crews to personally warn residents.

Warnings are discussed in Chapter 1 of Volume II.

## 15.7 EVACUATION AND RELOCATION

Many residents made the decision to leave either of their own volition or on the advice of individual police, firefighters, VICSES personnel or others. Evacuations of vulnerable people were carried out in an ad hoc way, with little, if any, input from IMTs. Residents made their way out of affected towns or to places of possible refuge within towns. These were simply places where residents felt they would be safe—for example, the CFA sheds in Marysville and Kinglake and Gallipoli Park oval in Marysville.

The State Emergency Response Plan provides that the decision to evacuate people rests with the Incident Controller. In accordance with agency practice, however, Incident Controllers and their IMTs did not consider evacuation of any towns or localities affected by the fires. Local police, VICSES personnel and firefighters did, however, make ad hoc arrangements to evacuate some areas.

Evacuation and relocation are discussed in Chapter 1 of Volume II.

## 15.8 EMERGENCY MANAGEMENT

### 15.8.1 PLANNING AND PREPARATION

Before 7 February local councils and Victoria Police made substantial preparations for the extreme conditions predicted. In Yarra Ranges Shire, long-term preparations involved simulated emergency exercises. Additional resources were mobilised and extra staff were rostered on; municipal emergency coordination centres were placed on standby.

The Commission was not confident, however, that municipal plans gave adequate attention to bushfire risks. It is important that those councils that cover bushfire-prone communities take account of major risks such as bushfire and incorporate appropriate strategies in their municipal emergency management plans. The Commission reviewed the Shire of Murrindindi's arrangements. Despite the shire's MEMP being assessed as technically complying with the guidelines of the *Emergency Management Act 1986*, the MEMP lacked substance, detail and precision and, in particular, did not accommodate planning for responding to bushfire. There was insufficient detail to enable responses to be actioned if an emergency were to occur.

### 15.8.2 RESPONSE

Municipal emergency coordination centres, on the other hand, provided valuable support for firefighting operations and subsequently during recovery, some remaining open for weeks. They were activated soon after they received reports of fires from local incident control centres and provided various types of assistance:

- support with emergency evacuation
- activation of emergency relief centres for residents who had evacuated
- assistance with coordinating road closures
- equipment, machinery and water tankers
- drinking water and food
- feed for stock
- material aid such as clothing and personal items
- transportation assistance, fuel and first aid supplies
- disposal of injured stock.

Emergency relief centres provided support and accommodation for residents who had evacuated. Some of these centres remained open as recovery centres for months after the fires, providing continuing support services and assistance for displaced residents and others affected by the fires.

### 15.8.3 ROADBLOCKS

The operation of roadblocks on 7 February and in the following days and weeks raised important questions about access for firefighters, other service providers and residents and about the roadblocks' overall effectiveness.

Although the roadblocks appear to have been operated in accordance with the guidelines agreed by the CFA, DSE and Victoria Police, enforcement of the guidelines became a source of frustration and some animosity between police and firefighters because private firefighting appliances, CFA personnel in private vehicles, and maintenance and supply crews were restricted from gaining access to the fire ground.

In some areas affected by the Murrindindi fire, access for residents was restricted for many weeks as coronial investigations continued. Problems with access were aggravated by inconsistencies in the application of 'full' and 'partial' roadblocks and confusion about who should be allowed through. In Bendigo, Redesdale and Churchill it was reported that people were able to bypass road closures by taking smaller or less direct roads: this calls into question the effectiveness of roadblocks in restricting access, especially in urban areas.

Emergency management is discussed in Chapter 2 of Volume II.

## 15.9 INFORMATION SHARING

Police and local councils said they faced difficulties as a result of a lack of information flowing from incident control centres. Among the concerns they expressed were difficulties obtaining information about the location and spread of the fire and about the location of roadblocks. The lack of information also created difficulties for police and municipal emergency coordination centres when trying to make decisions about effective deployment of resources and when providing advice to the community.

Most of the difficulties appeared to arise as a result of incident control centres not providing liaison officers to municipal emergency coordination centres, despite a requirement in the State Emergency Response Plan for response agencies to deploy liaison officers.[3] To resolve these problems, in a number of instances police and local councils appointed liaison officers to ICCs. In these cases this action largely proved effective. In Horsham the local council made alternative arrangements, co-locating the municipal emergency response officer at the ICC.

Information sharing is discussed in Chapter 2 of Volume II.

## 15.10 UTILITIES

Loss of power and water supplies is to be expected during major natural disasters. Saturday 7 February made it abundantly clear that people in areas of bushfire risk cannot rely solely on reticulated water and external power supplies in the event of a bushfire.

1 Exhibit 548 – Correspondence – Safety Advisors (CORR.0911.0107_R); Exhibit 611 – Statement of Owen, Annexure 20 (WIT.3004.032.0051) at 0057; Edgar T16751:3–T16751:4

2 Rees T2415:21–T2415:25

3 Exhibit 11 – Statement of Esplin, Attachment 2 (WIT.005.001.0123) at 0180



# PART TWO
# THE PEOPLE WHO DIED

This part of the report contains information about the last known actions of the 173 people who died in or as a result of the fires of 7 February 2009. Some readers might find the material distressing.

# THE PEOPLE WHO DIED

## OVERVIEW

One hundred and seventy-three people died as a result of the fires that burned across Victoria on 7 February 2009 and in the following days. This far exceeded the loss of life from any previous bushfires—including Ash Wednesday, in February 1983, when 75 people died in Victoria and South Australia.[1]

The Commission heard many accounts from people who survived the 2009 bushfires, but it was only by examining the stories of those who died that it could complete its investigation of these fires.

## RATIONALE

The Commission was established to examine, among other things, the causes and circumstances of the Victorian fires of late January and February 2009. Although the fires led to great damage to property, flora and fauna, it was the loss of 173 human lives that caused the greatest devastation to individuals and communities. As a result, the Commission's most important task was to understand what led to this loss of life and how best to avoid a similar event in the future.

In particular, the Commission considered that its examination of the 'prepare, stay and defend or leave early' policy—often referred to as 'stay or go' (see Chapter 1 in Volume II)—would be incomplete without an analysis of how this policy was perceived and applied by those who died. The fact that the majority (113) of the people in question died inside or close to structures—rather than on the road, as had been the case in previous bushfires involving deaths—was a further reason for exploring the circumstances of all the deaths.

The Commission's examination of the deaths also provides, for the families and friends of the deceased, information they would otherwise not have received for some time. The State Coroner will be examining the deaths but not until other processes, such as the Commission itself and court proceedings, are complete.

Accordingly, in consultation with the Coroner, the Commission developed an approach to considering the deaths that would satisfy two particular criteria:

- meet its own requirements for information—especially in connection with its examination of the practical operation of the 'stay or go' policy
- provide to the families and friends of the deceased information they may otherwise not have received for some time.

## METHODOLOGY

The Commission developed its methodology for this aspect of its inquiry in consultation with Victoria Police and the State Coroner. It held hearings in relation to each death according to where the death occurred. If a number of people died in a single location a single hearing was held. Generally, the hearings were grouped according to the individual fires and, where feasible, the course of the fires. A total of 86 hearings were held over 23 days.

Because of the sensitive nature of the material being examined, the hearings were not held in the Commission's main hearing room but in a smaller room known as 'the annexe'. These hearings were usually open to the public, including representatives of media organisations, but proceedings were not webstreamed and media cameras were not allowed.

The Commission was not bound by all the rules of evidence that apply to the courts. Notably, it was not bound by the rule against hearsay evidence, which normally requires that evidence be provided first hand by the witness with direct knowledge of that evidence. This means that in examining the circumstances of the deaths the Commission did not have to hear oral evidence from all the people who had made relevant statements to the police. The Commission obtained the benefit of extensive investigations carried out by Victoria Police. It could hear almost all the evidence from a single source—the senior police officer in charge of Victoria Police's Phoenix Taskforce investigation of the fires and related deaths, Detective Superintendent Paul Hollowood.

Family and friends were not obliged to attend or participate in the hearings, but many chose to do so. The Commission went to considerable lengths to ensure that close family members and friends received information about the hearings in advance, to help them decide if they wanted to attend. Grief counsellors and other support people were on hand. More than 450 friends, family members and colleagues attended the hearings; of these, 19 participated by means of video conferences from locations in Victoria and elsewhere in Australia.

Using a multimedia presentation developed by Victoria Police, Detective Superintendent Hollowood presented a summary of the statements the taskforce had collected. The presentation involved a stylised re-enactment of the movements of the person (or people) who died, as well as pre- and post-burn satellite images of the sites of the deaths, maps and other audiovisual material. Detective Superintendent Hollowood's evidence was led by counsel assisting, who also referred as appropriate to individuals' statements, most of which recounted details of the last conversations with the deceased.

On average, each hearing took about an hour. At the end of the hearing family and friends in attendance had an opportunity to ask questions or clarify matters arising from the hearing. On a small number of occasions family members made oral statements as part of the hearing, and on one occasion a person was called to provide eyewitness evidence.

## DEMOGRAPHIC FEATURES

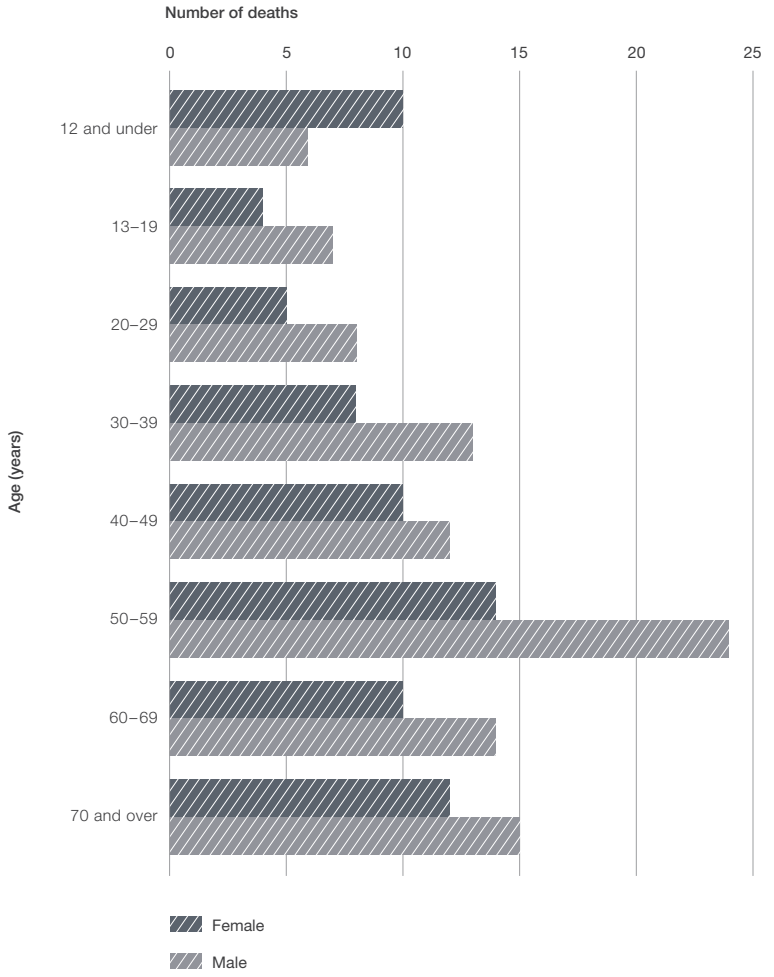
Five of the 13 major fires that burned in early 2009 led to loss of human life—Beechworth-Mudgegonga, Bendigo, Churchill, Murrindindi and Kilmore East. The greatest loss of life resulted from the Kilmore East fire (119 people), followed by Murrindindi (40), Churchill (11), Beechworth-Mudgegonga (2) and Bendigo (1). Nearly all these people died on 7 February itself; four died in the succeeding days or weeks as a result of the injuries they sustained on 7 February, and one person died as a result of injuries sustained after 7 February.

The age and gender profile of the people who died is similar to that of people who died as a result of previous bushfires.[2] Sixteen per cent were aged 70 or over; 28 per cent were aged between 55 and 69; and 13 per cent were aged less than 18 (and, of these, a substantial majority were under 15). Fifty-eight per cent of those who died were male.

## THE STRUCTURE OF THIS PART OF VOLUME I

This part of Volume I summarises each of the 86 hearings into the fire-related deaths. The summaries are presented in order of the ignition time of the fires—starting with the Kilmore East fire and ending with the Beechworth-Mudgegonga fire—and then by locality. Within each locality the entries are presented alphabetically by family name. At the end of the summaries a conclusion draws together the main themes arising from the deaths, suggests areas for further inquiry, and sets the scene for the policy-related discussion in Volume II.

**Figure 1 Those who died: age and gender profile**




Source: Exhibit 894 – Review of Fatalities in February 7 2009 Bushfires.[3]

1 Exhibit 536 – Statement of Valent, Attachment 4 (EXP.009.001.0042) at 0042; B Teague, R McLeod, S Pascoe, 2009 Victorian Bushfires Royal Commission: Interim Report, Parliament of Victoria, Melbourne, August 2009 at 6

2 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0008

3 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0028



# THE KILMORE EAST FIRE

16

# 16 THE KILMORE EAST FIRE

## 16.1 ARTHURS CREEK

### JOSEF AND GLENYS MATHEIS

Josef and Glenys Matheis had lived all their married life—more than 40 years—in the Arthurs Creek area. For the past 26 years they had lived at 40 Matheis Road with their sons, Josef and Peter, on a 20-hectare property at the southernmost end of Sugarloaf Ridge. Josef, 68, and Glenys, 61, died in their cellar on 7 February 2009; they are survived by their sons and their extended family.

The Matheis house was on the slightly flat saddle of a spur in the south-eastern corner of the property, about 800 metres up a steep driveway from the road. A small cleared area for parking and turning extended about 50 metres in front of the brick house; less space was cleared at the back and sides of the house. The rest of the property was moderately thick eucalypt forest and was bordered to the west by Kinglake National Park. Josef and Glenys knew the property would be difficult to get to or leave in a fire and had a comprehensive fire plan that, among other things, involved them sheltering in the cellar under their house.

The Matheis' fire plan was based on their determination to stay and fight. They knew the CFA would find it difficult to get to their house and get out safely if there was a fire. The property had an adequate water supply—two concrete and two plastic water tanks, as well as a large dam about 40 to 50 metres from the house. The family was well equipped for firefighting, as their son Josef recounted:

> Fire-resistant hoses for all taps; sprinklers to cover two points in the front and two points in the rear [of the house]; a tractor with a portable water tanker. The firefighting system was powerful enough to run all taps and hoses at full strength and the pressure from the nozzle would clear the roof. A Davey twin impeller firefighting pump which was approximately eight and a half horsepower. The pump was right beside the dam in a fire-resistant housing. All the water lines were approximately one foot underground. The clearing of trees was well enough away that if they fell they would not hit the house … There were two exits from the property, one being the main drive and the second was an exit road through our neighbour's property.

Josef and Glenys had planned to use the cellar under the house as a bunker. They would 'block off all the entrances, under the doors … block the windows'. The captain of the Arthurs Creek CFA knew the Matheis' and their fire plan well: 'All the locals and I knew that their fire plan was to stay and fight, but in fairness there was nothing to prepare you for this [fire] … [Josef] had an unrealistic approach that the cellar at his house … will always be safe. In most fires he is probably right but this was not an ordinary fire'.

On 7 February Josef and Glenys were at home; both their sons were away. Between 1.00 pm and 3.00 pm they received numerous phone calls from family and friends, initially warning them of the fire threat and then updating them. During the first call, at 1.00 pm, Josef was outside preparing pumps and hoses. At some time in the afternoon Glenys told a family member they were planning to evacuate, Josef taking their car and Glenys taking Josef junior's prized Mercedes coupé. It appears they changed their plan: Glenys also told Josef's sister she was taking valuables, such as the boys' hard drives, into the cellar.

At about 2.45 pm they were warned to expect an ember attack within two to three hours. At about 4.45 pm their neighbour Robyn Quinn called again to warn them of approaching fire. Glenys said, 'No, we've put it out. Joe has put it out'. Robyn replied, 'No, it's coming up your driveway'—that is, from the south-west. (This suggests that Josef could have been attending to a spot fire ahead of the main front.)

It appears Josef and Glenys retreated to the cellar after this. Arthurs Creek CFA members found their bodies, and that of the family dog, the next morning.

A Victoria Police forensic scientist who examined the circumstances concluded, 'The fire travelling up the valley would have led directly to the house', which was destroyed along with the garage, outbuildings and three cars outside the garage. The cellar remained largely intact. On the basis of his observations at the property after the fire, Josef junior believes his parents retreated to the cellar with very little notice:

> I don't think they had much time as they did not have the other portable pump on the water tanker. My father was also very particular about turning petrol engines [off]; the tractor and portable engines were left running, which shows to me that it was very quick. My mother also only had about one-eighth of [the] personal property and belongings that she planned to be taken into the cellar. This is another example [of] how quick it was.

The post-mortem reports record Josef and Glenys Matheis died as a result of carbon monoxide poisoning.[1]

## 16.2 FLOWERDALE AND HAZELDENE

### RONALD BARLING AND RICHARD HALL

Ron Barling was 71 and Richard Hall 52 when they died on 7 February 2009 at the property they shared and co-owned at 79 Silver Creek Road, Hazeldene, also known as 23 Silver Parrot Road. They are survived by their extended families.

Ron had owned the property since the early 1970s, when he and his then wife had bought it with another family. Together they cleared the land and built a conference centre in 1973: it was intended to be used for church groups. Some years later the other family sold out of the property, and Richard, by that time a family friend of the Barlings who had spent time living there, bought into it. The two men were also business partners.

Andrew, Ron's son, explained that the building was on the top of a ridge, with steep downward slopes in all directions. Close to the house the garden was mainly exotics and some lawn; there were native stringybarks on the slopes around the house. The building, between 40 and 50 squares and with a number of different self-contained living quarters, had a steel frame, modular cement sheet wall panels and a galvanised iron roof.

Ron and Richard were well aware of the risk of fire and had in fact fought fires together at the property in 1982. They had taken a number of steps to prepare the home for fire in the lead-up to the 2008–09 fire season, which they believed was going to be a bad one: they had installed two additional 22,000-litre water tanks and cleared around the property, and they regularly cleaned out the gutters. They also had a petrol firefighting pump and buckets and spades placed around the property.

Before 7 February Ron's plan had been to evacuate rather than fight any fire. Andrew explained, 'I think that this was predominantly because of his age, the size of the house, the location of the house in the forest, and because there were only two of them'.

The first warning Ron and Richard had about fires on 7 February was just before 2.00 pm, when Andrew, who lived in Whittlesea, called to tell his father about smoke he had seen coming from the direction of Kilmore. Andrew also told his father he should listen to 774 ABC radio, the emergency broadcaster. Before 2.30 pm Ron called Andrew to ask if he should pack the car, and Andrew said he should. Andrew also reminded Ron of the 1982 fires and the change of wind direction. There were further calls between Ron and Andrew throughout the afternoon as Andrew was evacuating to a friend's house.

At about 3.25 pm a neighbour, Patricia Cowman, made the first of a number of calls to discuss the fires. At that stage she and Richard both believed they were safe and agreed to stay in touch. Just after 4.40 pm there was further contact between the neighbours; there was no discussion of Richard or Ron leaving, although that had been their plan on previous occasions. Patricia assumed they had decided to stay and defend.

Between 4.45 pm and about 5.05 pm Andrew had a number of separate conversations with Ron and Richard, as he updated them about his knowledge of the progress of the fires. At Ron's request for advice, Andrew suggested he should drive north to Yea but first go to the Flowerdale CFA station and ask for directions. As he had done earlier with Ron, Andrew reminded Richard of the wind change. Andrew was left with the impression that Ron and Richard were monitoring the situation and had no immediate plans to leave. At 5.15 pm Patricia called again, and Ron told her he was staying to defend with Richard.

There were a number of additional calls with family members and Patricia until just before 7.30 pm. In one of the calls—with his sister Helen Drake at about 6.30 pm—Ron told her they had packed their car at lunchtime and were ready to leave if the fire came too close. Sounding concerned and apprehensive, he said if the wind changed they would leave, but there was no point in leaving if they did not know which direction the fire was coming from. Richard was on the roof filling the spouts with water at this stage.

By about 7.15 pm Ron told Andrew about the noise the wind was making, which he put down to the change, but he made no reference to smoke or fire. At about 7.25 pm, in the last phone contact, he asked Patricia if the terrible noise was the fire. She said, 'Yes, it will be'. She reported that the fire struck houses in this area at about 7.30 pm. It appears to have come from the south-west, after the wind change.

On 19 February the remains of Ron and Richard were found inside what had been a bathroom. The house had been completely destroyed.

Post-mortem reports record that the cause of death for Ronald Barling was the effects of fire; for Richard Hall it was consistent with the effects of fire.[2]

### GAVIN DUNN

Gavin Dunn and his two dogs lived at 36 Long Gully Road, Hazeldene. Aged 39 when he died on 7 February 2009 as a result of the fires, Gavin is survived by three daughters and his extended family.

In 1992 Gavin had been involved in a car accident that left him with an acquired brain injury, affecting his speech and energy levels and resulting in his finances being managed by the courts.

Gavin's timber-framed house was built of particle board and had a corrugated iron roof. The property, covering just less than a hectare, was mostly bushland, with some cleared space around the house. The land was sloping, and the house was set back from the road and cut into the incline, above the level of the road.

There is no indication that Gavin planned to either fight a fire or evacuate. Rather, his fire plan was to take a blanket and to shelter in a small dam on his property. His friend Alex Jones said, 'Gavin had a small dam on his property about 40 metres south of the house. It was really a very steep hole. He dug it himself and it was about the size of a kitchen table. The water level would have been very low'.

Shortly before 4.00 pm on 7 February Gavin called his mother, June Dunn, and told her he had heard on the radio there was fire approaching Whittlesea, where June lived. She told him she had seen smoke from the Wandong fire.

At about 4.35 pm June rang Gavin and told him there was a lot of smoke in the direction of the hills and asked him what he was going to do. Gavin said he would be alright since there was no smoke at his place. He also said he had turned his radio off because he was sick of listening to it. This was consistent with Gavin's general 'she'll be right' outlook, as described by his former partner, Lynette Piltz: 'He was probably just too relaxed, too complacent. He wouldn't have believed it would ever happen'.

What Gavin did during the rest of the afternoon is not known. At about 8.30 pm a neighbour, Russell Willet, went to Gavin's house to tell him he was leaving. At that point the roar of the fire was becoming louder and the glow on the hill was becoming brighter, although there was no sign of flames. Russell suggested that Gavin also leave, but Gavin told him he was going to stay and would go to the dam with a blanket if necessary. Before he left, Russell suggested that Gavin at least turn his car around in case he had to leave in a hurry.

Fire struck the area at some time after 8.30 pm, destroying a number of homes in Long Gully Road, including Gavin's. On 8 February Gavin's remains were found just outside his house. The remains of one dog were found in the kitchen.

The post-mortem report records that Gavin Dunn died as a result of the effects of fire.[3]

### ROBERT HARROP

Bob Harrop lived at 27 Forest Road, Flowerdale. He and his wife, Betty, spent the summer months in Flowerdale and the winter months in Queensland. Bob, aged 83, died on the night of 7 February 2009, having sustained injuries while fighting fires at his home. He is survived by his wife and other family members.

Bob and Betty's house was a timber-framed HardiPlank kit home with a corrugated iron roof. The house was surrounded by trees, but the land immediately around it was relatively clear. Bob's fire plan was not certain, although it seems that he planned to stay and defend the property in the event of fire. He had a generator and tank water, as well as access to a creek at the back of his property. He also had a petrol pump, hoses, and taps and fittings predominantly made of metal or brass. According to family members Bob was in good health, with no history of heart disease.

On 7 February Betty was in hospital in Melbourne. Bob spent most of the day with his immediate neighbour, Rick Denvil. Much of that time was spent at Rick's house, avoiding the heat. At about 3.00 pm Bob and Rick checked the hoses at Bob's house. One was defective, so they disconnected it, leaving one operational hose at the property. At about 4.00 pm they heard on the radio that there was a fire at Kilmore East. They could smell smoke and see a slight darkening and smoke in the sky to the west, in the Mt Disappointment area. Rick checked the CFA and Bureau of Meteorology websites to monitor the weather and the fire.

Just before 5.40 pm Bob's stepdaughter, Suzanne Ebacioni, called Bob to see if he was OK in the heat. He told her the power was out, which was not an uncommon occurrence, and he was going to start up the generator so he would have a fan and light. Bob said there was smoke in the distance, which he thought was coming from the Buxton area, but he was fine.

At about 7.00 pm Rick saw that the smoke was increasing and it was getting darker. He saw fire at his front gate and went outside to hose it down. Within minutes the vacant block next to Bob's place was burning, then the sheds on both of the men's properties were alight. Rick went to check on Bob:

> I went through and checked on Bob who was purely putting out small blowing fires on the grassed area surrounding their house with a plastic knapsack firefighting pack (approximately 20 to 30 litres). Bob was okay, not stressed and seemed quite accepting of the situation. Neither of us felt threatened. We knew we couldn't do anything about our sheds, but both of our houses were still standing.

At about 7.40 pm Rick's house caught fire and he lost water pressure. He went looking for Bob but was unable to find him because of the thick, swirling smoke. He got into his car and drove back to Bob's, using the headlights as a light source. He found Bob lying at the north-eastern corner of the house, unconscious but breathing and with a strong pulse. Bob was heat stressed, non-responsive and had an abrasion on his lower outer calf. Rick found Bob's plastic firefighting knapsack melted at the southern end of the house.

Rick put Bob in the car and drove north, intending to take him to hospital. He could see a large firefront coming from the south. He then decided to stop in at the Flowerdale hotel, thinking there might be people there with first aid skills. When he arrived a psychiatric nurse helped the hotel owner, Steve Phelan, check on Bob: they applied basic first aid and tried to make him comfortable. By now Bob's pulse was weak, he was semi-conscious and he was having trouble breathing.

Steve described the hotel at this time as chaos. The fire was approaching and there were people sheltering at the hotel and others who had volunteered to help Steve protect it. Steve recalled that when Bob arrived 'it added another dimension to the gravity of the situation we were facing'.

By this time there were fires everywhere and Rick was told he would not be able to get to the hospital at Yea. At about 11.00 pm Steve decided that everyone at the hotel would be safer at a roadworks depot opposite the hotel. They initially placed Bob on the back of a ute but later put him inside Rick's car. They took shelter at the council gravel pit, where they fought the fire from midnight until daybreak. Meanwhile, Rick and others continued administering first aid to Bob. At about 11.40 pm, as he was sponging Bob, Rick noticed he had stopped breathing. In the early morning Rick took Bob's body north to the Yea hospital. Bob and Betty's house survived the fire; Rick's did not.

The post-mortem report records that Robert Harrop died as a result of exposure to the bushfire in association with coronary heart disease.[4]

### DANIELA MARULLI, ALDO JUNIOR AND JESSE INZITARI

Daniela Marulli, aged 41, and her partner, Aldo Inzitari, lived with their three children—Jonathon, aged 14; Jesse, 11; and Aldo Junior 'AJ', 5—at 2323 Whittlesea–Yea Road, Hazeldene. On 7 February 2009 Daniela, Jesse and AJ died outside 2527 Whittlesea–Yea Road, Hazeldene, having fled their property by car and then fled the car on foot. Aldo and Jonathon survived after a harrowing escape.

The family had lived at 2323 Whittlesea–Yea Road for about four years. The property was a hobby farm of about 53 hectares and was at times used for hay cutting. The owners employed Aldo to maintain the house and property on their behalf.

The family's fire plan was to stay and defend the property but to leave if the situation became too dangerous. There was no plan to go anywhere in particular. The property had some firefighting equipment, including electric pumps, fire hoses and sprinklers on the roof, and there were a number of water tanks. There was no home phone and mobile reception was poor. The owner of the property said she had instructed Aldo and Daniela 'that their family came first, that the property was insured and that if there was any sign of fire they were to leave'.

The family were at home on 7 February. At about noon Jonathon saw smoke rising from behind the mountain at the rear of the property. The family decided the fire was too far away to cause much concern at that stage. At about 4.00 pm Aldo and Jonathon started to get the pumps ready, but low pressure meant the pumps would not start. The power was down for much of the afternoon, and the smoke and haze increased, making it difficult to breathe. At some stage in the late afternoon the power came on again briefly, and the family watched some television to find out where the fires were. With the power back on they were able to use the pumps to hose down the house and surroundings.

By that time it was evident there was fire close by: Jonathon had spotted orange glare at the rear of the house and told his parents. Daniela tried to call the fire brigade on her mobile phone but could not get through; Aldo's mother tried to call his mobile just after 6.30 pm but could not get through. Aldo saw fires on the mountain at about 7.00 pm and then the paddocks and a shed on the property caught fire.

At about 7.30 pm the family packed the utility—the only registered vehicle on the property and the one nearest the house—and left. The bridge they drove over to get to Whittlesea–Yea Road was on fire. Aldo turned right towards Whittlesea, unaware that was the direction the fire was coming from. Forced by a fallen tree to do a U-turn, he headed north towards Yea. On arriving back near the house, Aldo and Jonathon left the others in the car and walked back to the house, noting that the bridge had been destroyed in the meantime. They collected further items and the family dog and returned to the car. Jonathan and the dog got into the tray of the ute.

Aldo drove north for about 2.5 kilometres before colliding with a large tree that had fallen onto the road. He and Jonathon ran from the car to a tree near the house at number 2527 Whittlesea–Yea Road. Jonathon realised his mother and brothers were still in the car and went back to drag them to where he and his father had sheltered. The dog, by this stage inside the cabin of the ute, died later when the fire hit the ute.

The family then sheltered in a number of places near the house until it too caught fire, at which point they moved to shelter near some cars at the northern boundary of the property. There was much smoke, and visibility was difficult. Aldo and Jonathon climbed a barbed-wire fence and then a gate to enter the adjoining property, 2529 Whittlesea–Yea Road. Daniela, Jesse and AJ, who had been following them, were not able to climb the fence and collapsed on the ground nearby, calling for help. When Jonathon realised they had not made it over the fence, he went back to try to help them, climbing the gate and then reaching over the fence, suffering burns to his arms in the process. He could hear but not see or find them because of the heavy smoke. Aldo called him back, knowing Jonathon could not save the others and not wanting Jonathon to die too.

Aldo and Jonathon fled on foot about a kilometre north along Whittlesea–Yea Road. They took refuge at number 2637, where they were given clothing and water by the owner, who was defending his property. They then headed for the Flowerdale CFA fire station, where they were assessed by an ambulance officer and taken to the Yea hospital for treatment. They arrived at the hospital soon after midnight.

The bodies of Daniela, Jesse and AJ were found by a passing motorcyclist at about 6.45 am on 8 February 2009, where they had been sheltering near the fence. The Inzitari/Marulli house was completely destroyed in the fire, as was the property at number 2527, near where the family had sheltered for a time. The neighbouring property, number 2525, survived the fire.

The post-mortem reports record that Daniela Marulli, Jesse Inzitari and Aldo Inzitari Junior died as a result of the effects of fire.[5]

### DONALD, MINNIE, JOHN AND CHERI-LEE WALKER

Donald Walker and his wife Minnie, also known as Helen, aged 87 and 86 respectively on 7 February 2009, lived in the main house at 38 Long Gully Road, Hazeldene. Their son John, also known as Jack, Jay or Buck, aged 59, and his wife Cheri-Lee, aged 61, lived in a caravan on the property. All four died at that address; they are survived by extended family.

The hilly property of about 4 hectares supported the house, the caravan, a number of sheds, the five water tanks that constituted the water supply, and a dam. Behind the sheds and tanks was a steep incline leading to a heavily wooded area. There were also a number of trees close to the house.

Donald and Minnie had lived at the property since the late 1960s and had experienced a couple of fires. John and Cherie-Lee had lived there for about 20 years. The fire plan had traditionally been for Donald and John to stay and defend. Donald would open the tops of the tanks, turn on the taps and flood the property. John would fight the fire, and Helen and Cheri-Lee would move to an unknown evacuation point. The horse fence would be dropped to allow the horse to move around safely. Because both Donald and John were in poor health, neither was in a position to actively defend the property.

At about 12.30 pm on 7 February Cheri-Lee spoke to a neighbour, Donna Beattie, at the Hazeldene shop. Donna told Cheri-Lee to leave the area because a fire was heading their way. Cheri-Lee said she thought the fire would not affect Flowerdale because the wind was going towards St Andrews. She also said the family had experienced fires before and had plenty of water.

At about 3.00 pm another neighbour, Sharon Dunn, called the family and spoke to Cheri-Lee to warn her about the fire and tell her many people in the street were evacuating. Cheri-Lee asked Sharon to keep her informed. After losing power at about 4.30 pm, Donna Beattie and her family decided to evacuate. They stopped and spoke to John, who was in his driveway, and offered to drive his parents to Yea. John said they would be leaving and that he did not need any help with his parents. Donna gained the impression that, despite her urging, John was not going to leave.

Just before 5.30 pm Cheri-Lee sent a text message to her friend Elke Sill-Sikora, commenting on the wild winds, the heat and the power outage. Shortly after 6.00 pm Sharon Dunn rang again to encourage the Walkers to leave: the fire was coming up the hill. John responded with 'We'll be right'. About an hour later Elke and Cheri-Lee spoke. By that time Donald was having trouble breathing and seemed to be in need of an inhaler, which he did not have. Cheri-Lee told Elke the car was packed. Elke said of Cheri-Lee, 'She was determined to leave, but Jay [John] wouldn't leave his parents. Don wouldn't go, Helen wouldn't leave Don, Jay wouldn't leave his parents'.

Martin Walker (John and Cheri-Lee's nephew and Donald and Minnie's grandson) and his wife, Karen, spoke to the family three times between about 8.40 and 9.10 pm. Martin had initially called to check on their welfare. John said they were fine and the fire was not near them; he also said Don did not want to leave. But Martin was concerned, so he decided to go and collect them all himself. He left home at about 9.00 pm but was stopped at a roadblock in Whittlesea. The last contact with the family was a call from Karen at about 9.10 pm. During this call John sounded 'really puffed and down' and Donald was said to be having trouble breathing.

On 8 and 9 February the bodies of all four were found at various locations. John's body was found towards the rear of the property, near a water tank. The bodies of Cheri-Lee and Minnie were found apart from each other but both near one of the cars. Donald's body was found against the remains of a structure not far from some of the tanks and about 6 metres from Minnie. It is possible they were trying to implement their fire plan by opening the tank taps and dropping the fence to let the horse run free.

The post-mortem reports record the deaths of John and Cheri-Lee Walker as a result of the effects of fire and the deaths of Donald and Minnie Walker as consistent with the effects of fire.[6]

## 16.3 HUMEVALE

### BARRY JOHNSTON

Barry Johnston began building his dream home, Waldene, in the forest of the Scrubby Creek valley, at 520 Humevale Road, Humevale, in the early 1980s. He loved the bush, and he built Waldene by hand, in stages over the years. Barry was aware of the fire risk, so he built a bunker in the side of the hill about 30 metres from the house. He died in the bunker on 7 February 2009 at the age of 59. He is survived by his partner of 17 years, Sue Gunningham, and his family and friends.

The house was made predominantly of timber; it was on concrete stumps and had a steel roof. From Humevale Road it was reached by a steep driveway about 100 metres long. The bush surrounding Barry's house was described as medium to heavy-density eucalypt forest, with trees of medium height and evidence of an understorey of smaller trees or bushes. With the exception of a few small areas, bush extended for at least a kilometre in every direction from the house, and there were mature trees very close to the house.

Barry was known to be very fire conscious and not at all flippant about the dangers of the bush. His partner, Sue, recalled:

> From the first time I went to Barry's house at Humevale, it was clear to me he was fire conscious. He was forever clearing around his property, had a sprinkler system on the roof and the bunker … His fire plan was to be well prepared. Besides minimising unnecessary growth around the property, he had rakes, a sprinkler system that was gravity fed, tanks full of water, buckets and metres of water hoses … He also built a bunker to the side of the house … dug into the side of the hill … that was approximately 2 metres by 3 metres.

Barry's fire plan appeared to be to protect the house and bunker as much as he could. He had a sprinkler system for the house and bunker, multiple water tanks, both galvanised iron and poly-pipe, powered by good-quality fire pumps and attachments. He told his friend Ron Rumbelow 'they had plenty of rain before Christmas, which meant [the tanks] were almost full'. In Ron's view 'Barry was not the type of person who thought he was invincible to the ways of nature … [and] would have prepared himself as best as possible to survive a bushfire'. Barry planned to shelter in the bunker while the fire front passed.

The bunker had a thick door. The walls were lined with either sleepers or corrugated iron and were supported by star pickets. The roof was a concrete slab covered with a layer of soil. Basic supplies—that is, a torch and some water—were stored inside. Barry told Sue 'the bunker was not to live in or to have a meal in. It was to be somewhere to conceal oneself while a fire passed over'. Sue also recalled Barry was pragmatic about fire. He kept himself informed by listening to 774 ABC radio on days when there was a total fire ban and did not have a rigid opinion about staying or going. 'He always said the house was insured, and he would take a commonsense approach to staying or going if a fire approached.'

Barry arrived at Waldene at about 9.00 am on 7 February, to keep an eye on the place in case of fire. He appears to have spent the day monitoring the radio and possibly later in the afternoon running the sprinkler system. By 2.00 pm he was aware of fire in the district. At about 4.30 pm Sue called him; she said he appeared calm. While they were speaking he heard a noise that interrupted their call; he stepped outside to take a look, then told Sue he couldn't see anything and wasn't sure if the sound was the fire or the wind. This was the last known contact with Barry.

At about 5.00 pm fire struck Barry's property with such intensity it destroyed all the structures on the site—the house, the studio, the garage, and the bunker where Barry was sheltering. It caused the gas tank on Barry's car to explode with such force that it turned the car around. The PVC water tank, emptied of water, melted and vanished.

The post-mortem report records the cause of Barry Johnston's death as consistent with the effects of fire.[7]

## LLOYD AND RENA MARTIN

In February 2009 Lloyd and Rena 'Mary' Martin were enjoying retirement. Aged 83 and 76 respectively, they had wound down their horse stud business, Pineridge Stud, at 635 Whittlesea–Yea Road, Humevale, some years earlier. Fit and in good health, they had a busy social life and played 18 holes of golf three times a week. Lloyd and Mary died at Pineridge Stud on 7 February 2009; they are survived by their daughters, Jane and Marisa, and their families.

Pineridge Stud was a 16-hectare property bordered to the west-north-west by the dense eucalypt forest of Kinglake National Park, stretching almost 20 kilometres to the Hume Highway at Wandong. The property had been cleared and was made up of fenced horse paddocks with trees scattered about. The trees were mostly pines or poplars around the fence lines, although there were some eucalypts in the gully of a dry creek bed and near the stables, as well as a shelter belt of pine trees running along a ridge line from the western boundary to the house. Around the house the trees were mostly exotic, especially fruit trees, and were set amidst a cottage garden.

The Martins had built their brick house in the late 1970s. There were also various sheds and stables on the property. Oriented east–west, the single-storey house had a pitched COLORBOND® roof, a verandah all the way around, and a brick carport at the western end. The property was supplied with water from a dam about 60 metres from the house and a large concrete tank. The comprehensive pumping system included a diesel pump to convey the dam water via underground pipes up to the house to keep the garden watered. There was also a pressure pump to supply the house with water from the underground concrete water tank.

Lloyd regularly attended CFA meetings, and the Martin household was part of the Yea Road Community Fireguard Group. Lloyd prepared for each fire season by making sure the property was cleared of any fuel. His daughters recalled:

> He had large hoses (not your standard garden ones) connected to impact sprinklers around the garden surrounding the house. He would have wet the gardens down and everything else (including the house) in preparation in the event of fire approaching … they had an independent generator in the event that the power got cut off so they would still have water.

It is unclear what the Martins' intentions were in the case of fire, although it seems they might have had differing intentions. Mary had told her daughters and her neighbour (also a member of the fireguard group) she intended to leave because 'no house is worth dying over' but that Lloyd would have to be persuaded to do the same: 'he would want to save the trees.'

From the evening of 6 February Mary had a number of telephone conversations in which she told friends and neighbours she was intending to leave. Just before 1.30 pm on 7 February she told her neighbour Franca Doherty she was aware of the fire because she had been monitoring the radio; she wanted to leave but Lloyd wanted to stay. Shortly after 3.00 pm Mary told her friend Barbara Duff the car was packed and she was ready to leave. About half an hour later Lloyd phoned Patricia McKinnon, a neighbour and another member of the fireguard group, to tell her the fire 'looks like a goer' and that he was fully prepared, with his pumps connected and everything ready to go.

Mary called her daughter Jane at 4.38 pm. Jane's son answered the phone and told Mary that Jane was out. Mary repeatedly told her grandson 'It's OK' before the call cut out.

The fire reached the Martins' property shortly after 4.30 pm, travelling from the west and increasing in speed as it moved up the slope to the house. It destroyed all structures except one small shed. The accompanying wind was so fierce that part of the house's roof was blown off, ending up 30 metres to the east; trees 20 to 30 centimetres in diameter that were near the house were snapped off well above ground level and fell to the east.

Lloyd and Mary Martin were found on 8 February in the ruins of their house. It appears that efforts to save the house would have failed when the wind lifted the roof off, exposing the house to ember and fire attack. Mary might have been sheltering at the eastern end of the house while Lloyd was trying to deal with the fire. A number of sprinklers were found near the house and in the trees, suggesting that they had been used as part of the firefighting effort.

The post-mortem reports record the cause of the deaths of Lloyd and Mary Martin as consistent with the effects of fire.[8]

### ALLAN, CAROLYN AND STUART O'GORMAN

Allan and Carolyn O'Gorman, aged 55 and 50 respectively, lived at 295 Humevale Road, Humevale, with their three children—twins Bronwyn and Patrick, 21, and younger son Stuart, who had just turned 18. On 7 February 2009 Allan, Carolyn and Stuart died at their home of 10 years. They are survived by Bronwyn and Patrick and their extended families.

The O'Gorman family home was brick veneer with a corrugated iron roof. It was set on a relatively flat area near the top of a ridge, at the end of a steep driveway leading up a spur for about 350 metres from Humevale Road. The front of the house faced north-west, towards Mt Disappointment and Kilmore. The area immediately around the house was clear for 15 to 20 metres, and beyond that the surroundings were medium- to heavy-density eucalypt forest.

About 10 metres north of the house was the family's fire bunker, which doubled as a wine cellar. It consisted of a shipping container buried in the north-west face of the spur, under about a metre of soil. An additional room, made of brick with a substantial steel door, had been built at the entrance to the bunker. Bronwyn recounted:

> Our family had discussed and had a fire plan. It was basically to stay with the house and fight the fire. We had a big water tank [22,000 litres] and another smaller tank on a trailer that we could use if we had to use it with hoses which we had around the house. We also had a generator with the tanks connected to a pump for a tank … We also had a shelter built which was on the north-west corner of the house about 10 metres from the main building. This was sort of the last resort if we couldn't leave the house.

Patrick's recollection of the family fire plan was 'pretty much to stay at the house in the wine cellar, which is like a shipping container converted into a bunker. We were to go in there if the fire got really bad and then come out when the fire had passed'.

On 7 February the O'Gormans were busy doing various things. Bronwyn was away at a school camp; Patrick and Allan left home separately mid-morning to go to work. Before they left Allan had been showing Patrick how to operate the trailer tank, which could be moved to fill up the larger tank using the pump. Carolyn and Stuart were at home, possibly preparing for the family gathering to be held that evening to celebrate Stuart's 18th birthday two days before.

It appears that most of the family members had become aware of a potential fire threat by about 3.00 pm. Patrick phoned his parents from work at about 3.15 pm to tell them others were leaving early because of the fires and to check if everything was OK. His mother told him the fires were at Wandong, about 30–40 kilometres away, and not to worry.

Not long after that Stuart's girlfriend, Rosemary Symons, arrived and they started monitoring 774 ABC radio, which reported that the fires were 30 kilometres away. At about 3.30 pm Carolyn checked the internet, which showed a fire at Wandong, and the CFA website, which gave advice about a grass and scrub fire burning about 4 kilometres east of Kilmore. It appears that, although Carolyn believed the fire to be 30–40 kilometres away in Wandong, spot fires were being reported in the Mt Disappointment area only about 10 kilometres away.

There was thick smoke above the house when Allan arrived home from work at about 4.00 pm. He asked Stuart to pack his prize possessions and suggested that Rosemary leave, which she did. At about 4.15 pm Patrick left work and headed home to help his family prepare for the fire, but he was stopped at a roadblock and was not able to get home. He could see clouds of smoke and helicopters fire-bombing. During the next 15 minutes Carolyn let family members know that the party was cancelled and phoned 000, telling the operator that there was fire all around them, that it was about 200 metres away, and that it was a threat to them. She continued, 'Apparently the wind's changed. Yes, it's just changed, so it's going away from us now, it's stopped. It's gone the other way. It's good. Okay, thank you'.

In a phone call to her sister at about 4.45 pm Carolyn said Allan and Stuart were outside putting out spot fires. Just after 5.00 pm she called her sister again to tell her she could hear the noise of the fire and had to go because she could see it coming towards the house.

It is assumed that Allan, Carolyn and Stuart then tried to retreat to the bunker. Their bodies were found together outside the eastern corner of the house, suggesting they left by the laundry door and were either overcome by the fire's intensity or injured by debris from the burning house. The roof and walls of the house collapsed; only a few sections remained upright. The shed, carport and two cars were burnt; the bunker remained intact.

A Victoria Police forensic scientist who examined the circumstances concluded:

> The fire would have impacted on the O'Gorman residence about 5.00 pm, preceded by a brief high-speed ember attack … The flame height would have been in the order of 25 metres, well above the height of the trees, and the fire front would have been travelling perhaps 15 kilometres per hour, possibly faster. In these circumstances, firefighting is not practical … evidence suggests [the fire front] came on them with a speed and intensity which prevented them reaching the safety of their bunker.

The post-mortem reports record that the cause of death for Allan, Carolyn and Stuart O'Gorman was consistent with the effects of fire.[9]

## 16.4 KINGLAKE

### ADRIAN, MIRRABELLE, MATTHEW, ERIC AND HANNAH BROWN

Adrian and Mirrabelle Brown lived at 39 Bald Spur Road, Kinglake, with their three children—Matthew, aged 8; Eric, 7; and Hannah, 3, who was known to friends and family as Brielle. The family had moved to Kinglake in about 2002 because the area offered the country lifestyle and open-air living they had been looking for. Adrian and Mirrabelle, aged 33 and 30 respectively, died with their three children on 7 February 2009; they are survived by their immediate and extended families.

The Browns' house was made of cedar weatherboard; it had an iron roof, and at the back there was a timber deck area that Adrian had built. The half-acre block of land was heavily timbered and sloped away slightly at the rear. The house faced west across Bald Spur Road, an unsealed, narrow road meandering through dense forest abutting Kinglake National Park. Two polyurethane tanks supplied water to the property.

If there was a fire the Browns intended to leave as soon as they heard an evacuation message on the radio; if they were unable to leave, they would stay in the house until the fire passed. Adrian's mother, Robyn, explained their reasons for planning to leave: '… during summer they would not have much water in the tanks and they also had been told by the local CFA that the fire truck would not go down their street because they couldn't turn the truck around. The other reason they had a fire plan to leave is Adrian had a congenital heart disease and couldn't do much physical manual work and therefore would be unable to stay and fight the fires'.

At about 4.45 pm on 7 February Adrian and his father communicated online via an instant messaging service. His father was in China at the time and asked what the temperature was and whether there were any fires nearby. Adrian told his father the fires were miles away, at Kilmore, and that it was much cooler since the cool change had arrived. About fifteen minutes later Adrian sent a text message to his friend Dale Markou, suggesting that Dale not come to visit as planned: 'We are under fire threat here as is Whittlesea. We can imagine you haven't made it through, nor would you probably want to at the moment'. At 5.20 pm Adrian called Dale and told him the power had just been lost and they were under fire threat; the call kept cutting in and out.

It is not known what the family did between then and when the fire hit the area, which was at about 5.30 pm. A Victoria Police forensic scientist concluded the Browns were probably caught unawares by the speed of the fire and decided to adopt their alternative plan and stay in the house until the firefront passed, which in this instance took about 45 minutes.

On 9 February police found the Brown family's remains near the front or kitchen area of their house. The house had been destroyed, as had the two cars. Adrian's friend Dale said, 'I don't think that Adrian would have stayed if he had known the fire was coming. I think he would have tried to get out. Adrian was a pretty conservative kind of guy. He wasn't your action man … He wouldn't have stayed to fight the fires'.

The post-mortem reports record the deaths of Adrian, Mirrabelle, Eric, Matthew and Hannah Brown as being a result of or consistent with the effects of fire.[10]

## NEEVE AND MACKENZIE BUCHANAN, DANIEL CLARK, AND MELANIE AND PENELOPE CHAMBERS

Five people died at 1 Reserve Road, Kinglake, on 7 February 2009. Only one of them was a resident of the house; the others had sought shelter there because it had been identified as a 'safe house' in the event of fire.

Reserve Road is a sealed road in an area where most of the blocks might be described as residential suburban blocks. The majority of the blocks had some trees on them, and surrounding the residential area was a mix of forest and cleared land. Not all the houses in this area were damaged or destroyed as a result of the 7 February fires.

Fires had threatened Kinglake in 2006, and this had prompted many residents to develop and implement fire plans. With the support of the then local CFA captain at the time, interested local residents had met and visited each other's houses to assess their safety. Consideration was given to construction materials, the nature and proximity of vegetation, the availability of an alternative power supply, and the availability of firefighting equipment such as sprinklers and fire hoses.

The Chambers' house at 47 Victoria Road was assessed as unsafe because of the proximity of bush on three sides of the house and the lack of firefighting equipment. Janet Chambers had been told a CFA crew would not be sent to her house because it was at the end of a dead-end road and was therefore unsafe because of the restricted access. The Clark house at 1 Reserve Road was considered one of the safest: it was built of brick and had a generator, pumps, hoses and sprinklers. The residents were encouraged to develop a local telephone fire tree. The Chambers and Clarks were part of the same fire tree group.

### The Clark family

Michael 'Mick' and Jenny Clark lived at 1 Reserve Road with their 37-year-old son Daniel 'Danny'. Their four-bedroom, single-storey brick house had a tiled roof. The garden around the house, a mix of trees and shrubs, was well maintained.

The Clarks' fire plan was to stay and defend their property. They had a generator to ensure a power supply, a 13,500-litre water tank supplied by a bore, petrol pumps, sprinklers and hoses. Mick would 'block the downpipes of the house, put specially prepared sprinklers on the peak of the roof and have the firefighter going as well'.

On the morning of 7 February Mick and Jenny were shopping in Yarra Glen with their 9-year-old granddaughter, Neeve Buchanan, who had stayed with them overnight. After some car trouble on the way home they arrived back at Reserve Road. Despite the heat, Mick spent time packing the caravan for a planned holiday. At some time during the afternoon Neeve and Danny logged on to the internet to check the progress of the fires.

The nearest reported fire was at Wandong, quite a distance away. Mick and Jenny discussed leaving but decided not to because they believed the fire to be a long way away. Although there was no sense of imminent threat, Mick decided to enact his fire plan anyway. At about 4.00 pm he prepared the pump in readiness but inadvertently filled it with two-stroke instead of four-stroke petrol. He told Jenny the fire was worse than first thought and was getting close. He was watering the garden when the power went out.

### The Buchanan family

Ross and Rebecca Buchanan lived in a two-storey brick house in National Park Road, Pheasant Creek, with their four children—sons Calum, aged 18, Mackenzie, 15, and Aiden, 13, and daughter Neeve, aged 9. Also living with them was Calum's girlfriend, Lauren Mortimer. The property was close to Kinglake National Park, but there was also some cleared farmland nearby: Ross described the farm next door as having a '50-acre paddock'.

Both Ross and Rebecca had been very active in their local community fireguard and had an awareness of the fire risk where they lived. They operate their own small business selling and fixing pumps, so Ross was familiar with all types of sprinkler systems for firefighting. Their home was equipped with water, sprinklers, a pump and hoses, and they intended to set these up to try to protect their house as much as possible.



On 7 February the family members were involved in a variety of activities. Neeve was with her grandparents at 1 Reserve Road; Rebecca was in Whittlesea because she was involved in the Whittlesea Music Festival; Calum was at work at the Kinglake petrol station; and Mackenzie and Aiden were at home with Ross.

Ross was monitoring the CFA website and listening to 774 ABC radio. At about 3.30 pm he noticed an alert that fire might reach Whittlesea in two hours' time. He could see smoke and estimated the fire to be about 50 kilometres away. At 4.16 pm he contacted Rebecca, and they agreed that Ross should take the boys to their grandparents at 1 Reserve Road for safety. He loaded the boys, their dog and some personal possessions in the car and travelled the 10 to 15 minutes to drop them off. His father-in-law, Mick, was watering the garden when he arrived. Ross then returned home to prepare the house for defence.

When he arrived home, between 4.45 and 5.00 pm, Ross changed his clothes, helped a neighbour get her pump started, and started to prepare the house: he moved wood, set up and started the pump, set up the hoses and nozzles, and started the sprinkler at the back. Before he had time to get the roof sprinkler system going the house was hit by fire. At about 6.00 pm Rebecca called Ross: 'He told me he couldn't talk as he was fighting fires around the house … I told him not to do it on his own, to go and help someone else or get out'. Ross left, driving through embers and flames to reach the Pheasant Creek store, and then he went in convoy to the Kinglake West CFA shed.

### The Chambers family

Janet Chambers lived at 47 Victoria Road, Kinglake, with three of her four children, Melanie 'Mel', aged 23, and Penelope 'Penny', 21. Her son Tom was employed by DSE, was working at Kinglake National Park and lived with Janet during the summer. Her other son, Luke, was living in Sydney.

In view of the CFA assessment of their home a few years earlier, the Chambers' fire plan was to leave their house and go to one of two neighbours whose houses had been assessed as safe—the Clarks at 1 Reserve Road or the Fullertons at 4 Reserve Road.

Penny had spent most of the morning of 7 February out with her boyfriend, Ben Monagle, and by mid-afternoon they were back at his house in Pheasant Creek. She called her mother at about 3.15 pm and then decided she would go home because of the weather conditions. Some time after 4.00 pm Janet, Mel and Penny were listening to 774 ABC radio when they heard that fire had crossed the Hume Highway. Janet called the Victorian Bushfire Information Line and was told there were no fire warnings for Kinglake. After 5.00 pm Janet, Mel and Penny decided they needed to find a safe location for their horses. Janet hitched the horse float to her car, told the girls to expect her home in 15 minutes, and said that if they needed to go they knew what to do. There was no smoke or embers and Janet did not think they were in danger.

While Janet was attending to the horses, she received a text message from Tom, who told her the National Park office in Pheasant Creek was on fire and she had better get out. Janet's attempts to return home were delayed by the fire reaching Kinglake. She was unable to get back to Reserve Road until about 7.00 pm.

At about 5.45 pm Mel and Penny had called the Clarks to ask if they could go there for safety and bring their pets with them. They arrived some time shortly after in separate cars, with their two dogs, two cats, a guinea pig and some goldfish.

### 1 Reserve Road: 4.30 pm onwards

By 4.30 pm on 7 February, Mick and Jenny Clark had already enacted their fire plan and were making preparations. Their neighbour from 4 Reserve Road told them of road closures at Yarra Glen Road. Mick suggested leaving, but Jenny said that was not part of their fire plan. They continued with their preparations. It was also at about this time that Ross dropped off Mackenzie and Aiden to join their sister, Neeve, and their grandparents and uncle, Danny. Everyone helped with the fire preparations.

At 5.10 pm a friend contacted Jenny to tell her there were fires at Mt Disappointment. This seemed to surprise but not alarm Jenny. Just after 5.45 pm, when embers from the south were starting to land, Mel and Penny arrived. They went inside and joined all the others except Mick, who was outside with the water pump.

Noticing the sky getting darker and a bit of smoke in the air, Jenny told the children to put on some heavy clothes, which Aiden and Neeve did. Neeve went to Penny and Mel, who had just arrived with their pets, and Jenny had Mackenzie and Danny help her put wet towels in front of the doorways. It appears the fire hit the house very suddenly very soon after this.

At 6.10 pm Rebecca called and spoke to Danny. He told her there was smoke everywhere, they were on fire and they could not get out. At 6.17 pm Penny called her mother to tell her she and Mel were at the Clarks, flames were coming over, and she [Janet] would not be able to get there. At that stage everyone was sheltering in the house, in or near the hallway. Then the windows started to crack and their wooden frames started to burn. Efforts were made to douse them with buckets of water. Aiden grabbed wet clothes he had put in the bath and threw them over the others for protection; he also made sure everyone had something wet to put over their mouths to help them breathe. At about 6.20 pm the front door caught fire.

Within 10 minutes the 'safe house' had been engulfed by flames. Only Jenny, Mick and Aiden escaped. Unable to do anything to save the house or those inside, they walked across the road to shelter at a neighbour's house.

When Janet Chambers returned at about 7.00 pm she found a distraught Mick on the road and learned that her daughters had died in the Clarks' house with Danny, Mackenzie and Neeve. At about 10.00 pm the Kinglake CFA captain, Paul Hendrie, arrived and took Jenny to the Kinglake CFA shed, from where she was taken to Whittlesea and ultimately the Alfred Hospital. Jenny remained in hospital for five weeks, receiving treatment for burns she had sustained while trying to save those inside the house.

On the morning of 8 February the remains of Penelope and Melanie Chambers, Daniel Clark, and Mackenzie and Neeve Buchanan were found huddled together in the bathroom–laundry area of the house. A Victoria police forensic scientist who examined the site noted that the house was destroyed and concluded:

> The fire appeared to have approached from the south-west through trees at the highest point at the rear of the property … The land topography in this immediate area would have made it difficult for the occupants to see the fire approaching the house. There would have been very limited evacuation routes possible from this area of Kinglake after the time of the wind shift.

The post-mortem reports record the cause of death for Penelope and Melanie Chambers, Daniel Clark, and Mackenzie and Neeve Buchanan as the effects of fire.[11]

### MARK BUTLER

Mark Butler lived part time at 22 Cobham Road, Kinglake, about 500 metres from Kinglake Central and 300 metres from Kinglake National Park. He was 39 years old when he died at that address on 7 February 2009. He is survived by his family and close friends.

Mr Butler had lived at his primary residence, 22 Cobham Road, for about two years. He shared the house with a friend, Mr John Hood, who owned it, having moved there to help care for Mr Hood, who had problems with his back. The mud-brick house had a corrugated iron roof, timber windows, brick and concrete footings, and a timber floor. A large double garage stood about 20 metres to the north of the house, and there were several sheds. The property was largely surrounded by uncleared properties, which meant that in effect it was surrounded by forest, particularly to the south-west.

In late January 2009 Mr Butler had described to his close friend Andrew Constable some of the fire preparation steps he had taken around the property. This including clearing the land and guttering.

The fire plan for the property is not entirely clear. Mr Hood said his plan was to leave if the house was threatened by fire. He explained,'My house was not equipped to fight a fire. I had a petrol water pump and a hose attached to a water tank. I also had an electric pump attached to a bore. That was the extent of my firefighting equipment'.

In contrast, Mr Butler's plan was to stay and defend the property. He had told his mother this, as he had another close friend, Anthony Adams, and Mr Constable. His sister, Julie Henshaw, understood that Mr Butler's decision to stay was part of Mr Hood's general plan for the property: one person would stay and defend while the other left.



On 7 February Mr Butler arrived in Kinglake some time after 3.00 pm, having been in Melbourne. By that time Mr Hood was aware of the East Kilmore fire but not of fire in the immediate vicinity of Kinglake. Mr Butler sent a series of text messages to friends and family between 4.23 and 5.53 pm, noting fires across the state; from 4.45 pm onwards these messages included photos taken from the house, showing nearby smoke.

At about 5.30 pm Mr Hood drove the 500 metres to the Kinglake CFA station for advice. On being told that the fire was in Kinglake West and that all roads were closed, he decided to take refuge at the CFA station, as other residents were starting to do. He drove back to his house and told Mr Butler what he had learnt; they agreed Mr Hood should put the four dogs into the car. Mr Hood tried to persuade Mr Butler to leave with him, arguing that this fire was no ordinary fire and Mr Butler should not try to defend without electricity and therefore with insufficient water. Mr Butler was adamant that he could successfully defend the house. Mr Hood and the dogs left for the CFA station.

Just after 6.00 pm Mr Butler rang Mr Constable, whom he had previously been updating by text message. Mr Butler was running during the call and was obviously afraid. It seems likely that he was outside during at least part of the call. The call cut out, and Mr Constable was not able to get through to him again.

On 10 February 2009 Mr Butler's remains were found in the garage, which was the structure furthest from the south-west, the direction the fire is thought to have come from.

The post-mortem report for Mark Butler concluded that the cause of his death was the effects of fire.[12]

### ROBERT, NATASHA, JORJA AND ALEXIS DAVEY

Rob and Natasha Davey, aged 36 and 33 respectively when they died, moved into 15 Bald Spur Road, Kinglake, in 2002. They lived there with their two daughters, Jorja, aged 3, and Alexis, 8 months. All four family members died in their home on 7 February 2009. Natasha's cousin Tanja Tsimiklis and her husband, Dimitrios Tsimiklis, also died in the Kinglake fires on 7 February 2009. The Daveys are survived by the parents of Rob and Natasha and a close network of extended family and friends.

The Daveys' house was made of timber, with painted western red cedar shingles on the exterior. It had a corrugated iron pitched roof that extended over the whole house and the verandah, which went all around the house. Although the land around the house was cleared, the property was about 200 metres from the boundary of Kinglake National Park, and some of the surrounding properties were only partially cleared.

Rob and Natasha's fire plan was to stay and defend. They formulated this plan after attending CFA meetings at which they were told they could stay and protect their house but if they left they might lose it. Their fire preparation included a 10,000-litre plastic above-ground tank linked to a 5,000-litre tank with a petrol pump and fire hoses attached. They also had a 20,000-litre concrete in-ground tank with an electric pump for the house water. At the time of the fires the tanks were about half full. Rob had recently installed an in-ground sprinkler system. They kept the house and surrounds generally tidy, and on 7 February spent time doing further tidying up and placing buckets around the house.

At about 6.30 pm on the preceding evening, Wolfgang Krause, Natasha's uncle (and the father of Tanja Tsimiklis), had rung the Daveys to warn them about how serious the fire risk would be on 7 February. Wolfgang was a CFA volunteer and had been receiving CFA pager messages about the forecast weather conditions and the Forest Fire Danger Index; he was concerned to ensure that the Daveys appreciated the danger. Rob confirmed he understood, was taking the situation seriously, was preparing, and had his fire pump ready.

A number of other people rang the Daveys to check on them during the day of 7 February. Elizabeth Halls, Natasha's mother, rang at about 11.00 am, and Natasha reassured her they were well prepared. Rob's mother, Joan Davey, called just before 2.00 pm, and Natasha told her Rob was outside enacting the fire plan while she and the girls stayed inside in the cool and she monitored the CFA website. This information was reiterated in calls at about 3.20 pm from Natasha's father, Michael Halls, and Rob's friend Stephen Edwards. At that time there was no sign of fire. Both Elizabeth and Joan tried unsuccessfully to call again later in the afternoon.

At about 4.00 pm, in a conversation with a man visiting a neighbour, Rob confirmed that he was staying to see what happened. At about 4.20 pm Marcia Nelson called and spoke to Natasha as part of the community fireguard tree that operated in the street, telling her of a fire at the bottom of Bald Spur Road in St Andrews. (This turned out to be a spot fire.) Natasha called three separate neighbouring households to pass this message on. At this stage there was no sense of imminent threat or urgency as the fires were at the other end of the road and moving away. She then made an additional call, at about 5.00 pm, to warn friend Sandra Koch in St Andrews about a fire at Jacksons Road, Strathewen.

There were further calls from the Daveys' landline to the SP AusNet fault line and the Kinglake CFA. At 5.55 pm Natasha's friend Madeleine Jablonski rang, saying she was thinking about evacuating with her children. Natasha confirmed her family's plan to stay because they had pumps and invited Madeleine to bring her children over. Madeleine recalled that Natasha 'was calm and organised and in fact settled me down'.

At about 6.15 pm Ralph Koch, Sandra's husband, called the Daveys. Natasha answered and yelled, 'Going, fire' before hanging up. At 6.20 pm Natasha used Rob's mobile to call 112, the mobile emergency services number. She spoke to the operator, describing fire in the roof and computer room of the house, and could be heard moving the children into the bathroom. The operator lost voice contact with Natasha, but the line remained open for some time.

On 9 February Rob, Natasha, Jorja and Alexis were found lying close together, in what had probably been the bathroom. Their house was completely destroyed.

The post-mortem reports record that Rob and Natasha Davey died as a result of the effects of fire; the reports for Jorja and Alexis Davey recorded that their deaths were consistent with the effects of fire.[13]

### MICHAEL FLYNN

Michael 'Mike' Flynn and his wife, Jane, had been married for 36 years and had lived for the last five of those years at 18 Extons Road, Kinglake Central. Their two children, Malinda and Mark, both lived elsewhere. Mike Flynn died on 19 February 2009 at the age of 64 as a result of the injuries he sustained when trying to flee the fires of 7 February. He is survived by his wife and children and their extended families.

The Flynns' weatherboard cottage was about 5 years old and was positioned near the centre of their relatively well cleared block, which had neighbours on both sides and at the rear. Mike and Jane's fire plan was to leave.

On 7 February Jane was at work in Mernda and Mike was at home. At about 5.20 pm Jane was on her way home when she was stopped at a roadblock on Whittlesea–Yea Road. She did not know why the roadblock was in place and called Mike to let him know she was delayed. Mike suggested the roadblock might have been because of a car accident. At about 5.30 pm Mike visited his neighbour John Reeves. About 15 minutes later he called Jane to tell her he was leaving despite there being no sign of fire. He and Mr Reeves had seen smoke high in the air but so far Mr Reeves had heard no warnings on radio 3AW, which he had been listening to. Under no apparent imminent threat, Mike was nonetheless putting the pets in the car and going.

Shortly after, at about 6.00 pm, Mr Reeves saw the sky suddenly become very dark—'… as dark as it would be at 9 or 10 o'clock in the evening'. He saw heavy smoke and a red colour in the distance, to the west. He went to Mike's house to tell him fire was coming and he should get out straight away. Mike came to the door wearing shorts, a light top and sandals and was, as Mr Reeves said, 'just as surprised as me'.

Mike made an attempt to leave: he had put his parrot in the car but, by the time he went back to the house to get the dogs, the house was already alight and his hands were burnt and bleeding. Then the car caught alight. With no means of escape, Mike tried to shelter in a neighbour's nearby shed before trying to flee that. At about 7.00 pm, after the main front had passed, two other neighbours, Mark Fealy and Thomas Libreri, went looking for Mike and Mr Reeves. Mr Reeves had survived by sheltering in various places once his house had begun to burn. Mr Libreri, searching on foot, found Mike, badly burned and with his clothes still on fire, outside 29 Sutherland Road, the property at the back of the Flynns' home. Mike was carefully loaded onto the back of a car and taken to the Libreri property, at 36 Extons Road. By 7.15 pm he had been placed in the Libreris' swimming pool.

Between 7.15 and 10.00 pm numerous calls were made by various people—most of them neighbours who had sheltered at the Libreri home and helped defend the house. The calls involved repeated requests for medical assistance, when they might expect the ambulance to arrive, and advice about how to care for Mike. The initial advice was that he be given no water or medication for pain. As his condition deteriorated, however, and he began to go into shock at about 8.00 pm, the advice was to keep him cool and give him medication for pain relief, by which time he was unable to swallow the medication. A number of those at the house helped support Mike in the pool. Tessa Libreri phoned Mike's daughter, Malinda, to tell her of the situation. Malinda subsequently called the Epping police station, seeking police help in speeding up emergency services assistance.

Firefighting efforts continued throughout the evening and into the night. Just after 10.00 pm Thomas Libreri flagged down the Kinglake West CFA tanker, with Second Lieutenant Karen Barrow aboard, as it was travelling down Extons Road. Second Lieutenant Barrow checked on Mike's condition, advised those caring for him of the importance of fluids and the need to give him frequent sips of water, and confirmed through VicFire that the ambulance service had been notified by radio. She then left to attend to firefighting duties, assuming the ambulance service was on its way.

On returning at about 11.20 pm, having saved the house across the road, Second Lieutenant Barrow learned that no ambulance had arrived and that the nearest one would be at the staging area in Whittlesea. She arranged for a stretcher to be fashioned from a fire ladder and some fire blankets and then had Mike carefully transported from 36 Extons Road to the Kinglake West CFA shed. She noted that those who had been caring for him had been 'calm, compassionate and very loving towards him'.

Second Lieutenant Barrow sat with Mike throughout the journey:

> Mike was conscious and able to communicate throughout his ordeal. He was describing some pain, but his level of pain was not indicative of his injuries as the burns were extensive and nerve tissue was damaged … He never complained and he showed courage, pride and determination. … I sat with [him], keeping him informed of our progress and giving him sips of water … There were still trees all over the ground and progress was slow. When we got close to the [CFA] station I told him that we were nearly there and that this time I meant it. He responded with a smile.

An ambulance arrived within five minutes of the tanker arriving at the CFA shed. Mike was transferred and arrived at the Whittlesea staging area at about 12.20 am, where he was attended by St John Ambulance nurses and doctors. At 1.40 am he and another patient were airlifted to the Alfred Hospital, arriving there just before 2.00 am. It had been almost seven hours since Mike had been found. Despite treatment and several operations, his condition deteriorated, and he died on 19 February 2009 as a result of his injuries.

The post-mortem report records that Michael Flynn died as a result of complications of cutaneous burns.[14]

### DAVID AND CAROL HOLCOMBE

At the Kinglake Central end of Bald Spur Road, which winds its way up a ridge line from St Andrews, the unsealed road meanders through a heavily forested area abutting Kinglake National Park. Carol and David Holcombe lived in a two-storey mud-brick house they had built on the western side of Bald Spur Road, Kinglake Central. They died there on 7 February 2009. Aged 55 and 61 respectively, they are survived by their three children—Ella, Patrick and Eugene—and their extended families.

The Holcombes built their home in the early 1980s and raised their family there, close to the National Park. The densely wooded property sloped down into the park, and the family was very conscious of living in an area of high fire danger. They kept the property free of litter and debris. There were four water tanks, a sprinkler system on the roof, a diesel pump, fire hoses connected to both sides of the house, and metal garbage bins full of water around the perimeter of the house. The fire plan was to dress in protective clothing and stay and defend, as Patrick explained:

> Just from growing up in the bush we were taught from a young age that you would fight ember attack as the fire was approaching and retreat to the house while the firefront passed over, then as soon as it was safe go back outside and continue fighting spot fires.

The Holcombes were active members of the Bald Spur Road fire tree. As their family and friends described it, their fire plan was an orthodox one, in keeping with advice from fire agencies. The Holcombes believed their house was defendable.

Carol was at home on 7 February; David was at work in Epping. She was conscious of the weather forecast and was taking precautions such as moving the mulch off the garden beds near the house. David became aware of the Kilmore East fire at about 1.00 pm and after a couple of calls to Carol returned home at about 2.30 pm. The Bald Spur Road fire tree was activated just after 4.00 pm in response to a reported spot fire near the Strathewen end

of the road. Carol received her call at about 4.20 pm and very soon after called neighbour Chris Harvey. She left a message for him: 'It's 4.30 pm and we have had a report that a fire is burning at the bottom of Bald Spur Road, around Hildebrand and Jacksons Road. There is no need to worry and it should be okay'.

Son Patrick became aware of the fire threat to Kinglake at about 5.45 pm after reading a message on Facebook that said '… watching Kinglake burn'. He phoned his parents and spoke to his mother, who sounded frantic. Ella phoned soon after; Carol told her, 'We're in very big trouble. I can't talk'. The last known communication from Carol and David was a phone call Carol made as part of the fire tree to another neighbour at 5.53 pm, in which she told the neighbour there was a fire coming up Bald Spur Road. The fire hit the area minutes later, at about 6.00 pm, with great ferocity. An eyewitness described the scene:

> Suddenly without any other warning there was an absolute blizzard of embers blowing horizontally in from the west-south-west. It was similar to the most ferocious snow blizzard I had ever been in. Seemingly seconds after this had started, the fire suddenly, and again without any warning, exploded about 5 metres away to my right, which was from the west. The intensity of this explosion was extraordinary with the flames towering above me.

A Victoria Police forensic scientist concluded that the Holcombes were most probably caught unawares by a wave of heat and embers moving rapidly up the hill ahead of the fire. Their property was destroyed. Their bodies were found on 9 February about 8 metres north-east of the remains of the house.

The post-mortem reports record that David and Carol Holcombe died as a result of the effects of fire.[15]

### GEOFFREY AND SUZANNE HYDE

Geoff and Suzanne Hyde, aged 55 and 53 respectively, lived at 26 Cobham Road, Kinglake, and died at their property on 7 February 2009. They are survived by their extended families.

Cobham Road is a narrow, unmade dead-end road in a very heavily forested area of Kinglake. The Hydes' house was a two-storey cedar weatherboard on concrete stumps and with a corrugated iron roof. Other than buckets and hoses, there was no specific firefighting equipment at the property. There was tank water but no alternative power source.

Geoff and Suzanne were active members of their local community fireguard group, where they gained some awareness of fire preparation, current fire risk and fire plans. It is not certain what their fire plan was in the lead-up to or on 7 February, although various friends and neighbours said it was probable their plan was to leave. Neighbour Phillip Edmonds recalled, 'Each fire season we would have a meeting of local residents and the CFA captain, and at the last meeting in December 2008 I recall Geoff saying that their fire plan was "to bolt" in his words'.

Geoff, Suzanne and Suzanne's niece, Alysha Snell, were at home on the morning of 7 February. At about midday Alysha's father, Michael Snell, collected his daughter, making arrangements to return her at about 8.00 pm that evening.

Little is known about the Hydes' movements during the afternoon. At about 5.40 pm Phillip Edmonds was near his home at 27 Cobham Road when he heard a roar caused by approaching fire. He, his wife and their daughter and grandchildren evacuated in two cars. As they drove past the Hydes' place Phillip saw Geoff and Suzanne standing in their driveway beside a maroon Magna sedan with a trailer attached to it. He assumed they too were going to evacuate.

At about 6.10 pm Michael Snell received a mobile phone message from Suzanne, who sounded anxious: 'Michael, you are going to have to take Alysha back to your place, it looks like we've got bushfires'. Phone records show that at 6.14 pm there was a 15-second call from the Hydes' phone to 000 and another call to directory assistance. Neither call was answered. At some time between 6.10 and 6.15 pm the fire, coming from the south-west, struck the area.

On 9 February Geoff's and Suzanne's remains were found inside their destroyed home, in the room closest to their cars and furthest from the direction of the oncoming fire. There were no signs they were in the process of evacuating: the trailer had been packed with things Suzanne needed for the market she was planning to attend on 8 February, rather than with personal belongings. Geoff's beloved Monaro was still parked in the garage. A Victoria Police forensic scientist noted that this could be interpreted as evidence that the couple were unaware of the severity or proximity of the fire. Phillip Edmonds had noted that there had been insufficient time to activate the fire tree.

The post-mortem reports record the cause of death for both Geoffrey and Suzanne Hyde as the effects of fire.[16]

## GENNARO LAUDISIO

Gennaro Laudisio was aged 80 when he died on 7 February 2009, having been involved in a multi-vehicle accident and then becoming caught in the fire. The accident happened outside 305 Whittlesea–Kinglake Road, Kinglake. He is survived by his children and grandchildren.

Gennaro lived in Pheasant Creek, with his daughter, Isabella; his son, Rossario 'Ross'; and Ross's wife, Morgan, and their four children. The family's fire plan before 7 February had been to stay and defend. As Ross described it, they had 'one-and-a-quarter-inch fire hoses around the house, an electric [pump] and petrol pump, two tanks, bore water and it was green around the houses. I even had fire suits'.

On 7 February Gennaro was at home, working on the farm. Morgan and the children were also at home. Isabella and Ross were at their pizza shop in Kinglake. At about 3.00 pm Isabella went home to help her father attend to a sick cow. She saw smoke in the direction of Kilmore and was concerned about the wind and heat. She returned to the pizza shop not long after and continued to monitor the fire situation by radio and through conversations with locals and customers. She also telephoned her father a number of times.

Shortly after 5.00 pm Morgan telephoned the pizza shop. She said things were not looking good: the sun was like a fireball, there was a lot of smoke, and there were flames in the trees in the valley. Ross—by then also concerned by customers' reports of fires in Flowerdale and in Kinglake West—decided to go home and collect his wife, children and father: 'If I had … expected the fire or received some warning we could have stayed, but we really didn't know much about it'.

Isabella continued to monitor the radio and to receive worrying updates about the progress of the fires from locals. She rang the home phone at about 5.50 pm, told Gennaro that Ross was on his way, and asked him to gather together some things. Soon after, Ross arrived home to find Gennaro spraying the verandah. The power was off. Ross connected the fire pump, hosed around the pump and sheds and then organised for everyone to leave the property. Gennaro, Ross and Morgan left simultaneously but in separate cars; the children were with Morgan. Ross went back to unlock the gate in case the CFA needed access.

Between 5.50 and 6.00 pm a collision involving two cars occurred outside 305 Whittlesea–Kinglake Road, blocking the southbound lanes. At this stage the trees on the eastern side of the road were on fire. Passers-by helped the passengers from one of the cars, among them three children, to safety. The other driver remained trapped in his car. Within minutes, because of poor visibility, a third car driven by Keith Gibson collided with the two stationary cars. Mr Gibson, was unable to restart his car, panicked, and left his car, running towards Kinglake. Fearing he might be hit by other cars on the road, Mr Gibson returned to his car, where he became trapped when a fourth car, driven by Gennaro, became involved in the collision.

Gennaro, who had overtaken Morgan, had struck the side of one of the vehicles involved in the initial accident. The impact of Gennaro's collision allowed the driver who had been trapped in the other vehicle to free himself. A fifth vehicle, containing four people, then collided with Keith Gibson's car. The driver, Vicki Lacey, and her son, helped Keith Gibson out of his car. Gennaro, however, remained inside his vehicle, which was blocked in by one of the other cars. At this point Ross arrived on the scene. The cars involved in the collision began to catch alight. Ross saw his father sitting in the driver's seat with his head down. He tried to get his attention, but Gennaro did not respond.

Ross and the others still at the scene then retreated to a nearby paddock, where they took refuge in their cars while the firefront passed. Ross did not know where his wife and children were or if they were OK. At about 6.30 pm he and one of the other drivers returned to the collision scene. They moved the car blocking Gennaro's car, and Ross opened the door of his father's car, which had been substantially burnt. He could not see his father and assumed he had managed to escape.

Shortly after 7.15 pm another driver, who happened to be a federal police officer and crime scene scientist, arrived at the scene. After speaking to Ross he checked inside Gennaro's car, finding Gennaro's remains in the back seat, where it appears he had taken refuge.

Morgan and the children survived the fire, as did Isabella, although she had to evacuate from the pizza shop, which was destroyed. The Laudisios' house survived.

The post-mortem report records that Gennaro Laudisio died as a result of the effects of fire.[17]

### GRAHAM, DEBORAH, TREY AND LYRIC O'SHEA

Graham O'Shea, aged 37, and Debbie O'Shea, aged 38, died on 7 February 2009 at their property at 30 Shelley Harris Court, Kinglake, along with their son, Trey, aged 10, and daughter Lyric, 8. They are survived by their respective families and friends.

The family home, made of cedar weatherboard, was in a densely treed residential area of Kinglake, about 500 metres north of the main township. The O'Sheas' fire plan had been developed after the 2006 Kinglake fires, when Debbie and Graham had not felt prepared to fight a fire and so left the mountain. They decided to develop a fire plan for the future that incorporated an element of active defence after evacuating the children. As Debbie's sister Pauline Zealley said:

> That experience showed that if you stayed and fought the fire you could save your house. They decided after that fire that they would get a fire plan prepared and, for any future fire, the plan was that Debbie would get the children off the mountain and I would meet her to collect the children somewhere along the Whittlesea–Kinglake Road, and Debbie would return to their property to help Graham fight the fire.

A single large metal tank held the family's sole water supply. Their firefighting system consisted of a pump that would be connected to the tank outlet pipe by a heavy-duty firefighting hose. Graham and Debbie had installed gutter guards and regularly cleaned out their gutters; they also kept a large area around their house free of fire fuel. They had a bitumen driveway installed to give firefighting units easier access to the house.

During the afternoon of 7 February there were various phone calls between Debbie and her sisters, Carlene and Pauline. In some instances the children from the various families were involved in the calls. By 4.00 pm Lyric was reporting smoke in a conversation with Carlene, and at about 5.10 pm Debbie told Carlene it was very smoky and that she was getting a few things together to bring the kids down from the mountain, in keeping with her fire plan.

At about 5.50 pm Debbie rang Pauline and told her she had heard the fires were 20 to 30 minutes away. She was calm. She said she thought the fires were going in the other direction but that Graham was getting the pump out of the shed to get ready 'just in case'. She also said she had packed the car and had decided to take the children off the mountain as a precaution. They arranged to both leave straight away, driving until they met up with each other.

Shortly after 6.00 pm Debbie called Pauline's mobile while they were driving to meet each other. Debbie said, 'We can't get through, we have to go back'. Pauline encouraged her not to panic and to just go back to the house, driving slowly so she did not have an accident. The call ended abruptly: Debbie said 'Oh, my God' and the call cut out. It is not known what prevented Debbie from 'getting through' on the road.

At about 6.20 pm Debbie again rang Pauline, confirming they had arrived home safely. She said there were fires on the property, that Graham was putting them out, and that they had no power and thus no water other than drinking water. This was the last contact with the family. Fire hit the area at 6.30 pm. On the morning of 8 February the O'Sheas were found where they had sheltered together inside the house, which was destroyed.

The post-mortem reports record that Graham and Debbie O'Shea died as a result of the effects of fire. The cause of the deaths of Trey and Lyric O'Shea was recorded as consistent with the effects of fire.[18]

### DIMITRIOS AND TANJA TSIMIKLIS

Dimitrios, also known as 'Dimitri', 'Dimi' or 'Dim', and Tanja Tsimiklis, were aged 35 and 39 respectively when they died on 7 February 2009. They lived at 335 Whittlesea–Yea Road, Kinglake, just south of the intersection with Bowden Spur Road. Married since 1992, they had been living at that address for four years. They died inside their home. Tanja's cousin Natasha Davey and Natasha's husband and children also died in the Kilmore East fire on 7 February. Tanja and Dimitrios are survived by their parents, their siblings and other close family members.

The Tsimiklis's house was weatherboard and had a corrugated iron roof. Their property of just under half a hectare was next door to an electricity substation. They had animals they were very attached to—a horse, two ponies, two dogs and some chickens.

Their fire plan was to stay and defend both their house and their animals. They regularly cleaned up debris around the house and kept the gutters clean. They had a petrol-driven fire pump and a 5,000-litre plastic water tank for firefighting. With the help of Tanja's father, Wolfgang Krause, a long-term CFA member, they had taken a range of other fire protection steps, such as removing shrubs and placing flyscreens over exposed vents. Wolfgang further explained, 'We discussed wearing protective clothing, patrolling the perimeter of the house and putting out spot fires. In the event of the house catching fire, we discussed using the house as a refuge and then once the fire had passed to leave the house'.

As their friend Robert Pasqua said, Dimitrios and Tanja believed they would be OK, partly because of the location of the substation:

> He [Dimi] expressed to me that he believed he and Tanja would be OK because they had an electricity substation next door and the CFA would attend and protect it and them if there was a fire. Dimi told me there had been other fires in the past and that's what the CFA had done then.

On the preceding evening Wolfgang had rung to warn Dimitrios of the severe fire conditions expected for the following day. Dimitrios said he felt they were prepared and confirmed their intention to stay and protect the property.

At about 8.45 am on 7 February Tanja started work in Eltham. Dimitrios stayed at home. At about 11.45 am he rang his mother and sister, speaking to his sister, Theoni. He sounded calm and mentioned he was looking out for embers.

Between 2.35 and just before 3.00 pm Tanja called both the home line and Dimitrios's mobile to check that everything was fine. She was unable to get through to him and told her colleague Nicola Tuffin that she presumed he was on the internet. At about 3.25 pm Tanja managed to reach Dimitrios on his mobile and they spoke for a couple of minutes, and then she sent Nicola a text telling her there were fires at Mt Disappointment and Glenburn. Tanja left work about 20 minutes later.

Shortly after 4.00 pm Dimitrios's long-term friend Anthony Bulach rang to ask him about the fires. Dimitrios sounded calm and said he was aware of the fires. At about the same time Nicola rang the landline, speaking to Dimitrios because Tanja had not yet returned home. Dimitrios told Nicola he was monitoring the fires on the internet and radio. After that, Nicola and Tanja spoke a number of times until 4.45 pm, both while Tanja was on the road and once she had arrived home. At no time did Tanja sound concerned: she said she thought the fires were under control and confirmed they were monitoring them on the internet and radio. Tanja did not answer Nicola's final call at about 4.55 pm, when she rang to warn her about the fire warning for Kinglake on the internet.

Just after 6.00 pm Maree Eaton, a friend of Tanja's, rang to warn her about the fires. Tanja initially seemed relaxed and said they had nothing prepared to fight the fires. While they were speaking Maree heard Dimitrios shouting in the background, saying the fire had arrived, and Tanja said he could see flames. Maree quickly said goodbye so as to leave Tanja to do what she had to do. The fire is believed to have struck from the south-west at about this time. Maree's was the last known contact with Tanja or Dimitrios. On 10 February Tanja and Dimitrios were found together inside the north-east corner of the remains of their house, possibly in the entrance hall.

The post-mortem reports record the cause of death for Tanja and Dimitrios Tsimiklis to be the effects of fire.[19]

### RICHARD, EILEEN AND EVA ZANN AND KARMA HASTWELL

Richard, Eileen and Eva Zann lived at 29 Bald Spur Road, Kinglake. Richard, aged 64, and Eileen, 62, had lived there for 31 years; Eva, 26, had lived there all her life. Karma Hastwell, aged 88, was a neighbour; she lived at number 85 Bald Spur Road, about half a kilometre south of the Zann property. They all died on 7 February 2009 at the Zanns' property. The Zanns are survived by their son and brother, Christopher, and extended family. Karma is survived by her friends.

At the Kinglake Central end of Bald Spur Road, which winds its way up a ridge line from St Andrews, the unsealed road meanders through a heavily forested area abutting Kinglake National Park. The Zann house was a five-bedroom western red cedar log cabin on the eastern side of the road. It was on three-quarters of an acre and was surrounded by mountain ash trees and native shrubs, although the immediate environs of the house were clear.

There were two concrete tanks, a firefighting pump and a number of hoses, and the Zanns were participants in a community fire tree, members of which met a couple of times a year to discuss preparations for the fire season. The family took a range of fire preparation steps both at the start of the fire season and on days of high fire risk. Richard would fill the bath with water at the start of the fire season, covering it with a lid he had made. On days such as 7 February he would wet towels and blankets.

The Zanns' fire plan is not entirely certain, although it undoubtedly involved looking after Karma. According to some neighbours, the Zanns planned to leave the mountain, taking Karma with them. Karma's plan was to pack her bags and drive to the Zanns' house.

At about 9.30 am on 7 February Gay Chatfield, a friend of Karma's, visited her at home. Karma was packing her bags in preparation for enacting her fire plan. Having become increasingly frail in recent weeks, she used a walking frame, and she was anxious about leaving her home. She tried unsuccessfully to practise leaving as Gay left but said 'I can't do it' and went back indoors. Gay promised to return later in the day to check on her.

All three of the Zanns were at home during the morning. Eva, who was in the process of moving out of home, had arranged to meet up with her new housemate that afternoon, but she decided to cancel this plan: she wanted to remain at her parents' home because of the fire danger. Just before 2.00 pm Christopher called and spoke to Richard. They discussed the weather, and Richard told Christopher everything was OK and that he was monitoring on the CFA website a fire in Kilmore, about 50 kilometres away, and he felt safe.

At about 3.00 pm a neighbour, Alaina McKee, returned home to 25 Bald Spur Road. She saw Richard walking up and down outside her place as she was watering down her house. Richard called out to her but she could not hear him properly because of the wind. Alaina thought Richard might have mentioned something about Karma. Just before 5.00 pm there was a call from the Zann landline to Karma's landline, the call lasting almost two minutes. About 5.15 pm Richard called another neighbour, Alaina's father, Graham McKee, who lived in the house next door to Alaina, asking for help in bringing Karma to the Zann home. The telephone cut out during the conversation and the power went off. At some point after that Karma either drove herself or was driven in her car to the Zanns' place.

At about 5.30 pm Alaina saw burnt leaves falling and decided to evacuate. As she drove out she saw Richard and yelled to him to get out. He acknowledged her by waving his arm, gesturing for her to leave. She did not recall seeing Karma's vehicle in the Zann driveway at that point.

Just before 6.00 pm a call was made from the Zann residence to the DSE office in Wendouree; it lasted more than a minute. A few minutes later a call was made from Richard's mobile to Gay Chatfield's home, but she was not there. At 6.20 pm a call was made from Eva's mobile to the 112 emergency number but it failed to connect. Some time after 6.20 pm a neighbour saw that the Zann home had been destroyed. On 9 February the remains of Richard, Eileen, Eva and Karma were found in the burnt-out premises.

Post-mortem reports record the cause of the deaths of Richard, Eileen and Eva Zann and Karma Hastwell to be the effects of fire.[20]

## 16.5 KINGLAKE WEST

### TINA WILSON, KRYSTAL AND NATHAN BREEZE, TEAGAN HAYMES, REX NORRIS, AND PAUL, KAREN, CAITLIN AND NICOLA ROLANDS



Nine people died at 9 Pine Ridge Road, Kinglake West, as a result of the fires of 7 February 2009. They were not residents of the house.

Pine Ridge Road is an unsealed road in Kinglake West; it is close to Kinglake National Park and culminates in a very steep, impassable section that eventually leads to Strathewen, where the road becomes Chads Creek Road. The area was heavily wooded, dominated by native species but also including a large number of mature pine trees backing on to some of the properties in Pine Ridge Road.

Some residents of Pine Ridge Road were warned of the coming fire early in the afternoon of 7 February. Natalie Brida, a Parks Victoria employee who owned a house there, attended a briefing about the risks posed by the fire shortly after 1.00 pm. She was then given permission to leave the office and advise her tenants at 17 Pine Ridge Road to evacuate. She did this and also warned the neighbours on either side, Craig Draper and Vanessa Shea. Word spread to varying degrees along the road.

### Tina Wilson and her children

Tina Wilson, aged 36, her children Krystal and Nathan Breeze, aged 15 and 13, and Teagan Haymes, aged 5, lived at number 7 Pine Ridge Road.

The 30-year old house was made of treated pine logs; it had cathedral ceilings made of timber, and there was a four-car garage. Tina was aware of fire risk and had attended at least one community meeting in which fire safety had been discussed. The household did not have firefighting equipment, and the fire plan was to leave the mountain. This was confirmed by Cathy Barber, whose daughter was friendly with Krystal: 'As part of our fire plan we had arranged with about four to five other families in Pine Ridge Road that we would notify each other of any news of approaching fires so that we could evacuate. Tina and her children were one of these families'.

Tina spoke to Sam Gents a number of times during the day. He recalled that Tina was aware of the fire threat, thanks to a text message Krystal had received. Tina and Sam spoke of her packing the car in case they had to leave, and Tina agreed she would bring the children down to the Brunswick East café where Sam was working.

It is not clear precisely what time this conversation occurred. Sam thinks it was during a call at about 1.20 pm, but other evidence suggests Krystal was alerted to the fires at about 2.15 pm. At some point, probably about 2.20, Tina and Sam spoke again: initially she said she had decided to stay at home because there were no signs of fire or smoke, but then she became concerned when she spotted smoke and abruptly ended the call. At about 2.45 pm she began a long call to the Victorian Bushfire Information Line, seeking information about fires in the Kinglake area.

At about 3.30 pm Tina contacted her parents, John and Jean Wilson, in Darwin. She told them she was leaving the mountain and would ring them back in 10 minutes, once she reached safety. They did not hear from her again.

Just after 3.30 pm Krystal had another text exchange with a friend in which Krystal said she was going to evacuate. She also had the first of a number of phone conversations with Cathy Barber at 3.35 pm. They discussed what they knew about the fires. Phone records show there was also a four-minute call between Tina's household and the Rolands, at 14 Pine Ridge Road, at about 3.45 pm.

Tina and her family tried to leave the mountain in their car. Jennifer Richings, from number 9, saw them near the Pheasant Creek store when she was evacuating. They had a brief conversation in which Tina explained her plan to head down the mountain. Jennifer saw her turn left towards Whittlesea at the Whittlesea–Yea intersection on Main Road.

Tina and her children went to the Kinglake West CFA shed for advice at some stage after this. She had a conversation with a young volunteer, who gave her the same advice he had given others: it was not possible to get down the mountain to Whittlesea, and the safest place for people to be was in their homes.

At about 4.20 pm another neighbour, Jacqueline Hainsworth, was evacuating from Pine Ridge Road in convoy with her husband when she saw Tina and her children turning back into the road. Tina was stressed. She told Jacqueline to go back, that the road was blocked and there was no way off the mountain: 'They told me to go home and go into the house, it would be safer there'. Jacqueline was reluctant to return to her house or street: 'I just knew the street was a death trap.' With some assistance from a friend with a CFA scanner, Jacqueline and her husband then found out the road to St Andrews was still clear and they escaped that way.

On their return to Pine Ridge Road, an upset Krystal asked another neighbour, Eileen Gillespie, if her family could take refuge at the Gillespie house. Eileen agreed, but Tina and family later decided to go 'to a brick home with a sprinkler'. Eileen died in her home later that day.

Krystal had further contact by phone or text with two friends, in each case describing being 'boxed in' and unable to leave the mountain. She also spoke again to Cathy Barber, who advised her to go back to the Kinglake West CFA shed for information about where to go, so the CFA could keep track of them.

Just before 5.00 pm Tina spoke to Sam Gents for the last time. She was very anxious as she explained their predicament and said they were going to a neighbour's house at number 1 (Eileen Gillespie's address). Some time shortly after that, having decided to evacuate herself, Cathy Barber received a call from Krystal, who told her they were going to the next-door house, which had sprinklers; there were other people there, and her mum believed it was the safest place to be. It appears she was referring to number 9 Pine Ridge Road.

### Rex Norris

Rex Norris, aged 76, was visiting Tina and her family. He was a regular visitor to Tina's home, travelling to visit her once or twice a month. He had not been well and enjoyed walking in the hills surrounding Kinglake. Rex died with Tina and her children on 7 February 2009. He is survived by his children and their families.

There is no indication that Rex had a fire plan for when he visited Tina, and not much is known about his movements on 7 February. Just before 3.00 pm he rang his friend Douglas Burge to ask what he thought about the smoke. Douglas, who lived nearby in Kinglake West, said he did not think it was too bad but to pack the car and get ready to go if need be.

At about 4.05 pm Douglas rang Rex, saying, 'This is a dirty fire. It's time to go'. Rex responded with 'I can't get out, I'm in a firestorm', and the call ended abruptly. It is not clear what Rex did until he arrived at 9 Pine Ridge Road with Tina and her children, although it appears from the evidence of Rob Richings (owner of 9 Pine Ridge Road) that Rex might have been in the car with them or possibly following in his own car when they tried to leave the mountain.

### The Rolands family

The Rolands family—Paul, aged 42; Karen, aged 40; Caitlin, 14; and Nicola, 12—lived at number 14 Pine Ridge Road, in a house Karen and Paul had built in 1992. The house was a single-storey brick building with a corrugated iron roof, and it adjoined a large pine plantation. They are survived by their respective extended families.

Paul was conscious of the bushfire risk in the area. In the lead-up to 7 February he had been cleaning around the house. According to his mother, Dianne 'Di' Rolands, his bushfire plan involved watering down the house, filling the gutters with water and evacuating with the family to a safe place, which is what they had done previously. Di was confident their plan was to evacuate. Karen's sister, Deborah Trezise, said that Karen was not the type of person to stay and fight a bushfire but that she knew what to do if there was one, having attended community fireguard meetings with Paul.

Karen's mother, Sheryl White, had a number of conversations with her daughter during 7 February. Karen was well aware of the fire risk, both to herself and to other members of her family living in Kinglake and Whittlesea, and monitored the fires through phone calls and the internet.

At some time after 4.00 pm, possibly after 4.30, Karen rang Sheryl and told her they were packing the car and were going to leave. Sheryl could hear Paul in the background telling the girls to get organised and grab what they needed, and Karen was telling them to grab long clothes that were cotton or similar. Karen reported that many cars were leaving Pine Ridge Road but said no-one had told her they were evacuating because of the fires. Di Rolands also spoke to the family on a couple of occasions, during which Karen confirmed they had packed the car to evacuate. Karen told Di they knew they would not be able to leave through Whittlesea and would have to go through Kinglake.



A few minutes later Karen rang her mother again, saying they could not get out, the power had gone off, and she could see the fires coming from behind the house. She said it was now too late to leave, and they were going to stay in the house. Di rang at about this time, too, and spoke to Caitlin, who said they were evacuating. Karen grabbed the phone and said something like 'No we are not; we are trapped'.

A neighbour, Craig Draper, reported a conversation with the Rolands at about 3.30 pm, in which Paul said their plan was to stay because this was the safe option. It is difficult to reconcile this account with the clear evidence of evacuation plans, which included evidence, found after the fire, of the packed cars.

### 9 Pine Ridge Road: 4.45 pm onwards

Number 9 Pine Ridge Road, owned by Rob and Jennifer Richings, was one of a small number of brick houses on the road. The property was relatively clear, having no loose fuel of any significance. Rob kept the gutters clean and had two large water tanks, an electric pump and a back-up generator. His plan was to stay and fight a normal bushfire but, when he saw signs of the fire on his way home from work on 7 February, he decided he would not stay to fight it. He arrived home at about 4.45 pm, planning to water down his house and then leave to join his wife, who had already evacuated to a relative's house.

On arrival he saw Paul Rolands on the roof of number 14, hosing down his house. A short time later, he saw Tina, her children and Rex arrive at her house, presumably just back from the CFA shed. Tina told Rob about the advice she had received. Rob explained he was not staying and told Tina she should get out. Tina replied that she had been told to return to her house because it was the safest place to be and it was too late to leave. Her household members started hosing down number 7.

Tina, her children and Rex arrived on Rob's doorstep a short time later as he was hosing down his house. Rex asked if he could give Rob a hand and started hosing down the other side of the house. Rob asked them to bring their cars over. Tina and the children went inside, and Tina starting filling the sinks and pots and pans with water. Within minutes the fire reached the pine trees behind the Rolands' house and the Rolands family came to number 9. Paul helped Tina while Karen looked after her children. Rex and Tina seemed to have a plan, which Paul went along with.

At some time close to 6.00 pm the house caught fire. Rob noticed one window exploding, tables and chairs inside catching fire and the kitchen window making a crackling sound. The walls were getting hot and Rob judged it was no longer safe to stay in the house. Tina and Rex, on the other hand, considered it was safer to stay in the house than to go outside. Rex drew on his experience of Ash Wednesday and his extensive CFA experience. Rob shouted at everyone to get out and begged them to follow him. He went out and got into his car, which would have had room for them all. He started up the air-conditioning and sat there waiting—for 'what felt like ages but may have been a minute'—in the hope that the others would join him. No-one came, and Rob judged it was too dangerous to stay because there was a risk that the now burning house would set the car alight.

Rob had a harrowing drive to safety—through smoke, past burning houses, over and around fallen trees. He passed a DSE or Parks Victoria ute and called out to the occupants about the trapped people. The ute turned around to escape not long after.

The remains of Tina, her three children, Rex and all four members of the Rolands family were found together in an area that was probably the study, the part of the house furthest from the fire. The house was almost completely destroyed.

Post-mortem reports record that the cause of death for Tina Wilson, Krystal Breeze, Nathan Breeze, Teagan Haymes, Rex Norris, Paul Rolands, Karen Rolands and Nicola Rolands was the effects of fire. The cause of death for Caitlin Rolands was reported as being consistent with the effects of fire.[21]

## LESLEY LEAHY AND KIONA, JYE AND AVA GIBSON

Lesley Leahy and her partner Darrin Gibson, aged 39 and 41 respectively, lived with their three young children—Kiona, aged 4; Jye, aged 3; and Ava, 22 months—at 185 Coombs Road, Kinglake West. On 7 February 2009 Lesley, Kiona and Jye died in the fire at their property. Darrin and Ava sheltered in the dam before Darrin carried Ava away from the property. Badly burnt, Ava died in hospital on 10 February 2009. Suffering extensive burns, hospitalised and in a coma for four weeks, Darrin survived.

The 6.5-hectare Gibson family property was known as Wattle Mist. It was moderately to heavily timbered but had a cleared area around the house. The vegetation was especially dense on the eastern boundary, where it adjoined Kinglake National Park.

Darrin and Lesley bought the property in 2004 because they thought it was beautiful and 'an idyllic place to practise horticulture', although Darrin also 'acknowledged that it could be a fire risk'. They moved there in 2008. The relative seclusion of the property meant the family had no close neighbours; they also did not know many people in the area. Darrin was aware that some of his neighbours had organised a fire meeting in the past, but he and Lesley had been unable to attend.

The family house was about 100–150 metres from Coombs Road, at the end of a sloping gravel driveway. It was a two-storey timber house with a corrugated iron roof, and its placement in an excavated clearing at the bottom of a slope meant the roof was below the level of Coombs Road. Darrin had laid crushed gravel on the area immediately around the house. There were three dams on the property, the smallest of them being about 30 metres from the house. A firefighting pump was connected to one of the larger dams. Darrin recalled that all three dams were at a low to medium level on 7 February. The property was also serviced by three sizeable water tanks, two of which were concrete.

Lesley and Darrin had planned to go to the Whittlesea Country Music Festival on 7 February but decided not to because of the heat. They were also planning a party to celebrate Jye's third birthday the day before. Unaware of any fire danger, the whole family took a mid-morning nap, waking up at about 2.00 pm. Darrin was listening to the radio and heard about a fire in Kilmore, which he thought was about 100 kilometres away.

At about 4.00 pm Darrin heard on the radio about a fire in Kinglake West: he had no idea the fire was so close. He ran to the front gate, the highest point on the property, and was confronted by a wall of fire about 150 metres away, on the western side of Coombs Road. He immediately returned to the house and told Lesley to change the children out of their swimming clothes. Just after 4.30 pm Darrin called Whittlesea police station. He was told the road to Whittlesea was closed and it was unclear whether the road to Kinglake was open. The police advised him to stay in his house. This information and advice, the extreme heat outside and the knowledge that the fire had reached his property, led Darrin to decide the family should shelter inside the house.

At about 5.00 pm Lesley called her mother in Sydney, telling her they could not leave the house because it was surrounded by fire. Her mother urged her to call the fire brigade, but Lesley had done that earlier in the day and had been told she would be given an hour's notice to leave.

The family was sheltering inside when the fire hit the house from the west. As the house began to burn and fill with smoke, Darrin led Lesley and the children out the southern side and headed east down a slope to shelter from the heat, their only protection two wet towels.

Suffering from the intense heat and being burned by the hot ground, Darrin tried to get his family further away from danger and towards the safety of one of the dams. This meant crossing open ground and getting over a fence. Lesley and Darrin each took children and tried to make a run for it. Lesley and Kiona succumbed in the heat as Darrin battled on with Jye and Ava. He rested Jye on one of the towels under a tree while he managed to get Ava into the dam. The ground was so hot it had burned his shoes off, leaving his feet completely exposed and badly burnt. Darrin returned to get Jye but couldn't find him in the heat and smoke. No longer able to walk, he crawled back to the dam, where he and Ava sheltered.

After some time, and despite his injuries, Darrin carried Ava about 400 metres along the gravel driveway to the road, and along the road, which was blocked by fallen trees. He called for help and was eventually found by a neighbour, who tried to assist until a CFA truck arrived and took Darrin and Ava to Whittlesea and medical aid.

Darrin suffered serious burns to most of his body. He woke in hospital four weeks after the fire, to learn that Ava had died in hospital on 10 February.

The post-mortem report records Ava's death as a result of pneumonia complicating extensive burns. The bodies of Lesley, Kiona and Jye were found on the family property, roughly where Darrin could recall last seeing them alive. Post-mortem reports record that the deaths of Lesley Leahy and Kiona Gibson resulted from the effects of fire; the cause of Jye Gibson's death was recorded as the effects of fire and smoke inhalation.[22]

### EILEEN GILLESPIE

Eileen Gillespie died on 7 February 2009 in her home at 1 Pine Ridge Road, Kinglake West. She was 58 years old, and she is survived by her daughter, Naomi Gillespie, and her extended family.

Pine Ridge Road is an unsealed road in Kinglake West; it is close to Kinglake National Park and culminates in a very steep, impassable section that eventually leads to Strathewen, where the road becomes Chads Creek Road.

Eileen had lived in Pine Ridge Road since 2001, with her two cats and a pet pigmy possum. Her timber house was built on stumps, had an iron roof, and had a verandah all the way around. It was on a half to three quarter acre (0.2–0.3 hectares) block and was surrounded by bush and tree species such as blackwood, eucalypt and pine. The property also had a carport and two water tanks that held about 19,000 litres each. Eileen's niece, Naomi Wolfe, described the property: '… always kept in a neat and tidy state. There was also a big wooden/timber deck at the rear of the property where my aunt had a small table and chairs and was a place where she fed wild king parrots and cockatoos every morning and every evening'.

Eileen was aware of the dangers posed by bushfires and, according to her niece, regularly attended CFA community meetings. As well as keeping a large hose, fire hydrants and other firefighting equipment at her house, she kept fire safety items in her car and had battery-operated radios so that she could listen to emergency broadcasts. She had a sprinkler system attached to the house but, as her niece explained:

> Eileen did not have a generator connected to the house. This meant that when the power went out there was no way that water could be pumped around the house from the adjacent water tanks. On her property the generator needed to be connected up to the pumps on the two water tanks so that water could be pumped out in the case of a power failure. I also don't think that she had cleaned her gutters out … for a while. I am aware that there was a system at the house where Eileen could flood the drainage pipes and guttering with water and then use an attached hose to spray falling embers. However, this system relied on a generator being operational.

Eileen had spoken to a friend about her plans to clear her block, which had become overgrown, and to purchase more equipment such as pumps in order to have a fully operational firefighting system. These plans had, however, been delayed because of financial constraints.

Eileen was at home on 7 February. She spoke to her daughter several times during the afternoon, and they discussed the fire. When Eileen saw two pillars of thick smoke coming from the south-east in the early afternoon she asked Naomi to contact the CFA for information. Naomi was unable to get through on the CFA hotline, but she did gain access to the CFA website shortly after 1.30 pm and read a warning about fire at Saunders Road, Kilmore East, which she relayed to her mother. Eileen told Naomi she was putting her fire plan into action by clearing gutters, removing debris from around the house, setting up buckets of water and mops, putting wet towels under the doors, and wearing clothes that minimised skin exposure.

At about 4.00 pm, in another telephone conversation with her daughter, Eileen said some neighbours wanted to come and stay with her, but shortly afterwards she told her the neighbours were no longer coming to stay and would be going to a different house. At 4.50 pm Eileen rang Naomi again and told her the power had gone out and that she would not be able to get the generator started. She confirmed that she could now hear the roar of the fire.

At 5.15 pm Naomi Wolfe called, having seen news of the fires on television. Eileen told her the fire was already there, that it was too hot and she was too tired to leave the house. She also said the heat had prevented her from cleaning the gutters so the water pump could work and that her fire pump was not connected because the generator was still in the shed. When Naomi said it was time for Eileen to leave, Eileen said she could not because a neighbour and her children had tried to leave in their car but had been turned back. She ended the call by saying that she would go to a neighbour's place.

Naomi Gillespie spoke to her mother for the last time at about 5.30 pm, when her mother called her to say 'the fire was [there] and it looked like a holocaust'. Eileen told her daughter there was not much time and she would do the best she could to call her when she got away from the fire.

The fire destroyed Eileen's house, car, carport and shed. Part of the roof of the house was found in the back paddock, about 120 metres away. On 9 February 2009 Eileen's body was found in the northern corner of the house, where she had sheltered in the bath.

The post-mortem report records the cause of Eileen Gillespie's death as the effects of fire.[23]

### BRIAN AND MOIREE NAYLOR

Brian and Moiree Naylor were both 78 years old when they died defending the property they had owned for 33 years at 345 Coombs Road, Kinglake West, on 7 February 2009. They are survived by their children and extended family.

The Naylors' house was at the top of a ridge. From the house the land sloped gently down before it dropped sharply into a gully. The house was built of brick and had large expanses of glass, a timber verandah and an interlocked metal sheeting roof. Apart from some trees near the house the property was relatively clear of vegetation. Kinglake National Park bordered the property to the west, south and east.

The Naylors' fire plan was to stay and defend. They had a large concrete water tank and an electric pump, and on a trailer attached to a car there was a small metal water tank fitted with a mechanical firefighting pump and hoses. Their back-up option was to take refuge in a neighbour's swimming pool a few houses away.

Other members of the Naylor family also lived nearby on Coombs Road. They were away during the day of 7 February, so Brian and Moiree tried to defend that property as well.

Fire first arrived at Brian and Moiree's property in the mid-afternoon. The Naylors' daughter, Jane, called them at about 3.10 pm, and Brian told her there was fire burning at the top of the driveway and in the bottom paddock. At that stage the fire was moving away from them and Brian was considering going up onto the roof. Jane told her father her husband was on his way with a tank of water and a pump. Jane's husband did not reach the Naylors, though, because he was obliged to stop at a roadblock en route.

At some time before 3.30 pm Brian and Moiree went to their family members' property further along Coombs Road. When neighbour Barry Johnson saw flames there between 3.30 and 3.45 pm, he went over, finding Brian and Moiree already there. Moiree was hosing down the house. Barry headed to the rear of the property, where a fire was burning in a gully, and tried to put the fire out. He was later relieved by two CFA trucks.

Barry and Brian then drove to various properties in the vicinity, checking on the progress of the fires. At one point they spoke to two men who told them, 'The fire has crossed the road. You've got to get out. It's dangerous'. Brian and Barry then headed back to 290 Coombs Road, where they advised the CFA to go to another property while they stayed fighting the fire at 290 themselves.

Just after 4.00 pm the family from 290 Coombs Road arrived home. They spoke to Moiree and then quickly collected a few things and put them in their cars. They wanted Moiree to leave with them, but Moiree said she would go and get Brian. As the others left Moiree was looking concerned but not panicked. At this stage the fire was only about 20 metres away, but it was still low and not out of control and CFA members were present.

While the family from 290 Coombs Road was collecting their belongings Brian and Barry left in Barry's car to check on Brian and Moiree's house. They then split up: Brian stayed at his house, where the fire was coming up from the valley below, and Barry headed back to 290, keen to check on it: 'When I left Brian the fire at the bottom of the gully wasn't too bad, it was sort of just like a grass fire … it had all been cleared really and there were no trees'.

As Barry drove past 290 on the way to his own house he saw Moiree, who appeared to be OK. At this point he could hear the roar of the fire coming up the mountain and decided it was time to evacuate.

At about 4.15 pm Karyn Norbury from the CFA spoke to Brian at his house. She asked if he had a fire plan in place and Brian told her he did—that he would stay and fight the fire. Karyn saw a grass fire trickling along the back of the Naylor property.



Just before 4.30 pm Brian called Moiree on her mobile. It seems that she returned home after this. At about 5.00 pm Brian and Moiree spoke to two family members. Brian told his grandson the fire had burnt past the house

and they would be fine; Moiree told her daughter-in-law they were fighting the fire and would be fine. The wind changed direction at about this time.

On 8 February Brian's and Moiree's remains were found inside the bathroom of their destroyed home. A Victoria Police forensic scientist gave the opinion that the house probably ignited as a result of ember attack on the verandah or the roof, or both.

The post-mortem reports record that Brian and Moiree Naylor died as a result of the effects of fire.[24]

## 16.6 REEDY CREEK

### DR CHRISTOPHER TOWIE

Christopher Towie, aged 53, lived at 75 Leviathan Road, Reedy Creek. He died there on 7 February 2009 after the south-westerly wind change drove fire through the area from the south. He is survived by his mother and extended family and friends.

Dr Towie purchased the 100-hectare property at Reedy Creek in 1997. It was relatively remote, having access via an unsealed road to Clonbinane in the south and Reedy Creek in the north. The house Dr Towie built was at the top of a hill. The area around the house was cleared, but further out there was dense bush on all sides of the property. About 100 metres down a slope to the north of the house was a dam. There were no utility connections: power was provided by solar panels and a generator; a galvanised tank estimated at 15,000 litres' capacity provided water to the house.

In February 2009 the house was still a work in progress, it consisted of three self-contained units all under one roof line. Dr Towie lived in one of the units. There is variation in the accounts as to the amount of work that was needed to complete the house, but it is possible that some interior finishing (such as bathroom tiling) remained to be done and the exterior was not quite complete. Abdul Ibrahim, a friend of Dr Towie's, explained:

> The house had a concrete floor for some parts, some was on chipboard, but I think it may have been on top of the concrete slab. The verandah which ran around most of the house was on timber stumps, with cement sheet over the stumps and tiles. The walls were timber frame, and I helped Chris and other builders to put blueboard on the inside and outside, with insulation in between. Chris wanted to make it weatherproof from high wind, cold and heat. Chris was under the impression that the blueboard would never burn. The roof was a timber frame with insulation and tin on top.

Dr Towie kept a number of animals at the property: apart from his dogs, some pet mice and a pet ferret, he also had camels, cattle, ponies, and a horse or two. A friend recalled, 'I don't know what animals he had, but I knew he always had some, including his dogs, at his house'.

Dr Towie did not have a specific fire plan. He had made basic preparations, such as keeping the house's surroundings clear of vegetation, but he had no firefighting pump or hoses. Most of his friends understood he would leave in the event of fire, but what would prompt him to do that was not clear. One friend thought he would stay to look after his animals: 'He was that attached to them'.

Dr Towie's property was about 10 kilometres from the point of origin of the Kilmore East fire, and he was aware of fire as early as 12.30 pm. Throughout the afternoon he monitored websites, listened to the radio and kept watch. In numerous telephone calls with friends, neighbours, an employee and his mother, he assured them all the fire was some distance away, he was not in its path, and he was not anxious. At 5.00 pm he told a friend he could see 'plenty of flame and smoke, but well away from his house'. Just after 5.00 pm Dr Towie told his mother the lower part of the mountain was on fire, the roads were blocked or closed, and he had packed the car in preparation to leave. She recalled he didn't appear overly concerned.

It appears that Dr Towie became concerned at about 6.45 pm, after the wind change. This was when he made the first of a number of calls to 000, most of which went unanswered. In the hour after that there are records of 14 calls, half of which were made to 000. It is evident that Dr Towie became increasingly panicked and unsure of what to do as he became trapped by fire. At 7.22 pm he told his friend David Perkins he was putting the ferret and the mice in

the car, ready to leave. Five minutes later he called the Seymour police station: he was extremely distressed because the fire was right there and he did not know what to do. His final call was made at 7.47 pm, to 000.

In the morning of 8 February neighbour Mark Aitken found Dr Towie's remains in the rubble of the house, which had been completely destroyed. Dr Towie's car, parked just near the house, was relatively undamaged.

The post-mortem report records that Christopher Towie died as a result of the effects of fire.[25]

## 16.7 STRATH CREEK

### HUBERT JELINEK

Hubert Jelinek was born in Austria in 1927. He married after World War 2, and in 1960 he and his wife migrated to Australia. In the mid-1980s they moved to 484 Falls Road, Strath Creek, where they had a 100-hectare property. On 7 February 2009 Mr Jelinek died at 484 Falls Road; his wife had died in 2000. He is survived by their son, also called Hubert, and his family.

Mr Jelinek and his wife lived a fairly reclusive life in Strath Creek. Their dwelling consisted of two prefabricated portable rooms: one was fitted out as a basic kitchen and the other as a bedroom. A roof connected the two 'sheds', and the couple sat outside to eat. The younger Hubert Jelinek described the property as only partially cleared and 'not what you would refer to as a working property'. His father ran some cattle and pigs. The property had no connections to public utilities, and Mr Jelinek had no mobile phone. After his wife's death he had become more withdrawn from his family.

The extent of Mr Jelinek's fire plan and his awareness of fire are not known. Nor is it known what his actions were on 7 February. A number of his neighbours became aware of the imminent fire threat between 6.00 and 7.00 pm. The last person to see Mr Jelinek alive was a neighbour, Michael Etherton: at some time between 6.30 and 7.30 pm Mr Jelinek had gone to Mr Etherton's driveway to tell him that the back of his (Mr Jelinek's) hill was on fire. Fire swept into the area from the south-west between 7.00 and 8.30 pm, after the wind change.

Neighbours went to the Jelinek property in the days after the fire. They did not know what had become of Mr Jelinek but found one of his dogs and returned to feed it. On 13 February a police officer went to the property and after a search found Mr Jelinek's remains in a burnt-out vehicle. He observed:

> … the buildings, dwellings and a number of vehicles that were scattered around the property, including tractors and heavy machinery, had all been destroyed by fire. The cleared areas (bottom paddocks) were burnt out and the forest/hills behind the dwelling had been severely burnt out.

The position of the extremely badly damaged car on top of a large burnt log in an otherwise relatively cleared area suggested the car had either been reversed or rolled back to the position in which it was ultimately found. Mr Jelinek was seated in the driver's seat of the car, the doors were closed, and the key was in the ignition. A Victoria Police forensic scientist concluded that this was indicative of Mr Jelinek becoming suddenly incapacitated while driving, leading to the car rolling back and eventually catching fire.

The post-mortem report records that Mr Jelinek died as a result of the effects of fire.[26]

## 16.8 ST ANDREWS

### GARRY, JACINTA AND ERRYN BARTLETT AND MICHAEL REAL

The Bartlett family—Garry and Jacinta and their daughters Maddison and Erryn—lived at 560 Bald Spur Road, St Andrews. This unsealed road winds its way through bush up a ridge line from St Andrews to Kinglake Central. On 7 February 2009 Garry, aged 57, Jacinta, 46, and Erryn, 6, died in the fires. Michael Real, aged 58, who at the time was visiting the Bartletts with his partner, Judith Hawkins, also died. Maddison, aged 12, and Judith, 38, survived,

although they sustained serious injuries. The Bartletts are survived by Maddison and their extended families; Michael is survived by Judith and family.

The Bartlett house was built on a steep slope near trees, but Garry and Jacinta kept the area around the house fairly clear of leaves and grass. There were two dams and a couple of water tanks on the property, as well as a petrol pump protected by a corrugated iron cover. The household fire plan appeared to be to leave if the fire was bad but to stay if it was small.

The house had two storeys. All the living and sleeping areas were upstairs, this level being mainly made of timber and having a corrugated iron roof. Downstairs were a study and drafting room.

On 7 February the adults were aware it was going to be very hot and the threat of bushfire was high. Soon after lunch they saw a plume of smoke over Mt Sugarloaf. They monitored the radio and Maddison checked the internet for information about the fires. During the afternoon Garry and Michael worked outside on Michael's car, listening to the radio. Garry filled the house gutters with water and continued to keep an eye on things. At about 4.40 pm Garry's friend Dean Platt rang to talk about the fire threat. Garry seemed calm and confident that he and his family were doing all they could to monitor what was happening around them. He explained smoke was coming from Mt Sugarloaf.

At some time in the afternoon a man pulled up outside the property to tell them there was a fire in the neighbour's back paddock. Judith remembers: 'From this time on this put all of the adults on higher alert. It made us aware that spotfires were happening in the district'.

Just after 5.00 pm Fiona Brown, a neighbour, rang and spoke to Jacinta, warning her there was a spot fire on Jacksons Road, 1.5 kilometres south-west of the Bartlett property. Jacinta replied, 'It's okay, it's just a spot fire'. Fiona rang back five minutes later to tell them she could see smoke coming from Mt Sugarloaf. Jacinta remained calm, saying, 'I think what you're seeing is just smoke from Kilmore'. She assured Fiona they were keeping a close eye on the situation. Jacinta then encouraged Judith and Maddison to watch out for flying embers. Garry and Michael continued to check the house and surrounding area.

Not long after 5.30 pm all the household members were outside watching Mt Sugarloaf, which was covered in smoke. They heard a roar coming from that direction and retreated inside. Jacinta helped the girls change their clothes, and they placed wet towels in the door and window cracks. Garry and Michael monitored the fire from upstairs; the others were downstairs in the study.

Soon after 5.40 pm the firefront reached the house. Garry and Michael tried to save the upstairs area. Smoke came down into the study, upstairs windows began exploding, and the fire became uncontrollable. The men went downstairs and joined the others in the study.

The house was engulfed in flames and smoke. Garry gave the direction to leave via the study door. He opened the door, closed it, and said, 'We've got to get out or we'll die'. He ran out and Michael and Judith followed. As she was leaving Judith pulled on Jacinta's arm and told her to get out, but Jacinta appeared to be in shock. Garry, Michael and Judith ran about 30 metres from the study to the south-west driveway gate. When Garry asked where the others were, Judith said, 'They wouldn't come'. Garry and Michael instantly went back to the house.

Judith continued west down Bald Spur Road and was joined by Maddison, who was burnt and in pain. They walked more than 500 metres west to a nearly empty dam off Jacksons Road; there they sought refuge. In the next few hours they were found, assisted by emergency services personnel and taken to hospital for treatment.

At about 8.00 pm emergency services personnel noticed the bodies of Garry and Jacinta near the intersection of Rankines and Bald Spur Roads. Michael Real's body was about 100 metres to the east, closer to the Bartlett house. Erryn's remains were found on 12 February in what had been the house's study.

Post-mortem reports record that Garry Bartlett and Michael Real died as a result of smoke inhalation, carbon monoxide poisoning and the effects of fire; Jacinta Bartlett died as a result of smoke inhalation and the effects of fire; Erryn Bartlett died as a result of the effects of fire.[27]

### ANGELA BRUNTON AND REGINALD EVANS

Bald Spur Road is an unsealed road that winds its way through bush up a ridge line from St Andrews to Kinglake Central. Angela Brunton and Reginald 'Reg' Evans lived on the western side, at the St Andrews end, at 420 Bald Spur Road. Reg was 80 and Angela 48 when they died sheltering in their home on 7 February 2009. They are survived by Reg's daughters and their families and by Angela's father and her brothers and their families.

Reg and Angela's house, which Reg had built, was a two-storey A-frame building that faced north. The lower level was mud brick and the upper storey timber. Nearby was the mud-brick studio and loft where Angela worked; Reg had built it too. To the south and west of the mostly uncleared 6-hectare property there were patches of farmland, but otherwise the property was dominated by the surrounding Kinglake National Park. There were several tanks and dams to supply water for household use and for firefighting. Reg and Angela were conscious of the bushfire risks where they lived. They planned to stay and defend the property in the event of a fire, as Reg's daughter Claire explained:

> Dad always said that if a fire ever came through they would stay and fight … They intended to follow their plan. They were going to pump water from the dams into the holding tanks. They had carpets to roll down over the windows and would wet them. They would stay in the house and wet blankets and hide under something. They intended to put tennis balls in the gutter and would fill the gutter with water. The tennis balls would be on a string. I know they had a couple of pumps. They would also clear any trees that were close to the house.

According to Claire, Reg was very active for his age. Despite taking medication for a range of conditions and experiencing shortness of breath in recent years, he was still working in films as an actor and was also involved in community work. He and Angela used to take their dog, Baci, for a walk every afternoon.

After the 2006 fires in nearby Kinglake, friend Phillip Chubb became concerned about the trees around Reg and Angela's house and asked to see their fire plan. He recalled that they were both confident about their plan and noted the tank on the house roof to provide gravity-fed water if the pumps failed. Reg had made a number of implements such as flaps of leather on sticks to beat out spot fires. He had also placed in a pit near the house a pump with two fire hoses attached, and there was another pump near the dam, about 90 metres from the house. This latter pump was for transferring water from the dam to the tank by the house. Both Reg and Angela had protective clothing, boots and gloves. Phillip recalled, 'On the day of Reg showing us his plan, we were concerned about the bush around him. He did say that he was trying to keep the bush away and make firebreaks'.

It appears that Reg and Angela started their fire preparations at about 2.00 pm on 7 February: a neighbour Reg called could hear the noisy fire pumps in the background. Reg spoke to another neighbour at about 3.45 pm; he kept the conversation short so he could continue his fire preparations, although he was not concerned at that stage. At about 4.30 pm he spoke to a neighbour in Jacksons Road, Robyn Bailey, who had called to tell him about a spot fire in the rear paddock of her property. Not long afterwards Reg went to the Bailey property, but he stayed only a short time. Robyn thinks this was because he had become concerned about the situation.

Reg's van broke down as he was returning to his place, but he managed to get a lift with a neighbour who was evacuating and who tried to encourage Reg to do the same. Reg was anxious to get home to Angela, though, and was last seen alive at about 5.20 pm, walking down his driveway after being dropped off by the neighbour. It is not clear what Reg and Angela did between that time and the time of their death.

The fire struck the property between 5.30 and 6.30 pm, destroying both the house and the studio. Roofing material was found lying some distance to the south-east of the house, suggesting strong winds from the north-west. On 9 February the bodies of Reg and Angela were found in the kitchen – dining room area on the eastern side of the house, suggesting that the fire first hit the western end of the house.

A Victoria Police forensic scientist who examined the circumstances concluded, 'The fire was at a level of intensity for which his [Reg's] firefighting equipment was inadequate' and 'Once the firefront arrived, there were no realistic options for escape'.

The post-mortem reports record that Angela Brunton and Reginald Evans died as a result of the effects of fire.[28]

### JENNIFER BUNDY

Jenni Bundy lived on her own at 215 Rankines Road, St Andrews. She was 55 years old when on 7 February 2009 she died in her car just short of the driveway to a neighbour's house, at 195 Rankines Road, which was where she intended to seek shelter. Ms Bundy is survived by a number of close friends.

With the exception of a couple of years spent in Queensland, Ms Bundy had lived in the St Andrews area for 16 or 17 years. She was very involved in the Green Wedge Protection Society and was well known in the community.

Ms Bundy rented 215 Rankines Road from Geoff and Nancy Mortimer. Her fire plan appears to have involved two options, the first of which was described by her friend Kahn Franke:

> Jenni was a smart and very capable person, she was also very determined. If she was going to do something, she would do it. Whenever I mentioned fire plans she would always say she would go to the St Andrews pub. She was aware that her home was not defendable and on an extreme day she should leave.

The second option was to go to the Mortimers' house. The Mortimers had built their home from mud brick and its pantry was designed to function as a fire shelter, offering protection from radiant heat. Geoff Mortimer said, 'It was common knowledge with the neighbours that I had the pantry. The fire plans for most of the neighbours were to come to my house if there was a fire. That included Jenni Bundy'.

Ms Bundy suffered from a number of health problems, one of which was chronic fatigue syndrome. Mr Franke said she tired quickly and needed substantial time to recuperate after outings, 'although her natural enthusiasm kept her going'. He also said she suffered particularly in the heat. On 6 February she had told the Mortimers she was not feeling well, although she refused their offer of a lift to the doctor's surgery, saying she would drive herself. Mr Mortimer believed she could not walk very far, but he did note she was very independent.

On 7 February Ms Bundy was at home until about 2.00 pm. She spoke to a couple of friends on the telephone and confirmed arrangements to go to Mr Franke's house to work on a document there and then go to the St Andrews pub for the rest of the afternoon.

The Frankes were listening to a CFA scanner when Ms Bundy arrived at about 2.30 pm. At about 3.30 they heard a report of a fire at the intersection of Harrys Road and Eagles Nest Road in Strathewen, about 6 kilometres from Ms Bundy's house. Ms Bundy then told the Frankes she had to go home to collect something. She also rang Mr Mortimer and told him she was heading home to pack a bag. He assumed she would then go back to St Andrews. The Frankes tried to persuade her that it was unsafe to leave and advised her to go to the Mortimers as soon as she had packed her bag.

Between 4.00 pm and sometime after 5.30 Ms Bundy appears to have been at her house gathering personal belongings, including her computer and pieces of her pottery collection. Mr Franke tried to call her mobile just after 4.00 pm to warn her of another spot fire, but the call rang out. Records show that just before 5.30 pm her landline was used to call both 000 and the Mortimers, but neither call was answered.

Shortly after 5.30 pm, by which time there was substantial fire activity in the area, Ms Bundy left home to drive to the Mortimers. She drove through the entrance to 195 Rankines Road, then, in an apparent attempt to flee the approaching fire, she appears to have reversed along the driveway, colliding with the front gate, which became entangled with the rear of her car. The car continued in reverse across Rankines Road, coming to rest against a tree and a wire fence.

Two firefronts then passed through the area within 25 minutes of each other. At about 6.00 pm a neighbour who had taken refuge in the Mortimers' house, Jamie Robinson, saw Ms Bundy's burnt-out car and found her remains in the car.

The house Ms Bundy lived in was destroyed, as was ultimately the Mortimers' house, although it survived the initial firefront and gave sanctuary to a number of people who fought for hours with the Mortimers to try to save the house.

The post-mortem report records that Ms Bundy died as a result of the effects of fire.[29]

## RAYE CARTER

Raye Carter and her husband, Alan, had lived at 2150 Heidelberg–Kinglake Road, St Andrews, for 34 years until 7 February 2009, when fire destroyed their dairy goat farm, killing Raye and injuring Alan. Raye, known affectionately as the 'goat lady', was 68 when she died. She is survived by Alan, who suffered extensive burns, their two children, their grandchildren and a large extended family.

The Carters built their three-bedroom mud-brick home, which had a corrugated iron roof, huge wooden-bridge-support uprights, leadlight glass windows, a big old church door, and a brick floor throughout. The house faced south-west and had large windows through which the couple could view their farm—'a brilliant view', as Alan described it. Set on a ridge at the north-eastern corner of the 8-hectare farm, the house had a fairly small native garden around it. Apart from trees along the driveway, the rest of the property was almost completely cleared. Near the house were nine sheds, all of which were used in one way or another for the goats: the Carters had 40 dairy goats and eight cows. One large dam (close to 4 million litres), three small dams and two concrete 19,000-litre water tanks supplied water to the farm.

Alan and Raye, who was secretary of the St Andrews CFA, were both fire conscious. They kept their property well cleared; there was a pump connected underground to deliver water from the big dam to a sprinkler system at the front and back of the house; and buckets of water, mops and homemade beaters were strategically placed around the house and sheds to put out any flames.

On 7 February Alan and Raye were up at 6.00 am to milk the goats. By 9.30 they were back indoors, having a cup of tea and discussing the Drouin fires with a friend who had helped them with the milking. They spent the rest of the morning pottering about the house and listening to 774 ABC radio, the emergency broadcaster. At about 1.00 pm Raye went to the St Andrews CFA in response to a call-out, returning home about half an hour later.

Aware of fire in the area, Alan and Raye were watchful during the afternoon. It was not until after 4.00 pm that embers started to land on their property. Just as Alan arrived at the local pub the barman came out to the carpark and told him Raye had called and asked that he come home. Alan recalled:

> I got home and I started to help Raye to put out the embers with the bucket and mop. There were only two embers I really needed to put out. Nothing really happened after that for about an hour and we just did things around the house to prepare if a fire came. I know that Raye went out and started the fire pump so it was ready to go.

In that hour there were phone calls to friends and neighbours. Shortly after 5.00 pm Raye called a friend to ask him to come and help protect the property. By 5.15 pm Raye had spoken to the St Andrews CFA captain a few times to update the captain on the fire situation, but she did not mention they were in any danger.

At about 5.30 pm Raye and Alan were at the back of their house, and they noticed the fire about 100 metres north of their gate on the main road. Alan said, 'The wind was blowing in a south-west direction and not blowing that hard … and I could tell that it [the fire] wasn't going to hit our place unless the wind changed'. At that point Raye went to check on the goats while Alan put the dogs inside the house. He had been inside for no more than five minutes when he saw what he described as a fireball hit their front gate and hurtle up the 400-metre driveway towards the house. Before he had time to react the fireball hit the house and went straight into the roof, which exploded into flames. Alan escaped via the back of the house and tried to get to the hose at the front, but he was beaten back by the radiant heat. Noticing the sprinklers were still operating but making no impact, he tried to find Raye:

> I knew the area she was in, but I couldn't see more than a metre in front of me. The area Raye was in is a 9 metre square mud brick goat and dairy shed which was situated 25 metres from the house, but she could have been out in the paddocks trying to get the goats in. To Raye the goats would have been her first thought, regardless of the fire.



Unable to find Raye, Alan drove to the dam and sheltered there, trying to cool the burns to his arms and legs. He then tried to get back to the house to find Raye but was again beaten back by the heat. He drove through

thick smoke and over fallen trees to reach the St Andrews CFA shed, where he was given assistance and then taken to hospital. Early in the morning on Sunday 8 February, Alan and Raye's son, Mark, managed to get through to his parents' property to search for his mother. He found her in the ruins of the house.

A Victoria Police forensic scientist who examined the circumstances concluded it was not clear whether 'the Carter property was hit by a spot fire, then the main front, or both at the same time, or only the main front. The effect was that of the main firefront, preceded by extremely strong winds, then with the wind change more strong winds'.

The post-mortem report records that Raye Carter died as a result of the effects of fire.[30]

### ARTHUR ENVER

Arthur Enver lived with his partner of 36 years, Petra Bouwmans, at 2350 Heidelberg–Kinglake Road, St Andrews. Arthur and Petra were new arrivals to the district, having moved there in September 2008. Motoring enthusiast Arthur died on 7 February 2009 fleeing the fire on the Harley-Davidson he refused to leave behind when he and Petra decided to leave their home. Arthur was 56 years old when he died. He is survived by Petra and by his mother and extended family.

Arthur and Petra's house was on the eastern side of Heidelberg–Kinglake Road, the main road between Kinglake and St Andrews. It was built of brick veneer and had a tiled roof. There was a large carport and a shed on the southern side of the property. In preparation for their first fire season at the property, Arthur and Petra had cleared the property, tidied up rubbish around the house, and cleared the gutters. They had an electric pump and a standard hose connected to water tanks. The capacity of the water tanks is not clear, but Petra described them as full.

It is not known what Arthur and Petra's fire plan was in advance of 7 February, although once they became aware of fires in the immediate vicinity Arthur took some precautionary action before they decided to leave.

They first became aware of fires at Mt Disappointment at 2.30 pm, when Arthur received a call from a friend. Arthur told the friend he was in the process of cleaning up the property. After 3.30 pm Petra noticed smoke from the west and told Arthur to turn on the television for news reports. There were none.

Although aware of spot fires in the area, Arthur did not seem concerned because he couldn't see any fire. He continued preparing the property, blocking the downpipes and filling the gutters with water. Meanwhile, Petra walked across the road to a neighbour's house and told the neighbour there was smoke coming from the west. As she returned a man in a passing car stopped her and told her the fire was a quarter of a kilometre away. Petra quickly returned to the house, wanting to leave:

> I ran up the driveway. Arthur was still on the roof and I asked him if we could leave. I was in the Mt Beauty fires in 2003 and heard the noise from that. I heard a similar noise and then felt the walls vibrating. We went outside and the sky was orange with black smoke. This was up towards Kinglake. I started to panic and we decided to leave. One minute it was clear and the next there were flames everywhere. …there just seemed to be fire all around us on both sides of the road.

Arthur refused to evacuate by car with Petra: he wanted to take his beloved Harley-Davidson motorbike. At about 4.00 pm, as Petra was leaving in her car, she heard Arthur start the bike. She then had a harrowing journey south along Heidelberg–Kinglake Road towards St Andrews, through flames and over a tree that was blocking the road. She heard popping sounds, which she thought were the tyres bursting, but kept going. The heat caused the fog lamps on her car to explode. Petra kept looking for Arthur in her rear vision mirror but could not see him.

It is not known precisely what happened to Arthur once he left the property. At some time between 4.00 and 4.30 pm he was travelling north along Heidelberg–Kinglake Road when a CFA member spoke to him and suggested that he not go that way because it was too hot and the fire was spotting too quickly. There was a further reported sighting of him about 5.00 pm: the police received a report that a male motorcycle rider on Heidelberg–Kinglake Road seemed disoriented, riding back and forth along the road, and then putting his bike down and running.

The firefront appears to have struck this location from the south-east at some time between 5.30 and 6.30 pm.

Before 6.00 pm the North Warrandyte CFA tanker captain saw Arthur's motorcycle lying on its side about 600 metres south of Olives Lane. Arthur's body was found a further 100 metres along the road and later recovered by police. A police forensic scientist suggested that as Arthur ran along the road, essentially without any protection, he would have experienced extreme heat as the firefront passed and it would not have been possible to survive that type of exposure. Petra returned to the property in late February and found 'the house was all rubble and looked like a bomb had hit it'.

The post-mortem report records that Arthur Enver died as a result of the effects of fire.[31]

### GEORGE JACKSON

Aged 74 years on 7 February 2009 George Jackson had had two brothers who had died in separate accidents in 1960. Mr Jackson had not married and had no children of his own. He lived at 255 Jacksons Road, St Andrews, on land that had been in his family for more than 50 years. Having moved there at age 19 to start his own dairy farm, he was still running a small herd—about 29 cows. As a younger man he had saved his farm from the fires that swept through the district in the 1960s, and it was well known that he would stay and defend again. George Jackson is survived by his nephews and nieces and their families.

Mr Jackson's 50-hectare farm was midway between Strathewen and St Andrews. It was cleared, and there were five dams, some sheds and a 60-year-old weatherboard house about 100 metres from the road. Family and friends were aware that Mr Jackson's fire plan was to stay and defend. John Mesman, husband of one of Mr Jackson's nieces, noted:

> George was always confident that he had equipment and because his land was bare he would be OK. I was also pretty sure his house was safe from being burnt down and George would be able to protect himself … I would say George was well prepared and not very concerned that his property was at great risk. He lived on 120 acres of pretty sparse land and had sufficient water pumps, equipment and dams to protect him.

It is not known how Mr Jackson spent most of the day on 7 February or his level of awareness of the threat posed by fire in the area. It appears that spot fires in the vicinity of Hewitts Road and Jacksons Road were reported to 000 just after 4.00 pm. At about 4.45 pm Mr Jackson received a call from his neighbour, Robert Saniga, warning him about a fire at the nearby Bailey property, at 165 Jacksons Road. Mr Jackson thanked his neighbour and said he would go outside for a look.

Fire hit the Jackson property at about 5.00 pm, destroying almost everything except the hayshed. Trevor Boyd, member of a CFA crew that was in the area of Jacksons Road at the time, said the fire arrived with no warning and with extreme intensity, forcing the crew to abandon firefighting in order to ensure their safety. At about 5.30 pm, when the Sanigas left their property and drove past 255 Jacksons Road, they saw that George's house had been virtually razed: only the chimney was standing.

Evidence found at the property after the fire suggests that Mr Jackson had made some attempts to protect his place. A tap next to where the house had been was found turned on, with water gushing out, and hoses attached to trailer tanks had been run out in preparation for use.

Early on 8 February Mr Saniga returned to the property with members of Mr Jackson's family, some of whom had travelled from interstate. They found Mr Jackson's remains in the lounge–kitchen area of the house.

The post-mortem report records the cause of George Jackson's death to be consistent with the effects of fire.[32]

### SAMUEL MATTHEWS

Sam Matthews lived at 55 Mullers Road, St Andrews, with his sister Ellie, and his parents, Carol and David Matthews. The family had bought the 8-hectare property, Flowerdell, in 2001. Sam, who was at home alone when fire reached the area on 7 February 2009, died at the age of 22, having tried to protect his family's home. He is survived by Carol, David and Ellie.

Flowerdell, built in the mid-1800s by one of the district's pioneer families, was a five-bedroom weatherboard homestead with a corrugated iron roof. North-west of the house was a barn of similar construction (which had been converted into an apartment) and an in-ground swimming pool. Apart from a row of 150-year-old pine trees acting as a windbreak along the driveway and bush along the creek at the southern end of the property, Flowerdell was considered to be mostly cleared paddocks.

Not long after moving to Flowerdell, the family contacted the CFA, seeking general information; this resulted in both David and Sam becoming members of the St Andrews brigade and undergoing training. On the basis of their CFA experience and CFA material showing diagrams about the science of fire and what to do while a firefront passes, they persuaded Carol that the family fire plan would be to stay and defend the property. This material asserted that houses are more likely to burn down after the fire front has passed. The family took some practical steps as part of their plan: they had a fire pump and tank with a petrol pump, a long fire hose that reached the house from the tank, and an above-ground brick tank that held 60,000 litres. (The brick tank was about half full on 7 February.) There were also garden hoses, mops and buckets for putting out spot fires. The family believed they had all the equipment that was needed, and they were also part of the local phone tree.

On 7 February David and Carol were away at the family holiday house. Ellie and Sam were at home. By 1.00 pm they were aware of a fire threat. Sam had called their neighbour, Felicity Wiltshire, a CFA member and part of the phone tree, to tell her he was planning to stay and defend the house. Just after 1.00 pm Felicity called Sam back and told him to enact the family's fire plan because of the extreme weather conditions. Sam and Ellie started to fill buckets and place them around the outside of the house; Sam primed the fire pump and started to wet down the roof.

At about 1.30 pm Carol called the family home and spoke to both Ellie and Sam. Sam told her they could see smoke in Whittlesea, about 15 kilometres away, that they were preparing the house, and that she was not to worry because the wind was blowing the smoke away from the house. He assured his mother they were in no danger. Mid-afternoon Ellie and Sam checked the CFA website and Google Earth; these confirmed the fires were no immediate threat. At 2.30 pm they were patrolling the property and found embers that were cold to the touch. Between 3.30 and 4.00 pm Ellie called Carol twice and assured her everything was OK. At 4.00 pm a neighbour heard the Matthews' fire pump start. Ellie and Sam checked the CFA website again. It had an urgent threat message for the communities of Whittlesea, Humevale, Arthurs Creek, Eden Park, Nutfield and Doreen. St Andrews, to the south-east of Whittlesea, was not mentioned and, with conditions a little better, Ellie decided to leave for work in the car. Sam stayed to defend the house in case of ember attack. Ellie wanted Sam to call her if the situation deteriorated, so she could come back to collect him.

Just after 5.20 pm Sam tried to call 000 but was not able to get through. He called his parents, told them things could get bad, and asked them to come home immediately. During the call he told Carol he had just seen a tree explode and there was fire everywhere. Sounding anxious, he asked what he should do. Carol told him to go back inside.

Two minutes later Sam called Carol again, worried that he could not find the two cats. Carol recalled that he sounded panicked, and in the background she heard a loud explosion as the windows blew in. She told Sam to go into the bathroom and that she would call 000. Carol was not able to reach 000, and this was the last time she spoke to Sam. He tried to make two more calls in the next five minutes, one to Felicity Wiltshire and another to 000. Neither call was successful.

The Wiltshires had also been trying to defend their home. When they were no longer able to shelter inside it they retreated to their cars and drove the 50 metres to the Matthews home, planning to use the turning circle there as a refuge. This was at about the same time as the Matthews home was engulfed by fire. By the time the Wiltshires got there the house had been reduced to two chimneys. A Victoria Police forensic scientist who examined the circumstances said a possible explanation for the entry and rapid spread of fire at the Matthews home might have been the loss, or partial loss, of the roof as a result of the extremely strong winds that preceded and accompanied the fire.

Police went to 55 Mullers Road on 8 February and found the property destroyed; they were unable to find Sam. Sam's remains were found on 11 February in the ruins of the kitchen.

The post-mortem report records the death of Sam Matthews to be consistent with the effects of fire.[33]

### DR ROBERT PIERCE

Dr Robert Pierce lived at 370 Bald Spur Road, St Andrews, with his wife, Jan. Their two-storey mud-brick house with a tower was part of a complex of buildings that included a studio, art workshop, tacking shed, woodworking workshop and woodsheds surrounding a courtyard. One of their sons, Nicholas, lived in a two-bedroom mud-brick cottage about 500 metres further east along the driveway and closer to the entrance from Bald Spur Road. Nick lived there with his partner, Judith, and daughter, Maya. On 7 February 2009 the women were evacuated from the property while the men stayed to defend. Robert was 62 years old at the time of his death. He is survived by his wife and extended family.

The Pierce property, on the western side of Bald Spur Road, was described by Nick as being 'approximately 40 acres [16 hectares] of eucalypt forest; with steep slopes … All [the] adjacent properties are bush or national park'. The main house, where his parents lived, was on a steep east–west ridge, with 30° northerly and southerly slopes. The bush came to within 30 metres of the house.

The Pierces were aware of the fire risk where they lived, and their fire plan was to stay and defend their houses. Four galvanised iron tanks, one plastic tank, and one concrete header tank supplied water to the main house, which also had access to water piped from a dam some distance from the house. (The dam had a capacity of 300,000 litres and was about 30 per cent full on 7 February.) The main house had two areas that were set up as fire bunkers with metal shutters; one had a sprinkler system on the roof. Nick explained their preparations:

> Robert and I are both sailors and we are very familiar with weather patterns and high fire danger days. We were monitoring the weather forecast and fires in the area in the week leading into the 7th February. Robert and I upgraded our fire plans in the weeks preceding. We decided that we would stay and defend the property. We had all CFA recommended equipment, such as pumps, hoses, chainsaw, water and fuel sources, knapsacks, torches, radios, maps etc. We were both well drilled in our fire plans from past experience.

On 7 February Nick had started to check websites at about 3.00 am. He evacuated his partner at about 10.00 am and spoke with his parents about an hour later. At about 1.00 pm he and Robert checked the horizon from the house's tower and saw a wide plume of smoke behind Mt Sugarloaf. He told his father they had three or four hours to live or die. Robert was unwavering in his intention to stay and defend the property. They started to make fire preparations at their separate houses.

Mid-afternoon Robert and Jan agreed that Jan would go and shelter with their neighbours the Mortimers. Jan phoned their other children, who lived nearby, and warned them to evacuate before Robert walked her to the Mortimers. Robert returned to continue his fire preparations. It was about this time that Nick went back up the tower, from which he could see spotting about 10 kilometres away. From his own observations he knew that 774 ABC radio, the emergency broadcaster, and the CFA website were inaccurate.

At about 4.30 pm Robert and Nick met at one of Robert's bunkers. They discussed their fire preparations and were satisfied they had done enough. They started Robert's sprinklers, checked his gear, shook hands and wished each other luck. Nick left to return to the cottage, noting that Robert was calm and well prepared.

About 15 minutes later Robert was contacted as part of the local phone tree, to be told about a spot fire in nearby Jacksons Road. Just before 5.30 pm he tried to call the Kinglake CFA and then a little later he tried to call Nick; the calls went unanswered, but he left a voicemail for Nick to warn him the fire was coming and was in Jacksons Road. The fire arrived very soon after. Nick who was busy defending his own house, recalled its noise being 130 to 140 decibels: 'It was bloody loud. The wind was blowing between 120 and 150 kilometres an hour. I'm certain of the wind speed due to my experience out at sea. The front lasted for around an hour'.

Once the fire front had passed Nick went back to the main house. He found all the structures surrounding the courtyard ablaze and collapsed; the vehicles were also on fire. He realised no-one could have survived the intensity of the fire that had struck the main house complex. On 9 February he found Robert's body lying in the doorway of one of the bunkers.

The post-mortem report records that the cause of Dr Robert Pierce's death to be consistent with the effects of fire.[34]

### GRAEME SAVAGE

Graeme Savage and his wife Elizabeth Savage-Kooroonya lived in a four-bedroom home at 130 Olives Lane, St Andrews. On 7 February 2009, while Elizabeth was in Apollo Bay at a conference, Graeme, aged 57, spent most of the day at the Whittlesea Country Music Festival, returning home in the mid-afternoon. He died near the swimming pool when the property was hit by fire. Graeme is survived by Elizabeth, their children, and their extended family and friends.

Having moved to their 8.5-hectare property in Olives Lane in 1978, Graeme and Elizabeth built their house in stages, using mud bricks and recycled materials. Both house and property were developed with fire awareness in mind. As they built, they incorporated recommendations arising from the 1983 Ash Wednesday fires. They cleared large areas around the house and planted fire-retardant plants. There was an extensive network of tanks and dams. The seven water tanks and the swimming pool were full on 7 February. Graeme and Elizabeth's fire plan was to stay and defend. Elizabeth explained:

> We had an electric pump ready to pump water to use on any fire that was approaching. Graeme intended to spray the walls of the house with water and fill the gutters full of water. There was also a submersible pump in my large duck pond, and a pump in the swimming pool. Four of our tanks were strategically placed to give good gravity feed water pressure if the power went off. We had about twelve 210-litre barrels always full of water at every entrance to the house and on every corner of the house. Cotton mops were hung near these barrels to use during ember attacks. We had numerous hoses connected to outside taps to put out spot fires.

The Savages' intention to stay and defend was bolstered by a visit from the CFA in late 2008. Elizabeth recalled that the CFA did an inspection of the property to look at the fire preparation, and left with the parting words 'This place is very defendable'. Mindful of the fire risk where they lived, the Savages kept their property relatively cleared. But not all the surrounding properties were in a similar state, and Kinglake National Park was only about 300 metres to the south.

On 7 February it appears that Graeme was aware of a general fire threat during the day but not necessarily of any imminent danger to his area. He had left home at about 8.00 am to go to the Music Festival, where he and his band played for most of the day. When he returned home in the mid-afternoon he intended to return to the festival in the evening. At about 3.15 pm he spoke to a neighbour, Helen Chasemore, who had called to ask if he had seen any smoke or fire. Graeme said he had not, but that he intended to stay and defend if necessary. At about 4.00 pm he spoke to his son David, telling him it was extremely hot and he had seen smoke in Whittlesea. David recalled that his father was not worried and made no mention of being in any danger. The Chasemores were evacuating from their property at about the time Graeme was talking to David.

Having become aware of a fire threat near home, Elizabeth called Graeme at about 4.30 pm. Reception was poor, but she managed to ascertain that he was aware of fire, had filled the bath with water, was prepared, and was inside resting. She heard a strange loud roaring sound before the line cut out; she assumed it was the sound of the fire.

Just before 5.00 pm Graeme called Sylvia Gajek, a musician friend, in response to a text message. They did not talk about fire, and Sylvia recalled that Graeme sounded calm.

Fire reached the property sometime between about 5.00 and about 5.30 pm and, according to neighbours' accounts, it arrived with unexpected suddenness. It appears to have taken Graeme by surprise, catching him while he was out in the open. David found him on 9 February. Graeme was wearing the jeans, boots and long-sleeved shirt that were part of his firefighting clothing. He was lying between the pump and the swimming pool. A Victoria Police forensic scientist concluded that other evidence at the scene suggested Graeme might have fallen and 'he [Graeme] did not appear to be aware that a major fire was heading for his property. While he could see the main road to the north, he may not have been able to see the main front approaching from the north-west, behind the hill'.

The post-mortem report records that Graeme Savage died as a result of the inhalation of fire fumes.[35]

### MARCEL SMITS

In December 2007 Marcel Smits and his wife, Carole Webb, moved into their 40-hectare dream retirement property at 190 Jacksons Road, St Andrews. They named it 'Grenoch'. Marcel, who was home on his own, died sheltering in a shed on the property on 7 February 2009. He was 56 years old; he is survived by Carole, her children and their partners, and his large extended family.

Marcel and Carole's house was at the end of a long driveway winding downhill from Jacksons Road. The house was built of brick and had a tin roof. To the west of the house were several sheds where they kept some animals. An in-ground pool, emptied in readiness for repairs, was to the north-east of the house.

Grenoch was well supplied with water: there were three large dams about 180, 220 and 240 metres from the house, as well as two smaller dams. There were also three concrete water tanks and two recently installed plastic tanks. The property was kept constantly watered. Carole considered that she and Marcel were fire aware. Their plan was to stay and defend and, if they needed to, run to a dam to shelter while a fire passed. They had in the garage coats, boots and woollen blankets they would wet down. There were sprinklers on the roof of the house, and Marcel kept the gutters clean and free of debris. The property was mostly cleared, there being only a few trees near the house.

Carole was at work in Greensborough on 7 February, and Marcel had gone there to help her. He left earlier than Carole, however, arriving home at about 3.30 pm. Carole left at about 5.15 pm, after she had listened to a phone message from Marcel, who was asking when she would be home. She called him just before 5.30 pm to let him know she was about 20 minutes away in Diamond Creek; Marcel did not seem concerned about a fire threat.

At about 5.45 pm, and only 6 or so kilometres from home, Carole was stopped at a police roadblock at the intersection of Hildebrand and Strathewen – Cottles Bridge Roads. She 'immediately phoned Marcel to tell him about the roadblock and to get the animals together'. It was a short call and she did not have a chance to ask him whether he had been able to ready the property for the oncoming fire. Carole, desperate to get to Marcel, was not allowed through the roadblock: '[The police officer] told me I couldn't go up there as I'd be committing suicide'. While she was waiting at the roadblock someone came through from the other direction and described Jacksons Road to Carole as 'terrible'.

Marcel phoned Carole at 6.00 pm to tell her 'there was smoke everywhere' and 'he was sheltering in the shed', prompting Carole to try to get some CFA assistance to him. Not long afterwards, at about 6.15 pm, Carole's son Peter and his girlfriend arrived at the roadblock. After a number of attempts they managed to reach Marcel again on his mobile phone at 6.22 pm. Carole was too distressed to speak to him, so Peter took the phone. Marcel told Peter 'he was in the shed and was finding it hard to breathe. He said he could smell smoke and … something toxic'. He could not see any flames—'just smoke everywhere'. Marcel, who had no water, was lying on his back in the shed with a pillow case over his face to help with his breathing. He sounded frantic. That was the last contact with Marcel.

At about 8.00 pm, after being stopped at another roadblock on Nankervis Road, Carole and Peter eventually reached Grenoch, where they found three DSE trucks in the driveway. One of the trucks went with Carole and Peter to the house, which they found destroyed. Peter went to the shed he knew Marcel had been sheltering in and found his body.

It appears fire hit the area at some time between 6.00 and 6.30 pm, mainly from the south-west. It destroyed almost everything at Grenoch. A Victoria Police forensic scientist concluded that Marcel 'appeared to be unaware of the proximity of several extremely large fires'.

The post-mortem report records the cause of Marcel Smits' death to be consistent with the effects of fire.[36]

## 16.9 STRATHEWEN

### PETER AVOLA

Peter and Mary Avola had been married in 1965 and by the early 1970s had two children and had bought land in Strathewen. In the early 1980s they bought a peach orchard on 8 hectares at 105 Chads Creek Road, Strathewen,

and in 1990 they built a two-storey brick house with a tiled roof. Bellheaven, as the property was called, was surrounded by a mixture of grazing land and medium-density eucalypt forest and was close to Kinglake National Park. Peter, aged 67 when he died, is survived by Mary, their two children, their children's partners and their grandchildren.

The Avolas were mindful of having a fire plan when they were building their house, and part of the plan was ensuring an adequate water supply. The two dams on the property provided ample water for the gardens and lawn. The lawn was kept mown and the property cleared of debris. Mary explained their fire plan:

> Our plan was to stay and fight. We installed a firefighting pump on the dam. That was a mechanical pump so if the power went off it would keep working. We also had a trailer with a water tank on it which also had a mechanical pump. We learned about fire plans everywhere. Peter was in the CFA when he was younger. Even the kids were junior members of the fire brigade.

Early on the morning of 7 February Peter started the firefighting pump to water the garden and wet the ground around the house. He left the hose positioned so it could continue watering by itself while he attended to other chores. The Avolas had been expecting their grandchildren for the weekend, but the visit was cancelled late in the morning because of the heat. By about midday Peter had started to put their fire plan into action, moving hoses and preparing the pump.

At about 2.30 pm Mary noticed smoke in the sky, a yellow glow to the west, scorched leaves being carried by the wind, and burnt black things like gumnuts falling. She started to hose down the patio and the ferns. At about 4.50 pm Peter told Mary to change her clothes while he moved their two cars to the driveway and away from the house, leaving the keys in the ignition.

Events moved rapidly in the following half hour. As the sky became darker and darker Mary tried to call 000 but could not get through, so she phoned her good friend Marilyn Spooner, who had also been trying unsuccessfully to call 000. At about 5.00 pm Mary received a call from Judy McIver, another neighbour in Chads Creek Road; Mary told Judy things were OK and she was hosing the patio. Five minutes later Peter and Mary saw fire erupting in the area and in Kinglake National Park. This prompted Mary to try calling 000 again, but the 11-minute call went unanswered. At 5.15 pm Peter told Mary to get into one of the cars; he got into the other and they left, ahead of the fire that had by then reached their property from the west and north-west.

They drove across the road into the neighbouring property until fire forced them to turn around and head north up Chads Creek Road. It appears that Peter, now in the front car, failed to take a bend in the road: Mary saw his brake lights go on and then saw his car resting on the opposite side of the road, just south of the Strathewen oval. Mary pulled up beside him, but he motioned her to move on:

> It didn't even occur to me to tell him to get in with me, too much was happening. I drove down Chads Creek Road towards the oval and I stopped and waited for him but he didn't come. I had ash coming in the car and flames all around me up in the air. I saw kangaroos everywhere and horses running around me. I put the windows up and still he did not come behind me. Then I just went.

A number of cars were parked at a neighbour's house, the home of the Minetts, at 190 Chads Creek Road, and Mary drove in. The Minetts, who were busy defending their house, asked Mary to go inside and comfort their young daughter, who was frightened. The fight to protect the Minetts' house took more than two hours. At 7.15 pm Lisa Minett's father, Dennis McCrohan, made his way to the property to check on his daughter and her family. He had seen Peter's body on the Strathewen oval and told Mary Peter had died.

Peter was found in a grassed parking area about 300 metres from where his car had been abandoned on the roadside and about 700 metres from the Avola home. The nearby changing-room sheds had been destroyed and the ground was severely scorched.

The post-mortem report records that Peter Avola died as a result of the effects of fire.[37]

## MAX EMMINS AND TERRENCE AND DONNA PAULKA

Max Emmins, aged 45, lived on a property adjoining that of Terrence 'Terry' Paulka, 53, and his wife, Donna Paulka, 51. Max, Terry and Donna died in the Paulkas' house at 5 Arthur Street, Strathewen, shortly after 5.30 pm on 7 February 2009. Friends and neighbours, they had been part of the Strathewen hall committee, and it appears they had sought shelter in the Paulka house after staying to defend their properties. Max is survived by his wife, Lisa, and their two children; Terry and Donna are survived by their three children and their extended families.

### Max Emmins

The Emmins family home, at 10 King Street, Strathewen, was built of mud brick and had a timber frame and a corrugated iron roof. A small rural block, the property relied on tank water that was pumped to the house by an electric pump. The property, along with neighbouring private properties in this part of Strathewen, projected north into Kinglake National Park.

Max and Lisa were conscious of the fire risk where they lived. Max had attended CFA Community Safety fire meetings and had decided he would stay and defend their property; Lisa was to leave and take their children, aged 12 and 10 on 7 February, to safety. Reliant on tank water for firefighting, Max had a back-up petrol pump for the tank in case the power went out; he kept the fire hose next to the pump during the fire season and kept the gutters cleared of debris. The swimming pool provided a secondary water supply.

On the morning of 7 February Max was listening to the CFA scanner and keeping an eye on the internet. He and Lisa made their fire preparations, filling the sinks, laundry trough and bath with water, fitting a hose to the washing machine tap, and putting towels in readiness near the bath. Just after 1.00 pm neighbours from Bowden Spur Road lent the Emmins a petrol firefighting pump because they had decided not to stay and defend their own property. Before they left they helped Max connect the pump to his swimming pool.

Lisa left with the children and the family dog just after 2.30 pm, concerned about the smoke she could see in the distance and about the wind direction. She could not persuade Max to leave with them. Throughout the morning Max had visited the Paulkas, whose plan was also to stay and fight the fire.

### Terry and Donna Paulka

Donna and Terry Paulka lived at 5 Arthur Street with their three children. They loved their mud-brick home. Terry had built it with his brothers 23 years earlier, and Donna had decorated it. Terry had extended the house once already and was in the process of doing a second extension in February 2009. Their daughter Grace recounted:

> Dad built the house using mud bricks he made himself … He had put his heart and soul into the house and would have been very reluctant to give it up to a fire. Mum was the same. Mum had put a lot of time and passion into the interior design of the house and the gardens.

The Paulkas' home was about 65 metres from the Emmins' home, separated by a wire fence. Like the Emmins' property, the Paulkas' property projected north into Kinglake National Park. Both properties were on dirt roads bordered by trees. The nature of the water supply to the Paulka residence is not known, but Grace had noticed that in the week leading up to 7 February Terry was carting a lot more water than usual from Arthurs Creek.

The Paulka family's fire plan was quite clear to Grace. Her parents intended to stay and fight, and 'whenever I tried to discuss fire plans with my Dad, all he would say was that us kids, … would not be staying if a fire came. He would not discuss this further and was adamant on this point'. Grace outlined her father's annual fire preparation:

> Every summer Dad would prepare the house for the fire season. He would lay out the fire hoses at easily accessible locations. He had two permanent water pumps that were quite noisy. I think they were petrol. He also had other pumps that he put out for the fires season but I'm not sure how many … Dad also had two large plastic portable water tanks, one on the back of the his ute and the other on the trailer hitched to the back of his ute … Dad was careful about keeping the yard clear and made sure the trees weren't too close to the house … Dad was forever on the roof clearing it and the gutters and he made my brother go up there a lot and clean it as well.

### From 4.00 pm on 7 February

At about 4.00 pm Max phoned Lisa to make sure she and the children were safe; he told her he needed to go to put out some embers. At about 4.30 pm he had an unhurried chat with family friend Philippa Carland before he ended the call, saying he needed to go. At about 4.45 pm the Paulkas' son called his home and spoke with Terry, who assured him everything was fine. Phone calls made to both houses after 5.00 pm went unanswered.

It is thought the firefront reached the area at about 5.40 pm, destroying both the Paulka and Emmins properties along with most of the rest of Strathewen. It seems the fire approached from the west or south-west, or both, along Arthurs Creek, although the direction would have been influenced by the complex array of ridges and spurs.

It is not clear how Max Emmins came to be at the Paulkas' home when the fire arrived. It is possible he went there either to help them with their firefighting or to flee from fire at his own home. It appears that Max, Terry and Donna sheltered in the Paulkas' kitchen, on the side of the house furthest from the fire, where their bodies were found in the ruins on 10 February 2009.

The post-mortem reports record that Max Emmins, Terrence Paulka and Donna Paulka all died in the 'Victorian bushfire'.[38]

### ROBERT O'SULLIVAN, SUSANNE EVANS, JON LE GASSICK, HAYDN MCMAHON AND KAYA MEHMEDOFF

Robert 'Bob' O'Sullivan and his partner, Susanne 'Sue' Evans, lived at 75 Pine Ridge Road, Strathewen, with Sue's 18-year-old son, Jon Le Gassick. On 7 February 2009 a couple of Jon's school friends, Haydn McMahon, aged 17, and Kaya Mehmedoff, 18, were also there. All five died when fire tore through the area at about 5.30 pm. Bob was 48 and Sue 46. All five are survived by their respective extended families and friends.

The location of Bob and Sue's property, at the Strathewen end of Pine Ridge Road, was quite steep in parts and undulating in others. There were some heavily treed areas leading up to the house, as well as some cleared paddocks, especially on the other side of the road, where the land sloped down towards a creek bed. Their house was a single-storey weatherboard with a corrugated iron roof.

It was well known among family and friends that Bob and Sue's fire plan was to stay and defend. Their friend Karen Crabtree recounted:

> Robert was an ex-CFA member and I know that he was very thorough with the fire protection for the home … I know that he had a sprinkler and pump system in place all around his property. I know that all the water tanks were full because they told me. I also know that the property was slashed the week before the fires. They had a well-practised fire plan. All of their friends were told of this plan in case we were up there in fire.

When Bob and Sue moved to the house in 2006 there were sprinklers around the roof, a gutter-mounted sprinkler system and a petrol-powered water pump. The pump would draw water from the dam via above-ground poly-pipe, as well as from the water tank outside the house, which had a capacity of 15,000 to 20,000 litres. Bob added to their firefighting equipment—a diesel pump, fire hoses, a trailer tank, and other items such as mops and buckets. Sue's brother-in-law, Kyle Westall, explained, 'Over the years Bob showed me how he had been prepared. It wasn't like something had been rigged up for the day. He was so capable and so well prepared; he was not a risk taker …'

Bob and Sue arrived home from the Diamond Creek Pet Store, which they owned, at some time between 3.30 and 4.00 pm on 7 February, bringing Kaya with them. Jon and Haydn were already at home, and preparations were under way for a party that evening to celebrate Bob's birthday the day before.

At about 4.00 pm, not long after Bob, Sue and Kaya had arrived, a friend of Jon's who lived in Smiths Gully called to warn them about fires in the area: he had heard a person from one of the St Andrews CFA trucks calling in over the CFA scanner, in tears at what he could see happening. It appears this prompted those at 75 Pine Ridge Road to put their fire plan into action: the water pump was tested, fire hoses were laid out, and mops and buckets were prepared.

At 4.10 pm, with their internet access down, Sue called her sister's house. Her brother-in-law, Kyle, answered, and Sue responded with 'Hi doll, how you going, what you up to?' They spoke only briefly because Bob wanted Kyle to check the CFA website for him. Bob and Kyle were then on the phone for 10 to 15 minutes—'the longest phone conversation I ever had with him', said Kyle. Bob helped Kyle negotiate his way through the CFA website so he (Bob) could gain an understanding of where the fires were and their status. After going through all the information, the two men concluded that the three closest fires were under control, and Kyle's impression was that Bob was relieved.

At about 5.00 pm Jon spoke to his friend Jason and told him not to come up to the house because 'there was smoke everywhere and they couldn't see what was going on'. Jon also mentioned that they were filling buckets with water. At about 5.25 pm Sue sent a text message to her friend Karen to tell her they were surrounded by fire and she would get back to her. These are the last known contacts with those at 75 Pine Ridge Road on 7 February.

Fire hit the area at about 5.30 pm, from the west-south-west, most probably the result of the wind change. The fire and the accompanying wind appear to have blown the roof off the house: it was found about 15 metres away in the eucalypt forest. The house itself had been levelled.

On 9 February police found the remains of Sue, Jon and Haydn in what had been the bathroom–laundry area of the house; Bob's remains were found outside, between the front door and the south-east corner of the house. On 13 February Kaya's body was found about 300 metres away, across the road in a cleared area, suggesting he had tried to run from the fire and seek shelter in the nearby dam.

The post-mortem reports record that the deaths of Robert O'Sullivan, Susanne Evans, Jon Le Gassick, Haydn McMahon and Kaya Mehmedoff were caused by the effects of fire.[39]

### DONALD AND MABELLE HATTON

Donald 'Don' and Mabelle 'Leonie' Hatton were in their 80s when they died together at 45 Rankines Road, Strathewen, on 7 February 2009. Their much-loved dog, Peri—'the dog that was spoiled rotten and had a place at the dining table'—also died with them. Don and Leonie are survived by David and Bronwyn, two of their four children.

Don and Leonie bought the 20-hectare property at Rankines Road in the early to mid-1980s. They were involved in community conservation for 40 years and were ardent protectors of the natural environment, establishing their property as a wildlife sanctuary with bed and breakfast facilities. The property was called Laanecoorie, meaning 'place of kangaroos'. In the early 1990s they built their house, an octagonal mud-brick building, on a north-facing slope. They later converted their shed to provide guest accommodation and then built a second accommodation unit and a conference centre, rendered to look like mud brick. Laanecoorie provided a habitat for over 70 bird species plus wallabies, wombats, echidnas, sugar gliders, and a wide variety of wildflowers and terrestrial orchids.

Don and Leonie's son David described the property as heavily wooded in places, with virtually all the trees being Australian natives such as messmate, stringybark species, yellow box, manna gum and re-introduced red box. There was an understorey of tea tree, kerosene bush, various wattles, and other species. In recent years the undergrowth and ground cover had become sparse as a result of the drought, effectively creating open woodlands.

The Hattons were clearly aware of the fire risk where they lived and prepared the property in such a way that they could stay and protect it if necessary. Over the years they had worked hard to clear the highly flammable tea tree and kerosene bush, and more recently they had removed some eucalypts near the buildings. With firefighting in mind, they made sure they had an adequate water supply. There were three dams on the property and four sizeable tanks.

The house tank, of about 18,500 litres, was at the front of the house, between the patio and the carport; it was made of concrete and was always kept at least half full. An electric pump and a petrol-driven firefighting pump were housed in a brick cupboard next to the house tank. They pumped water up to the main tank, which was also made of concrete and had a capacity of 75,000 litres. The main tank was 20 metres above the smaller tank, and this created sufficient water pressure for the house and the sprinkler system. The petrol pump could also boost the pressure to the sprinkler system. David explained his parents' sprinkler system:

> The sprinkler system that he [Don] had installed around the house was about a metre from the main house. It was constructed from a metal pipe with about seven or eight sprinkler heads which protruded about a foot or two from the ground. The sprinkler system on the roof was constructed from a heavy duty copper pipe which was used to squirt water onto the roof and into the gutters. Both these sprinkler systems were plumbed back to the small house water tank of about 18,500 litres, which was also connected to the gravity-fed 95,000-litre [sic] main tank up the hill.

David expected his parents to stay with the house if there was a fire. He thought they would have assumed they had a good chance of survival because of the sprinkler system and the house's mud-brick construction. He did not consider his father a gambler who would risk his own or his wife's life.

The only contact David had with his parents on 7 February was a voice message left by his father just before 4.00 pm, telling David the 'fire system was switched on the roof and I think we will be OK'. On reflection, David thought his father did not sound confident when he left the message.

The fire hit the Hatton property from the south-west at some time between 5.30 and 6.30 pm. The house and conference centre were destroyed, and there was major damage to the tractor shed and attached suite. The main accommodation building survived largely undamaged.

Don and Leonie were found on 10 February 2009 in the remains of the main house, where they had been sheltering in the bedroom with their dog.

The post-mortem reports record that Donald and Mabelle Hatton died as a result of the effects of fire.[40]

### CATHERINE, JUDITH AND GREGORY MCIVER

Judith 'Judy' and Gregory 'Greg' McIver married in 1971 and lived interstate for nearly 20 years, moving back to Victoria in 1990. In 1995 they bought a property at 145 Chads Creek Road, Strathewen. Greg and Judy were both aged 59 when they died at their home in Strathewen on 7 February 2009. Greg's mother, Catherine McIver, aged 84, was staying with them at the time, and she too died. Greg, Judy and Catherine McIver are survived by their extended families.

Greg and Judy's Chads Creek Road property covered about 16 hectares, three quarters of it bush: they both loved living in the bush. Situated about a kilometre north of Strathewen township, the land was on a spur to the south-east of Sugarloaf Ridge. The single-storey brick house was built in the homestead style on a crest at the top of the spur. The views were outstanding, as Greg's sister, Jill, recalled:

> The Strathewen property was a lovely place. To get to the house you went up a winding dog leg drive way and parked around the back of the house. The house ran [in] an east-west direction on the top of the block. You went into the house and along the front veranda at the east end of the house you could see down into the valley and the Strathewen oval to the left hand side. You had good views of the city at night time. I think the back of the property backed onto the Kinglake National Park.

As much as they loved living in Strathewen, Greg and Judy were planning to sell their place and move into a retirement village in Torquay with Catherine. Catherine's health had declined in the preceding two or three years: she had had surgery on her knees, her heart and her eyes. On 7 February she was staying with Greg and Judy for a rest, having been released from hospital just two days before. She had sold her house in Torquay and was looking forward to moving into the retirement village as soon as it was finished, which she thought would be the coming April.

Although not much was known about Greg and Judy's plans in case of fire, both were said to be meticulous in the care of their property. Judy kept the house beautifully, and Greg kept the outside raked and tidy. Greg was conscious of fire danger on days of extreme heat and wind; he had two Furphy water tanks and fire hoses he would get out on days of high danger. A neighbour who had spent an evening with the McIvers in late January noted:

> I observed a big metal water tank he had in preparation of a fire. The water tank was approximately 20 metres or so to the north west of the house. It was about 15,000 to 20,000 litres in size. It was quite separate from the house and I remember it was not the main water catchment for the house. They had a separate tank somewhere else for the house. It appeared it was put there for gardening and for firefighting. I remember seeing a water tank on a trailer and I thought to myself that guy was fairly well prepared for a 'normal' fire. There was a clearing around the house in all directions for about 10 or 15 metres minimum.

On 7 February Greg, Judy and Catherine were all home. Catherine had taken a nap in the early afternoon. At about 2.00 pm Greg called Lorraine Tully, a neighbour who had a CFA scanner and lived directly opposite the McIvers' house. Lorraine told Greg about the fire in the Wandong–Kilmore area. A few hours later, at about 4.45 pm, Lorraine called Greg again to tell him there was a fire in nearby Hewitts and Eagles Nest Roads and it was out of control. Just after 5.00 Greg called Lorraine to tell her embers were falling and he had been trying to call 000 without success. Lorraine could see that a spot fire about the size of a car had broken out about a kilometre from their house. This was the last known contact with Greg, Judy and Catherine.

On 8 February Judy's family listed Judy, Greg and Catherine with the Red Cross as missing. The next day their remains were found in the ruins of the house, in a bedroom.

Fire struck the McIver property from about 5.00 pm. A Victoria Police forensic scientist who examined the circumstances concluded it was probable the fire approached the house very quickly, offering little opportunity for firefighting. The pattern of damage suggested the fire might have entered the house through the large front windows.

The post-mortem reports record that Catherine, Judith and Gregory McIver died as a result of the effects of fire.[41]

### PHILLIP AND ELIZABETH PERRY

Phillip and Elizabeth 'Libby' Perry lived at 115 Chads Creek Road, Strathewen. Their mud-brick house was nestled in the south-west quarter of a fairly heavily wooded property at the foot of the spur that extends approximately south-east from Sugarloaf Ridge. The Perrys shared their property with their four dogs and five alpacas; they died there on 7 February 2009. Phillip, aged 58, and Libby, 59, did not have children. Phillip is survived by his brother and two sisters; Libby is survived by her parents and siblings.

The Perry property was surrounded by a mixture of grazing land and medium-density eucalypt forest and was separated from Kinglake National Park, about 500 metres to the west, by a broad strip of farmland. The area immediately around the house was relatively clear, with lawn and ornamental trees. There were four water tanks and two dams on the property; both the dams were north of the house, the nearest about 32 metres away. The carport was south-east of the house, and there were some sheds to the south-west.

Not much is known about the detail of the Perrys' fire plan. It was well known that Libby hated the thought of fire and planned to load up her animals and take them to safety at a friend's property in Doreen. Phillip planned to stay and defend. He had recently bought a sprinkler system for the roof of the house but had not installed it.

Along with most of their near neighbours, the Perrys were part of a local fire tree group. Residents of Chads Creek Road used their phone tree to keep each other informed of any fire threats; it was activated just after 1.00 pm on 7 February. Between 1.15 and 3.49 pm there were a number of calls between Phillip and his neighbours.

Phillip was monitoring a scanner and in the early afternoon became aware of the fire at Wandong. He was relaxed, though, not seeing an imminent threat. Just after 3.45 pm he learned there was fire in nearby Arthurs Creek. Libby called a friend in Arthurs Creek and was surprised to hear her friend could see fire on Mt Sugarloaf, about 2 kilometres from the Perry property, and ended the call abruptly. Within five minutes she called her mother to tell her she was packing the car to evacuate to Doreen. This was at about 4.10 pm.



Phillip and Libby's actions after this cannot be confirmed, but it would appear that Libby was unable to evacuate because of the proximity of the fire. The Arthurs Creek CFA captain noted that by 5.00 pm there were reports of four fires in Chads Creek Road. A Victoria Police forensic scientist estimated that by 4.30 pm the road would have been blocked in both directions by spot fires. It appears that Phillip made efforts to fight the fire: extended hoses were

found attached to the concrete and metal tanks; calls to the house at about 5.00 pm went unanswered, suggesting Phillip and Libby were engaged in firefighting; and remnants of lawn to the north-east of the house survived, suggesting this area had been moistened.

Just after 5.00 pm the McIvers, who lived about 300 metres from the Perrys, saw embers falling. This is about the time it is estimated the power failed. The Perrys' water supply was dependent on an electric pump; with no back-up generator or power, water pressure would have been lost.

The Victoria Police forensic scientist concluded that the main fire struck this area from the west and north-west at about 5.30 pm, devastating the Perry property. All that remained of the house were the mud-brick walls. On 11 February 2009 the bodies of Phillip and Libby were found in what had been the laundry area, near the back of the house.

The post-mortem reports record that Phillip and Elizabeth Perry died as a result of the effects of fire.[42]

### JOSEPH AND DANIEL SHEPHERD

Joseph 'Joe' Shepherd and his wife, Dini, bought their property at 25 Hewitts Road, Strathewen, in 1979. Back then, they spent every spare day making mud bricks to build the two-storey home they lived in with their two sons, Daniel 'Danny', born in 1976, and Luke, born in 1982. Joe was 60 years old when he died on 22 February as a result of injuries sustained on 7 February 2009; Danny was 32 years old when he died on 7 February 2009. They are survived by Dini, Luke, Danny's wife, Bree, and their extended family.

Joe and Dini loved where they lived—especially 'the bush, the orchids and the animals'. Joe had joined the Arthurs Creek – Strathewen CFA brigade as soon as they moved to the area and was an active member for 27 years. Despite being aware of the risk, Joe and Dini planned to stay and defend in the event of fire, as Dini detailed:

> … we had a sprinkler at the front of the house on the northern side. We had a proper fire hose which went the complete length of the house. We had little sand bags inside a water proof bag to plug the down pipes. We have a 5,000-gallon [23,000-litre] concrete water tank at the top of our driveway which is just for fire fighting. We have other tanks for household purposes and another for drinking. All the water tanks were full.

Throughout the day on 7 February Joe monitored the radio and made phone calls. At about 2.00 pm a neighbour telephoned to ask about a fire at the bottom of Hewitts Road. While Joe went to change into his firefighting gear Dini met a CFA truck at the top of their driveway and was told it was a false alarm. About 15 minutes later Joe left home in response to a CFA call-out to a fire at the top of Hewitts Road, near Jacksons Road.

Earlier in the day Danny and Bree had travelled in separate cars from their home in Ocean Grove to Bacchus Marsh to attend an engagement party. They had differing plans for after the party: Bree was returning to Geelong, while Danny was going to Melbourne. Bree phoned Danny at about 4.30 pm to let him know she had arrived safely back in Geelong, despite the hot and windy conditions. Danny told Bree he had ditched his plans and was instead on his way to his parents' house to help them fight the fires.

Just before 5.00 pm Dini was outside filling the downpipes when Joe arrived home from the call-out and told her the fire at the top of Hewitts Road was under control. Dini's brother, Henk Vreulink, who lived nearby in School Ridge Road, called to let them know of fire spotting near his house. Just as Joe was about to leave to go and help Henk, Danny arrived; he got into his father's van and they left for Henk's place together.

When Joe and Danny arrived at Henk's property, less than 4 kilometres away by road, they started to hose down along the creek bank in preparation for the fire. After only a short time the three men decided the fire was heading towards the Shepherd property and agreed that Danny and Joe should return home, where Dini was on her own. Danny and Joe left in Joe's van, heading west along Henk's driveway. Within a minute of leaving they were reversing towards Henk, yelling to him that the fire was in front of them and he would be trapped.

It was decided that Danny should take Henk's four-wheel drive, which had been packed earlier in the day with some personal possessions. Joe drove out in his van, followed by Danny. Henk was to follow in his truck, but when he reached the crest of the hill on the way out he was confronted by what he described as a 120-foot wall of flame

across his driveway. He and his dog left the truck and ran through the bush, heading north-east. Henk made it to School Ridge Road and was picked up by a neighbour, Denis Spooner, who was fleeing his own burning house further along the road. Together they drove along Bowden Spur Road to Kinglake, where they eventually found shelter and safety.

Less than 20 minutes after Joe and Danny had left the Shepherd property they were on their way back. It appears their passage was blocked by a tree that had fallen across Strathewen – Cottles Bridge Road about the time the fire hit that area. At about 5.20 pm Danny tried to call the mobile emergency number 112, but his call was not answered.

Malcolm Park, a resident of Bowden Spur Road who had taken shelter with his wife in a nearby paddock, noticed two vehicles on Strathewen – Cottles Bridge Road. It was about 5.30 pm, and he could see that the van in front was blocked by a tree and the four wheel drive behind it was on fire. He knew Joe's van and went to see if he could help. He found the driver's door of the van open and the ignition on but could not see Joe. Shortly afterwards he saw some CFA members, who confirmed they had found Joe lying injured on the road about 30 metres from the van.

Joe and Danny had travelled about a kilometre from Henk's property and were trapped about 2.5 kilometres from the Shepherd home. Dini told police investigators, 'I believe Joe and Danny were heading back to me at our house because they knew I was home alone'. The Shepherd home survived the fire.

Danny's body was found lying in the back of his father's van; apparently he had left the four-wheel drive. The post-mortem report records that Daniel Shepherd's death on 7 February was the result of the effects of fire.

The CFA members took Joe to an ambulance; then he was taken to hospital, where he was placed on a life-support system. His injuries were such that the life-support system was turned off on 22 February 2009, and he died that day. The post-mortem report records that Joseph Shepherd died as a result of 'complications of smoke inhalation and cutaneous thermal burn injuries'.[43]

### MARILYN AND DAMIEN SPOONER

Marilyn and Denis Spooner moved to Strathewen in 1980, to an address that later became known as 45 School Ridge Road. There they raised their two sons, Damien and Warwick. In February 2009 three generations were living in the single-storey five-bedroom house: Denis and Marilyn were sharing with Damien, his wife, Jodie, and their two young children. Marilyn, aged 57, and Damien, aged 33, died there on 7 February 2009, having sought shelter in the house after an unsuccessful attempt to evacuate. They are survived by Denis and Jodie, both of whom escaped, along with Warwick and his wife and their extended families.

The fire plan for the Spooner residence was of long standing. It was to leave. Denis explained:

> The family's fire plan has always been to leave. The plan was only verbal but it had been discussed many times and had been in place for years. If we couldn't leave, our back-up plan was to take shelter in the house until the fires passed and then leave. We never intended on fighting any fires.

There were only two ways out of the property. The preferred choice was to head towards Arthurs Creek because that road was sealed and allowed for two-way traffic. In contrast, the road to Kinglake was unsealed, narrow and winding and as a result more difficult to navigate in extreme circumstances. There was some firefighting equipment at the property, but this was to be used as a last resort if the family was unable to leave.

Denis spent the morning of 7 February monitoring the CFA website. He was home alone because Marilyn had gone to Hurstbridge to do some shopping and Damien, Jodie and the children had gone to visit Jodie's parents in Greensborough. Just before 2.00 pm Damien called Warwick. They discussed the fires and arrangements for the evening: a family gathering had been planned to celebrate Jodie's birthday. At about the same time, in Strathewen, Denis had noticed smoke in the air, causing the sun to be obscured.



At about 4.30 pm Damien and Jodie arrived home having left the children with her parents; they wanted to make sure Denis and Marilyn left safely. Denis was not home when they arrived, having gone to warn neighbours. Damien and Jodie tried to persuade Marilyn to leave but she would not leave without Denis, so the three of them started to load family items into their cars. When Denis returned not long afterwards he joined them.

At some time before 5.00 pm Denis heard a loud roar, which he assumed was the approaching fire, and a decision was made to evacuate in four separate cars. After some discussion between Damien and Jodie, who had wanted Damien to come with her because she was anxious about driving in the deteriorating conditions, they left. Jodie drove out first, followed by Marilyn, then Denis and finally Damien. Jodie recalled:

> I drove out the bottom exit down towards the school and onto School Ridge Road and then into Bowden Spur Road and then turned left into Strathewen – Cottles Bridge Road. I was driving fairly slowly because the smoke was getting thicker and visibility was reduced.

Jodie saw the fire moving from the grass into the trees, tree branches were on the road, the smoke was getting thicker and visibility was deteriorating. She arrived at her parents' house in Greensborough at about 6.00 pm. Meanwhile Denis, Marilyn and Damien had not been able to follow Jodie because a tree had fallen across the road, forcing them to turn around. Denis took the lead position and yelled to Damien to follow him back past their house to Kinglake. Some distance past their house, Denis realised Damien and Marilyn were no longer behind him. He turned around to go and find them but realised he had been blocked by fire and could go no further. He turned around again and continued towards Kinglake along Bowden Spur Road, picking up neighbour Henk Vreulink on the way. Henk had fled on foot from fire at his property. The two men eventually found shelter in Kinglake.

It appears that Marilyn and Damien returned to the house, although it is not known whether they went there to collect something or to shelter from the fire. At about 5.00 pm Marilyn called Warwick, told him they were under fire attack and asked him to call 000. He was unable to reach 000 and called his mother back to tell her. Just after 5.00 pm Warwick rang Damien and told him the CFA was on its way. Damien told Warwick that he and Marilyn were in the bath. Warwick recalled that Damien was struggling to speak and breathing heavily. The last contact with Damien and Marilyn was at 5.21 pm, when Jodie returned a call from Damien's mobile. He had called her moments earlier to make sure she had made it to safety; he told her he was getting in the bath and would call once the firefront had passed.

On 10 February police went to the Spooner residence. They found human remains in the bathroom area of the house, which had been razed.

A coronial inquest on 7 May found that Damien Spooner had died in or near 45 School Ridge Road on 7 February 2009 from the effects of fire. The post-mortem report records that Marilyn Spooner's death was consistent with the effects of fire.[44]

### IRMA AND MICHAEL WINTON

Irma Winton died on 7 February 2009 in her home at 635 Bowden Spur Road, Strathewen. Her son, Michael Winton, who lived in Lower Plenty, also died on 7 February, having collapsed at a roadblock about 1 kilometre south of Strathewen, on the Cottles Bridge – Strathewen Road. Irma, aged 77 when she died, is survived by four of her five children, their partners and her grandchildren. Michael, aged 53 at the time of his death, is survived by his daughters and his fiancée.

Irma and her late husband, Robert, built the family home in Strathewen in the early 1970s. Irma continued living there on her own after Robert died in the mid-1970s and the children had left home. The house—a single-storey brick veneer on timber stumps and with a tiled roof—was set on a 4-hectare property that was relatively clear of trees except for rows of eucalypts along the boundary and the driveway, which sloped up quite steeply from the road. The property was well supplied with water: there were two dams and a number of tanks to supply the house and for firefighting purposes, as described by Irma's daughter Karen:

> At the back of the house was a large round brick water tank. This tank held about 9,000 gallons [34,000 litres]. At the back of the property up the hill was a round tin tank and it held about 4,000 gallons … Mum also had a round plastic tank specifically to fight fires … The plastic tank held about 5,000 gallons … Mum used an electric pump at the dam to pump water from the dam through underground pipes up to a diverter. She could then turn different taps on and off at the diverter and water different areas of the garden or multiple areas of the garden at once.

Irma was always adamant that she would stay and defend her property. She had a fire plan: she would turn on her sprinkler system to saturate the house and surrounding grounds and fill her gutters with water. If a firefront came through she would stay in the house in the bath until it was safe and then go outside to put out spot fires. Her car, normally kept in the carport, would be parked at the front of the house, facing down the hill ready for escape.

Her children were not all happy about Irma's plans to stay and defend; it was something she and Karen had fought about three years earlier. Irma had refused to leave in the past and did not expect her children to come and stay or help her in life-threatening situations.

Aware of the dire fire predictions for 7 February, Karen called her mother during the preceding evening and asked her to come and stay:

> Mum wouldn't have a bar of it. She refused to leave. Mum told me she had been pumping water out of the dam and wetting down the gardens and the surrounds of the house in preparation for the severe weather. There was no way Mum was leaving the house.

Karen called her mother again about 12.30 pm the next day to see if she had changed her mind. She hadn't. She told Karen she was not going anywhere, she had been watering down all night, and she was fine.

On 7 February Karen and Andrea, Irma's other daughter, were monitoring the CFA website. Andrea, who was close to a fire in Gippsland herself, called her mother just after 2.00 pm. They talked about the fire being at Wallan, about half an hour's drive from Irma's home, which Andrea thought was a long way. Irma was concerned about what might happen if the fire got into Kinglake National Park behind her. At that stage the CFA website listed no threat to Strathewen or Kinglake. At about 3.30 pm Karen called her brother Michael at his home in Lower Plenty, expressing concern for Irma's safety. This prompted Michael to also start checking the CFA website.

Some time after this Karen heard about a spot fire in Eagles Nest Road, Strathewen. She managed to reach Irma on the phone at 3.51 pm to tell her she was coming to get her. Irma said she could not see any fires. At 4.10 pm Karen and her husband, David, left Healesville to go to Strathewen, just over 20 kilometres away.

When Karen and David reached Strathewen about half an hour later, police roadblocks were in position and they were unable to get through to Irma. At about 7.15 pm Andrea called Michael and discussed the possibility that he might be allowed through the roadblocks so he could check on their mother. They felt it would be safe now the firefront had passed, and Michael's CFA experience might be helpful in gaining him access. Michael went to Strathewen but was not allowed through the roadblocks. In a phone call, however, he told one of his daughters that he had found a back way in and was close to Irma's place. It is not known where he was at the time.

At about 9.30 pm Michael was waiting at the roadblock on Cottles Bridge – Strathewen Road when he had a heart attack. Police drove him to the nearest ambulance through paddocks and debris, having been hampered by a burning tree that had fallen across the road. Once in the ambulance Michael was treated by paramedics and driven to Hurstbridge for additional medical assistance. The ambulance arrived in Hurstbridge at 10.29 pm and continued treatment for another 20 minutes, but Michael did not respond.

Michael had a history of heart problems and had had a heart attack in 2006. At the request of his next of kin, an autopsy was not performed. A forensic pathologist conducted an external examination and found that Michael's death was probably associated with underlying coronary artery disease.

On 10 February 2009 Irma's body was found in the ruins of her house, in the bath. The carport, shed and car were also destroyed. The firefront struck Irma's property from the west at about 5.45 pm and, such was the speed of the fire's approach, investigators think Irma was probably taken by surprise.

The post-mortem report records that Irma Winton died as a result of the effects of fire.[45]

## 16.10 STEELS CREEK

### LEIGH AND CHARMIAN AHERN

Leigh and Charmian 'Charm' Ahern, aged 57 and 58 respectively, lived at 171 Old Kinglake Road, Steels Creek. Their steel-framed brick house, at the top of a ridge in a heavily forested and hilly area, was built on brick stumps and had a corrugated metal roof. Old Kinglake Road was narrow, winding and unsealed. Leigh and Charm died in their house on 7 February 2009. They are survived by their children and extended families.

Leigh and Charm had an elaborate firefighting system that was well maintained. There were two large water tanks on the property, each of about 20,000 litres' capacity. A petrol-powered fire pump and an electric pump ran water to the tanks, and underground pipes ran from the top water tank down to one of the pumps. Leigh also had a pump-action backpack for putting out spotfires. At various points on the house there were sprinklers, including mist sprays under the verandah and long-range jet sprays on the corners of the carport. During the fire season Leigh regularly raked up the leaves around the house and on the embankment and tested the pump and sprinklers. The Aherns were also members of their local community fireguard group. Their plan was to stay and defend their property.

The Aherns were well aware of the fire danger on 7 February. They spent the morning preparing their property and reassuring the many family members who rang to ask about their welfare. Part of their fire plan was for Leigh's brother, Gane, to monitor the CFA website and CFA radio and to keep him updated. This was put into effect in the late morning.

David Allan, a neighbour and coordinator of the community local fireguard group, rang Leigh on several occasions to keep him updated. One call, at about 3.40 pm, was to let them know that a report of a nearby spot fire was a false alarm. Just before 4.00 pm Charm rang her son, Dale, to reassure him that the fires that were in the area were a fair distance away. By then the Aherns had also communicated with their immediate neighbours, the Barnetts, who were monitoring the internet. The Barnetts died at their property as a result of the fires.

At about 5.15 pm David Allen told Leigh he could see smoke and flames coming from Mt Everard, about 2.4 kilometres west of the Aherns' property. Shortly afterwards Leigh sent a text to Gane, saying, 'Mt Everard not lookin good either and another beyond Beggary'. This prompted Gane to call and suggest that Leigh consider evacuating. Leigh replied that it was too late to leave and he believed he and Charm would be all right.

At about 5.45 pm the Aherns' daughter, Chloe, rang. Charm was in tears as she answered the phone: she said she was scared, the fire was coming over the ridge, and she had to get water to help Leigh. At about the same time another neighbour, who had already evacuated, rang to warn the Aherns of nearby fire activity and to let them know he had left. Charm responded, 'Oh God, OK. Thanks'. Shortly after 5.45 pm the firefront arrived. The Aherns' neighbour David Twentyman described it:

> I could hear the fire approaching before I saw any flames. It was a massive roar. It sounded like a jet engine sucking in air. As the fire was approaching I saw my neighbour Charm Ahern run into her carport. She looked over at me from the carport and yelled out 'The fire's coming' and I yelled back 'I know'. Charm ran back inside and that was the last time I saw her alive.

The Aherns' house was quickly engulfed in flames, the roof lifting off early in the onslaught, as described by a neighbour who witnessed the event.

Leigh's and Charmian's remains were found inside the ruins of their home on 8 February.

The post-mortem reports record the cause of death for both Leigh and Charmian Ahern to be the effects of fire.[46]

### JOHN AND JENNIFER BARNETT

John and Jenny Barnett had a weekender at 185 Old Kinglake Road, Steels Creek. Their permanent home was in Melbourne, but they were spending increasingly lengthy periods at Steels Creek as they neared retirement. Aged 59 and 61 respectively, they died in their Steels Creek home as a result of the fires of 7 February 2009. They are survived by their extended families.

The Barnetts' 2-hectare property backed onto Kinglake National Park to the west and bordered heavily forested private land in all other directions. The house was surrounded by trees, and access was via a steep driveway running up from the narrow, winding and unsealed Old Kinglake Road. The house was built of timber and mounted on a steel frame about 2 metres above the ground.

John and Jenny were well aware that they lived in an extremely fire prone area. Jenny was a research officer at the Victorian National Parks Association and had particular expertise in fire management. They were both members of the local community fireguard group and had taken a number of steps to prepare their home for fire, including installing a rooftop sprinkler system, numerous water tanks, two pumps and plenty of hosing. Jenny routinely checked the CFA and DSE websites on days of high fire threat.

It is not certain what John and Jenny's fire plan was on 7 February. During the 2006 fires they had chosen to go to the property to defend it, and Jenny's brother assumed defence was still their plan. On the other hand, John's stepfather said they would not have knowingly risked their lives to protect their property and that this was consistent with what John had told him on 7 February.

John had telephone conversations with family members at about 10.30 am and 1.50 pm. In both instances Jenny was tracking fire activity on the CFA website. John told his stepfather at 1.50 pm that if anything turned up they would leave. Later still, the Barnetts supplied to their immediate neighbours, the Aherns, updates about the fire situation based on their internet monitoring. The Aherns died at their property as a result of the fires.

At about 5.30 pm David Allan, a neighbour and coordinator of the local community fireguard group, activated the community phone tree after seeing smoke and flames from the top of Mt Everard. He rang John to tell him this and say that he and his wife were evacuating. Shortly before 6.00 pm Jenny rang another neighbour, Adrienne O'Neill, to let her know there was a fire at the end of Adrienne's property. In the following minutes the Barnetts tried to call two neighbours, including the Aherns, but neither call was answered.

The firefront hit the Barnett property from the west between 6.00 and 6.10 pm. The house, which was destroyed, probably ignited quickly. On 11 February John's and Jenny's remains were found inside the house.

A Victoria Police forensic scientist commented, 'Of particular interest were the steep slopes around the house, and the limited visibility with respect to a fire approaching from either the south or the west'. He also said it seemed likely that the couple had been surprised by the fire, which developed quite suddenly in the area. John's stepfather shed further light on the couple's possible response:

> They were both so level headed and responsible in any crisis. I believe that a fireball came in a matter of seconds and overwhelmed them before they could get out. As Jenny was tracking the fire on the CFA website, if it had shown a fire nearby then they would definitely have left.

The post-mortem reports record the cause of death for John and Jenny Barnett to be consistent with the effects of fire.[47]

### LYNNE JAMES

Lynne James lived on her own at 105 Hargreaves Road, Steels Creek. Aged 49 years when she died there on 7 February 2009, she is survived by family members.

Lynne lived a reclusive life, having limited contact with other people—including family. She had cats and other animals she cared for and loved. The property had originally belonged to her parents, who died within a few years of each other in the mid to late 1990s, leaving the place to Lynne, who had been living in a bungalow there. By February 2009 the property no longer had any running water, or electricity or telephone (landline or mobile); nor did it have any firefighting equipment.



A number of Lynne's neighbours had spoken to her about the risk of fire and asked what her plans would be if there was one. Neighbour David Gormley said Lynne had told him she would never leave without her animals.

In 2007 there had in fact been an ash and ember attack: neighbours eventually persuaded Lynne to evacuate with their help to Yarra Glen, taking her cats and chooks and some old books.

After that experience Lynne told another neighbour her fire plan was to collect her animals and walk with them up Hargreaves Road to the Melba Highway, a distance of 1.5 kilometres. Having no phone, she could not participate in the local fire phone tree, so David Gormley and his wife, Sally Ferres, had agreed to let her know if the phone tree was activated during a bushfire. She declined to attend any meetings about the phone tree. David and Sally also helped her in other ways, including allowing her to use their phone number as a contact number for messages.

Because of technical difficulties with phones in the area—difficulties that pre-dated the fires—and poor mobile phone coverage, the phone tree was not operable on 7 February.

Little is known about Lynne's movements on the day. At about 4.45 David noticed ash falling from the sky and a rumbling noise that became increasingly loud. Gale-force winds from the south-east were stripping sheets of bark off trees. Sally evacuated, honking her horn as she drove past Lynne's house because she could see Lynne's car in the driveway. She had no time to stop. David described the firefront that came through shortly after:

> As Sally drove away up the road black ash started to turn to glowing embers which then turned into flaming embers and large chunks of debris that were burning. The wind was gale force, the rumbling was deafening and it was pitch black. I went inside … and noticed the power to the house had been cut. I put on some overalls, boots and a hard hat and grabbed keys for my various vehicles. I had no landline phone service and no mobile reception, so I could not call anyone. The firefront came through so fast that I had no time to go next door to Lynne's place.

David was eventually forced to abandon the defence of his house and escape to the dam for an hour. The fire arrived at about 6.00 pm. On 10 February Lynne's remains were found inside what had been her kitchen. The house had been destroyed.

The post-mortem report records the cause of Lynne James's death as the effects of fire.[48]

### GREGORY AND GAIL LEONARD

Greg and Gail Leonard lived at 433a Steels Creek Road, Steels Creek. Their home was at the end of a very long driveway, itself off a private access road they shared with neighbours. They had vineyards in Dixons Creek and Steels Creek. They died in their house on 7 February 2009. Aged 61 and 58 respectively, Greg and Gail are survived by their four children, their grandchildren and their extended families.

The 20-hectare Leonard property was a mix of relatively cleared and forested areas. About one-third of the property, towards the front and around the house, was pasture. The remaining two-thirds, at the rear, was bush leading up to the top of Yarra Ridge. The four-bedroom homestead-style home was built of concrete bricks and had a corrugated iron roof. The Leonards planned to stay and defend.

The large concrete water tank at the top of the Leonards' driveway had about 15,000 litres' capacity and there was a petrol pump with a feed from the dam piped to the house. This tank was for firefighting and had been full two weeks before 7 February. There were also two polythene tanks, each of about 14,000 litres' capacity, near the house and a petrol-powered fire pump. The Leonards had two MFB-issue fire hoses, both about 30 metres long. The property's power supply was a combination of solar, batteries and a generator.

The Leonards routinely cleared their property of debris. In the event of fire the plan was to block the drains and fill the gutters with water, wet down the outside of the house, fill all the baths and sinks with water, and wet towels. Gail would stay in the house and attend to spot fires on the timber verandah while Greg would be outside fighting the fire, wearing heavy-duty wool and denim clothing. They were considered well equipped in terms of firefighting equipment and had what appears to have been an adequate water supply.

Greg and Gail were aware of a possible fire threat by about 2.15 pm on 7 February. It was about then that they declined an offer to sit out the heat in their daughter and son-in-law's air-conditioned house in Glenrowan.

It had become smoky and they decided to stay home in case of fire. Their son, Marcus, recounted 'Dad always said that he thought any fire threat would come from the ridge to the north-west of the property', from the direction of Kinglake.

Throughout the afternoon Greg spoke to a number of neighbours to discuss the fire threat. One absent neighbour, Matt Rossignoli, spoke with Greg a few times in an attempt to gauge the situation and the likely effects on their respective properties. Although smoke was visible and cold ash had started to fall by about 4.00 pm, when Matt spoke to Greg for the second time about an hour later Greg's assessment was that 'their properties were not under threat'.

Not long afterwards the situation had changed. About 5.15 pm Greg called a neighbour, Carolyn Kelmar, and told her she should leave immediately, as was her plan. A minute later he called Matt to tell him fire had started in the Christmas Hills, to their south-west, and 'he was worried about the situation'. At 5.30 pm he spoke to another neighbour and told him he could see flames. At about 5.45 he answered a call from Marcus and abruptly told him he could not talk because he was fighting fires. The last contact with the Leonards occurred when Greg answered a call from Matt's partner just before 5.50 pm and told her he could not talk right then—'We have a situation'—before ending the call. No further calls to either of the Leonards' mobiles were answered.

Fire reached the Leonards' property at some time between 5.30 and 5.45 pm, about the time the south-westerly wind change arrived.

At about 9.00 am on 8 February Matt Rossignoli rode his motorbike to the Leonards' property. He found their remains where they had sheltered in the master bedroom of the destroyed house.

The post-mortem reports record that Gregory and Gail Leonard died as a result of the effects of fire.[49]

### GREG LLOYD AND MELANEE AND JAESON HERMOCILLA

Graham Lloyd and his wife, Angie, bought their 5-hectare property at 491 Steels Creek Road in July 2008. The two-storey house was 38 years old; the lower level was brick and the upper level was a more recent cedar weatherboard extension. The house was surrounded by empty paddocks that had been cut for hay in December 2008 and had had horses grazing on them since then. Graham and Angie were away on holiday on the weekend of 7 February 2009. Graham's son Greg, Greg's girlfriend, Melanee Hermocilla, and Melanee's brother, Jaeson, had come to house-sit for the weekend. Greg, 22, Melanee, 23, and Jaeson, 22, all died on 7 February. They are survived by their respective immediate and extended families.

Graham and Angie had sought CFA advice about fire preparation after they moved to Steels Creek. They were told that, on the basis of historical experience, fire would in all likelihood come from the north. Because they had a hill behind their property, the fire would be travelling downhill, so they would probably have time to prepare and put their fire plan into action. Graham—knowing there was almost a hectare of cleared land on the slope behind the house—felt they would have adequate protection from radiant heat. Their plan was to stay and defend. They had a number of water tanks, an electric pump and some hoses. Graham had not told Greg about the fire plan before the weekend: he thought he would have time to do that if there was a fire threat.

With Graham and Angie away, Greg and Melanee had taken the opportunity to leave the city and have a weekend in the country. Graham recalled that Greg 'regularly said that he loved the place and would like to buy something in that area'. Jaeson had been suffering from depression since the death of his mother two years earlier. Family members were worried about him and thought the fresh air and change of scenery would be beneficial.

Greg left a message on his sister Sally's phone at about 4.00 pm, asking for the password to his father's computer, probably so that he could use the internet. When Sally called him back he told her a cool change had come through and it was quite pleasant there. His mother, Jill Scherman, called him about 10 minutes later: Greg told her they were looking after the chooks, it was beautiful there, and 'It is smoky but the fires are nowhere near here and we are safe'. At 5.00 pm Greg's father sent him a text message containing the computer password.



It appears that fire reached the property at about 6.00 pm and the house caught alight very soon after. Greg called his father at 6.00: there was fire 2 metres from the house, the cars were on fire, and he had been unable to reach 000. When Graham told him to go outside, get the hose and try to put the fire out, Greg said he could not go outside.

The phone call ended so that Graham could call 000. Greg called his mother, screaming for her to call 000 because there was fire everywhere. His parents both called 000 and had their calls logged, but no help came.

Within the next 15 minutes there were a number of calls between those at the house and Jill, Angie and Graham. Angie told Melanee where to find linen and woollen clothing and advised her to fill the sinks with water. Graham told Melanee to put something over her mouth to help her breathe and told Greg to fill all the sinks and baths with water. Jill told Greg to get all the taps running, stay low, go to the bathroom, cover themselves with mattresses for protection and put their heads over the drains. Greg had told her they had no power and therefore no water and that there was smoke everywhere and fire all around them.

At 6.18 pm, less than 20 minutes after the first call to Graham, Greg made what he knew was to be his last call to his mother; he was quiet, calm and peaceful.

A Victoria Police forensic scientist concluded that the fire that demolished the house appeared to have approached unexpectedly from the south and south-west, through an extensive area of bushland in the Christmas Hills. It is most likely that this was a result of the wind change, which 'would have allowed only minutes, possibly 5 to 10 minutes, before the firefront reached the house'.

On 8 February the bodies of Greg, Melanee and Jaeson were found in the remains of the north-east part of the house, in the bathroom area.

The post-mortem reports record that the deaths of Greg Lloyd, Melanee Hermocilla and Jaeson Hermocilla were caused by the effects of fire.[50]

## 16.11 TOOLANGI

### KATHERINE ANSETT AND STEVEN FISHER

Kate Ansett and her partner, Steve Fisher, had been living for less than three months on an isolated 16-hectare property at 325 Old Toolangi – Dixons Creek Road, Toolangi. Kate was 43 and Steve 44 when they died inside their home on 7 February 2009 as a result of the fires.

The house was made of timber and had a corrugated tin roof and slate floors. It sat on a spur among thick forest and hills. A steep 1,500-metre driveway led from Old Toolangi – Dixons Creek Road to the house, and a four-wheel drive was usually needed for access. The half-acre area where the house sat was the only level area on the property.

Kate and Steve were well aware of the fire risk at their property. A friend who saw the property before they moved there thought it a 'fire trap'. When they moved in they cleared scrub, tea tree, overhanging branches and leaf litter from the area around the house. Their friend Ngaere St-Clare explained, 'They basically cleared all around the house to the extent that they were worried they might be spotted on Google Earth by the shire'.

They had four water tanks providing up to 30,000 litres of water, two new fire pumps, generators with protective covers, and fire hoses. They also had firefighting clothing such as boots and gloves, which they kept hanging by the front door. Steve built another track to the road on the south side of the property, so they would have two ways to enter and leave the place.

Ngaere emphasised that 'Steve and Katy never had any intention of staying and defending the property'. Their fire planning was based on their understanding that if they became trapped 'they may not have a choice about fighting it'.

On 6 February Kate and Steve tested all their firefighting equipment. It was all working. On the morning of 7 February they were at home, activating their fire plan. During the middle of the day they walked around the property with Ngaere, conducting a perimeter survey to check for possible fires: '… while we were doing it we were making fun of doing it. That was because the fires weren't anywhere near there. It was about ticking the boxes on a total fire ban day'.

Kate and Steve told Ngaere they planned to evacuate if they saw smoke on the surrounding mountains. At this stage there was haze but no sign of pluming or travelling smoke. They also monitored 774 ABC radio.

Ngaere rang Kate some time after 3.00 pm to let her know a tree had fallen down on a bend on Myers Creek Road. This was her last contact with Kate. During the afternoon Kate spoke to her mother and brother. At 4.30 pm she told her brother the fires were a long way away, so they felt safe and were not worried.

At about 6.00 pm Kate's mother rang again, but she could not get through to either Kate's or Steve's mobile phone. Records show that Kate's voicemail service was accessed three times between about 6.00 and 7.20 pm. Fire hit the area at about 7.30 pm.

The house was completely destroyed. A Victoria Police forensic scientist remarked of the property:

> I did note the extremely steep slopes about the house, which would have allowed fires to approach the house from most directions at very high speeds … The proximity of the bush to the house, generally within a few metres, as well as the high timber walls, made the house particularly susceptible to attack by radiant heat, by direct flame contact and by ember attack. By any measure, against almost any fire, the house was indefensible.

He also commented on the speed of the fire: 'If they were watching for the fire and noted it immediately, this would still have only allowed about 10 minutes at the most, probably as little as five minutes, before the fire reached their house'.

On 8 February Ngaere and her partner, Simon Osborne, found the remains of Kate and Steve inside the ruins of the house.

The post-mortem reports record that Katherine Ansett died as a result of smoke inhalation and the effects of fire and Steven Fisher died as a result of the effects of fire.[51]

## 16.12 UPPER PLENTY

### STEPHEN LACKAS

Stephen 'Steve' Lackas and his wife, Sandra, had lived at 550 South Mountain Road, Upper Plenty, for about 13 years. Their 8-hectare block mostly consisted of cleared horse paddocks and was bordered by Mt Disappointment State Park. On 7 February 2009 Steve Lackas was the first person to die as a result of the Kilmore East fire, which swept through his property mid-afternoon. Steve, 37 years old at the time of his death, is survived by Sandra and their son, Bailey, then aged 7 years.

Steve, Sandra and Bailey shared their property with an assortment of animals and pets, among them three dogs, a guinea pig, three chooks, eight ponies and two horses. Their house had a timber frame, a COLORBOND® roof, and external vinyl weatherboard cladding. The garage was next to the house. There were also some sheds, including a large steel shed that housed Steve's jet boat, trailer and other equipment. Apart from the trees lining the driveway, the property was cleared of vegetation. Mains water was supplied to the house. As Sandra recounted, she and Steve had a fire plan:

> Stephen and I had discussed our fire plan in the past and we had two fire plans. One was to stay and fight the fire and the other one was to remove as much stock as possible and leave the property. Depending on the severity of how things were looking, we would implement either plan. The equipment we had to fight the fires, we had sprinklers on the roof of the house, which were metal sprinklers connected to copper pipe and down near the tap there was a bit of garden hose connected to the tap. We had tested it in the past, but I felt it wasn't very good because the pressure wasn't very good. The only other firefighting equipment was normal garden hoses. There were two near the house.

Steve had discussed his fire defence strategy with a friend in January, after a fire across the road in the State Park had caused a scare. Steve's priority was to remove his family and their horses and pets to safety. He installed roof sprinklers and considered moving the LPG tanks away from the house; he was in the process of getting a fire pump. His plan was to dress in his fire-resistant jet boat–racing suit and shelter in the shed until the fire front passed.

The Lackas family first became aware of the fire threat at about noon on 7 February. Sandra called Steve at work and asked him to come home; he arrived about 15 minutes later. At some time after 1.00 pm, while Sandra was packing the car and dealing with the horses, Steve left to go to the general store in nearby Wandong. While there he received a call from his brother-in-law to alert him to the fire danger. Steve said he did not think the fire was coming their way and that he thought people were 'stressing out' unnecessarily.

With the help of a friend who had brought a second horse float, Sandra loaded the horses and ponies onto the floats. The friend left, taking Bailey with her and towing one float. Sandra left not long after with the other horse float and the dogs. Just before she left two CFA members arrived and advised Steve and Sandra they had 10 minutes to leave. Sandra said she was leaving; Steve stayed despite Sandra's objections.

It appears that fire struck the property at about that time. Just after 2.00 pm Steve spoke to a friend who had called his mobile. Steven said, 'The hay shed is on fire and it's burning all around me and I've got to go'. At about 2.30 Sandra called Steve on the mobile: just before the call dropped out Steve told Sandra, 'There's fire all around and I'm hosing the inside of the house'. Twenty minutes later, and with the fire coming straight at him, Steve rang another friend, asking him to 'get some help'. After trying unsuccessfully to call Sandra at about 3.00 pm, Steve made three further calls from his mobile to 000 and 112 emergency. At 3.21 pm he was connected to Ambulance Victoria; he explained that he was in the fire with just a hose and that the house was burning beneath him. This was the last known contact with Steve.

At about the same time Steve's brother-in-law and a friend had tried to reach the property so they could help. When they were finally able to get through they found the tops of the trees, the house and the hay shed still burning. Inside the big steel shed, which was undamaged by fire, they found Steve's bus idling with the air-conditioning on and the jet boat attached, suggesting that Steve could have been intending to leave. They switched off the ignition, left the property and reported Steve as missing to police at a roadblock.

Another friend, Jamie Champion, had also tried to reach the property earlier in the afternoon to help Steve with his firefighting efforts but had been blocked by the fire. Once the fire front had passed, but with the bush still alight, he was able to get through some time after 6.00 pm. He walked around the burnt house, finding Steve's remains where the sunroom had been, at the back of house.

The post-mortem report records that Stephen Lackas died as a result of the effects of fire.[52]

### DAVID STOKES

David and Jenice Stokes raised four children on their farm at 80 Lords Road, Upper Plenty. They were neighbours to David's brother, Howard, in the next valley; a ridge line separated the two properties. The son of an orchardist, David cleared the land and planted 10 hectares of apple trees when they moved there in the mid-1970s. He had lived his entire life on the land and died trying to protect his farm on 7 February 2009. David, 64 years old when he died, is survived by Jenice, their four children and their partners, their grandchildren and their extended family.

The Stokes property covered 65 hectares. There were two houses on the property—one built in the 1970s, where Jenice and David lived, and the other built in the 1990s, where their son Anthony and his wife lived. An enclosed walkway joined the houses. Not far from the houses were a cool store, a machinery shed and a packing shed. The property's water supply came from a number of dams and concrete tanks.

The family was very fire conscious and had a comprehensive fire plan known to all family members. They were mindful of keeping the dams as full as possible in case of fire, and their fire plan included maintaining firebreaks around the property during the fire season. On 6 February Anthony had extended the firebreaks in anticipation of the high temperatures forecast for the following day. On days of high fire danger the family kept firefighting water in spray units on tractors. All debris was cleared from roofs and gutters, and all available containers, including cow troughs and baths, were filled with water. In the event of fire the younger female family members and children were to be evacuated to the family shop, about 4 kilometres away, while the men, and Jenice, would stay and fight the fire. The brick house would be used as a refuge until the fire passed.

Part of the fire plan entailed placing wet towels under doors and shutting the windows and wearing as much natural-fibre clothing as possible. The family had opted to plant deciduous trees instead of gum trees around the house because the former were considered much less flammable. There was good road access around the houses and sheds, and the houses and their surrounds would be drenched by means of a 2-inch pipe fed from one of the dams. Jenice recalled, 'The process was to stand on the roof and spray all over. [The pipe] had a large diameter and it flooded the place. I remember walking out the front door and finding it was quite muddy underfoot'.

On 7 February Jenice and David were joined for lunch by their son Matthew, his wife and the couple's small daughter. At about that time they became aware of a fire some distance away in Kilmore. Jenice checked the CFA website, which said, 'There was a small grass fire at Kilmore East with one or two trucks'. Not thinking they were under direct threat, the family had lunch. Just before 2.00 pm Jenice received a call from a family friend whose son-in-law was in the CFA. The call was to alert the Stokes to a fast-moving fire heading directly towards their home.

Anthony closed the family shop early and went home to help in case of fire. Not long after 2.30 pm Jenice went outside. She noticed an increased amount of smoke, and the smoke column she had earlier seen as a distant thin plume was now a widened column. This prompted further fire-defensive activity.

Anthony and Matthew pulled the vines down from around the house and checked and filled the gutters. Jenice evacuated her two heavily pregnant daughters-in-law and her grandchildren to the safety of the family shop and while driving back along Lords Road saw smoke billowing and a spot fire start in the gully. Anthony and David drove the tractors up the driveway towards the fire, using the spray units to douse spot fires as they started. Matthew was on the roof drenching the house and garden with water from the 2-inch pipe. Inside the house Jenice filled the bath and put the contents of the linen press into the water; she also checked to make sure the hoses were all connected. A stranger, Russell Edwards, who turned out to be a friend of David's brother Howard, appeared from nowhere and asked Jenice what he could do to help. She sent him to the bathroom to get a wet sheet for his own protection.

From his vantage point on the roof Matthew saw the fire approaching at about the time he lost water pressure and power. Not long after that, at about 3.00 pm, Jenice, Anthony, Matthew and Russell were forced into the house to shelter from the passing firefront. As soon as they were able to they tried desperately to fight spot fires with buckets of water, but the flames took hold of first one house and then the other. Jenice, Anthony and Matthew fled to the swimming pool, which was built into the hillside. They no longer knew where Russell or David were. Jenice recalled:

> While we were in the pool Anthony commented that he didn't think David could survive in the fire and I wondered if Russell was still alive. We waited for things to burn and then we got out and got back in because it was too hot. We got out again and we were watching for trees falling.

None could recall how long they spent in the swimming pool, but it was some time before they could safely leave and look for David. Russell reappeared: he had survived by sheltering in a dam to the north of the houses.

A Victoria Police forensic scientist who examined the material collected by the Phoenix Task Force noted:

> The movement to the dams and pool was obviously a last resort. This is not mentioned in the fire plan, but was a sensible move and resulted in the survival of those concerned, although their survival in the first instance resulted from a determined defence from the interior of the house.

Unable to find David, exhausted by their firefighting efforts and with the light failing, the four survivors went to Howard Stokes's house in the neighbouring valley. They returned to 80 Lords Road early the next morning to search for David, being joined by other family and friends during the day. David was eventually found lying near a reel of hose in the still-smouldering ruins of the cool store.

The post-mortem report records that David Stokes's death was caused by the effects of fire.[53]

## 16.13 YARRA GLEN

### GARETH JONES-ROBERTS

Gareth Jones-Roberts died in a car accident in Yarra Glen on 7 February 2009. He had gone to buy fuel for the family's generator, which was being used as part of their fire preparation and defence. Gareth, aged 48 at the time of his death, is survived by his parents, Gareth and Norma Jones-Roberts. He had lived with his parents in Mt Wise Road, Yarra Glen, for at least the preceding four years.

On 7 February the Jones-Roberts family spent most of the morning tidying up around the house because of the potential fire threat. Electricity to the house was lost at about 2.30 pm, the family could see smoke, and Gareth junior decided they should get the generator operating so there would be a power source to operate the water pumps. He and his father connected the generator to the pump at about 3.00 pm, and Gareth junior filled the generator with petrol and tested it to make sure it was working. It was.

Embers had been falling on the property, and Gareth junior became concerned that the power might be out for some time and the generator would need more fuel. At 4.15 pm he called a friend and asked to borrow some jerry cans, then left in his father's car to collect them and the petrol. While he was gone his father was using a pressurised spray pack to put out embers.

As Gareth was on his way home from getting the petrol his car was involved in an accident in Symond Street, just near the intersection with Irvine Crescent, Yarra Glen. An eyewitness, Jeff Thorn, saw Gareth's car veer off the road and hit a stormwater manhole cover; this caused the car to flip onto its roof before sliding to a stop with the driver's side hard up against an embankment. Mr Thorn was unable to reach Gareth before the car caught fire. The flames intensified quickly, setting the grass verge alight. A hose from a nearby house was used to help put out the grass fire, but fire brigade assistance was needed to douse the car, which took over an hour. A Victoria Police officer from the Major Collision Investigation Unit who analysed the scene of the accident concluded that 'excessive speed contributed to the cause of the collision and … the vehicle had ignited from within the cabin of the car'.

Mr Jones-Roberts senior thinks the accident could have been caused by his son being distracted: 'Gareth may have seen the firestorm while driving back from getting the petrol, and it would have looked from where he was in Symond Street – Melba Highway that it was going to engulf our house'.

A statement taken from Gareth junior's treating physician confirmed that Gareth was being treated for fibromyalgia: 'Fibromyalgia can affect a person's coordination and concentration, especially under stressful conditions'.

The post-mortem report records the cause of the death of Gareth Jones-Robert junior as asphyxia resulting from smoke inhalation.[54]

1 Exhibit 769 – Interactive Presentation – INTMEN 001876 (EXH.769.0001); Hollowood T16045:1–T16067:27
2 Exhibit 974 – Interactive Presentation – INTMEN 002079 (EXH.974.0001); Hollowood T20224:15–T20250:6
3 Exhibit 972 – Interactive Presentation – INTMEN 002017 (EXH.972.0001); Hollowood T20192:19–T20199:29
4 Exhibit 978 – Interactive Presentation – INTMEN 002020 (EXH.978.0001); Hollowood T20330:16–T20348:29
5 Exhibit 975 – Interactive Presentation – INTMEN 001791 (EXH.975.0001); Hollowood T20252:1–T20284:11
6 Hollowood T20200:2–T20224:12
7 Hollowood T15976:1–T15996:23
8 Exhibit 767 – Interactive Presentation – INTMEN 001825 (EXH.767.0001); Hollowood T15996:26–T16018:23
9 Exhibit 765 – Interactive Presentation – INTMEN 001810 (EXH.765.0001); Hollowood T15951:25–T15974:11
10 Exhibit 877 – Interactive Presentation – INTMEN 001837 (EXH.877.0001); Hollowood T18278:21–T18297:26
11 Exhibit 950 – Interactive Presentation – INTMEN 001779 (EXH.950.0001); Hollowood T19784:2–T19820:24
12 Exhibit 943 – Interactive Presentation – INTMEN 001892 (EXH.943.0001); Hollowood T19651:1–T19679:1
13 Exhibit 884 – Interactive Presentation – INTMEN 001835 (EXH.884.0001); Hollowood T18382:21–T18397:31
14 Exhibit 952 – Interactive Presentation – INTMEN 002078 (EXH.952.0001); Hollowood T19891:16–T19922:20
15 Exhibit 944 – Interactive Presentation – INTMEN 001800 (EXH.944.0001); Hollowood T19679:4–T19704:19
16 Exhibit 954 – Interactive Presentation – INTMEN 001836 (EXH.954.0001); Hollowood T19944:2–T19958:28

17 Exhibit 953 – Interactive Presentation – INTMEN 001842 (EXH.953.0001); Hollowood T19922:23–T19943:4

18 Exhibit 951 – Interactive Presentation – INTMEN 001822 (EXH.951.0001); Hollowood T19820:27–T19840:11

19 Exhibit 949 – Interactive Presentation – INTMEN 001868 (EXH.949.0001); Hollowood T19765:4–T19783:27

20 Exhibit 879 – Interactive Presentation – INTMEN 001809 (EXH.879.0001); Hollowood T18317:19–T18329:15

21 Exhibit 772 – Interactive Presentation – INTMEN 001826 (EXH.772.0001); Hollowood T16087:2–T16166:5

22 Exhibit 764 – Interactive Presentation – INTMEN 001785 and INTMEN 001979 (EXH.764.0001); Hollowood T15927:1–T15951:22

23 Exhibit 768 – Interactive Presentation – INTMEN 001824 (EXH.768.0001); Hollowood T16019:2–T16043:29

24 Exhibit 883 – Interactive Presentation – INTMEN 001831 (EXH.883.0001); Hollowood T18371:2–T18382:18

25 Exhibit 976 – Interactive Presentation – INTMEN 001874 (EXH.976.0001); Hollowood T20284:13–T20314:12

26 Exhibit 977 – Interactive Presentation – INTMEN 002020 (EXH.977.0001); Hollowood T20315:1–T20330:13

27 Exhibit 878 – Interactive Presentation – INTMEN 001795 and INTMEN 001856 (EXH.878.0001); Hollowood T18298:2–T18317:16

28 Exhibit 807 – Interactive Presentation – INTMEN 001850 (EXH.807.0001); Hollowood T16618:25–T16638:19

29 Hollowood T19625:3-T19650:18

30 Hollowood T16659:8–T16682:8

31 Hollowood T16639:2–T16659:5

32 Exhibit 941 – Interactive Presentation – INTMEN 001869 (EXH.941.0001); Hollowood T19598:1–T19624:31

33 Exhibit 876 – St Andrews Queenstown Historical Society – Preserving Our Heritage – The Impact of Black Saturday, February 7 2009, in St Andrews (TEN.312.001.0001); Exhibit 876 – Interactive Presentation – INTMEN 001907 (EXH.876.0001); Exhibit 116 – Statement of C Matthews (WIT.057.001.0001_R) [8]–[10]; Hollowood T18253:1–T18278:7

34 Hollowood T16590:1–T16618:22

35 Exhibit 212 – Statement of Edmonds (WIT.063.001.0001_R) at 0005_R; Exhibit 864 – Statement of Sorraghan (WIT.156.001.0001_R) at 0006_R; Hollowood T18331:1–T18353:7

36 Exhibit 882 – Interactive Presentation – INTMEN 001781 (EXH.882.0001); Hollowood T18353:9–T18370:29

37 Exhibit 776 – Interactive Presentation – INTMEN 001786 (EXH.776.0001); Hollowood T16217:28–T16235:17

38 Exhibit 770 – Interactive Presentation – INTMEN 001877 (EXH.770.0001); Hollowood T16067:30–T16086:4

39 Exhibit 805 – Interactive Presentation – INTMEN 001854 (EXH.805.0001); Hollowood T16562:26–T16588:1

40 Exhibit 775 – Interactive Presentation – INTMEN 001891 (EXH.775.0001); Exhibit 775 – Laanecoorie Biota Haven-Kinglake Range Foothills – Yarra Valley (TEN.313.001.0001); Hollowood T16197:2–T16217:25

41 Exhibit 774 – Interactive Presentation – INTMEN 001817 (EXH.774.0001); Hollowood T16187:1–T16196:29

42 Exhibit 773 – Interactive Presentation – INTMEN 001899 (EXH.773.0001); Hollowood T16168:1–T16186:29

43 Exhibit 803 – Interactive Presentation – INTMEN 001814 (EXH.803.0001); Hollowood T16496:7–T16523:29

44 Exhibit 804 – Interactive Presentation – INTMEN 001852 (EXH.804.0001); Hollowood T16524:2–T16562:24

45 Exhibit 802 – Interactive Presentation – INTMEN 001881 and INTMEN 002902 (EXH.802.0001); Hollowood T16458:1–T16496:3

46 Exhibit 967 – Interactive Presentation – INTMEN 001821 (EXH.967.0001); Hollowood T20058:1–T20095:15

47 Exhibit 968 – Interactive Presentation – INTMEN 001910 (EXH.968.0001); Hollowood T20095:18–T20119:2

48 Exhibit 955 – Interactive Presentation – INTMEN 001875 (EXH.955.0001); Hollowood T19958:26–T19973:19

49 Exhibit 970 – Interactive Presentation – INTMEN 001893 (EXH.970.0001); Hollowood T20151:5–T20172:30

50 Exhibit 969 – Interactive Presentation – INTMEN 001819 (EXH.969.0001); Hollowood T20121:2–T20151:2

51 Exhibit 971 – Interactive Presentation – INTMEN 001894 (EXH.971.0001); Hollowood T20174:2–T20192:16

52 Exhibit 762 – Interactive Presentation – INTMEN 001805 (EXH.762.0001); Hollowood T15865:1–T15897:8

53 Exhibit 763 – Interactive Presentation – INTMEN 001873 (EXH.763.0001); Hollowood T15897:10–T15926:2

54 Exhibit 979 – Interactive Presentation – INTMEN 001823 (EXH.979.0001); Hollowood T20349:1–T20360:18



# THE CHURCHILL FIRE

# 17 THE CHURCHILL FIRE

## ALFRED AND SCOTT FRENDO

Alfred 'Fred' Frendo was 58 when he died in his vehicle as he was trying to flee his home at 320 Old Callignee Road, Callignee, on 7 February 2009. His son Scott, 27, also died fleeing the property. Father and son had tried to protect the property before evacuating. They are survived by wife and mother Elaine and by Scott's young son, Lachlan.

Elaine and Fred lived with their youngest son, Mark, who had a disability and required personal care. Scott had moved out of the family home, a farm set on a couple of hectares where his parents ran cows, had fruit trees and grew vegetables. The Frendos had no plans for what they would do if a bushfire came their way. Elaine recounted, 'Fred and I had never spoken about what we would do if there was a bushfire. I think we both thought that it would never get this far and never happen'.

At around 1.00 pm on 7 February a neighbour, Kenneth Grigg, alerted the Frendos to smoke in the direction of Churchill. Although they were not concerned that the fire would reach their property, Elaine and Fred collected a pump from one of their paddocks and some poly-piping. Fred set the pump up next to the dam, behind the shed and not far from the house, and connected the poly-pipe to the pump. He then attached a spray nozzle to the pipe in order to protect the house if the fire came their way.

At about 2.00 pm Scott sent a text to his friend Christopher Tormey, changing their plans for the day because of fire in the vicinity of his parents' property. Sometime later in the afternoon, as the fire drew closer, Elaine took Mark to safety at her parents' house. On the way she passed Scott driving towards the family home.

At 5.49 pm Scott sent a text to his girlfriend, Kittyanna Verghese, saying that, although he did not know exactly how close the fire was, it was very close and they were 'in trouble'. At about 6.00 pm Scott called his mother, telling her the hay shed at the bottom of the paddock, about a five-minute walk from the house, was on fire; he asked her to call the fire brigade. Less than half an hour later, at about 6.25 pm, Scott called Christopher Tormey: 'He sounded terrified and in a raised voice he said "Get some fucking fire trucks here"'. The call then dropped out. This was the last known contact with either Scott or Fred.

Fred and Scott made a last-minute decision to evacuate the property and left in separate vehicles, making their way along Old Callignee Road in the direction of Traralgon.

Neighbours Robin and Gwenda Jones evacuated their property at about 6.30 pm and passed a burnt-out car about 1.5 kilometres from the Frendo property, on the opposite side of the road. They identified the car as Fred's. The car was at a 90-degree angle facing the centre of the road with the rear up on a culvert. It appeared to have become engulfed by fire after a failed attempt by Fred to turn around and head back in the direction of his property. Fred's body was later found in the car.

Scott Frendo's burnt-out car was found empty in burnt bushland, where it had veered off the road about 60 metres past his father's car. He appears to have fled on foot before being overcome by fire about 13.5 metres from his car.

Elaine Frendo returned to the property a week after the fires:

> When I got to the house I could see it was still there and wasn't touched by the fire. Our hot water system was burnt outside the house and the pump to our spa was melted. All the rest of the house was safe. They must have [done] a really good job of protecting the house … The dam was nearly empty and it looked like they had been fighting the fire.

The post-mortem reports record the deaths of Alfred and Scott Frendo as resulting from the effects of fire.[1]

## COLIN AND DAVID GIBSON

Colin Gibson, 49, and his younger brother David, 47, died on 7 February 2009 at their parents' property at 420 Glendonald Road, Hazelwood South. Both experienced firefighters, Colin and David had travelled independently from their own homes to their parents' house to try to protect it. Colin and David are survived by their parents, Shirley and Bill Gibson, and their large extended families.

Shirley and Bill had lived at 420 Glendonald Road for about 13 years. Their single-storey western red cedar home had been built on the sloping 2-hectare bush block in the 1970s. The house sat above Glendonald Road at the end of a 200-metre driveway. A band of woodland (predominantly gums) surrounded the house, quite close to it, and extended up along the hill at the rear.

Water was supplied to the property by a concrete water tank of about 20,000 litres, which had a single electric pressure pump attached to it, and a smaller fibreglass tank with a gravity-fed tap as its sole outlet. There were three working taps around the outside of the house and a number of long garden hoses. Shirley recalled, 'If two taps were on at once the pressure would drop a bit. If the power went out the water pump wouldn't work'. With assistance from the local council, Bill and Shirley kept the grass around the house short and the house gutters clean. It is not clear whether they had a fire plan. David's partner, Kim Birrell, said, 'David was always worried about his mum and dad's property'.

Between 1.00 pm and 2.00 pm on 7 February the senior Gibsons, with their dogs, were leaving their home because there was fire in the area. At this time their sons Colin and David arrived to help prepare the house and fight any fires. David had been in the CFA for 25 years, and family members considered him 'very, very competent' when it came to fire. Colin had been a lieutenant in the Queensland Fire Service for four to five years.

During the afternoon Colin and David made preparations, wetting down the house, filling the gutters with water, wetting cushions on the verandah, and moving things around. They 'filled everything that would hold water'. In numerous phone calls with family members during the afternoon and early evening Colin and David said they were safe, the fire was not near them, and they intended to leave shortly.

At about 3.30 pm David had a telephone conversation with Senior Constable Craig Blakely, who was stationed at a nearby roadblock. Senior Constable Blakely told David it was expected that 'very strong winds' would develop later in the afternoon and that that could produce 'very dangerous conditions'. David said he and Colin were 'prepared for that eventuality and wished to remain at the property'.

The last telephone contact with family members occurred at about 6.00 pm, when the senior Gibsons' permission was sought for the CFA, members of which were at the property, to bulldoze a firebreak around the property. Permission was given, but it appears that the work did not proceed. At 6.15 pm the south-westerly wind change arrived—about 45 minutes earlier than predicted by the CFA—forcing the CFA units at the neighbouring address to take survival action.

Before then, at about 6.00 pm, CFA volunteer Glen Chesterton and his crew had been directed to protect the neighbouring vacant house, at 400 Glendonald Road, against the predicted wind change. When the wind change struck earlier than predicted, crew members outside the truck were forced to break into the vacant house in order to be safe. Mr Chesterton was alone in the cabin of the truck. He recalled:

> We then drove to the address, noting wallabies heading away from the area we were heading into. I also noted the wind had started to pick up. The wind was now coming from the south-south-west … we noticed a couple of spot fires around this particular house. I was the only one in the cabin at this stage. At this point a major fire started. Everything around started to burn … there were embers flying around everywhere; what I would call an ember storm … It was terrifying. All I could do was cover myself with clothing and [seek] shelter on the bottom of the cabin to be protected against the radiant heat.

Early in the morning of Sunday 8 February 2009 Billy and Sarah Gibson, David's son and daughter, used back roads to make their way to their grandparents' property in the hope of finding their father and uncle alive. They found their bodies in the remains of the house, which had been destroyed some time shortly after 6.00 pm the day before.

Shirley and Bill Gibson's home was within 2 kilometres of the point of origin of the fire. The Victoria Police forensic scientist who visited the property on Sunday 8 February and Monday 9 February 2009 noted:

> This property was roughly one and a half kilometres east to north-east from the point of origin and the firefront … These circumstances would not have provided sufficient time for alert or evacuation. Furthermore, the only obvious route of escape was down the driveway to the main road, in the direction of the fire …

The post-mortem reports record that Colin and David Gibson both died as a result of the effects of fire.[2]

## ALAN, MIROS AND LUKE JACOBS AND NATHAN CHARLES

Alan Jacobs, aged 51 years, his wife Miros, 50, their son, Luke, 21, and Luke's friend Nathan Charles, also 21, all died at the Jacobs' house at 1594 Traralgon Creek Road, Koornalla, on 7 February 2009. They had sheltered in the workshop under the house. The Jacobs family is survived by another son and brother and their respective extended families. Nathan is survived by his parents and his sister and their extended families.

The Jacobs' house was a substantial brick-veneer home with a corrugated iron roof. It was built on a slope and the driveway led up onto Traralgon Creek Road. A considerable number of trees were close to the house, and the property in general was in a densely treed area.

The Jacobs' plan was to stay and defend their property. They were equipped with independent power, adequate water and various items of firefighting equipment:

> There were three pumps, two firefighting pumps and an electric pump, with a generator for the electric pump. There were several sources of water, what may have been the household supply, operating on an electric pump from the creek, a dam about 50 metres north-west of the house and a swimming pool across the lawn from the house. The firefighting pumps were petrol/diesel pumps near the swimming pool. The electric pump was operating from a generator outside the underhouse workshop and there were three firefighting hoses connected to the firefighting pumps, a hose reel and a garden hose connected to the household supply. The firefighting hoses and the hose from the reel had proper nozzles. There were at least two buckets [readied for carrying] water.

Part of the fire plan was to shelter in the workshop under the house while waiting for the firefront to pass. Alan's father described the workshop as having a 'concrete base and ceiling and double brick walls'. It had a roller door and a steel shutter Alan had made to cover the large window at one end. Alan's receptionist, Heidi, who had gone to the house during the afternoon to collect her horses and move them because of the fire threat, explained: 'They were going to wait in there [the workshop] while the firefront was there and then come back out to put out any fires around the house'.

It appears the Jacobs were aware of a potential fire threat by 2.20 pm. They had already started their fire preparations by 4.00 pm, when Luke and Nathan arrived, joining a number of their friends who were already helping to wet down the house and surrounds and filling gutters. When Heidi arrived to collect her horses at about 4.30 pm Alan asked her how close the fire was. She told him it was just over the hill, and she recalled that they discussed the forecast wind change: 'We were hoping it wouldn't [change] because there was a chance the fire might skim the edge of their place if the change didn't come through'. Heidi left with her horses at about 5.00 pm, at the same time as Nathan and two others left to take a look at how close the fires were. Nathan and the others returned soon after.

Between 5.00 and about 6.00 pm Luke's friends decided to leave. It is evident that there were discussions about the pros and cons of staying or leaving the property. Alan told them the choice was theirs, but if they were to stay there was what he considered a safe haven available—the workshop area. By 6.00 pm everybody other than Alan, Miros and Luke had left or were leaving. Breathing had become difficult, it was hot, and flames were approaching the property. Nathan returned to warn the Jacobs of the approaching fire and decided to stay and help them.

As a result of the wind change, fire reached the property some time after this. At 6.44 pm a call was made from Nathan's mobile to 000. It is not known where he was at the time the call was made, but the call message was recorded as 'trapped in house'. At 7.00 pm Nathan called his father, Rob Charles, to tell him the house was on fire and four of them were trapped. At 7.16 pm Nathan called his father for what he knew would be the last time.

The fire appears to have approached the property from the south and south-west, through trees on the slope up from the creek. It destroyed the carport, cars and boat and almost the entire house. Evidence showed 'there had obviously been extensive and comprehensive preparations for firefighting'. Evidence of roof damage before the main fire arrived suggested that the house had been subjected to burning embers and radiant heat, which would have rapidly ignited all the combustible items inside the house.

The workshop, where the bodies of Alan, Miros, Luke and Nathan were found on 8 February, was relatively intact: the combustible contents of the room survived unscathed, flammable liquid in containers had not ignited, and paper items did not show any damage other than a light covering of soot. In relation to the workshop's efficacy as a fire shelter, a Victoria Police forensic scientist concluded, 'With the doors closed tightly and the window shuttered, ventilation would be limited. In the circumstances, with carbon monoxide and dioxide levels increasing and oxygen being consumed in the fire, ventilation could be a critical issue'.

The post-mortem reports record that Alan and Miros Jacobs died as a result of carbon monoxide poisoning; Luke Jacobs and Nathan Charles died as a result of the effects of fire.[3]

### ANNETTE LEATHAM

Annette Leatham was 51 years old when she died at her daughter's property at 5 Cooks Road, Callignee on 7 February 2009; her husband, Rodney, sustained severe burns when trying to save her. Mrs Leatham is survived by Rodney, their two children and their grandchildren.

Mrs Leatham's daughter, Jenny, lives on a 2-hectare property with her husband, Glenn, and their two small children and family pets, including a dog and a goat. Their home is a single-storey house made of cement sheeting and with a corrugated zinc roof. Although bordered by bushland, the property itself is relatively clear of bushy vegetation and trees. It is serviced by a dam and three water tanks, and Glenn and Jenny's fire plan had always been to fight off any minor fires or minor ember attack but to leave if the situation became worse:

> Our mindset was always to leave. We didn't have a fire pump and although we had basic equipment we were only going to combat floating ember attack. We had multiple exit routes planned in case certain roads were blocked and basically we were waiting for an 'under threat' message or even a heavy ember attack warning and we were gone.

Early in the afternoon of 7 February Jenny took her two small children to her mother-in-law's house for safety. At about 5.30 pm Jenny's parents, Rodney and Annette, arrived at Jenny and Glenn's house. Jenny had hoped her mother would instead stay home in the comfort of her air-conditioning because she (Annette) had a medical condition that limited her ability to move quickly.

Rodney and Annette came in their ute and brought with them a small generator in case the power was cut off. Rodney and Glenn plugged the generator into the house pump, filled buckets and containers with water and placed them around the house, and wet the eaves down before the family began dinner at about 6.00 pm. Whilst making their fire preparations Rodney and Glenn were aware of smoke in the sky and strong winds, but there were no embers or ash and neither of them felt concerned for their safety.

Just before dinner Glenn received a phone call from his brother, who told him of a strong wind change that was expected and would turn the wind in their direction. Neither Glenn nor Rodney understood the implications of this:

> Rodney and I didn't understand fire behaviour. We expected that the front of the fire would turn like a snake. What I mean by this is that if the fire was going one way and the front was 500 metres wide, it would turn and the front would still be 500 metres wide. I've since learnt that the whole flank of the fire becomes the new front. I had no idea that was how fire worked or that the front would be heading directly for us when the wind changed. Rodney and I both thought it would horseshoe around us.

By the time the family had finished dinner about half an hour later, there was a red glow around the property, prompting discussion about whether or not it was time to leave. By 7.00 pm embers were swirling, and the family decided it was time to go. The cars had been packed. Jenny and Glenn left in separate vehicles with the family pets, and Rodney and Annette went to the back of the house to disconnect the generator and follow them in their ute. In the few minutes it took for this to happen Rodney noticed 'red hot bullets … falling, cinders … landing everywhere'.

Visibility was poor; there was smoke and soot, and embers and ash were falling. When trying to leave the property Rodney was confronted by what he described as a 'massive, fast, furious grass fire' where the lawn had been. The main fire was now coming over the hill, and Rodney decided to try to back the ute into the dam. The vehicle appeared to stall, and Annette made a split-second decision to run to the house.

She opened the passenger door to flee the vehicle and run back to the house, but she fell and was engulfed by fire. Rodney ran around to the passenger side of the car to help his wife escape the flames, but he was unable to save her.

Rodney sought shelter from the flames, first in his grandchildren's clam-shell pool and then in the dam. Despite suffering severe burns to an estimated 40 per cent of his body—and the tragedy of having witnessed his wife's death—in between sheltering Rodney fought spot fires and ultimately the house was saved. He eventually walked to a neighbouring property that had been successfully defended. There, the French family went to great lengths to help him with his injuries before the CFA was able to rescue him and take him to an ambulance.

The post-mortem report records that Annette Leatham died as a result of the effects of fire.[4]

### GERTRUDE MARTIN

Gertrude 'Trudy' and Erich Martin were married in Germany in 1953 and migrated to Australia in 1956 with their first two children; their third child was born in Melbourne. Mrs Martin was 80 years old when she died on 7 February 2009 from natural causes, after escaping her burning house at 1515 Jeeralang North Road, Jeeralang. She is survived by Erich, their three children and their grandchildren.

The old dairy farm at 1515 Jeeralang North Road was in disrepair when the Martins bought it in 1973. They fixed up the weatherboard and cement-sheet home and added a Hardiplank™ extension on the western side. The garden surrounding the house contained many ornamental trees and shrubs. As Erich said, 'This was not a house you would build in a fire-prone area, but I think it would have survived a normal fire'.

The Martins worked the farm and cattle for the first 30 of the 35 years they lived in Jeeralang. In the last five years Mrs Martin's health had begun to decline. She suffered from a heart condition and high blood pressure (which was managed with medication) and had trouble with her hips: 'Trudy had reduced mobility but was still getting around on her own'.

Mr Martin was aware of the fire danger forecast for 7 February and had been busy making final preparations to defend the property. He considered he had 'prepared for a very bad fire day':

> I had wet down the … areas around our house. I had cleaned out the gutters and there was not one leaf in my gutters. I had a very good fire pump which had never been used. I connected the hoses to our concrete 7000-gallon water tank, which was nearly full. I didn't do anything with the roof with water because there was no fire and because of the weather being so hot, it wouldn't have achieved anything. I removed anything from near the house which could have caught fire. The grass had been cut very short.

At about 2.00 pm a neighbour who lived about 15 kilometres further along the road from the Martins called 000 and reported that the fire was about 1 kilometre away from his property and heading towards the Martins. He was concerned for the elderly Martins' safety. Moe police issued a request for a welfare check, to see that everyone was OK; this was attended to by Traralgon police. The request for the welfare check referred to an elderly couple, did not specify the address or name, and subsequently did not occur.

Mr Martin was alerted to a localised fire threat after receiving a call from his daughter and after Mrs Martin brought to his attention a radio report that a fire had started in the Churchill area. While Mrs Martin was preparing lunch, Mr Martin noticed grey and yellow smoke and flames. Not liking what he saw, he tried to start his fire pump to wet down the house—only to find that the suction hose had already melted.



Mr Martin entered the house and noticed heat and smoke coming from the front of the house through the hallway into the kitchen. He heard branches, sticks and leaves, some of which were on fire, falling onto the roof and a hissing

sound coming from under the house. He thought the hissing sound meant that fire or excessive heat under the house would melt the pump or the fittings and would lead to water loss from the tank. He knew then that they would lose the house.

Mr Martin led his wife to the back porch and called for their dog, Ricky, who was still inside. He 'saw trees and shrubs around the house explode in flames'. Not being able to wait for the dog, Mr Martin opened the door from the porch into the yard but was forced to close it again when flames came shooting in. 'I don't know how long we waited, but the house was burning and everything around us was burning. After [a] minute or two I tried the door again and the flames were totally gone'. Mr Martin led his wife to the fence line, away from the heat of the burning house.

Mrs Martin told her husband she needed to rest, so he put a wet towel over her head and left her to rest against a fence post while he moved a wheelbarrow full of personal possessions away from the porch and put out some spot fires. After only a few minutes Mr Martin returned to find his wife lying on the ground. Thinking she was resting, he took her hand; then he realised she had died. Mr Martin was devastated at the loss of his wife and his home. He said he believed Trudy 'would still be alive if it wasn't for the fire'.

A coronial investigation into Trudy Martin's death found that she had died as the result of a heart attack.[5]

### MARTIN SCHULTZ

Martin Schultz and his dog, Kelly, died in the car in which they had fled from the fire at their home at 20 Factory Road, Callignee, on 7 February 2009. Martin was almost 34 when he died, leaving behind his wife, Rachael, their 8 year-old son, Parker, and other family, including Martin's sister and her children.

Rachael, Martin and Parker had moved to their home at 20 Factory Road in September 2007, having relocated from Queensland. The brick-veneer house with a tiled roof was set on a block of about 2 hectares.

Having been estranged from Rachael since late 2008, Martin was home alone on 7 February. Throughout the afternoon and early evening he had a number of conversations with family, friends and neighbours, who warned him of the fire threat and urged him to leave. It would appear that, once he became aware of the threat, Martin took general precautions such as hosing down the roof of the house and clearing gutters before leaving with Kelly at about 6.40 pm.

The first warning Martin received was a phone call from his father-in-law at approximately 2.00 pm, alerting him to the fire at Churchill. Neighbour Theodore Thiessling called in to Martin's house just after 3.00 pm to warn him about the fire's proximity to Callignee. At that stage Mr Thiessling estimated the fire to be some 9 to 10 kilometres from his home. Martin had been indoors and seemed unaware the fire was so close. Mr Thiessling stated that some smoke was visible, but it was mostly obscured by a ridge behind his house and there was no smell of smoke in the air.

Martin's father-in-law, Peter Elswyck, called Martin a second time, at about 4.00 pm, to tell him 'the fire was definitely moving in his direction and to put things in the car and be ready to leave'. Martin told him that the fire was not yet there but that he had packed the car and was ready to go.

At about 5.00 pm Martin spoke to Rachael on the phone, told her he was getting the car ready, and asked if there was anything she wanted packed. When pressed by Rachael to leave immediately, Martin responded that 'it wasn't that bad, it [the fire] wasn't there'.

At some time between 5.00 and 5.30 pm Martin spoke with his sister, Allyson Macinnis, telling her he could see smoke and the fires seemed close. He confirmed to Allyson that his car was packed. Just after 5.30 pm Allyson checked the CFA website for Martin and told him the area was said to be safe but that he was the one who was there and he should act intuitively. Shortly afterwards Allyson called again to warn Martin about a wind change:

> I told Martin that the wind had changed here [Mt Martha] and I told him that the wind was coming from the south and that the change had happened very quickly and that the wind was very fast. Martin told me if the wind came from the south he was screwed … [and] that he was going to leave.

Martin called Rachael at 6.40 pm to tell her 'he was in the car and he was going, he was leaving'. Rachael recalled, 'I could hear the wind and the incredible roar, so it must have hit by then … I could hear fear and hurriedness in his voice'. Rachael expected Martin to go to her father's house, where their son was staying for the weekend.

At about 7.00 pm Martin called his father-in-law, sounding distraught. He told Mr Elswyck, 'There's a tree across the road and I'm on fire'. That was the last known contact Martin had with anyone.

Despite some initial confusion about whether or not Martin had escaped the fire, he was registered as missing with the Red Cross on Sunday 8 February. On Saturday 14 February 2009 Martin's body, along with that of his dog, was found in his burnt-out car in a creek bed on Symons Road.

The post-mortem report records the effects of fire as the cause of Martin Schultz's death.[6]

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1 Exhibit 298 – Interactive Presentation – INTMEN 001841 (EXH.298.0001); Hollowood T7769:1–T7791:14

2 Exhibit 300 – Interactive Presentation – INTMEN 001787 (EXH.300.0001); Hollowood T7806:1–T7831:19

3 Exhibit 294 – Interactive Presentation – INTMEN 001827 (EXH.294.0001); Hollowood T7698:2–T7720:26

4 Exhibit 296 – Interactive Presentation – INTMEN 001828 (EXH.296.0001); Hollowood T7736:3–T7755:28

5 Exhibit 297 – Interactive Presentation – INTMEN 001788 (EXH.297.0001); Hollowood T7755:29–T7767:10

6 Exhibit 299 – Interactive Presentation – INTMEN 002059 (EXH.299.0001); Hollowood T7791:15–T7805:8



# THE MURRINDINDI FIRE

18

# 18 THE MURRINDINDI FIRE

## 18.1 MARYSVILLE

### NICOLE JEFFERSON AND JAMES BOWKER

Nicole Jefferson and James 'Jamie' Bowker were less than a month away from becoming parents for the first time when they died on 7 February 2009. Jamie died sheltering in their home at 51 Kings Road. Nicole died in Falls Road, about half a kilometre from their home; it appears she was making her way on foot to the nearby Gallipoli Park oval. Jamie was 36 at the time of his death and is survived by his extended family. Nicole was 29 when she died; an only child, she is survived by her parents Bruce and Elaine.

Nicole and Jamie met in 1999 and moved to Marysville in 2001 or 2002. They had been living at 51 Kings Road since mid-2004. The three-bedroom timber-framed house was about 30 years old. The external walls were of a fibro cement–type material and the roof was corrugated tin. Nicole's father recalled:

> The house was on a third of an acre and the garden had a mixture of native trees and also roses, rhododendrons and other flowering plants. Jamie also had over a thousand day lilies in pots scattered around the block. The trees were close to the house and the block was only across the road from the state forest.

The house, along with all the neighbouring houses, was destroyed in the fire. The Victoria Police forensic scientist who examined the property shortly afterwards noted, 'The damage was extensive and comparatively consistent across the entire structure, reflective of the slope of the terrain and the building's proximity to the vegetation and trees'.

It is not clear whether Jamie and Nicole had a fire plan. Nicole's father was aware that the couple had a plan, but he had never been told precisely what it was. A close friend of the couple, Amanda Brewer, knew nothing of their fire plan—or even if they had one. The house was reliant on town water for its water supply. There was no roof sprinkler, and Nicole's father was unaware of any other fire protection. Victoria Police investigators who attended the property were not able to find evidence of any particular fire preparations or firefighting equipment.

Jamie and Nicole might have become aware of a fire threat in the late afternoon of 7 February, when a CFA truck drove up Kings Road. Nicole called her father at about 5.40 pm and told him the CFA had gone up Kings Road to attend to what she assumed was a spot fire. Not sounding too concerned, she told her father she and Jamie were inside the house with the cat and were weighing up their options. The CFA members had driven up Kings Road at about 5.00 pm, some of the residents, including Nicole and Jamie, had asked them what they should do; the residents were advised to evacuate immediately to the oval at Gallipoli Park.

At about 6.00 pm the CFA members retreated down Kings Road after the wind change:

> … the winds were at about 40 kilometres after that and the fire basically jumped over the top of us. This was like a wall of flame, the trucks caught on fire [the Yarck tanker]. The DC&E people had backpacks which caught on fire, the trees fell over the road and we evacuated at this stage. I saw that about four or five of the people we told to evacuate were still at their houses.

Some time between 6.15 and 6.30 pm Amanda Brewer reached Nicole on the landline, speaking to her for less than a minute. She recalled that Nicole was panicked, and Amanda asked her if everything was okay. Nicole said words to the effect of 'I have to go. I have to go. I have to go and save my house'. This was the last known contact with either Jamie or Nicole. From 7.00 pm onwards numerous phone calls to their landline and mobile numbers went unanswered.

Just after sunrise on Sunday 8 February 2009 a local CFA volunteer found Nicole by a tree on the nature strip in Falls Road, about 200 metres from Gallipoli Park. It appears she had been overcome by smoke and embers. On 12 February 2009 Jamie was found in the remains of their house, where he had been sheltering in the bath.

The post-mortem reports record the cause of the deaths of Nicole Jefferson and Jamie Bowker as the effects of fire.[1]

### KEVIN BRADWELL

Kevin Bradwell was 52 years old when he died at his home at 14–16 Allison Crescent, Marysville, on Saturday 7 February 2009. He was alone when he died and is survived by his wife and daughter.

The Bradwells' brick house was on a double, sloping block and was surrounded by shrubs close to the house. Another Marysville resident described the property as being 'up on the hill and very bushy'. The Bradwells' fire plan was to leave if they needed to.

Just before his death Mr Bradwell had been a volunteer community ambulance officer and had a part-time job at the Marysville hardware store.

On 7 February Mr Bradwell finished work at the service station connected to the hardware store at about 4.00 pm. He went next door to the supermarket to clock off and spoke to two of the staff there. They had been listening to the radio for an update on the fires and were anxious about what was happening. Kevin said the fire was 'going in the other direction', gave the impression that he wasn't concerned about a threat to Marysville, and appeared to disregard their concerns. As he was leaving, staff said, 'Go home and get ready. Listen to the radio, make sure you have the radio on'.

At about 6.00 pm Mr Bradwell called his wife in Melbourne. He told her he was trying to make the house safe and was intending to stay. His firefighting preparations included plugging holes, making sure the bath was full of water, filling metal buckets and having mops prepared for embers. Mrs Bradwell told police she believed her husband had decided to stay because he was 'unaware of the ferocity of the fire'.

After 6.00 pm Mr Bradwell called Kay and Denis Brown. Mr Brown is a community ambulance officer, and Mr Bradwell was calling to say he was available for call-out if needed. Mr Brown was already out attending an incident in Marysville involving a tree that had fallen on a car, so Mr Bradwell spoke with Mrs Brown. They talked about whether or not they would be going to the barbecue planned for that evening at Gallipoli Park; Mrs Brown did not recall talking about the fires or the fire threat.

This was the last conversation Mr Bradwell is known to have had with anyone. Telephone records show that a call was made from his mobile phone to the emergency number 112 at 6.56 pm. It is not known whether this call was answered. Mr Bradwell died sheltering in a front room at 14–16 Allison Crescent. The house and neighbouring houses were destroyed.

The autopsy found that Kevin Bradwell's death was caused by the effects of fire.[2]

### MELISSA BUNNING

Melissa Bunning lived on her own at 56 Falls Road, Marysville. She was 37 years old when she died inside her home, which was destroyed by fire, on 7 February 2009. She is survived by her parents, Lyn and Kenneth, her brother, David, and her daughter, Andrea.

Ms Bunning had lived in her weatherboard cottage in Marysville since January 2006, when she had moved there from Ashburton.

There is no indication that Ms Bunning spoke to any friends or family members on or just before 7 February, so it is not possible to determine what she knew about the forecast weather conditions and the consequent fire risk, nor what her plans were.

One of her neighbours, Justin Lloyd, knocked on her door sometime after 3.30 pm on 7 February to let her know that a fire was coming. He knocked a couple of times and called out her name but received no answer. He assumed that Ms Bunning was out.

Later, at about 6.50 pm, records show that Ms Bunning called 000 twice. In a recorded copy of the first call, only the operator's voice and a smoke detector alarm could be heard. No record of the second call, which lasted 11 minutes, has been located.

It is not known whether Ms Bunning had a fire plan. Forensic Officer Karen Ireland noted that the block at 56 Falls Road was not overgrown and there were few trees on the property. She found that the fire behaviour in this part of Marysville was not as severe as in some other parts of the township, but it is worth noting that most of the other houses near Ms Bunning's were also destroyed.

Ms Bunning did not have a car. There is no sign that she made any attempt to evacuate on foot. Ms Ireland noted, 'The lack of a vehicle meant that escape by foot was initially the only means of evacuation. If [people] were elderly or incapacitated in any way, travel by foot was probably not a viable option'.

Ms Bunning appears to have had some health problems that may have affected her capacity to evacuate. Her friend Gayle Walters, a massage therapist, said Ms Bunning suffered from fibromyalgia, a condition that caused her constant pain. Her general practitioner, Dr Lachlan Fraser, noted Ms Bunning suffered from an anxiety disorder that 'would have been heightened significantly and may have affected her normal thought processes'. In Dr Fraser's professional opinion, 'it may have been a contributing factor in her unfortunate death'.

On 17 February Ms Bunning was found in what remained of the house's bathroom; the house had been destroyed. It appears that she sought shelter in the bath, using blankets and water for protection.

The autopsy report concluded that Melissa Bunning's death was consistent with the effects of fire.[3]

### GLENIS DELMENICO AND LESLEIGH WEBB

Glenis Delmenico and Lesleigh Webb died in Lesleigh's car on Lady Talbot Drive, near Marysville, on 7 February 2009. They had been on a camping trip with Lesleigh's dog, Harley. Glenis and Lesleigh, who both lived in Melbourne, had been together as a couple since about 2002. They were both 51 years old when they died. They are survived by Glenis's daughter, Amber Cunningham; Lesleigh's daughters, Jacqueline and Michelle Webb; and extended families.

Lady Talbot Drive is a long, winding road that stretches from Marysville deep into Marysville State Forest. The section of the road where Glenis and Lesleigh died is roughly 2 kilometres east of the Marysville – Woods Point Road turn-off. The road is unsealed and is surrounded by the State Forest. Before the fire the main feature of the area was its thick and mature native forest.

Glenis's and Lesleigh's children knew their parents had gone to Marysville on 6 February for a camping trip and that they planned to return to Melbourne on 8 February. Glenis's mother, Pat Delmenico, was also aware of their trip and saw Glenis shortly before she left Melbourne. The families knew that neither Glenis nor Lesleigh had spent much time in Marysville before but that Lesleigh was an experienced, well-equipped camper.

It is not clear whether Glenis and Lesleigh had a plan for what they would do in the event of a bushfire while they camped. Before leaving Melbourne, a work associate had questioned Lesleigh about his decision to go camping in the bush in what was predicted to be more than 40-degree heat: Lesleigh's response was that he would 'be right'.

It is not clear where Glenis and Lesleigh stayed overnight on 6 February, but Glenis spoke to her mother at about 4.30 pm on 7 February and said she had slept somewhere near a river.

At about 11.00 am on 7 February Lesleigh left a voicemail message for his daughter Jacqueline in which he said it was 'hot in town but cooler in the bush'. At around 6.30 pm, Glenis spoke to Amber, telling her she and Lesleigh were near a river and about to eat dinner and that there were a number of helicopters flying overhead.

It is unclear what happened to Glenis and Lesleigh between the time of Glenis's telephone conversation with Amber and the time they died. They were found on 8 February in the front seats of Lesleigh's car in Lady Talbot Drive. The dog Harley was found on the car's back seat. The car was severely damaged and on the side of the road facing north (away from Marysville). Although there was a large tree limb underneath the car, there was no evidence that the car had been involved in a collision.

The post-mortem reports record the cause of Lesleigh Webb's death as undetermined (but consistent with the effects of fire) and the cause of Glenis Delmenico's death as the effects of fire.[4]

### ELIZABETH AND DALTON FISKE

Elizabeth 'Liz' and Glen Fiske moved into their house at 32 Lyell Street, Marysville, in 1992–93. They lived there until February 2009 with their three children—son Kellan, 20; daughter Bronte, 16; and son Dalton, 15. Elizabeth and Dalton died trying to protect the family home on 7 February while Glen and Kellan were on active duty with the Marysville CFA. Elizabeth, who was 44 when she died, and Dalton are survived by Glen, Kellan, Bronte and a large extended family.

As a family, the Fiskes were very involved in the local community, especially the Marysville CFA. Glen had been an operational member for 25 years and had been captain for the past four years. Kellan was also a member of the CFA; Liz was a CFA support member, assisting with administration, communications and catering; and Dalton often helped out. Liz was also involved in the local Lions Club and the Alexandra District League, where she coached and umpired basketball and netball.

The home at 32 Lyell Street was built of brick and had a corrugated tin roof. There was a circular gravel driveway across the front of the house to the carport. As part of the family's fire preparations, a sprinkler system made of PVC piping had been fitted across the top of the house, just below the gutters. Being active CFA members, the family often discussed their fire preparations. Kellan recalled:

> We had a fire plan that if there was a structure fire … we would all evacuate to the letterbox and meet up there. In the event of a bushfire we had to make sure that all the sinks and baths were full of water and that the 44-gallon drum in the carport was full. Part of the fire plan was that once the firefront had passed to get up into the roof space and check. We had planned to draw the curtains to stop radiant heat … we were to wear shoes and long trousers and sleeves.

The Fiske family had begun to prepare early. On the evening of 5 February they moved timber, made sure access to the property was clear, and filled the 44-gallon drums around the property with water. On the Friday night Glen and Liz discussed whether she would be comfortable staying, considering how serious the weather predictions were for the following day. An intrinsic part of the family's fire plan was that they were to stay only if they felt comfortable. Glen recalled:

> She [Liz] basically said that she was happy to stay and that she knew she would have to be prepared. Overall the discussion amongst us all was that if Kellan and I had to go out to fight a fire, Liz and Dalton would stay at home to protect the [house]. Dalton did not intimate anything that he was reluctant to stay.

At about 4.00 pm on 7 February Liz and Dalton were at home, having returned from the local swimming pool. Bronte was at a friend's house in Alexandra for the weekend; Kellan and Glen were on duty at the CFA station. Aware that Marysville was under threat, Glen called in at the house to check on Liz and Dalton and make sure they were prepared for fire. By 5.00 pm the bath and washing machine had been filled with water, hoses had been connected to the taps, flammable items had been cleared from around the outside of the house, and the sprinkler system had been turned on.

Liz was resolute in her determination to stay and protect the house. Between 5.30 and about 6.30 pm she told concerned family and friends who telephoned or dropped in that she was staying to protect the house. Friend Bruce Ackerman dropped by just after 5.30 pm and found Liz on the front lawn with the hose. In response to his suggestion that she and Dalton leave, 'She told me outright that she was staying. She was not the sort to argue with, so I didn't argue the point'. When Liz's sister, Catherine, telephoned just before 6.30 pm Liz told her 'she and Dalton had just patrolled the outside of the house for ember attack' and 'they were going to save the house'. Liz remarked that they looked glamorous dressed in their fire gear. She also told her brother-in-law, Kingsley, that she and Dalton were going to fight the fire and protect the home. Dalton was dressed in his father's fire overalls and, according to Liz, 'looked like a dag'.

At about 6.30 pm Glen called in again to check on his family. Pulling into the driveway, he noticed a fire in the front yard. He met Dalton on the verandah and, after speaking briefly to him, left to return to his firefighting duties, assuring Dalton he would be alright and urging them to stay safe and make sure that 'you and mum make good decisions'.

Between 8.30 and 9.00 pm Glen returned to Lyell Street with the local police officer. They found the house at number 32 alight; the roof had collapsed but some walls were still standing. They were unable to leave the car because of the intensity of the heat. Glen and Kellan went back to the house some time later but could not find Liz or Dalton. At sunrise the next morning Glen and another CFA member again went to the house: Glen found Liz and Dalton in the remains of what had been the bathroom. The house had been destroyed along with most of the houses nearby.

The post-mortem reports record that Elizabeth Fiske and her son Dalton Fiske died as a result of the effects of fire.[5]

### JAMES GORMLEY AND JULIE WALLACE-MITCHELL

James Gormley and Julie Wallace-Mitchell were 40 years old when they died in the Rubicon State Forest, just north of Marysville, on 7 February 2009, having been spending a weekend away together. They are survived by their close families and friends.

James and Julie had been seeing each other for about a month before 7 February. They lived in Melbourne and had been planning the weekend away in Marysville for some time. According to family and friends, James was a 'Greeny' who 'loved the bush' and was an avid campaigner on environmental matters. He had planned the trip to Marysville with Julie as 'a good place to escape the heat' and intended to go swimming. James was aware of the weather forecast, and a number of people, including a workmate, questioned his decision to go to Marysville that weekend.

At about 2.00 pm on 7 February James and Julie checked into their Marysville accommodation. They mentioned to the owner of the hotel, Gregory Cherry, that they wanted to go somewhere quiet to cool off. Mr Cherry thought he might have suggested the Beeches, a popular place on the Taggerty River, along Lady Talbot Drive.

It is not known precisely what James and Julie's movements were after that. It is evident they drove some distance along Lady Talbot Drive and into the mountain ranges to the north and east of Marysville. Their vehicle was found 27 kilometres to the north of the township, in steep, mountainous country on Ghost Point Track, a four-wheel drive track in the Rubicon State Forest.

At 7.53 pm James or Julie used Julie's mobile phone to call the mobile emergency access number 112. A second call to 112 was made at 8.28 pm, which led to James speaking to 000 fire emergency. A recording of this call finds James explaining to the operator their location in the State Forest on Lady Talbot Drive, that they could see the firefront behind them and needed advice on which direction to head. He sounded calm. The operator referred him to the Victorian Bushfire Information Line. Phone records show that he made a call to the Information Line within minutes and that a further call to 112 was made from Julie's mobile shortly afterwards. Both calls were brief.

At 8.42 pm Julie called her parents. Speaking first to her mother, Elizabeth, and then her father, Hugh, she told them she was with James in the Marysville area and they were surrounded by fire. Shortly afterwards the line cut out, and Hugh was not able to reach her again, his calls diverting to message bank. Hugh called 000 to report their concerns about the pair's safety.

On Monday 9 February 2009 James and Julie were listed with the Red Cross as missing. They were found on Ghost Point Track on 17 February. Julie was about 30 metres north of her car and James about 120 metres further north. A fallen tree was blocking the track immediately in front of the car, the doors of which were wide open.

It appears that James and Julie had driven onto Ghost Point Track from the intersecting Mount Margaret Road and were trying to retrace their path when the car was blocked by falling trees. Mount Margaret Road runs off Lady Talbot Drive. The Victoria Police forensic scientist who investigated the site after the fire thought James and Julie might have fled their vehicle in an attempt to find refuge in a nearby logged area.

The post-mortem reports record that the cause of death for both James Gormley and Julie Wallace-Mitchell was the effects of fire.[6]

## PATRICK JENNINGS AND GEOFFREY GRADY

Patrick Jennings and Geoffrey 'Geoff' Grady died on 7 February 2009 at their home at 30–32 Aubrey-Cuzens Drive, Marysville. Patrick was 49 years old and Geoff was 35 when they died. They lived in the weatherboard manager's residence at Fruit Salad Farm, a bed and breakfast business with an attached restaurant called Gilberts, which they ran with Patrick's parents. Patrick and Geoff are survived by their large extended families.

Patrick's elderly parents—Jeffrey, 85, and Patricia, 78—also lived at Fruit Salad Farm but had evacuated to another part of Marysville at about 6.00 pm on 7 February; they survived. There were no bed and breakfast guests present in the late afternoon when fire swept through Marysville, although during the early afternoon a small party had checked in for the night.

Aubrey-Cuzens Drive is a 'no through road' to the west of Marysville, and Fruit Salad Farm was close to the road's end. The property itself was heavily timbered, and it was surrounded by the thick, mature native vegetation of Marysville State Forest.

The fire plan for Fruit Salad Farm entailed the elderly Jennings couple leaving. Patrick and Geoff would try to save the restaurant and the manager's residence. Sprinklers had been fitted to the roof. Patricia had told Patrick and Geoff in the past that if there was a fire she wanted them to leave the property after putting the sprinklers on.

At about 4.00 pm on 7 February Geoff made a telephone call to Ken Adams, another Marysville resident and a bed and breakfast operator, and they briefly discussed a puff of smoke in the sky, coming from the direction of Murrindindi. Between about 4.30 and 5.00 pm Geoff was at the Buxton Trout Farm, where he bought fish to be cooked at Gilberts restaurant that night. During this time Geoff told the proprietor of the Trout Farm that Gilberts was staying open that night because everyone else was going to be closed. He seemed blasé about the possibility of a fire.

Shortly after 5.30 pm Geoff returned to Fruit Salad Farm. Patricia Jennings recalled, 'Geoff came back in his car like a bat out of hell. He screamed in with his hand on the horn. Normally we drive slowly. Geoff jumped out of the car and yelled "You're gone—the fire is coming"'.

After packing a few items and pets into a car, Jeffrey and Patricia left, expecting that Patrick and Geoff would not be far behind them. At about this time local police officer Acting Sergeant Ian Thompson visited Fruit Salad Farm and spoke to a male (Patrick), who told him he would be staying at the property if there was a fire.

Between about 5.50 and 6.00 pm Geoff spoke on the telephone with two colleagues, Graham Jeffrey and Meredith McDonald, who were not in Marysville. During both conversations Geoff spoke quickly and sounded panicked. He asked to speak with 'Debbie' (Graham's wife), who, he said, 'would know what to do'. Geoff also told Meredith McDonald that parts of Narbethong had been burnt and that he was putting some live chickens in his coolroom.

At about 6.30 pm Geoff arrived at Ken and Christine Adams' property in Darwin Street, Marysville. He was alone, and he shouted at Ken and Christine, 'What are you still doing here? Get out!'. He then said he was going to call on some other people, so that he could get them out of town.

On 8 February Jeffrey and Patricia Jennings returned to Fruit Salad Farm. They saw trees had fallen onto the still smouldering but destroyed house and that Patrick's and Geoff's cars were burnt out. They did not try to find Patrick and Geoff.

On 9 February Patrick Jennings and Geoff Grady were found in the rubble of what had been the coolroom. The post-mortem reports record that the cause of both their deaths was the effects of fire.[7]

### DEAN LESMANA AND RUDI THE

Dean Lesmana and Rudi The were friends who died together on 7 February 2009 in a car on Paradise Plains Road, about 5 kilometres south of Marysville. Born in Indonesia, Rudi and Dean had met as students in Melbourne. Rudi was 28 years old and Dean 26 at the time of their deaths. They are survived by family in Melbourne and Indonesia.

Rudi and Dean became friends in 2007. Rudi had arrived in Melbourne in early 2007 to start a Diploma of Hospitality Management, which he completed in December 2008. After a trip back to Indonesia to visit family and friends at the end of 2008, he returned to Melbourne on 1 February 2009, ready to start work as an assistant chef on 10 February 2009. He was hoping to become a permanent resident, having submitted his application on 5 February 2009.

Dean arrived in Melbourne in October 2006 in preparation for beginning an Advanced Diploma of Hospitality Management in January 2007. He was due to complete the course in June 2009. He had spent his holidays with his family and girlfriend in Indonesia and had arrived back in Melbourne on 5 February 2009. Rudi and Dean had recently developed an interest in photography and had gone to Marysville on 7 February to take photographs.

They travelled to Marysville in a late-model hatchback they had borrowed from Rudi's sister, Juliana. They did not know the area, and Rudi had 'printed directions on how to get there … to take with him'. It would appear that both men had limited fire awareness. Juliana recalled, 'Rudi would not have had any knowledge or experience with bushfires. I don't think there was anything in the car like blankets you could protect yourself with in a fire'. Dean's father stated, 'Dean had never had any exposure in Indonesia to bushfires. There is no volunteer fire brigade in our area of Indonesia'.

Both Rudi's sister and Dean's father also noted that Rudi and Dean were likely to either listen to music on their iPods or listen to a commercial music radio station; neither of them was likely to listen to an AM radio station such as 774 ABC radio, the emergency broadcaster.

At about 4.15 pm Rudi and Dean were seen swimming at the Marysville swimming pool. At 5.37 pm a call was made from Rudi's mobile to the mobile emergency access number 112. It is not known whether this call was answered.

Juliana was unsuccessful in her attempts to contact Rudi and Dean by telephone on Sunday 8 February and reported them missing. Dean's parents, girlfriend and brother in Indonesia tried to call Dean on his mobile phone, but they too were unsuccessful.

On 11 February 2009 a DSE employee was clearing fallen trees from Paradise Plains Road, a dirt road leading out of Marysville into Yarra Ranges National Park, when he found a burnt-out car on the left-hand side of the road. Rudi and Dean were found in the back seat of the car, which had been extensively damaged by fire. The Victoria Police forensic scientist who examined the site noted that the fire would have been travelling up the hill at this location; the fire intensity was such that canopies of the trees in the vicinity were completely burnt away.

The post-mortem reports record that the deaths of Dean Lesmana and Rudi The were caused by the effects of fire.[8]

### LAUREL LEWIS

Laurel Lewis died in her car on Woods Point Road near Marysville on 7 February 2009. She was 81 years old, and she had lived at 16 Lady Talbot Drive, close to where she died. She is survived by four children and her grandchildren.

Mrs Lewis regularly attended CFA meetings and had developed her own fire plan, which was to evacuate. During the fire season she always kept a box of heirlooms by the front door and had fire-safe clothing ready.

Lady Talbot Drive is a long, winding road that stretches from Marysville deep into Marysville State Forest. The section of the road where Mrs Lewis lived is on the outskirts of Marysville, to the east of the township. Mrs Lewis's house was a cedar weatherboard with timber-lined ceilings; the property backed directly onto the State Forest. It was a heavily timbered area, but there was a 15-metre firebreak at the rear of the property and Mrs Lewis kept her gutters and the area around the house clear.



At about midday on 7 February Mrs Lewis's daughter, Bronwyn Shiel, visited with her husband and son. Bronwyn and her family then went to the Marysville swimming pool. Bronwyn contacted Mrs Lewis at about 3.20 pm to tell her

of the fires. Bronwyn and her family then returned to Mrs Lewis's house, packed their belongings and left just after 4.00 pm. Mrs Lewis declined to go with them but said she would move her car so that it faced down the driveway. She placed personal possessions near the front door so they could be moved to the car quickly.

At about 4.30 pm Mrs Lewis called another of her daughters, Merrilyn Withington, and told her there were logs on fire at the Narbethong Mill, near Marysville. She also told Merrilyn she would pack her belongings but at that stage she was staying. During the same phone call she told Merrilyn's daughter she was 'not at all worried'.

At 4.36 pm Bronwyn called Mrs Lewis to tell her she and her family had just passed through the Black Spur and there was a great deal of smoke around. Bronwyn contacted Mrs Lewis again at 5.06 pm: Mrs Lewis told her everything was still fine.

Merrilyn had continued to call Mrs Lewis during the afternoon to check on her welfare. During one of their conversations Mrs Lewis told her she was just finishing packing a box to take. Merrilyn last spoke to her mother shortly after 6.00 pm. At that stage Mrs Lewis was not planning on leaving right then but was ready to go, with the car packed and facing out of the carport. The power had gone out, but Mrs Lewis had a battery-operated radio on and was listening to fire updates.

Bronwyn spoke to Mrs Lewis at 6.44 pm, Mrs Lewis said she was not leaving yet but had everything ready to go when it was time to leave. Bronwyn told her mother she had been looking at the CFA website and that a fire was directly in line with Marysville. Bronwyn tried to contact her mother again just after 7.00 pm but was unable to get through.

Mrs Lewis was found in her burnt-out car, which had hit a dirt embankment by the side of Woods Point Road, about 600 metres east of her home. The position of the car suggested that Mrs Lewis had been driving westward, towards the centre of Marysville. A large burnt tree was wedged underneath the engine bay, suggesting that the vehicle had hit a branch and veered off the road.

The post-mortem report records Laurel Lewis died as a result of the effects of fire.[9]

### ELIZABETH, JAMES AND MATTHEW LIESFIELD

During the week leading up to 7 February 2009 the Liesfield family—father Rod, mother Elizabeth, and their two teenage sons, James and Matthew—moved from Buxton to their new home in Marysville. They had recently bought Nanda Binya Lodge, a bed and breakfast business, at 29 Woods Point Road. Settlement had been on 28 January 2009, and they started to move the following day. Elizabeth, 44, James, 14, and Matthew, 13, died in the outdoor spa at Nanda Binya Lodge on 7 February. Rod was injured but survived.

Nanda Binya Lodge was on a large piece of land surrounded by bush. Rod Liesfield described the property before its destruction in the fire: '… a bed and breakfast with five self-contained motel rooms with a common lounge and dining area that held 40 people'. The building was made of brick and had a steel deck roof.

In the week the Liesfields had lived at Nanda Binya they had been cleaning out the gutters and had begun pruning back the trees. There was some firefighting equipment at the property—a fire extinguisher and a fire hose reel. There was no evidence of any external firefighting equipment, and there was no water supply other than the town water. The Victoria Police forensic scientist who examined the property shortly after the fire found no firefighting equipment, such as pumps, hoses and sprinklers, near the building and no ordinary garden hoses. No water tanks or any other types of water receptacle were near the house.

Rod first became aware of the fire threat in the early afternoon. At about 2.30 pm he had returned to Nanda Binya to find that Elizabeth had asked the guests—a group of nine women and a baby—to leave because of the fire risk. Between 3.30 and 5.00 pm the family did some basic fire preparation. Rod and his two sons cleared the guttering and blocked the downpipes. At about 5.45 pm the family stopped for their evening meal, which was cooked on the gas stove because the power had gone out earlier.

The Liesfields did not have a specific fire plan. Over the years they had talked about getting wet blankets and then going to the car.

During dinner Rod and Elizabeth agreed that they would leave and go to Alexandra. After dinner Rod returned to the roof to finish clearing a section of the guttering, and James squirted water onto the roof in readiness for the firefront. While James and Rod were attending to the roof, Matthew and Elizabeth were in the spa area wetting blankets in readiness for the family's departure. Rod 'had wanted about half a dozen wet blankets just in case we needed them'.

Rod recalled that the situation changed rapidly when the wind changed. Within seconds the wind went from the north-west to the south, it became dark and spot fires appeared. He knew they were in trouble. At this point many things happened very quickly. There were spot fires everywhere around the house. James headed to the spa to join his mother and brother. Rod ran to check which of the cars could be used to evacuate and found the station wagon already alight. He went through the house to check if the ute was safe to use but was stopped by the sound of breaking glass:

> All of the house windows along the front wall of the house were breaking continuously for a few seconds and there was an unusual sucking noise. It was like there was a real rush of wind that was coming past me towards the door in the lounge room. It was strong enough that I felt the pressure pulling me towards the room.

Rod unwound the fire hose in the lodge and tried to get close to the spa, where his wife and children were, but there was no water pressure. He then tried to get to the spa but was forced back by the heat of the fire coming towards him from the front of the building. Unable to reach his family and with the house on fire, Rod sought shelter in a ditch near some she-oaks, about 20 metres from the house. He stayed there for about an hour and a half before he made his way to the main street, where people looked after him until he was taken to the hospital in Alexandra the next day.

Rod knew his family had been killed when he left the shelter of the she-oaks. Nanda Binya Lodge and almost all the surrounding properties had been destroyed.

The bodies of Elizabeth, James and Matthew Liesfield were found in the remains of the outdoor spa. The post-mortem report for Elizabeth records the cause of her death as undetermined but consistent with the effects of fire. The post-mortem reports for James and Matthew record the cause of their deaths as the effects of fire.[10]

### DAVID AND CORALIE LYNCH

David and Coralie Lynch lived at 121 The Eagles Nest Road, Marysville. The property was to the north of Marysville and south of Buxton. David was aged 62 and Coralie 60 when they died at their property on 7 February 2009. They are survived by their son and their extended families.

The Lynches' property was a bush block of about 5 hectares. The house was on top of a hill, with mature trees all around except to the north, where there was about half a hectare of cleared space. The house was built of rough-sawn mountain ash. Inside, the walls were of rough-sawn timber and plaster.

David and Coralie were known to be 'quite passionate' about the house and its contents, and their fire plan was to stay and defend. David's brother, Stuart, explained, 'From November to March, David and Coralie would not leave the Marysville area in the event they had to fight bushfires and protect their property'. They had a practice of burying a container with their valuables and personal papers at the start of every summer.

Their son, a firefighter with Parks Victoria, explained their firefighting equipment and practices, which included having wheelie bins filled with water on every corner of the house and also having flailing sticks to hand:

> Dad had a sprinkler system that was connected to a firefighting pump (petrol driven). This pump was in turn connected to a large plastic tank. There was also one or two other water tanks that were connected to the house supply and they were located at the shed/garage that was on the cleared area above the house. Dad also had a firefighting hose that was connected to the fire pump along with the sprinkler system. I believe they had butterfly sprinklers along the ridge line of the roof and misting/finer sprays under the eaves of the front verandah. He kept the area around the house clear of undergrowth, but there was still a lot of garden around the house but this garden would be watered and kept green.

The Lynches knew about the forecast conditions for 7 February, in part because their son had telephoned them the previous day. At about lunchtime on 7 February David had a phone conversation with Stuart, in which he (David) said there was a fire over the Black Range but it seemed to be travelling away from him. At about 3.00 pm Susan Barrie-Gresham, owner of the Narbethong Hardwood Sawmill, where David worked casually, rang David to ask him to come and help at the mill. She was concerned about fire approaching the mill. David agreed to go.

At about 3.40 pm David answered a phone call from Coralie's sister, Denise, telling her, 'I can see smoke to the north-east two ridges away'. He did not seem concerned. On a number of occasions Coralie, who was monitoring the DSE website, spoke to neighbour Rosemary Flaherty about the fires. In a call to David at about 4.00 pm Rosemary asked how close the fires were. David told her they were in the Black Ranges, along the valley, and it would take a while for the fires to get to their area—if they were not controlled first. At about the same time David used his mobile phone to ring Stuart because the landline had stopped working. David told Stuart things were not looking good and he might not be able to talk for some hours.

At about 5.00 pm David rang Rosemary and asked if she was leaving. The last thing he said to her was 'Don't leave it too late, Rose'. She understood that David and Coralie were staying to defend their home. David also called Susan at the mill to tell her he could not help her because the roads were blocked. Just before 5.15 pm David called another friend in Marysville to apologise for not being able to put his bins out because he was preparing his home for the fire. A couple of friends made calls to the Lynches' between 5.30 and 6.00 pm; these calls went unanswered.

Just after 6.00 pm David called a friend in Melbourne to advise her to stay there rather than try to return to Narbethong the next day. David said he was putting the sprinklers on to protect his house from fire. At about 6.45 pm a close friend called Coralie on her mobile phone. Coralie, sounding stressed, said fire was coming up the hill and that David had the sprinklers on. It was at about this time that fire hit the area. The house was razed.

On 9 February David's remains were found, possibly just outside the rear of the house, and Coralie's remains were found inside the house, probably in a bedroom.

The post-mortem reports record that David and Coralie Lynch died as a result of the effects of fire.[11]

### ALEN MAWSON

On 7 February 2009 Alen Mawson died sheltering in the bath in his holiday home at 18 Allison Crescent, Marysville. He was 64 years old when he died. He is survived by his partner, Christine Walker, and their two children, James and Stephanie.

Alen and Christine bought 18 Allison Crescent as a family holiday home in 1988–89. The property is on the outskirts of Marysville, near Kings Road, and is close to Marysville State Forest. When their children were younger the couple used to take them and their cousin to the property for weekends and school holidays. On a sloping block with mature eucalypts and shrubs around the property, the brick veneer house had a tiled roof and timber decking. Christine recalled:

> There were large gum trees between our house and the house on the western side and a very big gum tree in our back yard. There were lots of mature shrubs on the property and new ones that Alen was still planting. There were a lot of trees on the west side … We spoke to [the neighbours] about cutting back some of the trees on this west side a few years ago, but neither the neighbours nor Alen were interested and this didn't happen.

Over the years a local builder had been contracted to carry out a number of renovations at the property. More recently Alen and Christine had talked about changing their living arrangements so they could both spend more time there.

Alen spent weekends at the house at least twice a month in order to maintain the garden, also working there on his laptop. He usually left Melbourne on the Friday, and the weekend of 7 February was no different. Keen to be there to water the plants, which had already suffered through the hot summer, Alen left home at about midday on 6 February with the family dog, Jackie. Christine recalled that they hadn't talked about the 'possibility of bushfires in the area as I could never have imagined there was a bushfire threat in the Marysville area as it had been so lush and green'.

> I always said my fire plan was to leave but Alen never understood what I meant as he said that was the worst thing you could do. I said I'd leave and go to the oval. Alen would look at me blankly as there were never any fires in Marysville. I don't think Alen had any fire plan on what to do if there was a fire at the property. I even spoke about cleaning out the gutters of leaves but there was no urgency to do this. There was no firefighting equipment at the property.

On Saturday 7 February Alen called Christine at about 6.40 pm, asking what he should do because 'there seems to be a bushfire close by as it is very dark and smoky'. Christine advised him to go to the oval if he had time and, if he did not, to fill the bath with water and get into it with the dog. Overhearing the conversation, their son James checked the CFA website but saw only a reference to a grass fire of minimal risk in Falls Road. He called his father back within a few minutes to tell him to go to the oval. Alen told James he was in the bath with the dog, that the garden and grass were already on fire, and he was concerned that the verandah and house might catch alight. The call dropped out.

Christine and James tried unsuccessfully to call Alen numerous times during the next few hours. They were comforted by a news report late in the evening that everyone in Marysville was safe and at Gallipoli Park. (In fact, the reference to everyone being safe was later found to have been a reference to CFA and DSE members, rather than the general community.) On Sunday 8 February family members registered Alen with the Red Cross as missing. In the next few days family members tried to find Alen by watching the news and calling the Red Cross and hospitals.

On 11 February 2009 Alen's body and that of Jackie, the dog, were found in the remains of the bath; his watch had stopped at 7.20 pm. The house had been destroyed. Alen's car was found largely undamaged where he had parked it, on the elevated car park at the front of the house.

The post-mortem report records the cause of Alen Mawson's death as consistent with the effects of fire.[12]

### HARLEY AND ERROL MORGAN

Harley and Errol Morgan died together at their home at 9 Lady Talbot Drive, Marysville, on 7 February 2009. Harley was 57 years old and Errol was 70. The couple are survived by Errol's four children and grandchildren and Harley's sisters and their families.

Lady Talbot Drive is a long, winding road that stretches from Marysville deep into Marysville State Forest. The section of the road where the Morgans lived is on the outskirts of Marysville, to the east of the township. Before the fire the main feature of the area was the dense, mature native forest.

The Morgans built their weatherboard cottage on a large block in the mid to late 1990s. Built in a traditional style, the cottage had a steel roof, a bull-nosed verandah at the front, and a large timber deck at the rear. The garden, which contained trees, was neat and well maintained by Harley. The property was surrounded by Marysville State Forest and some other similar private properties.

The Morgans' plan was to leave their property in the event of a fire. Harley was an active CFA member but had not responded to the call-out on 7 February.

Two of Errol's children said they believe the Morgans' decision not to relocate on 7 February was influenced by Errol's restricted mobility. The day before Harley had taken Errol to the Healesville and District Hospital because she had ongoing leg problems and was having difficulty walking that day. Errol was not admitted to hospital and returned home that night.

Errol spoke to her son Andrew Burns three times between 1.18 and 4.40 pm on 7 February. During those conversations Errol told Andrew she was concerned about the fires in Kilmore and Murrindindi, which were being reported on the CFA website.

Throughout the afternoon the Morgans spoke to numerous other friends and neighbours, either in person or by telephone. Between 4.15 and 6.40 pm Harley went to his next-door neighbours, Russell Glenn and Vicki Moritz, three times. On each occasion they discussed whether it was safe to leave. On Harley's advice, Russell and Vicki eventually decided it was not safe to leave.

At 5.22 pm Harley spoke on the telephone to a neighbour, Barbara Harrison, telling her, 'We're in deep shit'. At 5.43 pm Errol spoke on the telephone to another neighbour, Neil McKern, and Neil told her the wind had changed to a strong south-westerly and urged her to evacuate. Harley also answered a phone call from Errol's son Andrew Burns at 6.46 pm, but he said, 'The fires are here, I've got to go'. At 6.54 pm Errol spoke to Russell Glenn on the phone; Russell said, 'Good luck, darl' since it was obvious to him that the fires were approaching.

There are conflicting recollections about whether or not the Morgans were going to leave their house that day or stay. During their phone call at 5.43 pm Errol told Neil McKern that Harley would not leave the house. At about 6.40 pm Harley told Russell Glenn and Vicki Moritz that Errol would not leave the house and he would stay with her.

At 7.06 pm Russell Glenn looked across at Errol and Harley's house and saw that it, together with Harley's ute, was fully ablaze. At 7.08 pm a call was made from the Morgans' mobile phone to the mobile emergency access number 112, but the call lasted for only 19 seconds.

The bodies of Errol and Harley Morgan were found in the remains of the bathroom of their house, which was destroyed in the fire.

The post-mortem reports record that the cause of their deaths was consistent with the effects of fire.[13]

### KIRSTIE AND ISAK NILSSON

Kirstie and Isak Nilsson lived at 5 Keppels Court, Marysville, with their three children, aged 10, 12 and 14. Kirstie was 39 and Isak 44 when they died at their property on 7 February 2009. They are survived by their children and their extended families.

The Nilssons' house, which Isak had built, was a single-storey five-bedroom weatherboard. It was set at the southern end of the block, towards the back, and abutted a particularly heavily forested area. To the north, at the front, were fenced paddocks. The Nilssons' fire plan was to stay and defend their property. Isak made a practice of filling an old bath and wheelie bins with water, but they had no other firefighting equipment and were reliant on town water.

At about 3.00 pm on 7 February Kirstie rang her mother, Penelope Sargent, who was also in Marysville, to discuss the colour of the sky and the fire at Kilmore. Kirstie and Isak had intended to leave the children with Ms Sargent while they went to Melbourne. Although they did not think they were in any danger in Marysville at that stage, they changed their plans in any case. Kirstie did not want to drive across the Black Spur or face the possibility of having trouble getting back. They arranged for her mother to come to the Nilsson home at 5.00 pm.

At some time after 3.00 pm Mark Peart stopped to speak to Kirstie and her daughter outside the Marysville swimming pool as he and his family were heading for the Gallipoli Park oval. He told her they were leaving and advised Kirstie and family to leave too.

At 5.00 pm Kirstie's mother arrived at the Nilsson home as arranged. Isak was outside getting water and buckets ready. It was very smoky, but the Nilssons had heard no warnings at this stage. Kirstie asked her mother to take the children to the golf club, a known assembly point, which her mother did at about 5.15 pm. She noted, 'Kirstie wasn't that enthusiastic about staying to fight the fire, but there was no way she would leave Isak there alone'.

It was about 5.30 pm when the local police officer, Senior Constable Ian Thompson, first saw flames in the treetops at Mt Gordon, about 3 kilometres from Marysville. He did a doorknock, advising a number of residents of the approaching fire and urging them to evacuate immediately. He spoke to Isak and Kirstie, who elected to stay. Kirstie appeared concerned; Isak was determined to stay.

At some time after 5.30 pm Kirstie's mother and the children were told the golf club was no longer safe and to head for Alexandra. While they were on their way Ms Sargent asked the children to call their parents to let them know what was happening. The phones went unanswered. Jan Peart, Mark's wife, returned a call from Kirstie at about 6.50 pm, leaving a message telling Kirstie to go to Alexandra. Fire had struck the township of Marysville at about 6.45 pm.

Isak's remains were found about 6 metres from their burnt-out house. Kirstie's remains were found inside what had been the bathroom.

The post-mortem reports record that Kirstie and Isak Nilsson died as a result of the effects of fire.[14]

## COLIN PAUL

Colin Paul was almost 84 years old when he died on 7 February 2009 in the two-storey mud brick and timber home he had built at 17 Kerami Crescent, Marysville. He had lived there alone after his wife, Alice, died in 2002. He is survived by a large extended family, including his five children, Jenny, Andrew, Trevor, Robert and Gregory.

At close to half an acre Colin's property was an irregular shape, running between Kerami Crescent and the Marysville – Woods Point Road. The house was at the north-eastern end of the block; the western end was heavily wooded. There was also some bush at the extreme east of the block.

Colin was very active in his community: he volunteered at the local bowls club and 'used to drive other aged people from the community to doctors' appointments and the like'. He had been fit and mobile for his age until a couple of days before the fires, when he had fallen and injured his back. This restricted his mobility, and he was using two walking sticks on 7 February, although he had still been able to get to the bowls club that morning.

As his son Greg recounted, Colin was an experienced firefighter:

> … my father was an experienced firefighter and had successfully defended other properties from bushfire. My father worked for the Soil Conservation Authority, a former incarnation of the Department of Sustainability and Environment for about 35 years, from 1950 to 1985. Prior to that he had been an infantry soldier in the 7th Battalion in World War 2 and had fought fires as part of his army service. My father had fought fires in the Sydney area before being deployed in the Pacific theatre in World War 2. My father was also a member of the Civil Defence, which later became the State Emergency Service … He had an extensive knowledge of firefighting and preparation for fire events.

Colin's fire plan was to stay and defend. This was confirmed on 7 February in conversations with various family members. In a phone call to her grandfather just before 5.00 pm Rebecca Peters raised the prospect of evacuation, to which Colin replied, 'They will have to prise me out of here'. At about 6.15 pm Colin spoke to his daughter-in-law Sandra Paul and told her he was staying to fight the fires; he had drums of water and hoses prepared. A little before 6.30 pm Trevor called his father for the second time and urged him to collect his valuables and leave. He recalled that his father 'tried to lighten the situation by stating "I'm going down with the ship"'.

The plan to stay and defend appears to have been longstanding: according to a 2006 list of people who had attended a series of community fireguard meetings, Colin planned to stay and defend at that stage, too.

Colin had intended to buy a tank and pump but had not yet done this. He had access to town water, garden hoses set up to fight fires, and tools such as rakes and hoes.

The house at 17 Kerami Crescent was very special to Colin and his extended family. He had bought the property in 1988 and spent the next two years building the house with his wife. It became a family project, and their children helped out at various times. Colin's granddaughter Rebecca commented, 'Papa was a perfectionist and everything was built with love'. The mud for the bricks came from the site cleared for the slab, and most of the house's frame was made of hand-milled timber obtained from trees felled on the site. Son Greg recalled:

> The house was more than a house, not only to my father but to our family. Many family Christmases and other special events were held at the house and it was like a base for us all. It was because of the fact that the house was like sacred ground to my family that my father chose to stay and defend the property.

On 7 February Colin spoke to a number of his family members earlier in the day, although the subject of fires did not come up until the call just before 5.00 pm from Rebecca. During that conversation it became evident that Colin was aware of some degree of fire activity: he mentioned he had seen smoke 'billowing over the hill', although he told Rebecca he had not been alerted to any fire at the time. At about 5.30 pm he told his son Trevor he would not leave, saying 'he had experienced fires before and this was just another one'.



On 8 February 2009 Colin Paul's remains were found by his son Gregory, a police officer, in what had been the house's main bedroom. The house and its surrounds had been destroyed.

The post-mortem reports record the cause of Colin Paul's death as effects of fire.[15]

## LEONARD POSTLETHWAITE

Leonard 'Len' Postlethwaite died at his home at 86 Falls Road, Marysville, on 7 February 2009. He was 82 years old and a life-long resident of Marysville: he had lived there with his wife, Elaine, from the time they married in 1960. Formerly a fit and strong man, at the time Len died he had a number of health problems, among them a degenerative spine condition that limited his mobility. He is survived by Elaine and their children and grandchildren, who also lived in Marysville.

Len was a proud man who had lived his entire life in the bush. As a 12-year-old he had saved his family's home in Marysville from the 1939 fires. He was a champion axeman and spent most of his working life with the Forestry Commission, where one of his tasks was fighting bushfires.

The Postlethwaites' property was at the corner of Falls Road and Martin Road, about 1 kilometre east of Marysville township and 500 metres from Gallipoli Park. The section of the road where the Postlethwaites lived was residential, with houses on both sides, but Marysville State Forest adjoined the rear boundaries of most of the properties on both sides of the road. The Postlethwaites' property was originally about half a hectare, but it had been subdivided in recent years and there were two cleared 'quarter-acre' blocks between the Postlethwaite's house and the forest.

The Postlethwaites' house was made of Californian redwood and had verandas on two sides. The property had a large front yard, which was mostly clear, although there was a garden. Elaine recalled that the house was built in about 1980 but was not built with bushfire defence in mind; the Postlethwaites had no fire plan and no firefighting equipment. In the 50-odd years Elaine and Len had lived together in Marysville, they had never had any trouble with bushfires.

On 7 February the couple were together at home. At 4.10 pm Elaine called her daughter Kay Ronalds after noticing smoke in the sky. Kay was in Marysville, and she told Elaine she was going to Buxton because there was a fire nearby. Elaine then told Len what Kay was doing, but he made no comment.

Some time after that Elaine received a telephone call from her sister, Pat Lawson, in suburban Melbourne, who told her she had heard about fires in Narbethong. At about that time Elaine pointed out to Len that there were large red spots in the smoke in the sky, but Len said that the colour was caused by the sun, not fire.

At 4.44 pm Elaine called daughter Kay again and asked her why the CFA station siren had not been sounded. At 5.14 pm Elaine spoke to her other daughter, Ann Cuzens, who said people were congregating at the Cumberland guesthouse in central Marysville and suggested that Len and Elaine go there too. Elaine mentioned this to Len, but he refused to leave the house.

At 5.48 pm Ann called Elaine again and told her the fire was coming and she and Len needed to get in their car and leave the house immediately. After that phone call Elaine packed some things into the Postlethwaites' ute and chained their dog to the back. She then went back inside and the power went out; she pleaded with Len to leave but he refused again. Len said he wanted a sandwich and a cup of tea; he then went and sat on the veranda, with his back to the smoke.

Elaine continued trying to persuade Len to leave the house but she had no success. Len thought they would be safe at the house, and that the cleared blocks between the house and the forest would act as a firebreak. After about half an hour Elaine could see, hear and smell the fire and she decided she had to leave. She could not drive the ute, so she left on foot, hoping Len would follow. Not long after 6.55 pm, a neighbour drove past her on Falls Road, offered her a lift and drove her to safety. Len stayed behind.

Some time after Elaine had left two CFA volunteers drove past the Postlethwaites' house and saw Len sitting on the veranda. One of them called out to Len and told him to 'get the hell out of there'.

On Sunday 8 February 2009 Len's body was found in the front yard of the Postlethwaites' property, next to the burnt-out ute. The family dog was found nearby.

The post-mortem report records the cause of Len Postlethwaite's death as the effects of fire.[16]

### DR KENNETH ROWE

Dr Kenneth 'Ken' Rowe died at his holiday house at 2 Hull Road, Marysville, on 7 February 2009. A Vietnam veteran, he was 63 years old when he died. He is survived by his wife, Katherine 'Kathy', and their three sons, David, Andrew and Iain.

Hull Road is an unsealed cul-de-sac a short distance south of Marysville township. It runs off Mount Kitchener Avenue and sits between Falls Road and Kings Road. It is also very close to the thick, mature native vegetation in Marysville State Forest, which borders Kings Road, and is a short distance from Gallipoli Park.

Ken and Kathy owned two adjoining properties in Hull Road: numbers 2 and 4. Number 2 was their holiday house and number 4 was rented to full-time tenants. Both properties had native vegetation, including mature gum trees along the border, but these had been pruned during the 12 months preceding 7 February. Two empty bush blocks were directly across the road from the Rowes' property at number 2.

The house at 2 Hull Road was 'a two-storey, three-bedroom house made of hardwood'; it had been built in the 1960s. According to Graeme Brown, their neighbour and tenant at number 4, Mr Rowe kept the property well maintained: 'He took pride in the house'.

Ken had received a telephone call from the CFA on 6 February, alerting him to the high fire danger conditions that were expected in Marysville the following day. Ken left his home in the Melbourne suburb of Surrey Hills at about 3.00 pm on 6 February and went to Marysville, intending to clean up around the house and make it fire ready. He took numerous fire-ready items with him, among them a torch, batteries, a battery-operated radio, boots, towels and an old blanket. It was his normal practice to take these items with him to Marysville.

At 8.06 am on 7 February Ken called his wife and told her he had cleared away leaves on their Marysville property. At about midday he spoke to Graeme Brown, telling him he had come to Marysville to look after the house and to keep it damp.

Ken spoke to his wife again at 5.18 pm. During their 10-minute conversation Ken was calm, reassuring Kathy he had done everything they had discussed. He also told her the sky was dark, sparks were flying everywhere, and he couldn't see very well from the back of the house:

> He had mops and buckets, filled the baths and trough, he had wet towels by the doorways, he had closed the woollen curtains, he had a wet blanket. He told me the clothes that he was wearing—hat, long pants, woollen shirt—[and] that he had something for his face. He told me he had filled the gutters, hosed the house down, wet everything that he could.

At 5.40 pm Graeme Brown was preparing to leave when he saw Ken on the back verandah of number 2. He told Ken he and his son were leaving and heading to Gallipoli Park and that Ken should go too. Ken waved back to him.

Concerned about news reports he had heard late in the afternoon about bushfires in and around Marysville, David Rowe called his father at 6.20 pm. They spoke for about 10 minutes. Ken sounded calm and told David about the preparatory work he had done around the house. He also mentioned that he hadn't felt so tired since his time in Vietnam with the army.

David tried twice to call Ken again later in the evening, but there was no answer. At about midnight Graeme Brown returned to Hull Road; he saw that both houses had been destroyed and that Ken's car was burnt out in the driveway of number 2.

Ken Rowe's body was found near the remains of the kitchen at 2 Hull Road. The post-mortem report records the cause of his death as the effects of fire.[17]

### DAVID AND MARLENE SEBALD



David and Marlene Sebald moved to Marysville in 2002. They died there with their much-loved whippets at their home at 3 Keppels Court on 7 February 2009. David was 62 years old and Marlene 69 when they died. They had no children and are survived by family and friends.

Keppels Court is an unsealed cul-de-sac on the western edge of Marysville township. Situated close to the Marysville State Forest, the Sebalds' brick house was positioned deep into the block, closer to Aubrey-Cuzens Drive than Keppels Court. The Sebalds were gardening enthusiasts and were diligent about maintenance of the vegetation on their property.

David and Marlene were committed to staying in Marysville in the event of a bushfire. They owned and operated a local real estate business and felt they had obligations in relation to various local businesses, which were usually heavily booked during summer. They also wanted to protect their dogs and cats.

The Sebalds had experienced the Ash Wednesday bushfires at a previous residence, in Tecoma, and were considered knowledgeable about bushfires. They had fire safety equipment installed at their property—including sprinklers, water tanks, pumps and gutter guards—and had had their property inspected by the CFA. In 2007 they organised a series of CFA information nights about fire safety for themselves and their neighbours.

On 7 February David Sebald spent most of the day working at the offices of the real estate business with Karen Morrison, an employee. At about 3.25 pm Karen received a telephone call from her husband, a CFA member at Buxton, alerting her to an approaching fire. Karen left straight away and advised David to do the same, but he said he would stay at work 'for a bit longer'. As Karen drove away she saw a large amount of smoke in the sky.

At about 3.30 pm Phillip White, a close friend of the Sebalds, visited their property and told Marlene he and his partner were leaving Marysville because of the fire threat. Marlene was gardening at the time and appeared to be calm. David arrived home while Phillip was there and, after hearing his evacuation plan, David questioned whether the decision to leave Marysville had been 'premature', saying the fire was in Kinglake.

At about 3.45 pm Karen Morrison called the Sebalds' home number to make sure Marlene knew about the oncoming fire. Shortly after 5.30 pm Acting Sergeant Ian Thompson visited the Sebalds; they told him they would be staying to defend their property.

At about 6.25 pm, shortly after escaping from her burning house in nearby Aubrey-Cuzens Drive, Sue Pertama, a neighbour, noticed that the Sebalds' house had burnt down.

On 9 February 2009 David and Marlene Sebald's bodies were found together in the ensuite to their master bedroom. The post-mortem reports record the cause of the couple's deaths as consistent with the effects of fire.[18]

### SUAT BIAN TAN

Before her death in Marysville on 7 February 2009, Bian Tan had been making plans to retire in the coming May. She was looking forward to a family reunion in Western Australia and to spending time with friends in Brisbane and Sydney. Ms Tan died in Mountain Lodge Guest House, at 32 Kings Road, Marysville; she had worked at Mountain Lodge as a drug counsellor since October 2008 and was 63 years old when she died.

Mountain Lodge Guest House had been bought by Betel Australia in June 2008. Ms Tan worked for Betel Australia, a Christian charitable organisation founded in Spain in 1985. The organisation provides assistance to people with drug and alcohol addictions.

The 1-hectare property at 32 Kings Road was nestled in a heavily treed setting abutting Marysville State Forest. The main building on the property had 24 guest rooms with ensuites, a staff flat, conference facilities, a dining room, recreational facilities, and an industrial kitchen. The grounds contained a small cottage, a shed, a tennis court and a swimming pool. The property was described as 'totally surrounded by trees and bush areas, there were no fences around the property and residents could go for bush walks any time'.

Betel Australia planned to operate Mountain Lodge as a guesthouse for paying customers and also to provide accommodation, counselling and support services for people recovering from drug and alcohol addictions. The day-to-day running of the business was to be handled by two couples—Jason Budden and his wife and their four small children and Luis Blanco Rodriguez and his wife and their small child. At the time of purchase, Betel Australia was required to have a fire inspection carried out. Lindsay McKenzie, chairman of Betel Australia, noted:

> A private contractor was hired … He was a building compliance inspector; essentially he conducted the fire inspection and found that prior to settlement: all fire extinguishers were in place and most were brand new; smoke alarms were hard wired in every room and were functioning correctly; all exit signs were properly illuminating; all fire hoses were checked and found to be in good working order; and fail safe back up power systems tested and found to be operating correctly.

Mr McKenzie, who stayed at the Mountain Lodge Guest House from June to September 2008, also stated:

> There were at least 3 fire hoses. One hose was inside and two were definitely outside. They were proper fire hoses, made from heavy duty plastic … There were also standard taps, one at the front and one at the back. They both had Nylex style garden hoses attached. We also had at least two standard plug in garden sprinklers … By the time I left there had not been any plans or discussion relating to fire plans. I cannot say if there was anything in place after I left but I certainly [have] not been made aware of anything.

People who were living at Mountain Lodge in February 2009 said the fire plan for the property was to evacuate and go to the local golf course.

On 7 February 12 staff and residents, including children, were living at Mountain Lodge. A party of 27 paying guests had checked out early in the day. Between 2.00 pm and about 5.15 pm staff and residents did a variety of things: some used the pool, others played billiards, some spent time on the verandah or in their rooms. By mid-afternoon they became aware of smoke blocking the sun, a red glow in the sky, and the wind becoming stronger. Ms Tan appeared not to have joined the others and seemed to have spent most of the day alone in her room.

At 5.00 pm Ms Tan received a call from her sister-in-law in Perth. They spoke for about 25 minutes. Ms Tan spoke of her recent religious experience and the feelings of joy this had given her. She blessed all her family members before speaking briefly with her brother. There was no specific reference to fires or the threat of fires during the phone call. Before speaking with her brother she sang a song she said had been playing over and over in her mind in the past week. The song was drawn from the book of Isaiah, as recounted by her brother Justin:

> Fear not, for I have redeemed you, I have called you by name, you are mine. When you pass through the Waters, I will be with you, and through the rivers, they shall not overwhelm you. When you walk through fire you shall not be burned, and the flame shall not consume you. For I am the Lord your God, the Holy one of Israel, your saviour.

At about the same time as Ms Tan received the telephone call from her relatives in Perth the power was lost and a decision was made to have the evening meal earlier than usual. Ms Tan did not join the others for the meal. Luis Blanco Rodriguez went to Ms Tan's room and told her 'due to the smoke and bad weather that she should keep alert in case we needed to evacuate quickly'. She replied, 'It is OK Luis, don't worry'. Another resident also went to speak with Ms Tan. He took her outside to show her the smoke and advised her to prepare to evacuate. Ms Tan was taken aback by what she saw and commented on the fire being close and how big it was. She asked if the fire would come to the hotel and was told that it would not. She then went in the direction of her room.

After dinner was finished and the kitchen cleaned, seven of the community members sat on the verandah for about 20 minutes in a fairly jovial mood. By this time it would have been somewhere between 6.00 and 6.30 pm. Flames were seen popping up on the horizon about 400 metres away and heading towards Mountain Lodge. A resident, Daniel Orden, told everyone to evacuate to the 10-seat van. In the few minutes it took for them to collect some things from their rooms and return to the van, the smoke had become very thick, ash had begun to fall, and a huge wall of flame appeared 20 metres behind the van. Jason Budden and Luis Blanco Rodriguez evacuated to the golf course in separate cars with their families. As the van was en route to the golf course, Jason called to check that Ms Tan was with the other community members. She was not.



Luis tried to return to Mountain Lodge but was turned back at Pack Road, where a CFA truck was blocking the road. A CFA member waved his arms and told Luis to 'get out of here'.

Ms Tan's body was found on 18 February 2009 in the ruins of Mountain Lodge, near where her room had been. The building and surrounds had been destroyed by fire, as had most of the houses in Kings Road and the adjoining streets.

The post-mortem report records the cause of Bian Tan's death as consistent with the effects of fire.[19]

### MARIETTA WALSH AND KATHRYN AND DAVID WHITTINGTON

Marietta 'Marie' Walsh, 73, and Kathryn 'Kate' Whittington, 66, and her husband David Whittington, 68, died at the Cumberland Marysville Villa Day Spa at 34 Murchison Street, Marysville, on 7 February 2009. They had sought shelter there from the fire that burned through Marysville at about 6.45 pm. Marie Walsh is survived by her husband, Daniel, and their two sons Michael and Paul, and their families. Kate and David Whittington are survived by their children John, Jane and Robert, their children's partners and their grandchildren.

The Cumberland Marysville Villa Day Spa—known locally as 'the Cumberland'—was one of the earliest and best known of the guest houses to be established in Marysville. In February 2009 it was a conference centre with resort facilities, including a restaurant. The two-storey brick building had 43 bedrooms. Behind the main building was the Villa Day Spa, which consisted of a heated indoor swimming pool and treatment rooms for beauty therapies and massage. The owners, Simon and Ann Cuzens, had had a family connection with the Cumberland since 1948, when Simon's father owned it.

#### Marie Walsh

Daniel and Marie Walsh moved to Marysville in 2005 after Daniel had retired from his dental practice in Portland. Their large 50-square house, at 20 Darwin Street, was white brick veneer with black terracotta roof tiles and was set on a large block with extensive gardens around the house. Marie, in particular, was passionate about the garden, which contained mostly exotic species such as camellias and rhododendrons. There were two water tanks, one 11,000 litres and the other 19,000 litres, both of which were full; they were for the gardens and for washing cars.

The Walshes did not have a fire plan. Dan kept the tanks full and had plugs for the gutters so he could fill them with water if necessary, but he never intended to stay and defend the house against a bushfire: he thought too many things could go wrong. Their son Michael 'was not aware of any fire plan to evacuate to a certain location'.

On 7 February Dan and Marie Walsh made their way to the Cumberland at about 5.30 pm. Before leaving home they had packed some possessions into their car, turned off the gas, closed all the windows and shut the blinds. Dan had been to the Cumberland a number of times and he knew the layout of the main building. He 'always thought' it was a logical spot to go if a fire happened. It was near the Walshes' house and in the centre of town: it could hold many people and, 'if it did catch on fire, wouldn't burn quickly'. Dan was surprised it appeared empty when they arrived.

#### David and Kate Whittington

David and Kate Whittington moved to Marysville in 1996. Their son Robert moved with them to their house at 20 Lyell Street and worked in the cafe they ran in Murchison Street. Having emigrated from the United Kingdom in the late 1960s, the Whittingtons had lived much of their life in rural and semi-rural locations, including in fire-prone areas such as Cockatoo Valley and Para Wirra National Park in South Australia. These areas were remote, surrounded by bush and had limited access. David and Kate were well aware of the dangers of fires and had well-considered fire plans. Sons John and Robert both believed their parents felt safer living in a town like Marysville. When they moved to Marysville they donated their petrol-driven fire pump to the Marysville CFA, thinking they would not need it any more.

Robert said his parents did not have a formal, organised fire plan. He recalled:

> We were mindful of keeping the area around the house clear, especially the roof. Recently we never discussed specifically if they would stay and defend or leave. We did talk about it a few years ago and when they asked me I told them I would leave, which they said was fine, and I asked them and they said they would stay. I believe now that they meant they would stay in the town but not necessarily defend their house. I think their actions on Black Saturday were in keeping with this, doing as much as possible to their house and when the fire was close, go somewhere safe.

In the weeks and days before 7 February the Whittingtons had pruned trees and removed fallen leaves from the gutters; the lawns were kept quite short. Once they became aware of the fire threat in the early afternoon of 7 February, they started listening to 774 ABC radio, the emergency broadcaster. Kate phoned to check on their neighbour, who used a walking frame to move around. The neighbour told Kate she was being collected and evacuated to the Cumberland. A short time later Robert was making more fire preparations on the roof of the house when he saw his neighbour being collected from her back door; he didn't watch which way the car went.

Kate, David and Rob discussed the Cumberland as a place of refuge and agreed that it seemed a sensible place to go: 'It sounded like people in the know in town were going there and it sounded like the most sensible place'. While the senior Whittingtons planned to seek shelter at the Cumberland, Robert intended to go to Buxton and urged his parents to go with him:

> My plan was to drive to Buxton, listen to the radio, wait until the fire front had passed and then go back and help put out any spot fires. I wanted mum and dad to do this as well. They just wanted to wait at the Cumberland until after the fire front passed and then go home, and not get stuck at a roadblock outside town. I had made my decision to go and dad had made his decision to stay and go to the Cumberland.

At some time before 6.30 pm Robert left Marysville and drove to Buxton. At about 6.45 pm, with flames visible at the end of their street, David and Kate went to the Cumberland.

#### The Cumberland

Dan Walsh did not know who the Whittingtons were when they met each other inside the Cumberland. Nonetheless, they all took shelter in the lower level at the rear of the building, making sure that all internal doors were closed behind them. Dan recalled:

> At this time the sky became dark as midnight and the only light was from things that were burning … The hedge in front of us on the driveway was burning and that was providing about the only light we could see … After about 25 minutes or so I went outside … There was still a fair bit of wind. It was very dark and the atmosphere was very hot. There didn't appear to be any danger to the Cumberland at that point.

Presuming the fire front had passed and that people would be safe at the Cumberland, Dan decided to return home alone and check on his house. He found it still standing but under ember attack. After spending some time putting out spot fires and saving his house, Dan returned to the Cumberland at about 10.00 pm to collect Marie but found no sign of her or the Whittingtons. He assumed they had been collected by someone else.

On Sunday 8 February 2009 Marie Walsh, Kate Whittington and David Whittington were found in the remains of the male toilet of the Cumberland. The main building had been destroyed; the swimming pool area was still standing. The Victoria Police forensic scientist who examined the site shortly after the fire concluded that the 'construction of the toilet block would have resulted in it becoming extremely hot with little or no air flow into the room. A lack of oxygen and subsequent increase in carbon monoxide levels may have been a contributing factor to the deaths in this case'.

The post-mortem reports record that Marietta Walsh, Kathryn Whittington and David Whittington all died as a result of the effects of fire.[20]

## 18.2 NARBETHONG

#### GRACE MUNDOVNA

Grace Mundovna lived on her own at 16 Tarnpir Road, Narbethong. She was 66 years old when she died on 7 February 2009; she had been fleeing on foot from the fire that started at the Murrindindi Mill.

Ms Mundovna moved to the brick veneer house on Tarnpir Road, about 300 metres from the intersection with the Maroondah Highway, at some time in 2000 or 2001. The residential properties on Tarnpir Road (including Ms Mundovna's) were on the eastern side of the street, whereas the western side bordered a large, heavily timbered property. The Narbethong pine plantation was also a short distance away, further to the west.

Initially, Ms Mundovna had lived in Tarnpir Road with her daughter, but more recently she had lived there on her own. Her immediate neighbours knew her by sight, and she was said to keep to herself, not mixing much and having few visitors.

At about midday on 7 February Ms Mundovna was seen gardening and waved to a neighbour. At about 4.10 pm another neighbour, Jennifer Lovett, went to Ms Mundovna's house to warn her about the approaching fire and invite her to her own house, which was considered defendable. Ms Mundovna answered the door but declined Ms Lovett's offer of refuge, saying she would be OK. By this time it had become quite dark because of the smoke.

Another neighbour, Dean Sullivan, became aware at some time between 4.30 and 5.00 pm that his house was alight and he decided to evacuate with his young daughter, Ashleigh, and his dogs.

Mr Sullivan put his daughter, the dogs and a bag of things for Ashleigh in his ute. While he was sitting in the driver's seat Ms Mundovna approached him and asked what she should do. He advised her to go to the Lovett's house because 'it's defendable'. By this stage visibility was about 3 metres and the fire was 'leaping around everywhere'.

At about 5.25 pm David Nicholls was driving a Ford F100 ute, loaded with timber that had caught fire, south along Tarnpir Road towards the Maroondah Highway. He was fleeing after having tried to protect his home, which was also in Tarnpir Road. A few metres from the intersection with the Maroondah Highway he saw Ms Mundovna standing in the middle of the road; she was wearing a sleeveless light-coloured dress and brown leather shoes. Ms Mundovna approached the driver's side of the ute and asked for help. Mr Nicholls recalled what happened next:

> I said, 'Get in if you want to, the truck's on fire but get in'. She then went to the passenger door but I could not get it open. The flames were pretty big in the back of the ute. She was fairly hysterical by this stage, understandably. I then got out of the ute to go and get her. The visibility was terrible. I looked for her for three to four minutes but could not find her. She must have walked away from the ute. The noise around me was still like standing at the rear of an aeroplane.

Having lost sight of Ms Mundovna, Mr Nicholls drove off as fast as he could, ultimately fleeing on foot when the car would go no further. He survived by sheltering from the flames, first in a culvert and then under a railing on the side of the road.

Ms Mundovna's body was found on Sunday 8 February on the side of the Maroondah Highway, about half a kilometre south of her home and opposite the entrance to Camp Narbethong. This section of the road was surrounded by forest.

It is not known whether Ms Mundovna had a fire plan or why she decided to flee on foot rather than take her car.

The autopsy report for Ms Mundovna, completed on 11 February 2009, stated that the cause of her death was undetermined but consistent with the effects of fire.[21]

### ELSIE, WILLIAM AND GEOFFREY WALKER

The fire that started at the Murrindindi Mill in the mid-afternoon of 7 February 2009 took the lives of 80-year-old Elsie 'Fay' Walker, her 85-year-old husband, William 'Bill' Walker, and their 53-year-old son, Geoffrey, when it swept through their home in Narbethong at about 5.45 pm. It appears the Walkers were in the process of evacuating when they died. Fay, Bill and Geoff are survived by their large extended family of children, grandchildren and great-grandchildren.

The Walkers bought their 4-hectare property at 21 Nichols Road in 1972 and initially used it as a family holiday home. Over the years Bill relocated and extended the original cottage. Keen gardeners, Bill and Fay developed an English-style garden that became part of the Open Garden Scheme. Neighbour Elizabeth Robinson recalled:

> They had lovely big iron gates and they had a winding drive. [It was] lined with azaleas. On the right-hand side it was called the woodlands area. It had the canopy of all the old original gums and wattles and then below that [were] planted Japanese maples, rhododendrons and as you came around the curve on the right there was a big dam. Opposite was a grassy lawn with a little lake garden leading to a summer house, a yellow flowered walk with a vegie patch to the left. Continuing down the drive past the dam there were camellias on the left and on the right there were big old birches and then the drive went on towards the new house.

The Walkers, particularly Bill, were conscious of fires. Their fire plan included keeping the property well maintained and cleared of debris such as fallen trees, leaves and bark. Every December their neighbour Trevor Winter slashed the 100-metre-wide area of grass between his and the Walkers' property. The Walkers had a trailer with a tank with a fire pump on it, although it is not clear whether it was for firefighting or for watering the trees, or both. Their daughter, Julie Lowry, noted that her father had always told her mother 'if there was a fire in the area and the power went out, that the fire would be close and they wouldn't hang around'.

Bill was a World War 2 veteran and his health had deteriorated in his later years, to the point where he became reliant on Fay for transport because he was no longer able to drive. Trevor Winter recalled that before his death Bill had not been well: 'He was normally a pretty fit sort of guy but when I saw him at Christmas he didn't look too well. He looked very frail compared to normal'. Bill was experiencing problems with his heart. Geoffrey Walker had been confined to a wheelchair since childhood. The senior Walkers' ages, Bill's poor health, and Geoffrey's physical limitations might have contributed to a delay in their evacuation once they had decided to leave.

The Walkers first became aware of the fire at about 3.45 pm, when their neighbour Elizabeth Robinson called to ask if the Walkers knew anything about a fire. Elizabeth referred to a 'terrible fire out to the west' and said she 'could see billowing smoke with a red glow at the bottom of the hill, which was kilometres away'. At that stage Fay looked out of her kitchen window, straight down the valley in a southerly direction; 'she could see smoke in the area but not any fires'. Between 5.00 and 5.45 pm Fay took calls from her daughters, Julie and Vivienne, and her granddaughter Brodie, all urging her to get in the car and leave. At 5.07 pm neighbour Trevor Winter called to alert the Walkers to the fire at Narbethong, which was coming their way. At about the same time Elizabeth Robinson called again to tell Fay the power was off and that she was packed and was leaving. This surprised Fay, said her daughter Vivienne, who spoke to her mother for the last time in a phone call at some time between 5.15 and 5.45 pm:

> Mum was very shocked and she told me that Liz's car is packed and they were going. She told me there was lots of smoke around … Mum told me 'I can see fire in the tops of the pine trees'. I don't know where the pine trees are that she was talking about. Within the next second she told me the power had gone off … That's when mum's voice just turned to terror and mine did too. I was just pretty well telling her 'God's sake, mum, just get in the car and go'.

Another neighbour, Duncan Mathews, saw the firefront travel from north to south across his property. He recalled the trees on the southern boundary of his property (where the Walkers lived) going up in flames. Shortly after, he heard what sounded like an explosion coming from the Walkers' property. He looked at his watch, noting it was 5.45 pm. The sky was pitch black.

Early in the morning of Monday 9 February two family members walked onto the Walkers' property. They found the house destroyed. The car was parked outside the house; it had minimal fire damage. In the car they found the Walkers' two small dogs dead in their pet cage on the back seat, the keys in the ignition, a handbag in the centre console, a computer, and a wheelchair in the boot. Finding the remains of another wheelchair in the debris of the house, they notified police.

The Victoria Police forensic scientist who attended the scene on 10 February 2009 noted that the state of the Walkers' car suggested that evacuation was intended. He also made note of a large fallen tree blocking the Walkers' driveway. It is not known when the tree fell and, in particular, whether it had prevented the Walkers' exit from their property or whether their packing was interrupted by the fire itself. It appears the fire had taken the Walkers by surprise. Elizabeth Robinson noted, 'We didn't really know what was happening around us … I don't think Fay could see what I could see … We really thought everything was fine because the wind was going south of the property'.

The bodies of Bill and Fay Walker and their son Geoffrey were found close together in what appeared to have been the lounge room of their house. The post-mortem reports record their deaths as being caused by the effects of fire.[22]

## 18.3 CAMBARVILLE AND EILDON

### DAVID BALFOUR

David Balfour was the only on-duty firefighter killed by the 2009 Victorian bushfires. He died near Cambarville, about 20 kilometres south-east of Marysville, on 17 February 2009 when a large tree fell on a fire truck on which he was working. David was 46 years old when he died; he is survived by his wife, Celia, and their three children.

Living with his family in suburban Canberra, David was a professional firefighter with about 11 years' experience with the ACT Fire Brigade. According to a television news report after his death, David had wanted to come to Victoria to repay the generosity shown after Canberra's deadly blazes in 2003. After volunteering to help fight the fires that had devastated parts of Victoria on 7 February, David was sent to Alexandra with ACT Task Force No. 3, arriving there on 15 February.

On 17 February, the day before he was due to return home, David worked with other firefighters on 'mopping up', or 'blacking out', various forested areas that were still smouldering. He had been rostered on to a tanker code-named Charlie 72.

At about 6.00 pm the crew of Charlie 72 had been instructed to work with other crews on extinguishing a large mountain ash tree smouldering by the side of the road on the Warburton – Woods Point Road near Cambarville, in Yarra Ranges National Park.

By the time Charlie 72 arrived at the scene, other firefighters had considered the tree to be hazardous, with the potential to fall. The canopy had been completely burnt away and the trunk was smouldering on the inside. At its base the tree was about 2.5 metres in diameter, and it was about 20 metres high.

On arrival, the driver of Charlie 72 was advised to park the truck in a position where it would not become bogged, and the crew was then asked to smother the tree with foam. David was wearing a full kit of protective clothing, including a helmet. As he was getting out of the truck, he was told by a firefighter from one of the other vehicles that his (the other firefighter's) truck was out of water. David gave him the thumbs up as if to signal that he would help and was then seen jumping up on the back of Charlie 72 and onto the work area.

Moments after that happened, the tree fell, landing on Charlie 72. One of the firefighters who was there recalled, 'When the tree landed it was like a large explosion with dust and debris filling the area and it covered me'.

Once the firefighters realised what had happened, they immediately checked on their colleagues. They found David on the work area at the back of Charlie 72, where he had been pinned to the truck by the fallen tree. Paramedics were called and the firefighters tried frantically to help David, but he died at the scene.

The post-mortem report records the cause of David Balfour's death as head injuries.[23]

### AILEEN HOSKIN

Aileen and Cliff Hoskin married in 1952, the year they moved into a weatherboard cottage set on half a hectare of land at 75 Murchison Street, Marysville. They brought up five children and lived together in the cottage until it was destroyed on 7 February 2009.

Mrs Hoskin was frail and had not been in good health for some time. She had suffered from rheumatoid arthritis for a number of years, she had had surgery on her hips and knees, and she suffered from osteoporosis. She relied on crutches to walk short distances and used a wheelchair or scooter for longer distances. In 2004 she had suffered a heart attack, and she was taking medication for a heart condition. She received regular treatment from her GP and several visits each week from the Royal District Nursing Service to help manage her health and deliver her various medications.

After receiving a call from a local fire tower spotter at about 3.20 pm on 7 February, the Hoskins' eldest daughter, Pauline Harrow, went to her parents' house to alert them to the possibility of a fire threat for Marysville and to let them know they might need to be evacuated. Mr Hoskin went outside and saw smoke swirling over Mt Gordon. At some

time between 4.30 and 5.00 pm family members collected Mr and Mrs Hoskin and took them to the local bakery. The couple stayed at the bakery until about 6.30 pm, when they were evacuated to Alexandra. Mr Hoskin stated, 'As we were leaving, we got to just near the Golf Course when I looked back. I could see the flames coming over the hill from Mt Gordon Gap where the road goes over Mt Gordon and heading towards the township'.

Mrs Hoskin and several other elderly displaced women stayed at Alexandra District Hospital overnight rather than at the local hall. On Sunday 8 February Mrs Hoskin was transferred to the Darlingford Upper Goulburn Nursing Home in Eildon. Until about 10 February 2009 Mr and Mrs Hoskin did not know whether all members of their family had survived the fires, and this was very distressing for Mrs Hoskin. On 11 February she 'appeared reasonably bright in herself though still distressed regarding the recent loss' her treating GP, Dr Ross, related. It appears that later in the day Mrs Hoskin complained of severe indigestion to the nursing staff.

A nurse from the nursing home contacted Dr Ross on 12 February 2009 in relation to Mrs Hoskin; Dr Ross then received further advice that Mrs Hoskin had collapsed after having complained of severe pain in her left arm and elbow region. She attended the nursing home and found Mrs Hoskin lying on her bed, apparently deceased. She later pronounced her dead.

Dr Ross's view was as follows:

> … the emotional and physical stress brought on by the February 7, 2009, bushfires, and the subsequent turmoil experienced by Mrs Hoskin as a result of the loss of her town, home and possessions, served to exacerbate her already frail condition and led to her premature death.

Aileen Hoskin died of a heart attack on 12 February 2009. She was aged 80 years.[24]

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1 Exhibit 493 – Interactive Presentation – INTMEN 001811 and INTMEN 002013 (EXH.493.0001); Hollowood T10706:21–T10722:27

2 Exhibit 570 – Interactive Presentation – INTMEN 001886 (EXH.570.0001); Hollowood T12455:29–T12464:17

3 Exhibit 495 – Interactive Presentation – INTMEN 002022 (EXH.495.0001); Hollowood T10734:15–T10749:1

4 Exhibit 564 – Interactive Presentation – INTMEN 001844 (EXH.564.0001); Hollowood T12347:23–T12368:19

5 Exhibit 496 – Interactive Presentation – INTMEN 001829 (EXH.496.0001); Hollowood T10751:1–T10775:20

6 Exhibit 491 – Interactive Presentation – INTMEN 002068 (EXH.491.0001); Hollowood T10666:25–T10683:16

7 Exhibit 566 – Interactive Presentation – INTMEN 001872 (EXH.566.0001); Hollowood T12386:22–T12410:26

8 Exhibit 490 – Interactive Presentation – INTMEN 001976 (EXH.490.0001); Hollowood T10657:1–T10666:24

9 Exhibit 499 – Interactive Presentation – INTMEN 001879 (EXH.499.0001); Hollowood T10799:1–T10810:11

10 Exhibit 497 – Interactive Presentation – INTMEN 001832 (EXH.497.0001); Exhibit 498 – Statement of Liesfield (WIT.7528.001.0001); Hollowood T10775:21–T10798:24

11 Exhibit 489 – Interactive Presentation – INTMEN 001797 (EXH.489.0001); Hollowood T10641:22–T10656:6

12 Exhibit 571 – Interactive Presentation – INTMEN 001975 (EXH.571.0001); Hollowood T12466:1–T12483:21

13 Exhibit 563 – Interactive Presentation – INTMEN 001884 (EXH.563.0001); Hollowood T12326:1–T12347:16

14 Exhibit 568 – Interactive Presentation – INTMEN 001885 (EXH.568.0001); Hollowood T12432:16–T12448:2

15 Exhibit 492 – Interactive Presentation – INTMEN 001843 (EXH.492.0001); Hollowood T10685:1–T10706:18

16 Exhibit 356 – Statement of Postlethwaite (WIT.097.001.0001_R); Exhibit 494 – Interactive Presentation – INTMEN 001833 (EXH.494.0001); Hollowood T10723:2–T10734:12

17 Exhibit 369 – Statement of Brown (WIT.108.001.0001_R); Hollowood T12369:1–T12386:19

18 Hollowood T12412:1–T12432:14

19 Exhibit 574 – Interactive Presentation – INTMEN 002899 (EXH.574.0001); Hollowood T12522:1–T12543:10

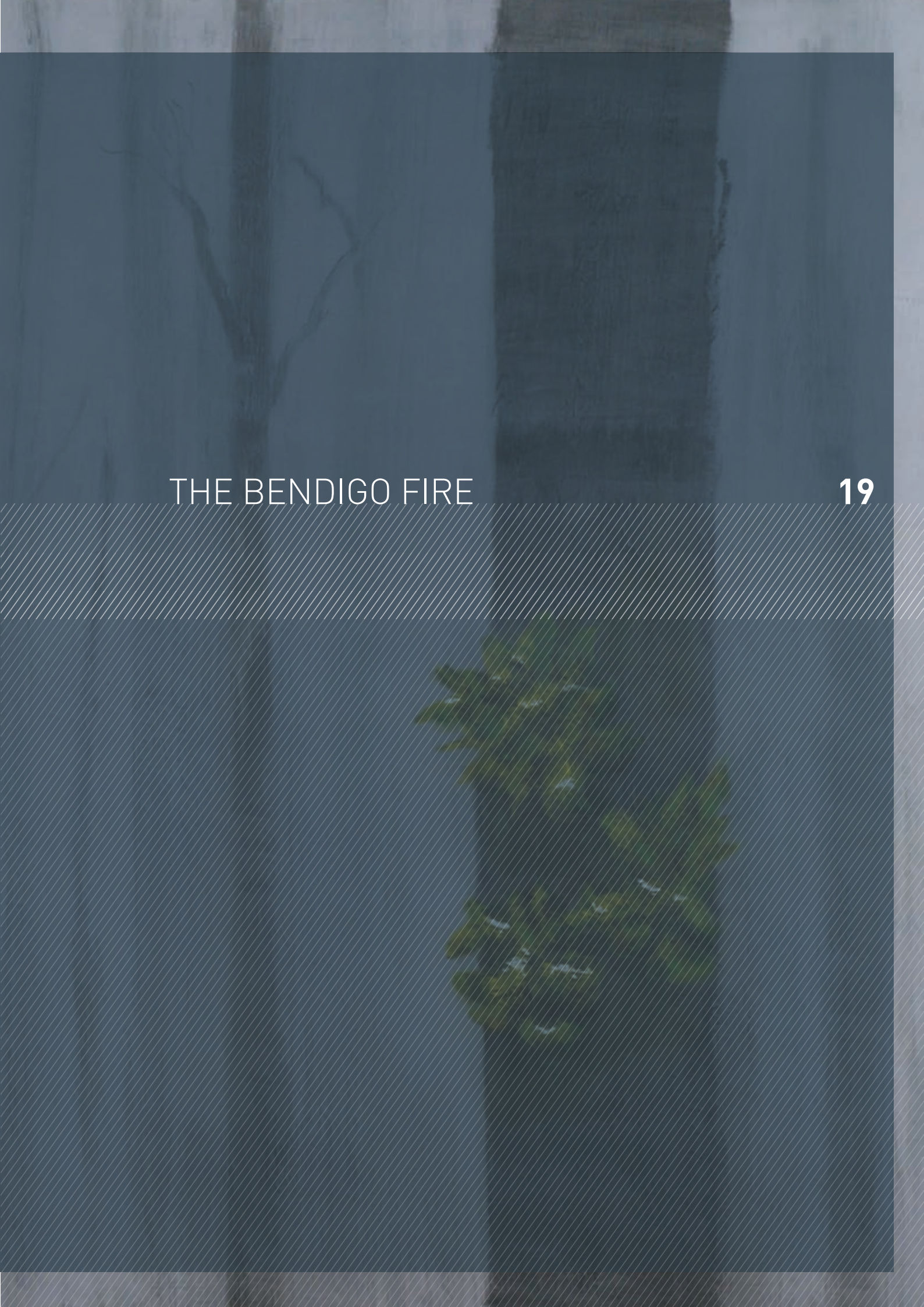
20 Exhibit 572 – Interactive Presentation – INTMEN 002057 (EXH.572.0001); Exhibit 341 – Statement of Walsh (WIT.093.001.0001_R); Hollowood T12483:22-T12521:13

21 Exhibit 569 – Interactive Presentation – INTMEN 001883 (EXH.569.0001); Hollowood T12449:1–T12455:27

22 Exhibit 488 – Interactive Presentation – INTMEN 001834 (EXH.488.0001); Hollowood T10618:25–T10641:20

23 Exhibit 574 – Interactive Presentation – INTMEN 002899 (EXH.574.0001); Hollowood T12543:11–T12550:2

24 Exhibit 575 – Interactive Presentation – INTMEN 002901 (EXH.575.0001); Hollowood T12550:3–T12554:18



# THE BENDIGO FIRE

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# 19 THE BENDIGO FIRE

## KEVIN KANE

Kevin Michael 'Mick' Kane had lived in the weatherboard miner's cottage at 18 Daniel Street, Long Gully, with his wife, Carolyn, since 1982. He died there on Saturday 7 February 2009, trying to flee the fire that was engulfing their home. Carolyn Kane had escaped moments before, managing to save six of their seven Birman cats.

The cottage sat on a corner block at the intersection of Daniel and Albert Streets; the block was roughly a quarter of an acre and roughly triangular. There were cypress trees along the Albert Street boundary and some cypress trees across the Daniel Street side. The driveway into the property was about 15 metres long, running from Daniel Street to the carport beside the house. The rear boundary overlooked vacant land where horses were kept. Situated in Long Gully, a suburb on the western side of Bendigo, the house was serviced by town water.

The Kanes did not appear to have a fire plan. When fire threatened them on 7 February they expected the fire brigade to arrive.

It was not long after they were married in 1985 that Mr Kane experienced the first of a series of health problems. Surgery limited his mobility and left him 'with weakness in the left side of his body, especially below the left knee … which required him to wear a leg brace and use a walking stick'.

On 7 February the Kanes were at home sheltering from the heat. Mrs Kane noticed smoke in the afternoon but was not unduly concerned, expecting 'the fire trucks to come quickly, as they [had] done in the past'. Ten minutes later, noticing the smoke getting thicker, Mrs Kane decided to fetch the horse from the paddock at the rear of their property. She noticed the fire advancing quickly and saw two homes in Albert Street under threat: 'We thought we would be okay because it appeared that the wind was blowing the fire away or behind us'. Nonetheless, at that stage they decided to leave. Mr Kane began hosing down the property with a garden hose while Mrs Kane collected as many of her seven cats as she could and loaded them into their car.

In the short time it took Mrs Kane to load the cats into the car the flames were in the back paddock, about 270–370 metres from the rear of the house. While loading the cats into the car, she told Mr Kane three times—with increasing urgency—to get into the car: 'I could see the fire in the back paddock and I knew that there was no chance of us defending our home, the fire was just unbelievable, it looked like the air was carrying the flames as, really, there was no grass to burn'. Mr Kane threw down the hose and began making his way towards the car, but his leg gave way and he fell to the ground. '… That's when the pine trees that surround two sides of our house simply exploded and there [were] just flames everywhere.'

At about this time Mr Kane's sister, Jillian Kane, and her partner, Mick Ryan, arrived at the property to check on the Kanes. They found Mrs Kane under the carport trying to drag her husband to the car. Seeing that she was unable to help him and confronted by 'tall, massive flames at the rear of the carport', they urged her to leave. Dressed in shorts after having had a swim, Mr Ryan tried to drag Mr Kane down the driveway toward the front gate and away from the flames, but the heat became so intense he had to leave Mr Kane at the front of the carport. 'It was a matter of a split second from the time I felt the crippling pain of the heat on my back and legs … The heat was unbearable.'

Mr Ryan ran to his nearby car to get a wet towel for protection. Holding the towel up to shield himself, he tried to reach Mr Kane but was beaten back by the intense heat. He then ran to the hose at the side of the house and turned on the tap, hoping to hose Mr Kane down, but there was no water. Held back by the flames, which were by now funnelling through the carport and down the driveway, and having no access to water, Mr Ryan was unable to reach Mr Kane, who was engulfed by flames.

Mr Kane was 48 years old when he died in the front yard of his home at some time between 5.30 and 6.00 pm.

The post-mortem report records that Mick Kane died as a result of the effects of fire.[1]

1 Exhibit 293 – Interactive Presentation – INTMEN 001784 (EXH.293.0001); Hollowood T7676:1–T7694:30



# THE BEECHWORTH–MUDGEGONGA FIRE 20

# 20 THE BEECHWORTH–MUDGEGONGA FIRE

## SUE AND JOHN WILSON

At about midnight on Saturday 7 February 2009 Sue and John Wilson died in the family home John had built at 1133 Myrtleford–Yackandah Road, Mudgegonga. Sue, 47, and John, 51, are survived by their two daughters, Grace and Samantha Wilson.

John Wilson, a self-employed builder, had built the family's brick home on a half-hectare block of land on the western side of the Myrtleford–Yackandah Road about 18 years ago. Grace Wilson stated:

> Approximately one hundred metres behind the house block ran the Barwidgee Creek. From the creek the land went up into steep bushland. I'd doubt if there would be much water flowing in the creek at this time of year. Between the creek and the house block was open grass paddock area which was owned by uncle Clary. Opposite from the house on the eastern side, was open grass paddock which then rose up into steep bushland. The house was about 1.5 km from the intersection of Stanley Road. The house block had a really well maintained garden with a mixture of various trees and shrubs. We also had an above ground pool in the backyard. The house was positioned roughly in the middle of the block …

Late in the afternoon of 7 February the Wilsons and their neighbours, Patricia and Lindsay Easterbrook, could smell smoke and became aware of fire in their area. Throughout the evening and late into the night a number of people—family, friends, neighbours and firefighters—telephoned and visited the Wilsons, warning of a fire threat to the area. At 7.30 pm the captain of the Mudgegonga CFA brigade stopped at the Wilson house to warn them of the approaching fire and found Mr Wilson filling a petrol pump. Mr Wilson was aware of the fire threat and appeared calm. CFA firefighters called in to the Wilson property three times during the evening, at one stage helping Mr Wilson get one of the petrol pumps started.

The last visit by firefighters to the Wilson property occurred at 11.30 pm, when two members of the Hancock Victorian Plantations fire crew, James Bowden and Conrad King, called in. Mr Bowden had known Mr Wilson for 25 years and had called in after fighting fires in the Mudgegonga area; he knew that there were fires about 2 kilometres from the Wilsons' property. The Wilsons were inside the house and appeared calm. Mr Bowden advised them to leave, to which Mr Wilson responded, 'Jimbo, I've got the big pump on the pool, don't worry'.

Daughter Grace did not recall hearing of any formal fire plan and thought that her parents were going to leave. It is evident that throughout the evening Mr Wilson was making preparations, and he told various people he spoke with that he was planning to stay and defend. He had connected fire hoses and prepared petrol pumps, one to draw water from the creek and one to draw water from the pool, although it appears that there were some problems with access to water. One of the pumps was faulty and was being fixed as late as 10.15 pm. There was no water in the house tank and little, if any, water in the creek. It seems that the main water source being relied on for firefighting purposes was the water in the swimming pool.

Mrs Wilson told her daughter in a phone call at some time between 9.00 and 9.30 pm that she was getting a few things together. Vincent Muraca called his friend Mr Wilson at about 10.15 pm; he recalled that Mr Wilson was preparing to stay and defend and seemed confident. At about 11.00 pm Mrs Wilson's uncle, Clarence Murray, called in with his wife. Mr Murray recalled that throughout their conversation he did not hear the Wilsons commit to any course of action—that is, whether they were going to stay or leave—although they did not say they would leave.

Neighbours Pat and Lindsay Easterbrook managed to successfully defend their house. Mr Easterbrook recounted:

> At about 11.30 or so it spotted and we had a huge fire over the back here behind us. At about five to 12 we noticed finally the wind change. It [the fire] crested over the top of these hills here … As it crested there this hillside exploded. Within 30 seconds, I would say, of coming over the top of that hill it came right through here at about 100 miles an hour. The whole—everything was on fire at once, the whole, almost 360 degrees … We couldn't, we didn't expect the ferocity of it.

Mr and Mrs Wilson's bodies were found on 8 February in the remains of their home. Mr Wilson was outside, on the verandah near the back door, and Mrs Wilson inside, near where the bathroom had been.

The post-mortem reports record the deaths of Sue and John Wilson as resulting from the effects of fire.[1]



1 Exhibit 292 – Interactive Presentation – INTMEN 001816 (EXH.292.0001); Armstrong T7648:12–T7648:13; Easterbrook T7656:18–T7656:23, T7657:5–T7657:16, T7657:26–T7657:27; Hollowood T7647:28–T7675:16



# THE LESSONS LEARNT

21

# 21 THE LESSONS LEARNT

The 173 people who died as a result of the fires in Victoria on 7 February 2009 leave behind family, friends and communities who have suffered great individual and collective loss. They also leave behind lessons that must be used to build on our existing knowledge about how and why people die in bushfires.[1]

The Commission heard evidence from police and the family, friends and neighbours of those who died, as well as others who were involved in or affected by the bushfires of Black Saturday. The resultant evidence is the most comprehensive ever assembled about the circumstances of deaths in an Australian bushfire. It thus offers an unprecedented opportunity for analysis.

Looking back on the experience of 7 February, it is plain that on such days, when bushfires are likely to be ferocious, leaving well before the fire arrives is the only way of ensuring one's safety.

A number of themes emerge from the evidence relating to the circumstances of the deaths that occurred. The Commission was mindful of them in its analysis and in developing its recommendations relating to changes to be made to community safety policies and to advice aimed at reducing the risk of deaths occurring in bushfires in the future.

## 21.1 THE REVIEW OF FATALITIES

The Commission engaged Professor John Handmer of RMIT University, working in partnership with the Bushfire Cooperative Research Centre, to analyse evidence about the deaths that occurred as a result of the 7 February fires. Professor Handmer's field of expertise is community safety in natural disasters. In February 2010 the Commission supplied to him summaries of relevant evidence from witness statements Victoria Police had obtained. The summaries were provided with Victoria Police's consent after steps had been taken to protect the privacy of the deceased.

Victoria Police obtained statements about the fire-related deaths in February 2009 from hundreds of witnesses, among them family members, friends, colleagues and neighbours. The statements provided important information about people's fire plans and their actions on 7 February. Some witnesses also told police investigators about seeing the fires and seeing people preparing for, fighting and fleeing them. Additionally, evidence was obtained about the nature and condition of the properties where people died and about these people's health before they died. Finally, Victoria Police took statements from arson chemists who inspected the properties where people died and made observations about defendability of the properties, the nature of the destruction, apparent firefighting efforts, and what people were doing immediately before their deaths.

The Commission used these statements in their original form during its hearings into the fire-related deaths. Professor Handmer was given summaries of information in some of the statements to help him conduct his analysis before the Commission's hearings into the deaths were completed. Further material later became available to the Commission for use in some hearings into fire-related deaths—particularly those that occurred later in the hearing schedule. Professor Handmer did not receive any of the audiovisual material that Victoria Police had assembled and made available to the Commission. Most of this material was confined to photographs of the site and a visual description of the movements of the individual or individuals concerned in the last few hours before their death.

Professor Handmer delivered his report to the Commission in April 2010. In the report and in subsequent oral examination, he noted, among other things, the following in relation to those who perished:

- Fifty-eight per cent had made no preparations either for staying and defending or for leaving early. A number were prepared to leave but were apparently awaiting a warning.[2]
- Twenty per cent intended to stay and defend and were well prepared; another 14 per cent had made some limited preparations.[3]
- The fire took by surprise 30 per cent of those who died.[4]
- Twenty-four per cent seemed unaware that they were in a bushfire risk area, and 38 per cent did not seem to have a basic knowledge of what precautions needed to be taken to give themselves some degree of protection.[5]
- Fourteen per cent were fleeing the fire at the time of their death; of these, 4 per cent were fleeing in a vehicle and the remaining 10 per cent were on foot, although a number had fled their vehicles while trying to leave the area.[6]

- Sixty-nine per cent were classed as 'passively sheltering' inside a house or other building at the time of their death—as opposed to 'actively defending'—although some of these people might have retreated inside (having tried to defend) when the fire front arrived.[7]
- Forty-four per cent were classed as 'vulnerable' because they were aged less than 12 years old or more than 70 years or because they were suffering from an acute or chronic illness or disability.[8]
- Thirty-two per cent lost their lives on properties whose defendability was questionable.[9]

Professor Handmer said the material he analysed contained 'unprecedented detail on the circumstances surrounding each fatality' because it allowed him to 'see what people intended to do and what they did in addition to what the final situation was'.[10] He offered three principal interpretations of the data:

- The 'prepare, stay and defend or leave early' policy appears 'sound on paper' but 'implementation presents major challenges'.
- Over half of those who died believed that by staying to defend their properties, they were 'taking effective action in terms of their safety'.
- Most of those who died 'did not, and often could not, respond appropriately to the risk that the bushfires presented for them on 7 February'.[11]

Professor Handmer also concluded, among other things, that the question of evacuation in cars warrants re-examination because, compared with historical data, few people died in cars on 7 February and recent advances in car technology have made cars safer (relative to older cars) to be in during bushfires.[12]

The Commission was aware that the results of any study such as the one by Professor Handmer should be interpreted with care. Despite the considerable amount of material available as a result of the police investigations, it remains difficult to reach definitive conclusions on some matters because people's intentions are not absolutely clear in all cases and the circumstances of the final moments of many who died are unclear. For example, Professor Handmer found that 69 per cent of those who died were passively sheltering at the time of their death. But, as he acknowledged, 'uncertainty arises where there was not sufficient evidence to categorise fatalities under a particular condition such as "sheltering"'. In view of this uncertainty, some of those who were classified as passively sheltering could possibly also have been classified as engaged in 'questionable/some defence'.[13] Professor Handmer also noted that at least some of those classified as 'sheltering passively' might have been sheltering in a structure that was being defended by someone else.[14]

In the case of many of those who died, the Commission heard detailed accounts of their circumstances in the hours immediately preceding their death. Through these accounts it was able to gain a considerable degree of insight into people's activities immediately before the fire's arrival, including whether they were 'actively defending' or 'passively sheltering'. The Commission agrees that the categorisation of 'passively sheltering' can be misleading if that conclusion is drawn solely from the final moments of a person's life, without taking account of their previous activity. Many of these people are thought to have made some effort to defend their home but then withdrew inside when the firefront hit (in accordance with CFA advice) and were fatally caught in this situation. Others could have been working indoors, dousing internal flare-ups before succumbing to the effects of the fire.[15]

## 21.2 THEMES THE COMMISSION IDENTIFIED

Using Professor Handmer's work as a basis, and drawing on its own observations and information obtained during the hearings, the Commission identified a number of themes associated with the deaths that occurred as a result of the 7 February bushfires. These themes relate to levels of preparedness, bushfire awareness and knowledge, house defendability and the defence of houses, triggers and warnings, the significance of the wind change, gender and age differences, and the extent and nature of vulnerable groups.

Two-thirds (113) of the individuals who died on 7 February died in or very near a house or similar structure. Twenty-four people died fleeing the fire in vehicles or on foot. Some who were fleeing on foot had originally tried to flee in their vehicle and when this failed they left their vehicle to escape on foot. The remaining 36 people died in a variety

of circumstances. Some died relocating to a 'safer' place; some were tourists or non-residents who were caught out and had nowhere to go or did not know where to go. Others died in sheds, outbuildings and spas. Three suffered heart-related events. Some died in the days following 7 February from injuries sustained during the fires. An interstate firefighter died a week after the fires, having been struck by a falling tree.[16]

The Commission observes that a number of the people who died were not suitably clothed. Some were found wearing bathing suits or shorts and Tshirts. Either some were caught unexpectedly by the fire's arrival or they were ignorant of the high risk posed by exposure to radiant heat from a bushfire.[17]

Where people died as a consequence of the Black Saturday fires contrasts strikingly with previous trends. Historically, about 32 per cent of people have died in late evacuations. Until 7 February the Ash Wednesday (1983) fires were probably Australia's best documented fires because of the high number of fatalities. Those fires affected parts of South Australia and Victoria, destroying more than 2,000 homes and killing 75 people. Most people died during late evacuations and the majority of those were women and children, whereas most of the men killed had been defending property. It is important to note, however, that, as happened on 7 February, many people affected by Ash Wednesday appear to have been caught unawares by the sudden wind change in the early evening.[18]

The Commission notes that in a number of cases of those who died on Black Saturday, men wanted to stay with their home while women were more inclined to leave. Some women who initially intended to leave ended up staying with their husbands or partners because they were reluctant to leave them on their own.

Professor Handmer suggested that the gender distribution was not unlike that for previous fires.[19]

### 21.2.1 PREPAREDNESS, AWARENESS AND KNOWLEDGE

To be considered 'well prepared' to defend a property means, according to CFA advice issued before 7 February, having an independent water supply and appropriate firefighting equipment and clothing and having prepared a 'defendable space'—that is, having an area around the house that has been adequately cleared of fuel.[20]

The Commission notes that a considerable number of those who died had made some preparations in accordance with the CFA's advice. Following from Professor Handmer's study, the Commission also notes that a number of people who died genuinely believed they were adequately prepared to defend their properties.[21] Many who died, however, experienced difficulties with the fire protection equipment they had available—including failure of the water or power supply (or both), hoses and pipe-work melting or buckling because of the heat, and fuel vaporising from pumps.[22]

A number of people who were well prepared to defend their property died on 7 February. This demonstrates the difficulty of adequately preparing for a ferocious fire and that in such conditions even high levels of preparation are no guarantee of survival. The smallest shortcoming in preparation can become magnified and mean the difference between surviving and dying. As Professor Handmer noted, 'There are many links in the chain of preparedness, and any one of them breaking can lead to serious consequences'.[23]

To prepare a house and defend it successfully people need to understand the surrounding vegetation's effects on the defendability of their home, how to install and use bushfire safety equipment, the behaviour of different types of fire, and how fire can affect their home. A number of problems to do with lack of awareness and knowledge about bushfires and safety emerged from the evidence about the deaths that occurred as a result of the 7 February fires: many people did not understand what was needed to survive a fire of this ferocity and what to do when their initial plans failed.[24]

Of those who died in their homes or in other houses or structures, about 38 per cent died in a bathroom, even though there might have been a safer place in the house.[25] In its submission AFAC (the Australasian Fire and Emergency Service Authorities Council) noted:

> If the house catches fire and the occupant(s) cannot extinguish the fire, the safest action is to wait by an exit door (preferably the laundry door if there is one, near water) and wait for as long as possible until forced to leave due to the intolerable conditions in the house.[26]

Despite the fact that many bathrooms do not comply with AFAC's shelter criteria because they do not have exit doors or windows, the Commission notes that bathrooms are wet areas, invariably have concrete floors, often have tiled walls and exhaust fans, and have ample water if the bath has been filled. They often appear to be the last and safest refuge if the house catches alight and it is still unsafe outside. Although many people succumb to smoke, as they would if they were elsewhere in the house, a bathroom is a logical place to shelter if nothing else is available. It is true that the safest course might be to shelter near an exit door, but this presupposes that the house survives until the fire starts to abate outside. In the case of the Black Saturday fires, there was evidence of the front lasting up to one hour or of conditions outside being unsafe for up to this long in a number of instances.

Other people had little or no awareness or knowledge of bushfires because they were visiting the area as tourists or house-sitters and would not have had access to local information and education.[27]

### 21.2.2 HOUSE DEFENDABILITY

Professor Handmer noted that about a third of the fatalities were associated with homes that were not defendable.[28]

Usually a person's choice to stay and defend their property is based on a presumption that their actions will keep them safe and prevent or reduce property damage caused by bushfire. The effectiveness of their actions is dependent on the building being defendable. People have traditionally assessed the defendability of their homes using information provided by fire agencies as a guide. Such an assessment is based on a number of characteristics, among them the material used in constructing the building, the building's size and layout, its position in the landscape, aspect, topography, and the amount and type of 'fuel' (such as vegetation and wood piles) surrounding the house.[29]

Many of the houses in which people died were perilously close to bushland and in locations where the houses' defendability would be seriously compromised by high fuel loads that would have generated ember attacks over a long period. Several witnesses' descriptions or images illustrated that many of the properties where people died would have been (virtually) undefendable in a ferocious fire because of the properties' proximity to dense vegetation or their location at the top of a steep slope or ridge.[30]

The Commission is aware that in many cases people did successfully stay and defend their home. The deaths, however, are a solemn reminder that staying to defend a property in a ferocious bushfire is extremely dangerous. Small deficiencies in people's preparedness or capacity to defend often prove disastrous. When problems arise there is little time or capacity to rectify them and the consequences can be lethal.

### 21.2.3 TRIGGERS, WARNINGS AND BEING TAKEN BY SURPRISE

People went to differing degrees of effort to ensure that they were informed and took timely action on 7 February. The information they gained often took the form of a 'trigger' for action. The trigger could have been seeing or smelling smoke, being told of the approach of the fire by neighbours, friends or family, or a warning by authorities or the media that a fire was burning in or approaching an area. Professor Handmer found:

> No matter how thorough preparedness and fire plans, they need to be activated. This requires some sort of trigger, which may be a specific warning, a high level of perceived threat or something else.'[31]

A number of people who were waiting for a trigger or warning to prompt them to act were caught by surprise. Many were taken by surprise by the very existence of the fire or by the fire arriving much sooner than expected. It is also likely that a large proportion were surprised by the fire's intensity and rate of spread and the amount of time it took for the front to pass. Some did not know of the fire until it was too close to take action, despite having made plans and being well prepared. Others were caught out by unexpected events such as the failure of a crucial part of their bushfire plan and did not have any contingency plans.[32]

On the basis of the available information it appears to the Commission that, among those who died, some misinterpreted the information they had received, not realising how little time they had to respond or how soon the fire would reach them. As discussed, the nature of a ferocious fire can be such that some of the environmental cues—for example, smoke and embers—that alert people to a fire and its proximity are not immediately apparent. Lack of adequate time meant that plans were not able to be implemented in a number of cases.[33]

The Commission also notes that many of the people who died had monitored the radio and the internet, expecting to receive warnings that would allow them to evacuate safely if required. In a number of instances, however, they did not receive the warnings they were expecting. In the absence of a warning some of these people did not leave their properties (as planned), and they subsequently died.[34] The Commission notes, too, that a number of people who died were indeed warned by authorities and encouraged by friends and family to leave but chose to stay at their property.[35]

### 21.2.4 THE WIND CHANGE

One thing that caught many people by surprise was the wind change. The prevailing hot winds from the north-west shifted to the south-west bringing with them a cool change late in the day on 7 February. During the early part of the day the fires ran towards the south-east and numerous spot fires were generated by the wind. When the cold front arrived in the afternoon, however, some people who had been watching the fires and thinking the danger had passed them by found themselves directly in the path of a massive fire front as the wind swung around to the south-west and formed intense sections of fire over the length of the fires' eastern flank.[36]

The Commission is of the view that the wind change was a major cause of the deaths that resulted from the 7 February bushfires. Improving community awareness of the potentially deadly impact of a wind change in a fire is a crucial task for government agencies.

### 21.2.5 VULNERABLE PEOPLE

Professor Handmer found that 44 per cent of people who died as a result of the 7 February bushfires were vulnerable by one measure or a combination of measures: 29 per cent had chronic or acute clinical health conditions that would have been likely to affect their mobility, judgment or stamina;16 per cent were aged 70 or more; and 9 per cent were aged less than 12 years.[37]

It is also particularly relevant that on 7 February fire fronts often lasted for up to an hour, in contrast with previous experience and advice in the CFA documents that fire fronts typically pass within 15 minutes. This meant that much greater stamina and strength were needed to successfully defend a house and the period of extreme stress was much more sustained.[38]

It has always been a part of the CFA's 'prepare, stay and defend or leave early' policy that children, elderly people and people with disabilities are strongly advised to leave early. The Commission agrees emphatically.

### 21.2.6 CONCLUDING REMARKS

The analysis of all the deaths that occurred as a result of the Black Saturday fires gave the Commission invaluable insights into the circumstances of each of the personal tragedies involved. From the manner in which all who perished dealt with their personal emergency, it learned much about the pitfalls and errors of judgment that occurred, about the way events unfolded beyond a person's capacity to influence those events, and about the sheer bad luck many experienced, despite their best endeavours. It also learned much that, together with other evidence, helped it develop recommendations it hopes will help make Victoria a safer place to live in and enjoy.

1 One of the people who died was Mr David Balfour, an ACT firefighter who died on 17 February 2009 from injuries sustained while working. Mr Balfour's death was not considered in Professor Handmer's analysis. Exhibit 574 – Interactive Presentation – INTMEN 002899 (EXH.574.0001)

2 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0019, 0021, 0034

3 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0018, 0021

4 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0021–0022

5 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0018, 0021

6 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0024

7 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0024–0025

8 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0015

9 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0027; Handmer T18551:14–T18551:16

10 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0005, 0011–0012; Handmer T18538:6–T18538:7

11 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0006

12 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0036; Handmer T18566:13–T18568:23

13 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0012–0013

14 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0026, 0036

15 Exhibit 567 – Interactive Presentation – INTMEN 001887 (EXH.567.0001); Exhibit 884 – Interactive Presentation – INTMEN 001835 (EXH.884.0001); Exhibit 950 – Interactive Presentation – INTMEN 001779 (EXH.950.0001); Handmer T18560:8–T18560:25

16 This information is drawn from an analysis of all the evidence lead during the fire related deaths hearings

17 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0020, 0024; Exhibit 950 – Interactive Presentation – INTMEN 001779 (EXH.950.0001); Exhibit 764 – Interactive Presentation – INTMEN 001785 and INTMEN 001979 (EXH.764.0001)

18 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0029; Exhibit 16 – Statement of Haynes (WIT.001.001.0001_R) at 0043_R

19 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0027, 0030

20 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0018

21 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0006, 0020

22 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0020; Exhibit 296 – Interactive Presentation – INTMEN 001828 (EXH.296.0001)

23 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0035

24 Exhibit 9 – Stay or Go Tender Bundle – Living in the Bush (TEN.001.001.0004); Exhibit 894 – Review of fatalities in the February 7, 2009, Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0035–0036

25 This information is drawn from an analysis of all the evidence lead during the fire related deaths hearings

26 Submissions of AFAC – A New Bushfire Safety Policy – Replacing Stay or Go (RESP.7500.007.0001) at 0017

27 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0006, 0017–0018

28 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0027

29 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0027; Exhibit 9 – Stay or Go Tender Bundle – Living in the Bush (TEN.001.001.0004) at 0011

30 For example, the two people who died at The Eagles Nest Road, near Marysville, see Exhibit 380 – Statement of Lynch (WIT.094.001.0001_R) [5]

31 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0020

32 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0023, 0033

33 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0020; Exhibit 877 – Interactive Presentation – INTMEN 001837 (EXH.877.0001); Exhibit 949 – Interactive Presentation – INTMEN 001868 (EXH.949.0001)

34 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0020; Exhibit 968 – Interactive Presentation – INTMEN 001910 (EXH.968.0001)

35 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0019; Exhibit 972 – Interactive Presentation – INTMEN 002017 (EXH.972.0001); Exhibit 492 – Interactive Presentation – INTMEN 001843 (EXH.492.0001)

36 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0020; Exhibit 4 – Statement of Rees (WIT.004.002.0001) [21]–[22], [45]–[46], [57]–[58], [68], [85]–[87], [106], [118]

37 Exhibit 894 – Review of fatalities in the February 7, 2009 Bushfires – Final Report (Amended version without mark up) (EXP.029.003.0001) at 0015–0016, 0027

38 Handmer T18563:4–T18563:9



Source: Courtesy of the *Herald & Weekly Times*.

# APPENDIXES

# APPENDIX A – ESTIMATED COSTS OF THE FIRES

The bushfires of late January and February 2009 had a devastating impact on Victoria. Apart from the loss of life, public hospitals provided emergency care to more than 800 people and admitted more than 130 people with a fire-related injury or illness.[1] The fires also destroyed or damaged privately and publicly owned property and infrastructure, national parks, livestock and wild animals.

## MEASURING THE COSTS

The Commission sought to gain a broad estimate of the economic costs specifically associated with the January–February 2009 fires. It recognises that debate about a suitable methodology for costing bushfires and major data shortages preclude a definitive estimate of the costs. In particular, it notes the State's concerns about the methodology used in preparing the estimate and the data limitations raised by the Commonwealth. Because of these difficulties, it proposes that there be further research into the development of a methodology for costing bushfires (see Chapter 11 in Volume II for further discussion of this). The Commission presents this appendix as a starting point for this work and to stimulate further debate.

The costs the Commission was interested in did not include the costs incurred by the community in anticipation of fires, and response costs were included only to the extent that the fires resulted in costs additional to those that would normally be incurred in maintaining regular firefighting capacity.

Where possible, the Commission used estimated economic cost to measure losses. An economic cost involves a loss of resources to the economy as a whole. Financial losses incurred by individuals or businesses in the bushfire-affected areas might not always count as an economic cost for the larger Victorian or Australian economy. For example, retailers in a bushfire-affected area might lose business as a result of a bushfire, but if consumers redirect their purchases to competitors elsewhere in the economy the total level of economic activity remains unchanged.

The Commission took two steps to ensure the integrity of its approach. First, the methodology used to estimate costs was subject to peer review by the Centre for International Economics. Second, the Commission provided a draft of a research paper to the parties and sought their comments. This appendix incorporates feedback from these processes.

## ADDITIONAL RESPONSE COSTS

The State provided supplementary funding of $593 million towards the fire suppression effort. This included funding for additional aircraft and flying time (including *Elvis* the Erikson air crane), project firefighters, construction of fuel breaks and containment lines, and the costs of services provided by international and interstate firefighters.[2] The State advised the Commission of a potential overlap of this figure with expenditure by the Victorian Bushfire Reconstruction and Recovery Authority to date, which is accounted for separately in Table A.1.[3]

Personnel additional to regular firefighting capacity were used to fight the January–February fires and in the fires' immediate aftermath. On 7 February some 12,000 CFA personnel were actively engaged in firefighting[4], the great majority of them being volunteers. The contribution of the CFA volunteers and that of several other groups—among them volunteers from community organisations, individuals, personnel from the Department of Sustainability and Environment and the Networked Emergency Organisation, the Australian Defence Force, Victoria State Emergency Service, the Metropolitan Fire and Emergency Services Board, the State Coroner's Office and Victoria Police, and private contractors used by VicForests and DSE—cannot be valued with any reasonable precision.

## COSTS DIRECTLY ATTRIBUTABLE TO THE FIRES

### DEATH AND INJURY

The Commission applied the method of valuing life accepted by Commonwealth and Victorian government agencies for a variety of purposes to the 173 lives lost in the January–February bushfires.[5] That approach values those lives at $645 million.

As noted, the fires caused many injuries. The Commission is unable to make an accurate assessment of the costs of injuries sustained during the fires since this would require data on hospitalisation costs together with an estimate of the costs of long-term treatment and the value of time lost from the workplace by those affected.

### PROPERTY DAMAGE

The Insurance Council of Australia has reported claims of approximately $1.2 billion, of which 84 per cent are property or contents claims and 16 per cent motor vehicle claims.[6] The extent to which this figure represents an accurate estimate of property losses is not clear. About 13 per cent of destroyed residential properties might have been without insurance cover.[7] In addition, there is ample evidence of under-insurance, when that is defined as a situation in which the sum insured is below the rebuilding cost.[8,9] This evidence, however, does not necessarily imply that the sum insured was less than the actual value of the destroyed property. On the other hand, people with full replacement cover could find that their insurance payment exceeds their loss since full replacement would usually mean the construction of a new home of higher value than the property destroyed.

The Commission considers that, on balance, the level of insurance claims is likely to underestimate the true extent of property losses, but it is unable to calculate the extent of this underestimation.

Fencing was often not insured. In November 2009 the Victorian Bushfire Reconstruction and Recovery Authority estimated that the Victorian Farmers Federation volunteer program had coordinated 14,740 volunteer-days to repair damaged fences.[10] The Commission acknowledges the value of this program, but it lacks sufficient information to place a value on the labour and materials involved.

### LOSS OF NATIVE ANIMALS, LIVESTOCK AND CROPS

The RSPCA estimates that more than 1 million animals died in the fires.[11] The RSPCA Bushfire Appeal raised over $4.1 million to support its emergency relief efforts. The organisation also contributed a ‘considerable amount’ of its own funds, personnel and equipment towards the bushfire relief effort.[12] In addition, many wildlife carers volunteered their time[13], but the Commission did not attempt to place a dollar value on their services.

Stock losses are estimated at more than 11,800, including more than 4,500 sheep, 4,000 cattle and 200 horses.[14] In the absence of information about the value of the animals concerned, the Commission cannot estimate the dollar loss for these animals; nor can it estimate the losses resulting from premature slaughter or agistment of animals from the affected areas.

No estimate is available of the value of all crop losses in 2009 or of those that might occur in future as a result of the 2009 fires. Three per cent of the Yarra Valley’s vineyard area was burnt[15]; the cost of smoke taint (which can occur in vineyards distant from the source of smoke) might need to be added to this loss. Among other output losses was the destruction of trout farms: some 220 tonnes of trout were lost.[16]

### FOREST DESTRUCTION

VicForests reported that the fires severely burnt about 10,000 hectares of the mountain ash forest available for timber harvesting—that is, about 10 per cent of the ash resource in the central highlands area.[17] The Victorian Association of Forest Industries reported that VicForests conservatively estimated the ‘mill door’ value of the standing timber burnt at approximately $600 million.[18] The State approved funding of up to $18 million to cover the incremental cost of salvage-harvesting damaged timber.[19] VicForests has said it will do modelling to estimate the long-term impact of the 2009 fires.

Hancock Victorian Plantations estimated the cost of replanting the affected areas of its estate at $40 million but did not estimate the value of the lost timber.[20]

Within the Parks Victoria estate 98,932 hectares were affected, 90 per cent of this being national park. A detailed program of remedial action has been initiated, but figures for its cost are not publicly available.[21]

### RECOVERY

Expenditure on recovery can be seen as a broad proxy for losses in that it is an amount contributed by the wider population to help affected communities return to their pre-fire state. By October 2009 the Victorian Bushfire Reconstruction and Recovery Authority had spent $867 million, and it foreshadowed further expenditure of $193 million.[22]

VBRRA is a channel for Commonwealth and Victorian funds and also administers expenditure from donations.[23] The Commonwealth provided more than $465 million and other resources through various agencies to immediately respond to the bushfires and assist with the recovery effort in affected communities.[24] Costs incurred by Commonwealth agencies and absorbed by the core budgets of the relevant agencies are not included in this figure.[25] The Commonwealth has made available a summary table showing details of its expenditure and further commitments as at 30 April 2010.[26] The Victorian Budget for 2009–10 provided for approximately $269 million for rehabilitation and recovery projects, including establishing VBRRA, funding case managers to support people affected by the fires, providing tourism and business support packages, and resourcing a clean-up and demolition program.[27]

### CARBON RELEASE

The Department of Sustainability and Environment's preliminary modelling shows that the carbon dioxide emissions from the January–February bushfires on public land were in excess of 8.5 million tonnes.[28] Forest regrowth will ultimately restore the carbon balance[29] and, since Victoria's stock of native forest is not expected to change significantly in the future[30], a cost item for carbon release from native forests is not included. This accords with international rules on carbon accounting, which do not report carbon released from 'wildfire'.[31] Similarly, carbon stock in forest plantations increased between 1989 and 2004, so it seems reasonable to assume that the cost of carbon losses from private plantations is likely to be offset by replanting.[32]

### INFRASTRUCTURE DAMAGE

The Victorian Managed Insurance Agency insures community assets and services such as roads, parklands, schools and community infrastructure. The agency informed the Commission that the estimated total amount of claims for lost or damaged assets and infrastructure is $76.7 million, the majority of the losses sustained being associated with the Kilmore East and Murrindindi fires.[33]

Telstra has spent $15 million restoring and upgrading communications infrastructure destroyed or damaged by the February bushfires. It also waived service charges to affected customers and provided equipment and services to members of the public as part of the relief effort. Telstra estimates its total bushfire-related costs at almost $20 million.[34] Damage to Powercor assets was estimated at approximately $729,000.[35]

Fires in catchment areas have both immediate and long-term impacts on water supply, and about one-third of Melbourne's water catchments were burnt.[36] Melbourne Water has estimated that the Black Saturday bushfires caused $5 million of damage to Melbourne Water's natural and built assets.[37] In conjunction with the University of Melbourne, Melbourne Water has been doing modelling to assess the fires' long-term impact on water yield. The results of this research are yet to be published.[38]

## ROYAL COMMISSION AND VBRRA COSTS

The State budgeted $40 million to fund the 2009 Victorian Bushfires Royal Commission.[39] This figure does not, however, capture the significant additional costs incurred by individuals and organisations in preparing submissions and otherwise responding to the Commission. For example, one party, Powercor, incurred costs of about $735,000 for preparation and the participation of its staff in the Commission.[40] The Victorian Managed Insurance Agency extends indemnity to state-insured agencies under a policy of liability insurance for legal costs incurred in representation before the Commission. This includes the cost of the Victorian Government Solicitors Office in representing the State. The VMIA estimates the total cost of such representation to be in the vicinity of $50 million.[41]

## CONCLUSION

Notwithstanding the measurement difficulties encountered and the gaps in the available information, the Commission estimates the total cost of the January–February 2009 fires to be more than $4 billion and considers this a conservative estimate. Table A.1 summarises the estimated economic costs incurred as a result of the fires.

**Table A.1 Estimated major economic costs of Victoria's January–February 2009 bushfires: a summary**

| Item | Cost ($ million) | Source |
|---|---|---|
| RESPONSE COSTS | | |
| Victorian Government—supplementary funding for fighting 2009 fires | 593 | Victorian Government Green Paper on the fire services levy |
| Value of CFA and other volunteer time plus additional costs incurred by the MFB, ADF, Victoria Police, SES, State Coroner's Office, NEO and DSE as a result of the fires | Not estimated | |
| DAMAGE COSTS | | |
| General insurance claims paid | 1,200 | Insurance Council of Australia |
| Loss and damage to public infrastructure | 77 | Victorian Managed Insurance Agency |
| VBRRA—establishment costs, expenditure to date and projected further expenditure | 1,081 | VBRRA: *Rebuilding Together.* Includes VBRRA disbursements and planned disbursements from the Victorian Bushfire Appeal Fund and from other donors |
| Valuation of lives lost | 645 | Commission estimate |
| Loss of livestock and agricultural output | Not estimated | |
| Timber—value of destroyed timber, replanting costs for private plantations and salvage costs | 658 | Victorian Association of Forest Industries submission quoting VicForests |
| Asset damage and other costs incurred by Telstra and Melbourne Water. (Long-term impact on water supply was not estimated.) | 25 | Information from Telstra; Melbourne Water annual report for 2008–09 |
| Cost of 2009 Victorian Bushfires Royal Commission, including costs incurred by state agencies in responding to the Commission | 90 | Victoria's 2009–10 Budget; Victorian Managed Insurance Agency |
| **Total** | **4,369** | |

Note: Figures should be viewed in the context of the qualifications expressed in this appendix.

1 Exhibit 139 – VBRRA 100 Day Report (TEN.046.001.0001) at 0009
2 Exhibit 777 – Statement of Monforte, Annexure 2 (WIT.3021.001.0156) at 0164–0165
3 Exhibit 989 – State Response to Estimated Costs of Fires Paper (DRSP.3000.001.0001) [9]
4 Rees T2628:5–T2628:6
5 Exhibit 989 – Best Practice Regulation Guidance Note (RSCH.040.001.0188) at 0189
6 Exhibit 139 – VBRRA 100 Day Report (TEN.046.001.0001) at 0021
7 Exhibit 777 – Statement of Monforte, Annexure 2 (WIT.3021.001.0156) at 0168
8 Exhibit 989 – Submission of Suncorp (SUBM.002.032.0008_R) at 0021_R–0022_R
9 Exhibit 989 – Bushfire Recovery Chief Highlights Underinsurance Burden (RSCH.040.001.0520)
10 Exhibit 838 – VBRRA Twelve Month Report (TEN.250.003.0001) at 0014
11 Exhibit 989 – RSPCA Annual Report (RSCH.040.001.0547) at 0573
12 Exhibit 989 – RSPCA Annual Report (RSCH.040.001.0547) at 0597
13 Exhibit 989 – RSPCA Annual Report (RSCH.040.001.0547) at 0573
14 Exhibit 989 – Submission of Victorian Association of Forest Industries (SUBM.002.028.0179_R) at 0189_R
15 Exhibit 989 – Bushfires Cost Wine and Tourism Industries (RSCH.040.001.0619) at 0619
16 Exhibit 989 – VBRRA Six Month Report (RSCH.040.001.0623) at 0628
17 Exhibit 989 – VicForests 2009 Annual Report (RSCH.040.001.0151) at 0158
18 Exhibit 989 – Submission of Victorian Association of Forest Industries (SUBM.002.028.0179_R) at 0190_R
19 Exhibit 989 – VicForests 2009 Annual Report (RSCH.040.001.0151) at 0161
20 Exhibit 989 – Submission of Hancock Victoria Plantations (SUBM.002.029.0136_R) at 0140_R
21 Exhibit 989 – Parks Victoria 2009 Annual Report (RSCH.040.001.0632) at 0643, 0645
22 Exhibit 843 – VBRRA Rebuilding Together (WIT.3003.001.0257) at 0262
23 Exhibit 843 – VBRRA Rebuilding Together (WIT.3003.001.0257) at 0262
24 Exhibit 989 – Estimated Costs Response of the Commonwealth (DRSP.6000.001.0001) at 0003
25 Exhibit 989 – Estimated Costs Response of the Commonwealth (DRSP.6000.001.0001) at 0002
26 Exhibit 989 – Estimated Costs Response of the Commonwealth (DRSP.6000.001.0001) at 0003
27 Exhibit 989 – Victorian Budget Overview (RSCH.007.001.0161) at 0163
28 Exhibit 989 – Vic LandCarbon (RSCH.040.001.0740) at 0740
29 Exhibit 989 – Vic LandCarbon (RSCH.040.001.0740) at 0741
30 Exhibit 989 – Australia's State of the Forests Report – Five Yearly Report 2008 – Criterion 5 (RSCH.040.001.0870) at 0870
31 Exhibit 989 – Australia's State of the Forests Report – Five Yearly Report 2008 – Criterion 5 (RSCH.040.001.0870) at 0872
32 Exhibit 989 – Australia's State of the Forests Report – Five Yearly Report 2008 – Criterion 5 (RSCH.040.001.0870) at 0874
33 Exhibit 989 – VMIA Email re Costs of Fires (DRSP.7500.001.0001_R) at 0001_R
34 Exhibit 989 – Estimated Costs of Bushfires to Telstra (DRSP.5000.001.0001_R) at 0001_R–0002_R
35 Exhibit 989 – Powercor Estimated Costs of Fire (DRSP.7000.001.0001_R)
36 Exhibit 989 – Sustainability Report – Melbourne Water Annual Report 2008–09 – Bushfires (RSCH.040.001.1019) at 1024
37 Exhibit 989 – Sustainability Report – Melbourne Water Annual Report 2008–09 – Bushfires (RSCH.040.001.1019) at 1024
38 Exhibit 989 – Sustainability Report – Melbourne Water Annual Report 2008–09 – Bushfires (RSCH.040.001.1019) at 1024
39 Exhibit 989 – Victorian Budget Overview (RSCH.007.001.0161) at 0163
40 Exhibit 989 – Powercor Estimated Costs of Fire (DRSP.7000.001.0001_R)
41 Exhibit 989 – VMIA email re Costs of Fires (DRSP.7500.001.0001_R) at 0001_R–0002_R

# APPENDIX B – FIRE IN SOUTHERN AUSTRALIA: A SUMMARY

This appendix summarises the major fire events in New South Wales, South Australia, Tasmania, Western Australia and the Australian Capital Territory from December 1938 to December 2007.[1]

| Date | Location | Impact Summary |
|---|---|---|
| NEW SOUTH WALES | | |
| December 1938 – January 1939 | Dubbo, Lugarno, Snowy Mountains, Canberra | **Deaths:** 13<br>**People rendered homeless:** 1,000<br>**Buildings:** many houses[2]<br>**Livestock:** 10,000<br>**Area burnt:** 73,000 hectares[3] |
| November 1951 – January 1952 | Wagga Wagga and district, Pilliga | **Deaths:** 11[4]<br>**Area burnt:** more than 4 million hectares[5] |
| December 1957 – 1958 | Blue Mountains, Leura | **Deaths:** 4[6]<br>**Buildings:** 170<br>**Area burnt:** more than 2 million hectares[7] |
| September 1968 – January 1969 | South Coast | **Deaths:** 14<br>**People rendered homeless:** 600<br>**Buildings:** more than 200<br>**Area burnt:** more than 2 million hectares[8] |
| December 1974 – January 1975 | Bourke to Balranald, Cobar Shire, Moolah–Corinya—most of the Western Division | **Deaths:** 3[9]<br>**Buildings:** 50<br>**Livestock:** 50,000<br>**Fencing:** 10,170 kilometres<br>**Area burnt:** 4.5 million hectares[10] |
| December 1979 – February 1980 | Mudgee, Warringah and Sutherland Shires, Goulburn, South Coast | **Deaths:** 5[11]<br>**People rendered homeless:** 50<br>**Buildings:** 14<br>**Area burnt:** more than 1 million hectares |
| 1984 – 1985 | Western Division | **Deaths:** 4[12]<br>**Livestock:** 40,000<br>**Area burnt:** 3.5 million hectares |
| July 2002 – February 2003 | 81 local government areas in Greater Sydney, Hunter, North Coast, Northern Tablelands, North-west Slopes, North-west Plains, Central Tablelands, Southern Tablelands, Illawarra, South Coast | **Deaths:** 2[13]<br>**Buildings:** 86 houses[14]<br>**Livestock:** 3,400[15]<br>**Area burnt:** 1.464 million hectares[16] |
| SOUTH AUSTRALIA | | |
| 1957 – January 1958 | Mt Gambier | **Deaths:** 8<br>**Area burnt:** 1,370 hectares (pine plantation) |
| 1974 – 1975 | North-west of state | **Deaths:** Nil<br>**Area burnt:** 16 million hectares[17] |
| February 1983 (including Ash Wednesday II) | Mt Osmond, Mt Gambier, South Barwon | **Deaths:** 28<br>**Buildings:** 333<br>**Livestock:** 250,000<br>**Fencing:** more than 10,000 kilometres<br>**Area burnt:** more than 260,000 hectares |
| January 2005 | Eyre Peninsula, Adelaide Hills | **Deaths:** 9<br>**Buildings:** 337[18]<br>**Livestock:** 47,000<br>**Fencing:** 6,304 kilometres[19]<br>**Area burnt:** more than 145,000 hectares |
| December 2007 | Kangaroo Island | **Deaths:** 1<br>**Area burnt:** 95,000 hectares |

| Date | Location | Impact Summary |
|---|---|---|
| TASMANIA | | |
| December 1966 – February 1967 (including Black Tuesday 7 February 1967) | South-east, Hobart | **Deaths:** 62<br>**People rendered homeless:** 7,000<br>**Buildings:** approx. 4,000<br>**Livestock:** 60,000 sheep; 1,350 cattle; 600 pigs; 500 horses; 24,000 chickens<br>**Fencing:** 5,400 kilometres<br>**Area burnt:** 270,000 hectares[20] |
| February 1982 | Launceston, Hobart, Broadmarsh | **Deaths:** 1<br>**Buildings:** 46<br>**Livestock:** 3,000<br>**Area burnt:** more than 40,000 hectares[21] |
| November 2002 – March 2003 | Including Flinders Island, northern fringe of Hobart | **Deaths:** Nil<br>**Buildings:** 13<br>**Livestock:** several hundred[22]<br>**Area burnt:** 52,000 hectares[23] |
| WESTERN AUSTRALIA | | |
| January 1961 – March 1961 | Dwellingup and south-west of state | **Deaths:** Nil<br>**Buildings:** 160<br>**Area burnt:** 1.8 million hectares |
| 1 April 1978 | South-west of state | **Deaths:** 2<br>**Buildings:** 6<br>**Livestock:** 2,500<br>**Area burnt:** 31,500 hectares |
| 15 December 1997 | Perth and south-west of state | **Deaths:** 2<br>**Buildings:** 15<br>**Livestock:** over 10,000<br>**Area burnt:** 22,450 hectares |
| December 2007 – January 2008 | Boorabbin National Park | **Deaths:** 3<br>**Area burnt:** 29,000 hectares |
| AUSTRALIAN CAPITAL TERRITORY | | |
| November 1938 – January 1939 | Uriarra, Mt Franklin, Tidbinbilla, Cuppacumbalong, Booroomba, Lanyon | **Deaths:** 1<br>**Livestock:** 2,000<br>**Fencing:** 545 kilometres[24]<br>**Area burnt:** 30% of territory |
| December 1951 – February 1952 | Molongolo valley, Mt Stromlo, Red Hill, Woden Valley, Tuggeranong, Mugga Hill | **Deaths:** 3<br>**Buildings:** 42[25]<br>**Livestock:** 10,000<br>**Fencing:** several hundred kilometres<br>**Area burnt:** 10,000 hectares[26] |
| March 1985 | Mugga Lane, Red Hill, Mount Majura, Tharwa, Symonstown, Googong–Queanbeyan area | **Deaths:** 1<br>**Livestock:** 7,000[27]<br>**Area burnt:** 10,000 hectares[28] |
| January 2003 | Namadgi National Park, Uriarra, Pierces Creek and Stromlo settlements, Cotter, Corin, Tidbinbilla, Mt Stromlo, Duffy, Holder, Chapman, Kambah, Curtin, Lyons, Murrumbidgee valley, Coppins Crossing | **Deaths:** 4<br>**Buildings:** 581<br>**Livestock:** 4,185<br>**Area burnt:** approx. 160,000 hectares |

1 Unless otherwise indicated all statistics in this appendix are drawn from Exhibit 726 – Emergency Management Australia Disasters Database. See all at RSCH.041.001.0001

2 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2336

3 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2336

4 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2336

5 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2336

6 The National Inquiry on Bushfire Mitigation and Management recorded five deaths as a result of these fires: Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2336

7 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2336

8 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2336

9 The National Inquiry on Bushfire Mitigation and Management recorded six deaths as a result of these fires: Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2337

10 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2337

11 The National Inquiry on Bushfire Mitigation and Management recorded 13 deaths as a result of these fires: Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2337

12 The National Inquiry on Bushfire Mitigation and Management recorded five deaths as a result of these fires: Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2337

13 The National Inquiry on Bushfire Mitigation and Management recorded three deaths as a result of these fires: Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2337

14 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2337

15 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2337

16 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2337

17 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2340

18 Exhibit 726 – South Australian Country Fire Service – Bushfire History (RSCH.030.001.0388) at 0390

19 Exhibit 726 – South Australian Country Fire Service – Bushfire History (RSCH.030.001.0388) at 0390

20 Exhibit 726 – NSW Parliamentary Library Research Service – Bushfires – Briefing Paper No 5/02 (RSCH.016.001.1136) at 1145

21 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2340

22 Exhibit 160 – A Nation Charred: Report on the Inquiry into Bushfires (EXH.160.0001) at 0365

23 Exhibit 160 – A Nation Charred: Report on the Inquiry into Bushfires (EXH.160.0001) at 0365

24 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2337

25 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2337

26 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2337

27 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2338

28 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2338

# APPENDIX C – FIRE IN VICTORIA: A SUMMARY

This appendix summarises the major fire events in Victoria from February 1851 to February 2007.[1]

| Date | Location | Impact Summary |
|---|---|---|
| 6 February 1851 (Black Thursday) | Wimmera, Portland, Gippsland, Plenty Ranges, Westernport, Dandenong district, Heidelberg | **Deaths:** 15[2]<br>**People rendered homeless:** 100<br>**Buildings:** 1,300<br>**Livestock:** 1 million sheep, thousands of cattle<br>**Area burnt:** 5 million hectares (approx. 25%) of Victoria[3] |
| 4 and 5 January 1886 | Otway and Heytesbury, incorporating Panmure, Colac, Camperdown | **Deaths:** nil<br>**Estimated damage:** £15,000[4]<br>**Buildings:** approx. 50[5]<br>**Fencing:** thousands of miles (over 5,000 chains)[6] |
| 1 February 1898 (Red Tuesday) | South Gippsland | **Deaths:** 12<br>**People rendered homeless:** 2,500<br>**Buildings:** over 2,000<br>**Area burnt:** 260,000 hectares |
| December 1899 | Beechworth–Yackandandah, Broadford, Bairnsdale | **Deaths:** nil<br>**Estimated damage:** £50,000<br>**Buildings:** many homesteads<br>**Livestock:** extensive losses[7] |
| January 1900 | Hamilton, Bealiba, Warrenbayne, Wangaratta, Euroa, Warrnambool | **Deaths:** nil<br>**Estimated damage:** £100,000–200,000<br>**Buildings:** 6 woolsheds and a number of homes<br>**Fencing:** extensive losses<br>**Livestock:** 20,000 sheep, 300 cattle and a number of horses<br>**Area burnt:** more than 500,000 acres[8] |
| February 1900 | Meredith, Warrnambool, Pyrenees Range, Gippsland | **Deaths:** 3<br>**Estimated damage:** £35,000<br>**Buildings:** homes, farmhouses and farm buildings<br>**Fencing:** hundreds of miles<br>**Livestock:** cattle and sheep<br>**Area burnt:** in excess of 60,000 acres[9] |
| December 1905 – January 1906 | Dandenong Ranges | **Deaths:** 12 |
| 1 January 1912 | Willaura | **Deaths:** nil<br>**Buildings:** 15<br>**Area burnt:** main street of the town |
| 1 January 1913 | Chelsea (Melbourne) | **Deaths:** nil<br>**Buildings:** 64 permanent residences and 100 holiday homes |
| 1914 | Gippsland, Grampians, Otway Range | **Deaths:** nil<br>**Area burnt:** varied—100,000 hectares[10] |
| 1926 | Noojee, Kinglake, Warburton, Erica, Dandenong Ranges | **Deaths:** 60<br>**People rendered homeless:** 700<br>**Buildings:** 1,000<br>**Area burnt:** 400,000 hectares |
| 1932 | Gippsland and other areas across Victoria | **Deaths:** 9<br>**Area burnt:** large areas of state forest |
| 8 January 1939 | Narbethong | **Deaths:** 2 |

| Date | Location | Impact Summary |
|---|---|---|
| 13–20 January 1939 (incl. Black Friday) | Large areas of the north-east and Gippsland, the Otway and Grampian Ranges and the towns of Rubicon, Woods Point, Warrandyte, Noojee, Omeo, Mansfield, Dromana, Yarra Glen, Warburton, Erica | **Deaths:** 71<br>**People rendered homeless:** 3,000<br>**Buildings:** 1,300 (including 69 sawmills)<br>**Livestock:** 2,500<br>**Area burnt:** 1.5–2.0 million hectares |
| 3–4 March 1942 | Hamilton, South Gippsland | **Deaths:** 1<br>**Livestock:** 100 sheep[11]<br>**Buildings:** 30 |
| 22 December 1943 – 15 February 1944 | Central and western districts, Morwell, Yallourn | **Deaths:** 51 (including 10 at Wangaratta on 22 December)<br>**Livestock:** 10,000<br>**Buildings:** more than 500 (as well as an open-cut mine)[12]<br>**Area burnt:** more than 1 million hectares of grassland and 160,000 hectares of forest[13] |
| 1 January 1952 – 1 March 1952 | Central and southern districts, including Benalla area | **Deaths:** 10<br>**Livestock:** 7,500<br>**Area burnt:** 1.5 million acres |
| 14–17 January 1962 | The Basin, Christmas Hills, Kinglake, St Andrews, Hurstbridge, Warrandyte, Mitcham | **Deaths:** 32<br>**Buildings:** 454 |
| January – February 1962 | Southern district | **Deaths:** 1<br>**People rendered homeless:** 2,500<br>**Buildings:** 150 |
| 17 January 1965 | Longwood | **Deaths:** 7 (all in one family)<br>**Buildings:** 6 houses |
| 15 February – 13 March 1965 | Gippsland | **Deaths:** 3<br>**Buildings:** more than 60 homes and shops<br>**Livestock:** more than 4,000<br>**Area burnt:** 750,000 acres of forest, 40,000 acres of grassland[14] |
| 19 February 1968 | Dandenong Ranges, The Basin, Upwey | **Deaths:** nil<br>**People rendered homeless:** 200<br>**Buildings:** 64[15]<br>**Area burnt:** 1,920 hectares |
| 8–9 January 1969 | Lara, Daylesford, Bulgana, Yea, Darraweit, Kangaroo Flat, Korongvale | **Deaths:** 23<br>**People rendered homeless:** 800<br>**Buildings:** 251<br>**Livestock:** more than 12,000<br>**Area burnt:** 250,000 hectares |
| December 1972 | Mt Buffalo | **Deaths:** nil<br>**Area burnt:** 12,140 hectares[16] |
| 12 February 1977 (Black Saturday) | Penshurst, Tatyoon, Streatham, Creswick, Pura Pura, Werneth, Cressy, Rokewood, Beeac, Mingay, Lismore, Little River | **Deaths:** 8<br>**People rendered homeless:** 350<br>**Buildings:** 456<br>**Fencing:** 10,000 kilometres[17]<br>**Livestock:** 250,000 sheep; 4,500 cattle[18]<br>**Area burnt:** over 135,000 hectares[19] |
| 15 January 1978 | Bairnsdale | **Deaths:** 2<br>**People rendered homeless:** 80<br>**Buildings:** 36<br>**Livestock:** 6,500[20] |
| 28 December 1980 – 6 January 1981 | Sunset Country and Big Desert | **Deaths:** nil<br>**Area burnt:** 119,000 hectares[21] |

| Date | Location | Impact Summary |
|---|---|---|
| 8–9 January 1983 | Greendale | **Deaths:** 2 Forest Commission employees[22] |
| 31 January – 12 February 1983 | Cann River | **Deaths:** nil<br>**Area burnt:** 120,000 hectares |
| 1 February 1983 | Mt Macedon | **Deaths:** nil<br>**Buildings:** 50 houses<br>**Area burnt:** 6,100 hectares (including 1,864 hectares of state forest) |
| 16–18 February 1983 (Ash Wednesday) | Monivae, Branxholme, Cockatoo, East Trentham, Mt Macedon, Otway Range, Belgrave Heights, Warburton, Cudgee, Upper Beaconsfield, Framingham | **Deaths:** 47<br>**People rendered homeless:** 9,000<br>**Buildings:** 2,500<br>**Livestock:** 32,750 (including 18,000 sheep and 7,000 cattle)<br>**Fencing:** 5,900 kilometres<br>**Area burnt:** 210,000 hectares<br>**Estimated damage:** $190 million[23] |
| 4–12 March 1983 | Cann River | **Deaths:** nil<br>**Area burnt:** 140,000 hectares |
| 14 January – 15 February 1985 | Including Maryborough, Avoca, Little River, Wilsons Promontory | **Deaths:** 5<br>**People rendered homeless:** 600<br>**Buildings:** 680<br>**Livestock:** 46,000<br>**Area burnt:** 50,800 hectares |
| 27 December 1990 – 10 January 1991 | Strathbogie Ranges | **Deaths:** 1<br>**People rendered homeless:** 30<br>**Buildings:** 166<br>**Livestock:** 13,500 |
| 23 February 1995 | Berringa | **Deaths:** nil<br>**Area burnt:** 10,000 hectares (mostly forest)[24] |
| 1 October 1995 | South-western districts | **Deaths:** nil<br>**Area burnt:** bushland and a pine forest |
| 19–21 January 1997 | Dandenong Ranges, Creswick, Heathcote, Teddywaddy, Goughs Bay | **Deaths:** 3<br>**People rendered homeless:** 150<br>**Buildings:** 43 and 1 CFA fire truck<br>**Area burnt:** 4,150 hectares |
| 16 February 1997 | Winton, Romsey | **Deaths:** nil<br>**Livestock:** 200 sheep<br>**Area burnt:** 800 hectares |
| 31 December 1997 – 12 January 1998 | Caledonia River area of Alpine National Park, Carey River State Forest | **Deaths:** nil<br>**Area burnt:** 32,000 hectares |
| 1 February 1998 | Western District | **Deaths:** nil<br>**Buildings:** 60<br>**Livestock:** some losses<br>**Area burnt:** more than 1,600 hectares |
| 22 March 1998 | Trentham | **Deaths:** nil<br>**Buildings:** 60<br>**Area burnt:** 3,500 hectares |
| 2 December 1998 | Linton | **Deaths:** 5 (CFA firefighters)<br>**Area burnt:** 780 hectares[25] |
| 5–9 January 1999 | Grampians | **Deaths:** nil<br>**Area burnt:** 7,000 hectares[26] |
| 18–21 January 2000 | Portland region | **Deaths:** nil<br>**Area burnt:** 1,700 hectares |

| Date | Location | Impact Summary |
|---|---|---|
| 10 February 2000 | North-western Victoria | **Deaths:** nil<br>**Buildings:** 5<br>**Area burnt:** 115 hectares |
| 28 November – 20 December 2000 | Dadswells Bridge and surrounds, Horsham, Stawell, Barratt region | **Deaths:** nil<br>**Buildings:** 6<br>**Livestock:** 8,000 (mainly sheep)[27]<br>**Fencing:** 500 kilometres[28]<br>**Area burnt:** 29,000 hectares[29] |
| March 2002 | Glenaroua | **Deaths:** nil<br>**Buildings:** 1 house<br>**Area burnt:** 6,100 hectares of grass and scrub[30] |
| 17–31 December 2002 | Big Desert | **Deaths:** nil<br>**Buildings:** 1 abandoned house<br>**Area burnt:** 181,400 hectares[31] |
| 8 January – 7 March 2003 | North-eastern Victoria, Gippsland | **Deaths:** 1<br>**Buildings:** 41 houses<br>**Fencing:** 3,000 kilometres<br>**Livestock:** 110,000<br>**Area burnt:** 1.3 million hectares |
| April 2005 | Wilsons Promontory | **Deaths:** nil<br>**Area burnt:** more than 6,000 hectares[32] |
| 31 December 2005 – 31 January 2006 | Ararat, Baw Baw Shire, Glenelg Shire, Golden Plains Shire, Greater Geelong, Horsham, Latrobe, Moorabool Shire, Moyne Shire, Murrindindi Shire, Northern Grampians Shire, South Gippsland Shire, Southern Grampians Shire | **Deaths:** 4<br>**Buildings:** 416<br>**Fencing:** 2,654 kilometres<br>**Livestock:** 64,265<br>**Area burnt:** 160,000 hectares |
| 1 December 2006 – 7 February 2007 | Alpine Shire, Benalla, Indigo Shire, Mansfield Shire, Corangamite Shire, Golden Plains Shire, Baw Baw Shire, East Gippsland, Latrobe, Wellington Shire, Moyne Shire, Wangaratta | **Deaths:** 1<br>**Buildings:** 51 houses<br>**Livestock:** 1,741<br>**Area burnt:** more than 1.2 million hectares |

1 Unless otherwise indicated all statistics in this appendix are drawn from Exhibit 726 – Emergency Management Australia Disasters Database. See all at RSCH.041.001.0002

2 All other sources refer to 12 deaths—Exhibit 720 – Report of the Inquiry Into The 2002-2003 Victorian Bushfires (INF.018.002.0001) at 0047; Exhibit 726 – Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria (RSCH.016.001.0204) at 0259; National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2338

3 Exhibit 726 – Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria (RSCH.016.001.0204) at 0259

4 Exhibit 726 – The Argus 1 February 1886 (RSCH.016.001.0001)

5 Exhibit 726 – Report of Distribution of Forest Fires Relief Fund 1886 (RSCH.003.003.3143)

6 Exhibit 726 – Report of Distribution of Forest Fires Relief Fund 1886 (RSCH.003.003.3143)

7 All data for this fire comes from Exhibit 726 – Eleventh Progress Report of the Royal Commission on State Forests and Timber Reserves (RSCH.003.002.8789) at 8804

8 All data for this fire comes from Exhibit 726 – Eleventh Progress Report of the Royal Commission on State Forests and Timber Reserves (RSCH.003.002.8789) at 8804

9 All data for this fire comes from Exhibit 726 – Eleventh Progress Report of the Royal Commission on State Forests and Timber Reserves (RSCH.003.002.8789) at 8804

10 Exhibit 726 – Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria (RSCH.016.001.0204) at 0259

11 Exhibit 726 – Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria (RSCH.016.001.0204) at 0259

12 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2338

13 Exhibit 726 – Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria (RSCH.016.001.0204) at 0259

14 Exhibit 726 – Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria (RSCH.016.001.0204) at 0259

15 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2338

16 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2339

17 Exhibit 726 – Report of the Board of Inquiry into the Occurrence of Bush and Grass Fires in Victoria (RSCH.003.002.8822) at 8841

18 Exhibit 726 – Report of the Board of Inquiry into the Occurrence of Bush and Grass Fires in Victoria (RSCH.003.002.8822) at 8841

19 Exhibit 726 – Report of the Board of Inquiry into the Occurrence of Bush and Grass Fires in Victoria (RSCH.003.002.8822) at 8841

20 Exhibit 726 – Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria (RSCH.016.001.0204) at 0260

21 Exhibit 726 – Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria (RSCH.016.001.0204) at 0260

22 Exhibit 726 – Legislative Assembly Ministerial Statement 16 March 1983 Pages 3072–3087 (RSCH.003.003.0364) at 0367

23 Exhibit 726 – Legislative Assembly Ministerial Statement 16 March 1983 Pages 3072–3087 (RSCH.003.003.0364) at 0368

24 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2339

25 All data for this fire come from Exhibit 720 – Report of the Inquiry Into The 2002-2003 Victorian Bushfires (INF.018.002.0001) at 0048

26 Exhibit 726 – Mt. Difficult Fire – Grampians National Park 1989 (RSCH.030.001.0397) at 0399

27 Exhibit 726 – Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria (RSCH.016.001.0204) at 0260

28 Exhibit 726 – Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria (RSCH.016.001.0204) at 0260

29 Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2339

30 All data for this fire comes from Exhibit 726 – Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria (RSCH.016.001.0204) at 0260

31 All data for this fire comes from Exhibit 726 – National Inquiry on Bushfire Mitigation and Management (RSCH.004.003.1961) at 2339

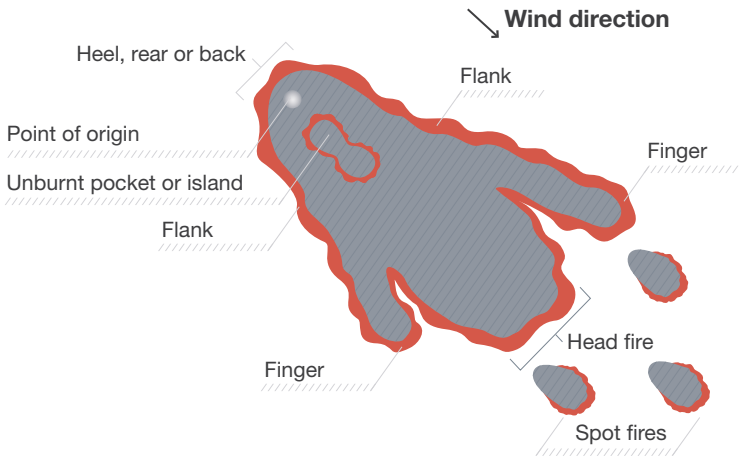
32 Exhibit 11 – Statement of Esplin, Attachment 12 (WIT.005.001.1393) at 1418–1420

# APPENDIX D – ELEMENTS OF A BUSHFIRE

The shape of a bushfire is defined by the fire's perimeter, which is the outside edge of the burnt area. Within the perimeter there can be burning areas, smouldering areas and blackened areas, as well as pockets of unburnt fuel. There will also be a point of origin, which might or might not be identifiable without detailed investigation. As Figure D.1 shows, the following are parts of a bushfire:

- the head
- the flanks or sides
- fingers or tongues
- the rear or heel—sometimes referred to as the back
- spot fires ahead of the main fire
- unburnt pockets or islands
- the point of origin.[1]

**Figure D.1 Parts of a bushfire**




Source: Exhibit 269 – Statement of Russell, Annexure 1.[2]

The head of a fire—also called the firefront—is where the fire is making greatest progress (usually downwind), as measured by its forward rate of spread. Flames are tallest and the intensity of the fire is greatest at this point. The head of the fire is affected by wind direction, fuel and topography and can change as these factors change.[3]

The sides of the fire between the head and the rear are called the flanks. They are roughly parallel to the main direction of spread. The intensity of the fire on the flanks is less than at the head. The flanks are described by their geographic location (for example, the eastern or western flank) or by their orientation as viewed from the point of origin or the rear of the fire (for example, the left or right flank).[4] A wind change can result in the flank of a fire becoming the head. Many of the fires that burned on 7 February 2009 developed north-east and south-west flanks under the influence of a north-westerly wind, but after the south-westerly wind change the north-easterly flanks became the heads of the fires.

Fingers are long, narrow slivers of advancing fire. They can extend beyond the head or flanks and are caused by varying wind direction or variations in fuel or topography.[5] Fingers are also referred to as tongues.

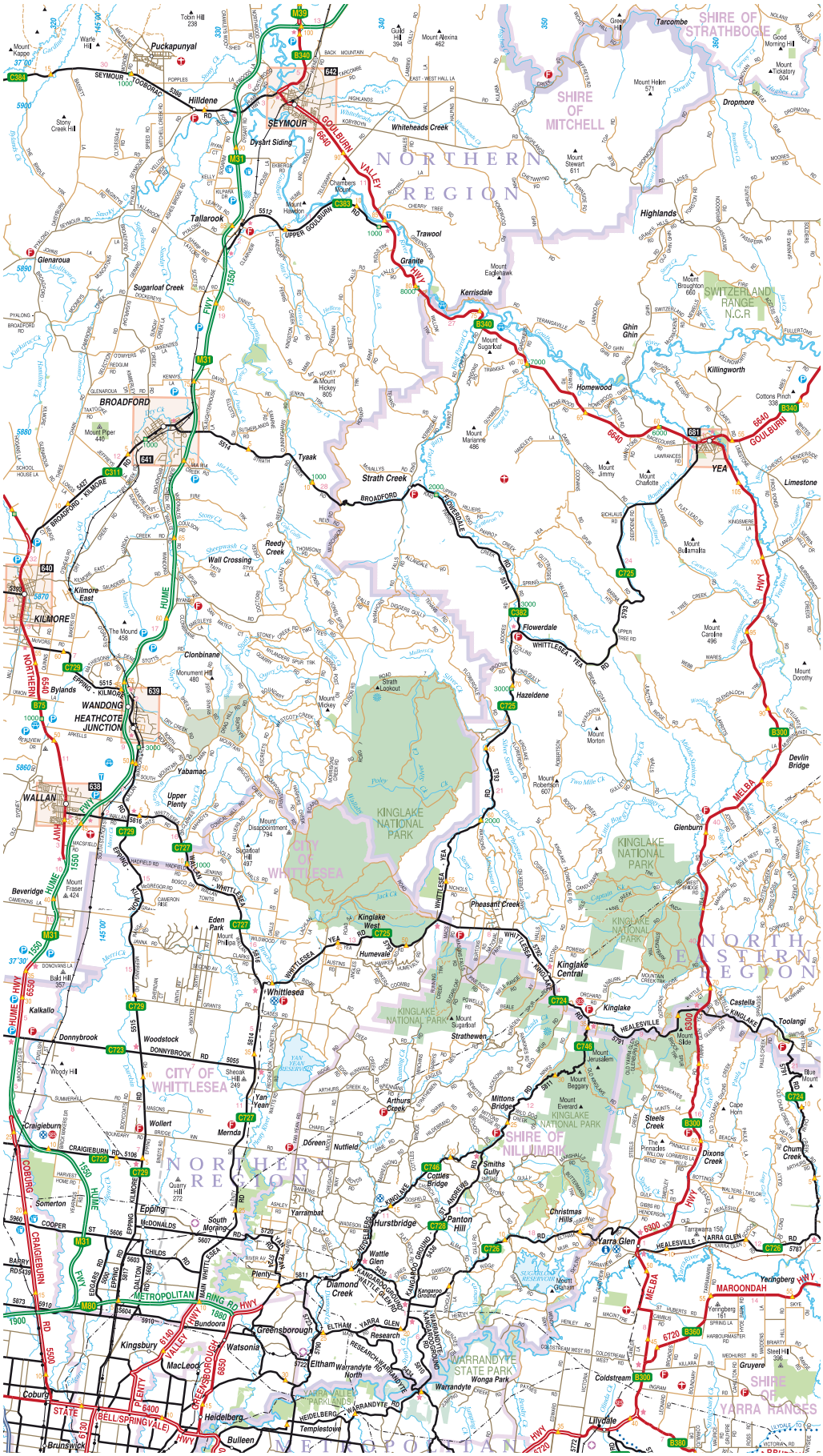
The rear, or heel, is the section of the perimeter opposite to and usually upwind of the head of a fire. It is the least intense part of the fire's perimeter, having the lowest flames and the slowest rate of spread. It can be described as the back of the fire.[6]

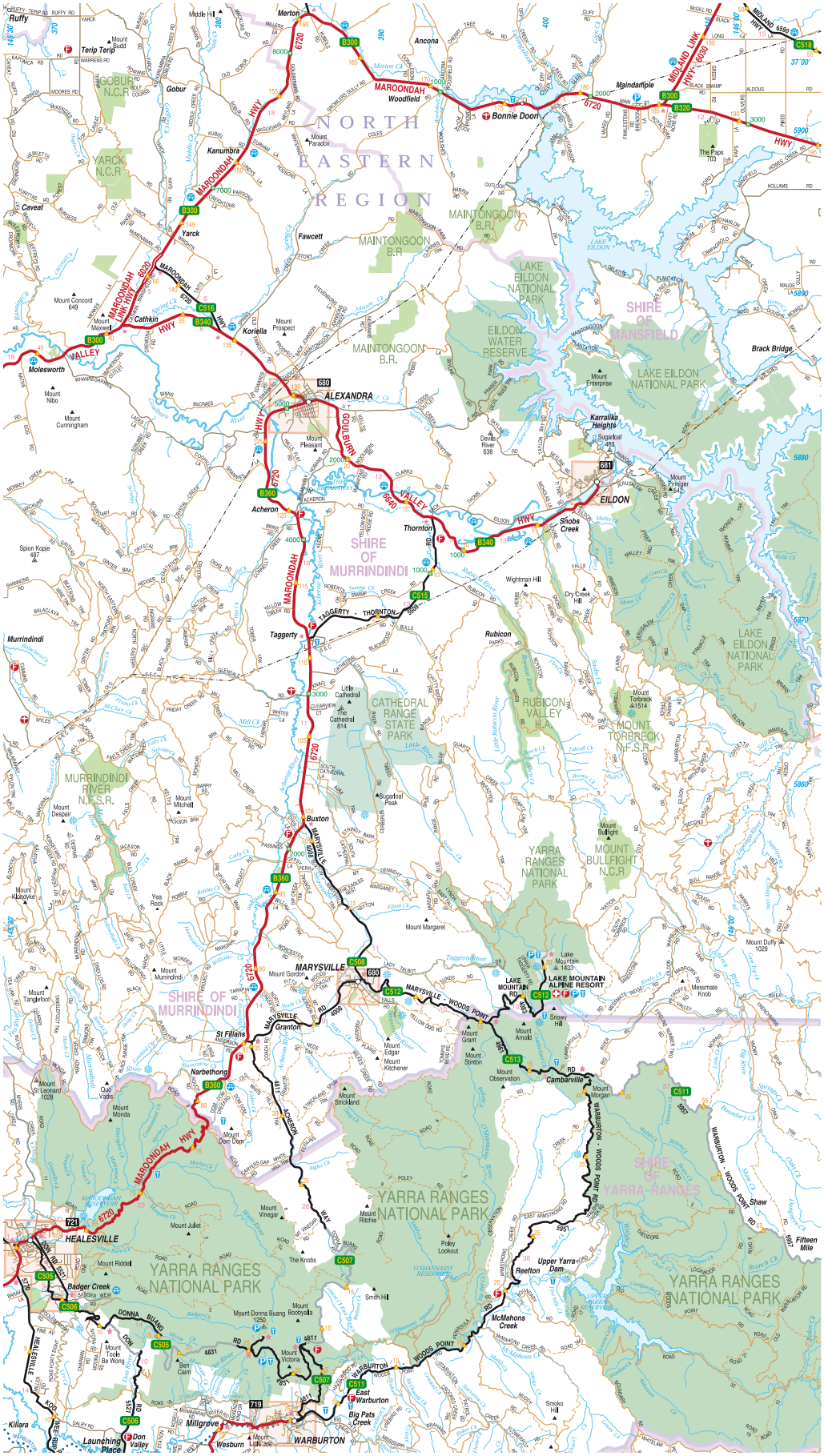
The point of origin is where the fire started.[7]

Spot fires are new fires that occur ahead of the main fire. They are usually started by embers which are wind-borne pieces of burning bark and other materials.[8]

1 Exhibit 269 – Statement of Russell, Annexure 1 (WIT.3004.013.0021) at 0041–0042
2 Exhibit 269 – Statement of Russell, Annexure 1 (WIT.3004.013.0021) at 0041–0042
3 Exhibit 269 – Statement of Russell, Annexure 1 (WIT.3004.013.0021) at 0041–0042
4 Exhibit 269 – Statement of Russell, Annexure 1 (WIT.3004.013.0021) at 0041–0042
5 Exhibit 269 – Statement of Russell, Annexure 1 (WIT.3004.013.0021) at 0041–0042
6 Exhibit 269 – Statement of Russell, Annexure 1 (WIT.3004.013.0021) at 0041–0042
7 Exhibit 269 – Statement of Russell, Annexure 1 (WIT.3004.013.0021) at 0041–0042
8 Exhibit 142 – National Inquiry on Bushfire Mitigation and Management (TEN.049.001.0001) at 0440

# APPENDIX E – MAP OF MOST HEAVILY IMPACTED AREAS




NORTH EASTERN REGION
MAROONDAH HWY
MAROONDAH
HWY
VALLEY
MIDLAND LINK
ALEXANDRA
EILDON
MARYSVILLE
HEALESVILLE
WARBURTON
LAKE EILDON NATIONAL PARK
MAINTONGOON B.R.
EILDON WATER RESERVE
SHIRE OF MANSFIELD
SHIRE OF MURRINDINDI
SHIRE OF YARRA RANGES
YARRA RANGES NATIONAL PARK
CATHEDRAL RANGE STATE PARK
RUBICON VALLEY H.A.
MOUNT TORBRECK N.F.S.R.
MURRINDINDI RIVER N.F.S.R.
MOUNT BULLFIGHT N.C.R
GOBUR N.C.R
YARCK N.C.R
LAKE MOUNTAIN ALPINE RESORT
Merton
Ancona
Maindample
Bonnie Doon
Kanumbra
Yarck
Fawcett
Cathkin
Koriella
Molesworth
Acheron
Thornton
Taggerty
Rubicon
Buxton
Granton
St Fillans
Narbethong
Cambarville
Reefton
Upper Yarra Dam
McMahons Creek
Woods Point
East Warburton
Big Pats Creek
Millgrove
Launching Place
Don Valley
Wesburn
Badger Creek
Healesville
Karralika Heights
Brack Bridge
Shobs Creek
Dry Creek Hill
Wightman Hill
Snowy Hill
Mount Arnold
Mount Observation
Mount Morgan
Fifteen Mile
Shaw
Smoko Hill
Mount Duffy
Messmate Knob
Lake Mountain
Mount Torbreck
Mount Bullfight
Mount Margaret
Mount Strickland
Mount Vinegar
Mount Julier
Mount Ritchie
Poley Lookout
Mount Donna Buang
Mount Victoria
Ben Cairn
Mount Toolebewong
Mount Riddell
Mount Monda
Mount Dom Dom
Mount Edgar
Mount Kitchener
Mount Stanton
Mount Grant
Mount Gordon
Mount Murrindindi
Mount Despair
Mount Mitchell
Mount Tanglefoot
Mount St Leonard
Mount Kobyboyn
Yea Rock
Spion Kopje
Mount Cunningham
Mount Nibo
Mount Concord
Mount Mioweri
Mount Prospect
Mount Pleasant
Mount Enterprise
Mount Primper
Sugarloaf
Sugarloaf Peak
Little Cathedral
The Cathedral
The Paps
Devils River
Quit Vadis
Mount Ruby
Mount Tarrengower
Mount Alexander
Mount Disappointment
Mount Slide
Mount Juliet
Mount Donna Buang
Mount Boobyalla
Mount Toot

# SHORTENED FORMS

| | |
|---|---|
| AAS | air attack supervisor |
| ABC | aerial bundled cable; Australian Broadcasting Corporation |
| ABCB | Australian Building Codes Board |
| ACR | automatic circuit recloser |
| AER | Australian Energy Regulator |
| AFAC | Australasian Fire and Emergency Service Authorities Council |
| AIIMS | Australasian Inter-Service Incident Management System |
| AS | Australian Standard |
| AWS | automatic weather station |
| BAL | bushfire attack level |
| BAL–FZ | Bushfire Attack Level—Flame Zone |
| BCA | Building Code of Australia |
| BPA | bushfire-prone area |
| CFA | Country Fire Authority |
| CFS | Country Fire Service (South Australia) |
| COAG | Council of Australian Governments |
| COMDISPLAN | Australian Government Disaster Response Plan |
| CRC | Cooperative Research Centre |
| CSIRO | Commonwealth Scientific and Industrial Research Organisation |
| DECC | Divisional Emergency Coordination Centre |
| DEECD | Department of Education and Early Childhood Development |
| DERC | Divisional Emergency Response Coordinator |
| DHS | Department of Human Services |
| DIGO | Defence Imagery and Geospatial Organisation |
| DISPLAN | Disaster Reponse Plan |
| DMS | document management system |
| DPCD | Department of Planning and Community Development |
| DPI | Department of Primary Industries |
| DSE | Department of Sustainability and Environment |
| ECC | Emergency Coordination Centre |
| EMA | Emergency Management Australia |
| ESMS | Electricity Safety Management Scheme |
| ESO | emergency services operator; emergency services organisation; Environmental Significance Overlay |
| ESTA | Emergency Services Telecommunications Authority |
| ESV | Energy Safe Victoria |
| FDI | fire danger index |
| FFDI | Forest Fire Danger Index |
| FP–020 | Standards Australia Technical Committee FP–020 |
| FPAA | Fire Protection Association Australia |
| GFDI | Grassland Fire Danger Index |
| HIA | Housing Industry Association |
| HVP | Hancock Victorian Plantations |
| ICC | incident control centre |

| | |
|---|---|
| iECC | integrated Emergency Coordination Centre |
| IFACC | Integrated Fire Agency Coordination Centre |
| IFMPF | Integrated Fire Management Planning Framework |
| IMS | incident management system |
| IMSS | information management systems and services |
| IMT | incident management team |
| LGA | local government area |
| MAV | Municipal Association of Victoria |
| MECC | Municipal Emergency Coordination Centre |
| MEMP | municipal emergency management plan |
| MERC | Municipal Emergency Response Coordinator |
| MERO | Municipal Emergency Resource Officer |
| MFB | Metropolitan Fire and Emergency Services Board |
| MOU | memorandum of understanding |
| NEO | Networked Emergency Organisation |
| NER | neutral earth resistor |
| OCR | oil circuit recloser |
| OESC | Office of the Emergency Services Commissioner |
| PROV | Public Record Office Victoria |
| RCM | reliability-centered maintenance |
| RECC | Regional Emergency Coordination Centre |
| RMIT | Royal Melbourne Institute of Technology |
| RSPCA | Royal Society for the Prevention of Cruelty to Animals |
| RTO | registered training organisation |
| SCC | State Control Centre—previously integrated Emergency Coordination Centre |
| SECC | State Emergency Coordination Centre |
| SECV | State Electricity Commission of Victoria |
| SERCC | State Emergency Response Coordination Centre |
| SERP | State Emergency Response Plan |
| SEWS | Standard Emergency Warning Signal |
| SLO | Significant Landscape Overlay |
| SOP | standard operating procedure |
| SWER | single-wire earth return |
| T | transcript |
| TFB | total fire ban |
| UAM | Utility Asset Management |
| VBRRA | Victorian Bushfire Reconstruction and Recovery Authority |
| VEMC | Victorian Emergency Management Council |
| VERS | Victorian Electronic Records Strategy |
| VFRR | Victorian Fire Risk Register |
| VICSES | Victoria State Emergency Service |
| VMIA | Victorian Managed Insurance Agency |
| VPP | Victoria Planning Provisions |
| WMO | Wildfire Management Overlay |