

# Eastern Metropolitan Region

## Strategic Fire Management Plan November 2011



Cover Photos

FRONT Left: PARKS VICTORIA Centre: MFB Right: PARKS VICTORIA Background: PARKS VICTORIA  
BACK Left: MFB Centre: PARKS VICTORIA Right: PARKS VICTORIA Background: PARKS VICTORIA

Designed and printed by Courtney – [www.courtneycolour.com.au](http://www.courtneycolour.com.au)

© Copyright: Eastern Metropolitan Regional Strategic Fire Management Planning Committee.

# Foreword

The Eastern Metropolitan Regional Fire Management Strategic Planning Committee (RSFMPC) has been working together to produce this, the Eastern Metropolitan Regional Strategic Fire Management Plan. The committee have formed a collaborative, strong and dedicated team. They have developed an evolving, dynamic and common focus on improving fire management within this beautiful and diverse region of Victoria.

This plan represents the work carried out by fire management stakeholders to produce the action plan, a prescription for the first phase of activity the Eastern Metropolitan RSFMPC has committed to. This plan addresses the bushfire risks identified within this region. It shows how these risks were analysed and how strategies to treat these risks were devised. Moving forward into the first year of this plan the committee will carry out the actions they have formulated and show their accountability through the measures they have set. The planning cycle will then be continuously improved based on the lessons learned and the actions that have been completed. The action plan will be revised to reflect these changes.

Through effective engagement, interactive partnerships between stakeholders have evolved and will continue to be strengthened into the future. I am proud to present this plan as a result of the very beginnings of a continuous journey through the cyclic stages of integrated fire management planning for the Eastern Metropolitan Region.



Craig Bray

Chair, Regional Strategic Fire Management Planning Committee  
Eastern Metropolitan Region



# Executive Summary

The State Fire Management Strategy 2009 provides this plan with a vision and direction for the development and implementation of structures, systems, processes and products that improve fire management planning in the Eastern Metropolitan Region. Whilst it has a bushfire focus, it includes all fires as defined by the *Country Fire Authority (CFA) Act 1958* and *Metropolitan Fire Brigade (MFB) Act 1958*. Additionally, this plan informs the Municipal Fire Management Planning Committees (MFMP) and guides the development of Municipal Fire Management Plans (MFMP).

To work towards the State's vision for fire management in Victoria, stakeholders have actively participated in a planning process through consultation, participation and engagement. Through this process ownership of this plan was achieved by the stakeholders involved in fire management within the region. Representatives from these agencies and municipal councils make up the Eastern Metropolitan Regional Strategic Fire Management Planning Committee (RSFMPC).

The Integrated Fire Management Planning (IFMP) Framework requires regional committees to prepare a 10-year regional strategic fire management plan. This document is a written presentation of the dynamic and continually evolving planning process undertaken by the Eastern Metropolitan RSFMPC. It is part of a continuous seven stage planning process. Each of these stages and how they relate to this region are detailed in this plan with each section corresponding to each stage of the cycle.

The *'Environmental Scan'* describes this region and its diversity in relation to demographics, geographic characteristics and broader fire hazard areas. It includes regional values, assumptions about the future and implications for fire management.

The *'Objectives'* section explains how the plan aligns with the State key themes and form the basis of the action plan. The *'Engagement and Communications'* section identifies who was involved in this planning process and how they were communicated with.

The following section *'Developing the Action Plan'* describes how the fire management risk strategies were devised by the committee. This section covers the risk assessment, analysis and decision stages of the planning cycle. For each key theme the committee developed specific objectives and corresponding actions directing how to complete the objectives, along with who will carry out the actions, when this will occur and with what measures the actions are determined to be complete.

*'Improvement, Reporting and Review'* describes the accountability and continuous improvement that the Eastern Metropolitan RSFMPC has committed to.

The outcomes of this fire planning process are presented in the action plan (Appendix B). It represents the strategies that the Eastern Metropolitan RSFMPC will be implementing in order to realise the vision for this plan and achieve the committee's mission.

# Acronyms

<b>BPA</b>	Bushfire Prone Area
<b>CALD</b>	Culturally and Linguistically Diverse
<b>CERM</b>	Community Emergency Risk Management
<b>CFA</b>	Country Fire Authority
<b>DHS</b>	Department of Human Services
<b>DoT</b>	Department of Transport
<b>DPI</b>	Department of Primary Industries
<b>DPCD</b>	Department of Planning and Community Development
<b>DSE</b>	Department of Sustainability and Environment
<b>EM</b>	Emergency Management
<b>EMMV</b>	Emergency Management Manual Victoria
<b>ERM</b>	Emergency Risk Management
<b>EVC</b>	Ecological Vegetation Communities
<b>FDR</b>	Fire Danger Rating
<b>FRV</b>	Fire Ready Victoria
<b>HAZMAT</b>	Hazardous Materials
<b>HILI</b>	Housing Ignition Likelihood Indicator
<b>IFMP</b>	Integrated Fire Management Planning
<b>MEMPC</b>	Municipal Emergency Management Planning Committee
<b>MERO</b>	Municipal Emergency Resource Officer
<b>MFB</b>	Metropolitan Fire Brigade
<b>MFD</b>	Metropolitan Fire District
<b>MFMP</b>	Municipal Fire Management Plan
<b>MFMPCC</b>	Municipal Fire Management Planning Committee
<b>MFPC</b>	Municipal Fire Prevention Committee
<b>MFPO</b>	Municipal Fire Prevention Officer
<b>NSP</b>	Neighbourhood Safer Places
<b>ParksVic</b>	Parks Victoria
<b>PPRR</b>	Prevention, Preparedness, Response and Recovery
<b>RSFMPC</b>	Regional Strategic Fire Management Planning Committee
<b>SFMPC</b>	State Fire Management Planning Committee
<b>SFP</b>	Special Fire Protection
<b>TFI</b>	Tolerable Fire Intervals
<b>TPP</b>	Township Protection Plan
<b>UFRA</b>	Urban Fire Risk Assessment
<b>VBRC</b>	Victorian Bushfire Royal Commission
<b>VEMC</b>	Victoria Emergency Management Council
<b>VICPOL</b>	Victoria Police
<b>VICSES</b>	Victoria State Emergency Service
<b>VFRR</b>	Victorian Fire Risk Register
<b>WMO</b>	Wildfire Management Overlay

# Contents

<b>Foreword</b>	<b>1</b>
<b>Executive Summary</b>	<b>3</b>
<b>Acronyms</b>	<b>4</b>
<b>1 INTRODUCTION</b>	<b>6</b>
<b>2 VISION AND MISSION</b>	<b>9</b>
<b>3 BACKGROUND</b>	<b>10</b>
3.1 The Integrated Fire Management Planning Framework	10
3.2 The planning process	12
3.3 Fire reform	14
3.4 Structural Fire and Hazardous Materials Risks	15
<b>4 ENVIRONMENTAL SCAN</b>	<b>16</b>
4.1 Our region	16
4.2 Metropolitan regional assumptions for the future	16
4.3 History of fire in the region	19
<b>5 OBJECTIVES</b>	<b>20</b>
<b>6 ENGAGEMENT AND COMMUNICATIONS</b>	<b>22</b>
<b>7 DEVELOPING THE ACTION PLAN</b>	<b>23</b>
7.1 Tools used to determine risk	27
<b>8 IMPROVEMENT, REPORTING AND REVIEW</b>	<b>28</b>
8.1 Monitoring and evaluation	28
8.2 Review	29
8.3 Reporting	29
8.4 Continuous Improvement	29
<b>Appendix A – Maps</b>	<b>30</b>
<b>Appendix B – Action Plan</b>	<b>34</b>
<b>Appendix C – Agencies consulted in the planning process</b>	<b>45</b>
<b>Appendix D – Stakeholder matrix</b>	<b>46</b>
<b>Appendix E – VFRR priority 1A rated assets</b>	<b>47</b>
<b>Appendix F – Websites</b>	<b>51</b>
<b>Appendix G – Glossary</b>	<b>52</b>
<b>References</b>	<b>56</b>



# Introduction

The Eastern Metropolitan Region has a diverse range of environments vulnerable to all types of fire hazard. This document is a plan based on the Integrated Fire Management Planning (IFMP) Framework approved by the Victoria State Government. The State Fire Management Strategy 2009 provides this plan with a vision and direction for the development and implementation of structures, systems, processes and products that improve fire management planning in the Eastern Metropolitan Region.

To achieve the State's vision, this Regional Strategic Fire Management Plan has been developed by the Eastern Metropolitan Regional Strategic Fire Management Committee (RSFMPC). Whilst it has a bushfire focus, it includes all fires as defined by the *Country Fire Authority (CFA) Act 1958* and *Metropolitan Fire Brigade (MFB) Act 1958*. Fire however, is only one hazard managed in the region.

This planning process should be viewed with the long-term focus of developing an "all hazards" approach. The hazard environment considered throughout the planning process includes four interrelated components; the social, natural, economic and built environments (Figure 1). Emphasis will be placed on addressing underlying causes and seeking long-term, sustainable solutions that incorporate the four essential elements of emergency management:

- **Prevention** focusing resources on the underlying causes of fires and treating them;
- **Preparedness** ensuring the fire management sector and the community have plans and arrangements in place that are well practised, addressing all fire risks;
- **Response** ensuring effective, appropriate fire fighting equipment and arrangements are in place and tested; and
- **Recovery** helping to re-establish communities, businesses, infrastructure, buildings, biodiversity and ecosystem functionality.

The approaches to fire management are framed by the assessment of risk and the creation of strategies to address the risk. This plan documents how stakeholders have actively participated in the planning process through consultation, participation and engagement achieving ownership of this plan by the agencies involved in fire management within the Eastern Metropolitan Region. Representatives from these agencies make up the Eastern Metropolitan RSFMP; one of eight regional committees operating across Victoria based on the Victorian Government departmental regions.

Regional committees are responsible for developing and implementing a regional plan in line with State policy, and considering how it applies to regional and municipal level fire management planning. This regional plan fulfils the IFMP Framework requirements for regional committees to prepare a 10-year regional strategic fire management plan. It documents the planning process undertaken by the Eastern Metropolitan RSFMP informing key agencies and stakeholders at the regional level of arrangements for fire management and provides a forum for these agencies and stakeholders to work collaboratively. Each stage of the planning cycle has been detailed in the following sections of this plan. The aim was to capture joint agreements and arrangements to meet strategic outcomes within and across regional boundaries. Additionally, this plan informs the Municipal Fire Management Planning Committees (MFMP) and guides the development of Municipal Fire Management Plans (MFMP).





# 2

## Vision and Mission

### Vision

The Eastern Metropolitan RFSMPC endorses the State vision:

- active participation of community, the sector and government working together in fire management planning to reduce the destructive impact of fire on communities and the environment;
- communities that are resilient to the effects of fire;
- greater understanding of the fire sector within the community; and
- healthy natural, social, built and economic environments.

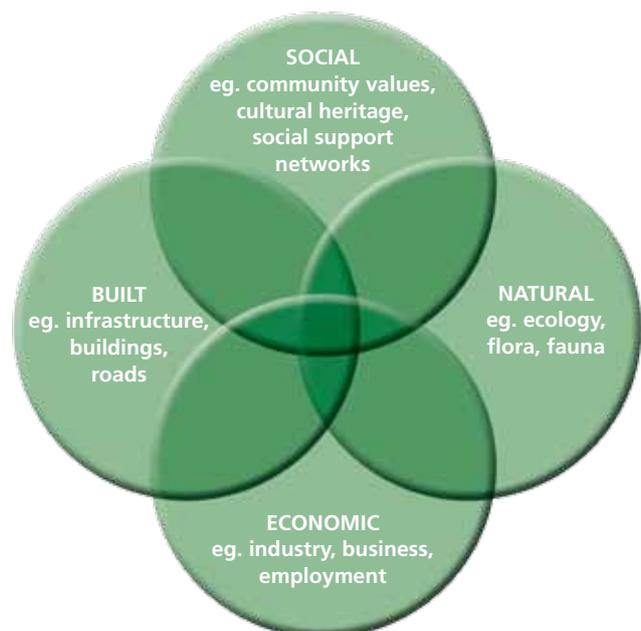
(IFMP State Fire Management Strategy 2009 p. 11)

### Mission

The mission is the Eastern Metropolitan RFSMPC's statement of intent:

'Agencies of the Eastern Metropolitan region working together with communities to reduce the impact of unplanned fire.'

**Figure 1: The interrelated components of the environment considered in this planning process**



# 3

## Background

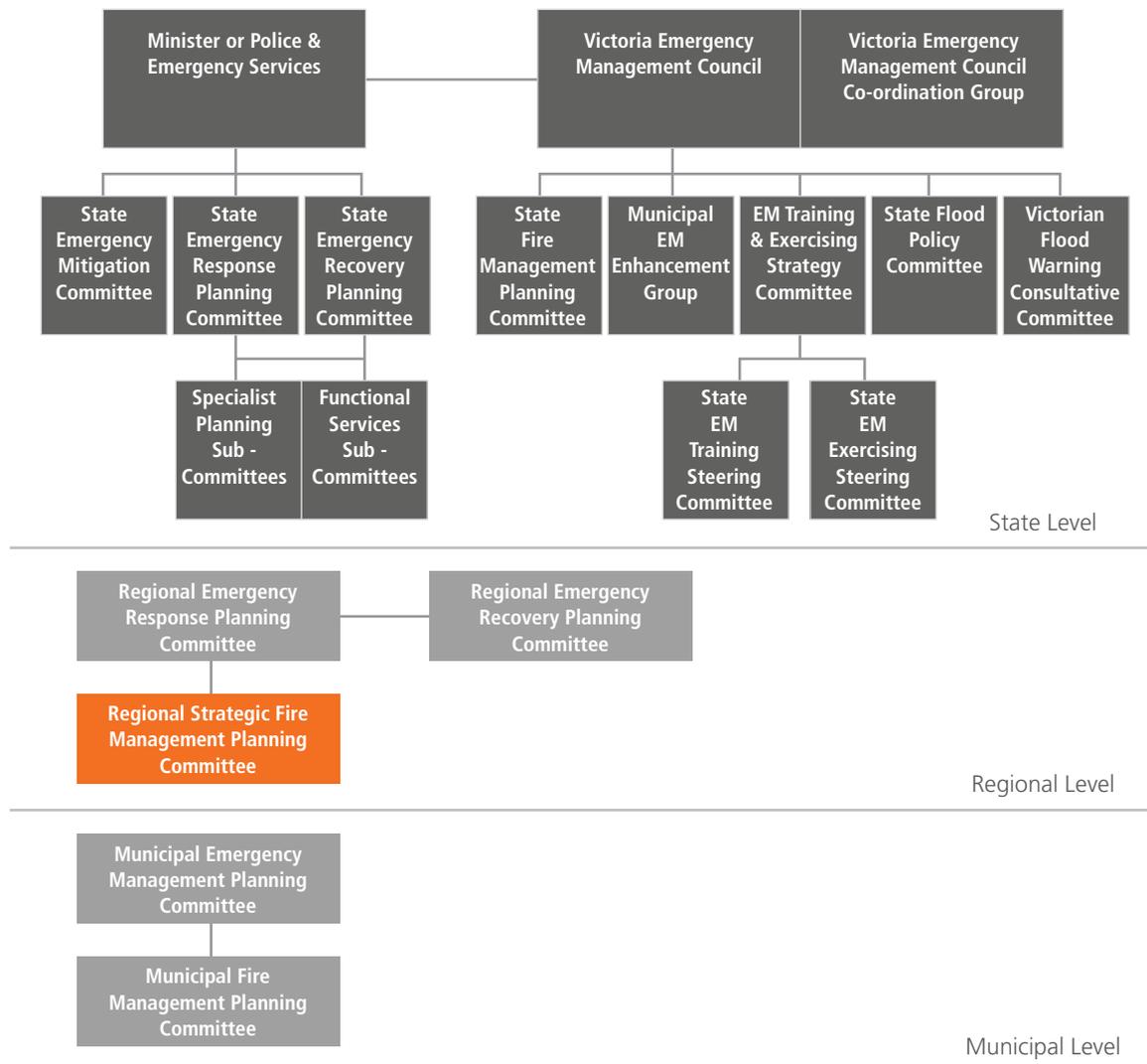
### 3.1 The Integrated Fire Management Planning Framework

The Integrated Fire Management Planning (IFMP) Framework sets out to provide structures and whole-of-government policies to improve fire management planning in Victoria. This plan has been written in accordance with these guidelines. IFMP aims to achieve a consistent and effective means for fire management planning within Victoria through a commitment to cooperation and building of collective knowledge that will inform collaborative planning.

IFMP established a State committee, as a sub-committee reporting to the Victoria Emergency Management Council (VEMC), as well as regional and municipal committees to govern fire management in Victoria. An overview of the State's emergency management and planning committee structure is presented in Figure 2. The committee tier structure and the purpose of each group are shown in Figure 3. The regional committee enables the communication flow from the municipal to State level and vice versa. Legislative arrangements for the operation of IFMP are detailed in the Emergency Management Manual Victoria (EMMV).

**Figure 2: An overview of the Victoria's emergency management and planning committee structure**

(adapted from Emergency Management Manual Victoria, 2011)



The IFMP Framework provides for the following fire management planning functions to be undertaken by the planning committees at respective levels:

### State Fire Management Planning Committee

The State Fire Management Planning Committee (SFMP) has been created to establish, enable and monitor the implementation of the IFMP Framework, ensuring its consistency and sustainability. The SFMP, chaired by the Fire Services Commissioner, provides policies and direction to facilitate an integrated approach to fire management planning across Victoria. The SFMP reports to the VEMC on issues relating to fire management planning. This includes performance, non-participation, legislative reform and other matters of significance relating to fire that may impact on effective emergency management. Members attend regular meetings to review and authorise policies, processes and tools to support the IFMP process.

### Eastern Metropolitan RSFMP

The Eastern Metropolitan RSFMP provides a critical link between the MFMPs and the SFMP. This committee also supports the MFMPs by setting strategic directions for the region and by providing access to regional data and resources held by agencies.

The Eastern Metropolitan RSFMP consists of representatives from the CFA, MFB, Department of Sustainability and Environment (DSE), Department of Human Services (DHS), Department of Planning and Community Development (DPCD), Department of Primary Industries (DPI), Municipal Councils, Melbourne Water, Parks Victoria (ParksVic), SP AusNet, Victoria Police (VICPOL), VicRoads, and the Victoria State Emergency Service (VICSES). The regional committee advocates continuous improvement and identifies the key risks for the

region and works through the various issues so multi-agency management arrangements are delivered through the normal business of agencies.

The primary purpose of the regional committee is to provide a forum for multi-agency co-operation and to plan collaboratively for effective readiness, response and recovery from major fire events in a co-ordinated and seamless approach. The regional committee is governed by terms of reference contained in the EMMV and is directed by the *Emergency Management Act 1958*.

### Municipal Fire Management Planning Committees

MFMPs are responsible for integrated planning at the municipal and local levels. Committee members work collaboratively, meet at appropriate intervals, share planning information and produce a Municipal Fire Management Plan (MFMP).

MFMPs are sub-committees of the Municipal Emergency Management Planning Committees (MEMPC). They determine their own procedures subject to the guidelines provided in the EMMV. MFMPs have replaced previous Municipal Fire Prevention Committees (MFPC) within the country area of Victoria; however existing requirements for municipal councils to make statutory appointments of a Municipal Emergency Resource Officer (MERO) and a Municipal Fire Prevention Officer (MFPO) have not changed.

Municipal committees report to their respective municipal councils and other stakeholder agencies with accountabilities in the plan and raise matters to the Eastern Metropolitan RSFMP when required.

The municipalities in Eastern Metropolitan region include Boroondara, Knox, Manningham, Maroondah, Monash, Whitehorse and Yarra Ranges.

**Figure 3: Committee Structure** (adapted from IFMP Guidelines p.7)



### 3.2 The planning process

**Figure 4: The IFMP planning process**

(IFMP Guidelines p.13)



This regional plan is part of a continuous seven stage planning process from the State Fire Management Strategy 2009. All stages and how they relate to this region are detailed in this plan with each section corresponding to each stage of this cycle. The 'Environmental Scan' describes this region and its diversity in relation to demographics, geographic characteristics and broader fire hazard areas. It includes regional values, assumptions about the future and implications for fire management.

The 'Objectives' section explains how the plan aligns with the State key themes and objectives and form the basis of the action plan. The 'Engagement and Communications' section identifies who was involved in this planning process and how they were communicated with.

The section regarding 'Developing the Action Plan' describes how the fire management risk strategies were devised by the Eastern Metropolitan RFSMPC. This section covers the risk assessment, analysis and decision stages of the planning cycle.

For each key theme the committee developed specific objectives and corresponding actions directing how to complete the objectives, along with who will carry out the actions, when this will occur and with what measures the actions are determined to be complete. 'Improvement, Reporting and Review' describes the accountability and continuous improvement that the Eastern Metropolitan RFSMPC has committed to. A summary of the planning context for this plan alongside context for municipal planning is highlighted in Table 1.

**Table 1: Regional and municipal planning contexts**

(adapted from IFMP Guidelines Table 1, p.1)

Governance	Regional Context	Municipal Context
Governance	Strategic	Operational
Time Frame	10-year planning cycle	3-year planning cycle
Geographic coverage	Large areas that cross many ownership, administrative and management boundaries	Single municipal area or district
Stakeholder and partner interests	State, regional and municipal	Regional, community and local level
Planning environment	Broader landscape land management agencies, government, utility, entitles and landholders likely to have management plans	Municipal area or district; business and property owners that are less likely to have formal management plans
Size and scale	Organisations with large resource and asset bases, with application across whole region; delegated authorities	Business and small landholders, such as farmers and residents, with less delegation and resource capacity
Stakeholder decision-making processes	Part of the regional (resource allocation)	Regional and/or local (program delivery)
Local plans	Part of the region	Part of the municipality
Primary plan linkages and integration	Links upwards to the state strategy and is informed by Municipal Fire Management Plans in the region; no state or municipal planning duplication	Provides input in to, and is developed with reference to, Regional Fire Management Plan; no state or regional planning duplication
Data and information	National, state and regional	Regional, municipal and community



### 3.3 Fire reform

The 2009 Victorian Bushfires Royal Commission (VBRC) was established on 16 February 2009 to investigate the causes and responses to the bushfires, which swept through parts of Victoria in late January and February 2009 (VBRC, 2010).

The impacts of the VBRC will be felt over the life span of this plan. The State Government's response to the VBRC has resulted in a wide range of initiatives that are articulated by the appointment of the Fire Services Commissioner. The main priorities from the VBRC are that the protection and preservation of life is without a doubt paramount, together with the issuing of community information and warnings. Also important is for all fire services to work together and be inter-operable.

The Fire Services Commissioner Act 2010 provides for the appointment, powers, and functions of the Fire Services Commissioner and amends Victoria's Emergency Management arrangements so the Fire Services Commissioner is the State Fire Controller of the response to major fires (Fire Services Commissioner Victoria, 2010). The Victorian Fire Services Commissioner is an independent statutory officer, appointed in 2010 by the Governor in Council reporting to the Minister for Police and Emergency Services. The Commissioner's role is to lead an ongoing program of improvement reform and change within the Victorian fire services.

The Fire Services Commissioner oversees and works with the three Victorian fire services (CFA, MFB and DSE) to better plan and prepare for major fires and ensure the fire services work as one integrated force. The Commissioner also has responsibility for developing performance standards and a reform program that will ensure the longer-term needs of the Victorian community are understood, represented and become the foundation for improving the integration and performance of the three fire services.

The VBRC's findings state that to advance operational improvements and reform, the Fire Services Commissioner is to develop a rolling three-year Fire Services Reform Action Plan that would be endorsed by the Minister and would set out the priorities and outcomes to be achieved. The program aims to ensure the outcomes of the 2009 VBRC are delivered, and to broadly reform the manner in which fire services operate together in meeting the changing needs of the community. Established in partnership with the fire services, the program provides a broad ranging reform agenda for the agencies to implement as set by the Fire Services Commissioner and approved by the Minister for Police and Emergency Services (Fire Services Commissioner Victoria, 2010).



Photos: Left: MFB  
Centre: PARKS VICTORIA  
Right: PARKS VICTORIA

### 3.4 Structural Fire and Hazardous Materials Risks

It is estimated that the cost to the community of fire and related incidents within the Metropolitan Fire District (MFD) is \$230 million per annum. This estimate takes into account the direct and indirect costs but does not include costs of suppression or prevention.

The cost of incidents has been calculated across nine different environment types to give an appreciation of the relativities of risk, and the types of environments requiring the greatest consideration with respect to strategic location planning, risk reduction and education activities.

The following is a percentage breakdown of risk across these nine environments within the MFD:

- Residential (Houses, Flats and Apartments) 39%
- Residential (Group Accommodation) 3%
- Commercial (Office and Retail) 10%
- Industrial (Manufacture, Wholesale, Storage, Waste) 35%
- Infrastructure 5%
- Construction 2%
- Health Care and Special Accommodation 2%
- Education, Community and Public Assembly and 4%
- Open Areas/Natural Environment 1%

(Percentages have been rounded)

#### Residential Risks

---

Residential fire outcomes vary based upon demography, and is a significant consideration when targeting risk reduction strategies. Residential fire frequency is highest in low cost rental properties, particularly student group and share accommodation and government housing. Injury rates from fire are highest in the aged population, particularly those with English speaking difficulties.

Damage to property and containment to room of origin is worst in low socio-economic family areas, particularly those with high proportions of single parent families living in rented dwellings. These differences in risk across different socio-economic groups' areas should be considered when targeting risk reduction and community education programs.

#### Industrial Risks

---

Incidents in the industrial environment generate almost as much 'cost to the community' from fire as does the residential environment, however this risk is much more concentrated geographically into specifically zoned industrial precincts, creating concentrated 'hot spots' of risk.

#### Hazardous Material Risks

---

Hazardous material (HAZMAT) storage is a significant risk consideration in the industrial environment. HAZMAT storage is significantly skewed to the west of the MFD, with 43% of hazardous material storage being located in the North and West Metropolitan Region.

Within the Eastern Metro Region HAZMAT risk is concentrated within industrial environments such as:

- Bayswater;
- Croydon;
- Glen Waverley; and
- Nunawading.

# 4

## Environmental Scan

In 2009 the three metropolitan Regional Strategic Fire Management Planning Committees undertook an environmental scan across the Melbourne area (Figure 5). The intent of this study was to identify key trends, events and discontinuities in the metropolitan regions to inform the development of Regional Strategic Fire Management Plans.

**Figure 5: The three metropolitan regions included in the environmental scan**



An environmental scan is a process of enquiry to detect, understand and apply to strategic thinking and early signals of potential future change. The following summary is from the Eastern, North and West and Southern Metropolitan Regions Environmental Scan 2009-2019. This scan provides assumptions, information and insights that will assist strategic thinking in the regional and municipal planning process. Maps supporting this section are located in Appendix A.

### 4.1 Our region

The Eastern Metropolitan region comprises seven municipalities: Boroondara, Knox, Manningham, Maroondah, Monash, Whitehorse and Yarra Ranges. Examples of the diverse communities found within the region include inner-city suburbs such as Kew and Hawthorn, large outer metropolitan suburbs such as Ringwood and Boronia, and semi-rural townships such as Healesville and Yarra Junction.

About 973,000 live in the region, representing 19.6 percent of Victoria's population. Approximately 18 percent of the population was born overseas in a non-English speaking country, and 20 percent speak a language other than English with Greek, Cantonese, Italian and Mandarin foremost. Almost 2,500 persons identified as Aboriginal and Torres Strait Islander, which is nine percent of the state-wide Indigenous population.

### 4.2 Metropolitan regional assumptions for the future

The environmental scan for the metropolitan regions identified clear assumptions about future trends in the following domains of inquiry:

- socio-cultural;
- physical and ecological;
- political and legal;
- economic; and
- technological.

From the assumptions, the scan identified significant impacts or implications for fire management planning that need to be considered.

Key assumptions and implications about the future for the Eastern Metropolitan Region include:

### Socio-cultural (includes demographics and social attitudes)

---

- Melbourne's population is projected to increase by almost 1.8 million by 2036 at current rates and growth patterns will follow designated growth corridors including the South-East Growth Corridor in Southern Metropolitan Region.
- Increases in structural and vegetation fires in outer urban environments, whether accidental or deliberate, can be expected as a result of rapid population growth. Improvements in education, social advantage and fuel management may mitigate this risk.
- Regional areas with high seasonal or holiday population increases will need to consider how to provide for the safety of large numbers of tourists in emergency and evacuation planning.
- Increases in the number of multi-cultural communities and ethnic diversity may present a range of language barriers and cultural sensitivities when conducting community engagement programs and activities and also in responding to emergencies.
- Age structure change is characterised by a significant increase in people over 65 and is set to rise from 16.9% to 25.8% of the population. Some areas with increasing populations of older people may not cope as well with fire emergencies and require assistance to leave early.
- In Australia, total volunteer-base fire agency numbers has declined by 30% from 1995 to 2003 and this trend is expected to continue into the future. This will require recruitment drives and the establishment of mechanisms to sustain volunteerism.
- Deliberately lit and suspicious fires account for half of all known fires caused in Australia. A high proportion of these occur in the urban interface which is extensive within the Eastern Metropolitan Region. The risk of deliberately lit fires tends to be positively correlated with larger populations of children and socially disadvantaged groups. Therefore the target areas for prevention strategies should be directed to areas with these demographic characteristics.

### Physical and ecological

---

- Impacts of climate change will see an increase in the frequency, intensity and size of bushfires, potentially prolonged fire danger periods and increase in numbers of total fire ban days. The predicted changes will place an increased demand and pressures on fire management resources and planning will need to consider the compounding impacts of extreme events. The intensity and increasing frequencies emphasise the need to improve broad scale community education and preparedness.
- An increase in fire weather may affect the yield and quality of water from fire-affected catchments, increase fire-related respiratory illness, increase the risk of human injury, trauma and death to humans and increase the exposure of insurance companies to loss. Inter-agency cooperation will become more necessary to mobilise sufficient response and recovery teams.
- This potential increase in severe weather will pose a huge challenge to emergency services from a resourcing perspective.
- Water availability for fire suppression will be an increased problem and will require innovative solutions.
- Green wedge areas create a natural tension with bushfire management particularly on fuel load matters and highlights the need for bushfire risk management to be considered across planning activities including catchment-wide biodiversity rehabilitation plans.
- Impacts on the already highly fragmented areas of high biodiversity values especially on the fire sensitive Ecological Vegetation Communities (EVC) – biodiversity values will need to be taken into account on a site by site basis and require follow-up to ensure biodiversity is protected especially from weed invasion and loss of species. In some areas fire needs to be put back into the environment at regular intervals to ensure regeneration of native flora.

## Political and legal

---

- The impacts of the 2009 Victorian Bushfires Royal Commission (VBRC) will be felt over the life span of this plan over the next ten years. The State Government's response to the VBRC has resulted in a wide range of initiatives that are articulated in the strategy section (section seven) of this plan and by the appointment of the Fire Services Commissioner. The main priorities from the VBRC are that the protection and preservation of life is without a doubt paramount, together with the issuing of community information and warnings. Also important is for all fire services to work together and be inter-operable.
- Agencies and organisations will need to demonstrate a genuine commitment to integrated planning and information sharing to respond to government and community expectations – genuine boundary integration across regions and municipalities will come under intense scrutiny.
- Agencies and in particular fire services controlling events will need to consider litigation risks and adjust their work practices accordingly.

## Economic

---

- Population growth of the outer suburbs will be sustained by good economic conditions and high employment levels.
- Some areas of significant socio-economic disadvantage will remain distributed across the Greater Melbourne area. There will be continuing presence or extension of areas that are characterised by socio-economic disadvantage and these areas will have a relatively large proportion of structural and vegetation fires. These areas require a focus for community education in prevention and response.

## Technological

---

- The community's demand for real-time information is directly related to technology and access to the internet.
- The dissemination of community information, especially warnings, are increasingly using new technologies in telephony-based messaging (SMS etc.), social media (Facebook, Twitter, etc.) and the internet.
- The availability of powerful technologies for gathering large amounts of information into common databases for rapid dissemination to all agencies enhances the integration of planning.
- The cultural development of stronger co-operation and integrated information sharing and planning across key agencies.



### 4.3 History of fire in the region

The Eastern Metropolitan Region has a long history of naturally occurring emergencies including fire, floods, storms and landslide. As such there is considerable expertise within the community in combating emergencies of this nature. The impact of these emergencies, particularly fires, have included loss of life and serious injury, loss of property including homes, disruption to whole communities, devastation of the natural environment and long-term rehabilitation of affected communities.

Major events that have impacted on the Eastern Metropolitan Region as follows:	
1905	Healesville area fire
1913	Sassafras/Monbulk fire
1923	Belgrave/Upwey/Ferny Creek fire
1926	Dandenongs/Upper Yarra/Healesville areas fires
1932	Upper Yarra (Matlock) fire
1934	The Basin/Ferntree Gully fire
1934	Yarra Valley floods
1939	"Black Friday" - Dandenongs/Upper Yarra/Healesville fires
1939	Heatwave
1944	The Basin/Ferntree Gully/Monbulk fire
1954	Upper Ferntree Gully/One Tree Hill fire
1962	Dandenongs/Upper Yarra/Healesville fire
1968	The Basin/Sassafras/Ferny Creek/Upwey fire
1972	The Basin/Sassafras/Upper Ferntree Gully fire
1971	Widespread flooding
1973	Lysterfield fire
1974	Widespread flooding
1980	Upwey/Mount Dandenong fire
1983	Ash Wednesday fires
1990	Heatwave
1991	Floods
	Yarra State Forest/Mt Little Joe fires
1993	Widespread flooding
1997	The Basin/Dandenong Ranges/Montrose fires
2003	Melbourne hail storm
2003-04	Avian flu outbreaks
2009	Heatwave
	Black Saturday bushfires
	H1N1 pandemic
2010-11	Widespread flooding

(The Victorian Government Green Paper: Towards a More Resilient and Safer Victoria, September 2011)

This region has some of the most fire prone areas in the world, eg. Dandenong Ranges. This is due to its mountainous topography, highly flammable native vegetation and climatic patterns that combine to create severe fire hazard conditions almost every year. Another factor that makes this area particularly hazardous is the combination of forest/urban environments, the number of residents and tourists and limited access and egress routes.

Until 2009, "Black Friday" was the most disastrous bushfire ever recorded in Victoria. In Victoria, an area of almost 2 million hectares was burnt, with 71 people losing their lives. Over 1,000 homes were burnt, and the townships of Narbethong, Noojee, Woods Point, Nayook West and Hill End were destroyed. The townships of Warrandyte, Yarra Glen, Omeo and Pomonal were badly damaged. Intense fires burned on the urban fringe of Melbourne in the Yarra Ranges east of Melbourne - affected towns including Toolangi, Warburton and Thomson Valley. In Warburton, 16 people were killed, 20 houses were lost and every sawmill in the area was burnt to the ground.

The second most destructive fire in Victoria (prior to the recent 2009 fires) was "Ash Wednesday". Over 100 fires started on 16 February 1983. Fires swept across Victoria and South Australia, killing 75 people and causing widespread damage. The fire at Belgrave Heights and Upper Beaconsfield covered an area of 9,200 hectares and resulted in the loss of 21 lives (including 11 CFA volunteers) and 238 buildings. In Warburton, a fire destroyed 41,000 hectares of forest and resulted in the loss of 57 buildings, with, surprisingly, no loss of life.

The 2009 Victorian 'Black Saturday' bushfire was Australia's largest natural disaster in history, resulting in the loss of 173 human lives and burnt over 400,000 hectares of land. The fires devastated 78 communities, including the loss of 2,029 homes, hundreds of businesses, five schools and kindergartens, three sporting clubs and numerous other buildings and public infrastructure.

Beyond the immediate damage caused by the fires, many communities and businesses have suffered considerable losses and lasting impacts. The devastation caused to the Eastern Metropolitan Region, its land, supporting services and associated municipalities and communities, has major ramifications lasting into the future.

# 5

## Objectives

The regional strategic fire management objectives presented in this plan have been developed in line with the State fire management key themes; planning together; collaborative implementation; building knowledge; building capability; and using fire (State Fire Management Strategy, 2009, pp. 13-15).

These key themes provide direction for this regional plan's key themes and objectives. Each objective was written to fulfil the following criteria, the:

- objective had to be specific;
- outcome had to be measurable;
- objective had to be achievable;
- objective had to be relevant; and
- objective had to have a time frame.

The action plan in Appendix B shows how the Eastern Metropolitan RSFMP has addressed the criteria. Under the key themes listed 1-7 each objective specifies how a particular area of concern will be addressed. The corresponding action or set of actions states how the objective is going to be achieved. Each action has a time frame in the "when" column and a lead agency responsible for driving the action in the "who" column. The measures column lists the evidence that is expected once the action has been successfully completed.

The Eastern Metropolitan RSFMP will work towards realising the vision and achieving their mission through the following seven key themes and objectives;

### **1. Committee becomes the driver (lead body) for fire management planning across the region.**

- 1.1 Build capacity within and ownership of agencies to support IFMP across the region by establishing effective engagement strategies.
- 1.2 Deal with emerging issues and challenges effectively.



## 2. Building and using knowledge.

- 2.1 Expand personal development and knowledge sharing opportunities to increase knowledge, relationships and understanding.
- 2.2 Advocate for and use fire risk planning tools to support decision making (within and between agencies), eg. Victorian Fire Risk Register (VFRR), Urban Fire Risk Assessment (UFRA), Housing Ignition Likelihood Indicator (HILI), Phoenix.

## 3. Working with the community to manage fire.

- 3.1 Work with municipal committees and agencies to establish effective integrated community engagement strategies.
- 3.2 Provide leadership and support to the municipal level to coordinate strategies to manage vulnerable communities.
- 3.3 Use Shelter in Place policy in metropolitan areas to protect life.

## 4. Delivering cross tenure outcomes that address fire risk at a landscape and regional level.

- 4.1 Support and review fuel management projects on private land in context of regional risk environment.
- 4.2 Identify opportunities for projects/ programs where cross tenure fuel management can occur.
- 4.3 Engage with State led fire projects that impact on the region to ensure consistency and successful outcomes.

## 5. Effective communications and marketing.

- 5.1 Coordinate effective communications and marketing of regional and municipal fire management activities.

## 6. Continuous improvement.

- 6.1 Implement systems to ensure continuous improvement occurs across planning and projects.
- 6.2 Ensure all aspects of Prevention, Preparedness, Response and Recovery (PPRR) are managed appropriately.

## 7. Identifying and treating significant natural, social, built and economic environments at risk.

### HUMAN SETTLEMENT

- 7.1 Reduce the threat to high risk communities.
- 7.2 Promote effective recovery.
- 7.3 Safely manage structural fires, HAZMAT and chemical hazards across PPRR.

### NATURAL ENVIRONMENT

- 7.4 Reduce the negative impacts of fire on biodiversity.

### ECONOMIC

- 7.5 Ensure economic risk is addressed across PPRR within the region.
- 7.6 Reduce the impact of burning on economic activities such as viticulture and tourism.
- 7.7 Support municipalities and agencies to work with local tourism boards/ businesses to promote PPRR.

### INFRASTRUCTURE BUILT

- 7.8 Ensure risk associated with the disruption of utilities is addressed throughout PPRR.
- 7.9 Ensure ignition risk from utilities is addressed.
- 7.10 Reduce significant public infrastructure being impacted by major fire.

### SOCIAL

- 7.11 Reduce the impact of fire on significant social, cultural and heritage values.
- 7.12 Reduce the impact of major fire on significant regional events (eg. festivals).

# 6

## Engagement and Communications

The agencies and stakeholders consulted in the planning process are listed in Appendix C and D.

The writing of the regional document was carried out by a sub-committee elected by the full committee. In addition, further participation from the members of the Eastern Metropolitan RFSMPC and additional stakeholders have occurred through various mediums including informal discussions, formal meetings, written correspondence and electronic forums.

Each agency and all seven municipal councils within the Eastern Metropolitan Region have actively participated in all stages of the planning cycle and will continue to remain committed to the process throughout the duration of the plan.

Based upon the principles of International Association for Public Participation 2 (IAP2, 2011) the Stakeholder and Engagement Matrix in Appendix D shows the level of participation of each stakeholder. These levels; inform, consult, involve, collaborate, and empower are defined in Table 2 and also show examples of the techniques used throughout the planning process.

**Table 2: Levels of participation (IAP2, 2011)**

Level of participation	Definition	Example of technique used in the planning process
<b>Inform</b>	Provide appropriate, balanced and objective information to assist stakeholders develop a shared understanding of the complexity of issues, alternatives and possible solutions.	Briefings. Plan made available on website.
<b>Consult</b>	Utilise stakeholder expertise and diversity to obtain input into analysis, alternatives and develop key decisions.	Draft plan provided for comment.
<b>Involve</b>	Work directly with the suite of key stakeholders throughout the various processes to ensure key issues and intent are understood and considered.	Meetings, briefing and feedback collected both formally and informally.
<b>Collaborate</b>	Partner with key stakeholders in each aspect of decision-making. This includes the development of alternatives, the identification of contributions and priority actions with a clear understanding of the responsibilities of each stakeholder.	Stakeholder workshop and active participation in development and implementation of the action plan. Attendance at RFSMPC meetings.
<b>Empower</b>	Foster and promote transparent and accountable processes that allow each stakeholder organisation to empower themselves through key actions and the implementation of responsibilities.	The RFSMPC endorses, supports and promotes the Eastern Metropolitan Regional Strategic Fire Management Plan.

# Developing the Action Plan

This section details the process that was followed by the Eastern Metropolitan RSFMPC to establish a strategy which will address risks to the region from fire. Risk, for the purpose of fire management planning is defined as:

“The chance of something happening that will have an impact on objectives. The probability of harmful consequences resulting from interaction between natural or human-induced hazards and vulnerable conditions.”

(UNISDR terminology on disaster risk reduction, United Nations, Geneva cited in IFMP Guidelines p.34)

The outcomes of this fire planning process are presented in the action plan Appendix B. The action plan represents the strategies that the Eastern Metropolitan RSFMPC will be implementing in order to realise the vision for this plan and achieve the mission.

Working together, the committee has undertaken the process of identifying risk from fire and providing an objective for each of these risks. The committee undertook a SWOT/TOWS analysis to firstly identify the Strengths, Weaknesses, Opportunities and Threats (SWOT or inversely TOWS) surrounding managing fires, particularly bushfires.

This risk analysis process was applied to support the planning process as outlined in the IFMP Guide.

The two stage process involved:

- 1 SWOT/TOWS analysis - the tool used to assist in establishing strategies, goals and ideas from analysing an organisation's internal and external environments.
- 2 Emergency Risk Management (ERM) assessment – the process used to develop strategies, objectives and ideas to address physical risks.



Photos: Left: MFB  
Centre: PARKS VICTORIA  
Right: MFB

## SWOT/TOWS Analysis

The SWOT/TOWS tool as shown in Table 3 was used to analyse the current situation within the region according to the technical expertise of the committee. The outcome of the process produced a range of strategies on developing the function, standing and strategic positioning of the committee and also strengthening the internal workings of the committee and its relationships with member agencies. It also produced a range of ideas to deal with broader fire landscape issues.

## ERM Assessment

The ERM assessment for this plan is based on AS/NZS ISO 31000:2009 Risk management - Principles and guidelines (2009). The process examined high level site risks identified within the Victorian Fire Risk Register (VFRR). The process further analysed these risks taking into consideration current controls. The outcome of the process produced a range of new actions which will guide the committee's direction in an attempt to minimise risk and improve public safety.

The assessment methodology required the committee to:

- identify the likelihood of a hazard occurring (Table 4);
- measure the consequence of an event occurring (Table 5);
- identify a corresponding risk level of the hazard occurring and corresponding action (Table 6 and Table 7);
- determine controls and the effectiveness of controls (Table 8); and
- identify a suite of new controls, risk mitigation and treatment measures (objectives/actions, Appendix B).

In determining treatment strategies, workshop participants identified a suite of risk preparedness, prevention, response and recovery measures.

**Table 3: Illustration of SWOT/TOWS**

	<b>INTERNAL FACTORS</b>	<b>Strengths</b> List 5–10 Internal strengths here	<b>Weaknesses</b> List 5–10 Internal weaknesses here	
<b>EXTERNAL FACTORS</b>				
<b>Opportunities</b> List 5–10 external opportunities here		<b>SO</b> Generate ideas here that use strengths to take advantage of opportunities	<b>WO</b> Generate ideas here that take advantage of opportunities by overcoming weaknessess	<b>GENERATE OBJECTIVES FROM IDEAS</b>
<b>Threats</b> List 5–10 external threats here		<b>ST</b> Generate ideas here that use strengths to avoid threats	<b>WT</b> Generate ideas here that minimise weaknessess and avoid threats	

**Table 4: Measuring the likelihood of a hazard occurring**

Level	Descriptor	Description In any one year, the likelihood of the event occurring is:
A	Almost certain	Close to 100% - annually
B	Likely	33% - once in every three years
C	Possible	10% - once in every 10 years
D	Unlikely	3% - once in every 30 years
E	Rare	1% - once in every 100 years

Table 5: Measuring the consequence of a hazard occurring

Level	Indicative guide to potential consequences					
	People	Infrastructure	Public Administration	Environment	Economy	Social Setting
<b>Catastrophic</b>	50+ lives lost Hundreds injured 1,000+ houses destroyed 2,000+ people displaced 10,000 – 30,000 livestock lost	Loss of critical infrastructure and/or services for 24-48 hours to the Melbourne metropolitan area.	Significant state-wide outage. Royal Commission or other similar inquiry leading to changes in policy and practice.	Permanent total loss of one or more ecosystems or critical habitat element. Loss of nationally significant cultural assets.	\$1 billion or 30% of State revenue.	Severe disruption to community wellbeing over a whole area or large part of it for a period of many years.
<b>Major</b>	10 fatalities as a direct result of the event 300+ houses destroyed 500+ people displaced 10,000 – 30,000 livestock lost Significant loss of agricultural breeding stock	Loss of critical infrastructure and/or services for 8-16 hours to the Melbourne metropolitan area. Loss of services to a major regional city/several suburbs for up to a week.	Significant regional and local outage, with some occurring at State level. Parliamentary or other inquiry leading to changes in practice.	Permanent partial loss of one or more ecosystems or critical habitat elements. Extinction of a species or significantly increase the likelihood of extinction to almost certain that intervention such as captive breeding programs are required. Loss of State significant cultural assets.	Damage costs including legal actions and/or industry impacts (tourism, forestry, wine and grape, etc) to the value of more than \$300 million.	Severe disruption to community wellbeing over a wide area for more than 24 months.
<b>Serious</b>	5 fatalities as a direct result of the event Large number of people affected by the event 100+ houses destroyed 200+ people displaced 3,000 – 10,000 livestock lost	Loss of critical infrastructure and/or services for 2-5 hours to the Melbourne metropolitan area. Loss of services to a major regional city/several suburbs for 3-4 days.	Some outage at local and regional level.	Long term disturbance to one or more ecosystems or critical habitat elements. National response and/or support for animal welfare. Loss of regionally significant cultural assets.	Damage costs including legal actions and/or industry impacts (tourism, forestry, wine and grape, etc) to the value of more than \$100 million.	Severe disruption to community wellbeing over a moderate to large area for a period of months.
<b>Important</b>	Single fatality and/or multiple serious injuries requiring hospitalisation as a direct result of the event Up to 30 houses destroyed 50+ people displaced 3,000 – 10,000 livestock lost	Loss of critical infrastructure and/or services for 1 hour to the Melbourne metropolitan area. Loss of services to a major regional city/several suburbs for 1 day. Loss of services to a local community for a week.	Local outrage and concern	Temporary disturbance to one or more ecosystems or critical habitat elements. Local response and/or support for animal welfare.	Damage costs including legal actions and/or industry impacts (tourism, forestry, wine and grape, etc) to the value of more than \$30 million.	Localised disruption to community wellbeing over a small area for a period of weeks.

Having determined the likelihood and expected consequence of a hazard occurring, an overall level of risk can be identified through the use of the following matrix:

**Table 6: Determining a risk level for each hazard – the risk matrix**

Likelihood	Consequence			
	Important	Serious	Major	Catastrophic
Almost certain	Moderate	High	Extreme	Extreme
Likely	Moderate	High	High	Extreme
Possible	Low	Moderate	High	High
Unlikely	Low	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate

The following levels of action are recommended for each of the risk categories:

**Table 7: Recommended action for each risk category**

Risk category	Recommended action
Extreme risk	Must be managed with a detailed plan – will require resources and training
High risk	Requires immediate planning – resource priority and training
Moderate risk	Manage by specific monitoring or response procedures
Low Risk	Manage by routine procedures

**Table 8: Determining the effectiveness of control measures**

Descriptor	Guide
Fully effective	Nothing more to be done except review and monitor the existing controls. Controls are well designed for the risk, are largely preventative and address the root-causes and management believes that they are effective and reliable at all times. Reactive controls only support preventative controls.
Substantially effective	Most controls are designed correctly and are in place and effective. Some more work to be done to improve operating effectiveness of management has doubts about operational effectiveness and reliability.
Partially effective	While the design of controls may be largely correct in that they treat most of the root-causes of the risk, they are not currently very effective. There may be an over-reliance on reactive controls. <b>OR</b> Some of the controls do not seem correctly designed in that they do not treat root-causes, those that are designed correctly are operating effectively.
Largely ineffective	Significant control gaps. Either controls do not treat root-causes or they do not operate at all effectively. Controls, if they exist, are just reactive.
None or totally effective	Virtually no credible control. Management has no confidence that any degree of control is being achieved due to poor control design and/or very limited operational effectiveness.

## 7.1 Tools used to determine risk

### Victorian Fire Risk Register

---

The Victorian Fire Risk Register (VFRR) is a systematic process that identifies assets at risk from fire, assesses the level of risk to assets and highlights the risk mitigation treatments currently in place along with the responsible agencies for implementing these strategies (VFRR, 2011). The outputs from the VFRR that have informed and supported this plan are a series of maps displaying assets at risk and current risk mitigation treatments, risk mitigation treatment registers and a report which explains the risk register and data.

The assets of the VFRR are divided into four classes; Human Settlement, Economic, Environmental, and Cultural Heritage and are outlined below. Each asset has been classified with a risk rating from low to extreme and a priority rating. Assets that are high priority are named 1A and are listed in Appendix E.

#### *Human Settlement*

A potential fire behaviour model using vegetation type, slope and separation distance was used to produce a threat rating for human settlement assets. The vulnerability of the asset to a bushfire was also assessed and a rating assigned. These ratings were then used to assess the consequence of a fire impacting upon a human settlement asset.

Special Fire Protection (SFP) assets were considered inherently more vulnerable to fire due to mobility, capacity, knowledge or other issues relating to their inhabitants (eg. the elderly, infirm, children or tourists) and therefore stricter requirements for vulnerability assessment and rating were applied.

#### *Economic*

The level of economic impact eg. local, regional or State, as well as the economic recovery costs (how long and complicated a financial recovery will be) of the assets that were identified. These ratings were used to assess the consequence of a fire impacting upon an economic asset.

#### *Environmental (Natural Environment)*

Environmental assets with known minimum tolerable fire intervals (TFI) were assessed to determine if they were at risk of a fire within the 5 year life of the MFMP using fire history data.

The vulnerability of an environmental asset was determined by its conservation status and its geographic extent (distribution across the landscape). Vulnerability and potential impact of fire were used to assess the consequence of a fire impacting upon an environmental asset.

#### *Cultural Heritage (Social)*

For non-indigenous historical, Aboriginal and other cultural assets, a potential fire behaviour model using fuel load, slope and proximity was used to produce a threat rating. The physical vulnerability of the asset to a wildfire was also assessed. These ratings were then used to assess the consequence of a fire impacting upon a cultural asset.

### Additional tools

---

#### *Urban Fire Risk Assessment*

This tool is used by MFB that applies the same principles of assessing likelihood and consequence to identify hazards. This tool works particularly well in built up areas and provides a comparison of relative hazards and vulnerabilities within the various types of environments that are commonly found in urban areas.

#### *Bushfire Co-operative Research Centre's Phoenix*

The Department of Sustainability and Environment (DSE) uses the Bushfire Co-operative Research Centre's Phoenix fire characterisation model to objectively measure bushfire risk and to ultimately assess effectiveness of risk reduction treatments including fuel breaks and planned burning across the landscape.

#### *House Ignition Likelihood Index*

At a more localised level, the House Ignition Likelihood Index (HILI) is another tool that is used to assess house defend-ability and to evaluate optimum risk reduction treatments.

#### *Fire Ready Victoria*

Fire Ready Victoria (FRV) is a joint agency initiative, involving strategies for community development, communication, education and empowerment in relation to bushfire and planned burning in Victoria. In this context wildfire is used in place of bushfires, and is defined as uncontrolled vegetation fires that include forest fires, grassfires and scrub fires and relates to fires in rural and remote areas, the rural/urban interface and relevant areas of urban environments. Implementation activities incorporate a range of communication campaigns, educational programs, community development programs and engagement activities across the wildfire PPRR continuum.

# 8

## Improvement, Reporting and Review

The performance of this plan will be monitored and improved throughout the planning cycle. These evaluations will inform the current and future planning cycles. The action plan addresses this section under Objective 6 - Continuous Improvement.

### 8.1 Monitoring and evaluation

The RSFMPC is required to monitor progress towards the fulfilment of the mission set by this committee. The performance measures stated in the action plan will be used to determine if the actions were completed successfully and if the objectives for each of the key themes have been achieved. Additional measures for evaluation such as training, exercises and real event debriefings may also be used for the monitoring and evaluation of this plan and contribute to recommendations for the future.



## 8.2 Review

The Eastern Metropolitan RFSMPC will review this plan as necessary to account for any changes in context or risk. This may be triggered by a range of circumstances including but not limited to:

- Changes to the regional area, organisation responsibilities or legislation;
- Changes to the bushfire risk in the area;
- Following a major fire event; or
- Further development of fire management tools including the VFRR and UFRA tools.

## 8.3 Reporting

The RFSMPC is required to report quarterly to the State on its progress towards implementing the fire risk management activities identified in this plan. Information surrounding what measures have worked and why, and those that have not worked or remain incomplete will be collated, and lessons learned including recommended adaptations to the plan will be recorded in a report. Relevant results of internal and external audits will also be included and analysed to determine further improvements that may need to be introduced to this plan and the planning cycle. This report will be reviewed by the RFSMPC and made available to the SFMPC, stakeholders, agencies and the community.

## 8.4 Continuous Improvement

Lessons learned from earlier versions of this plan, from fire events, and other evaluations, reviews, training and exercises will be recorded and recommendations considered and adopted for the continuous improvement of fire management within the Eastern Metropolitan Region. This plan will continue to be updated to reflect all amendments adopted by the RFSMPC.

Eastern Metro Region

Risk based on fire behaviour

Legend

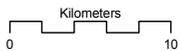
●●● Shire boundaries

Risk based on fire hazard

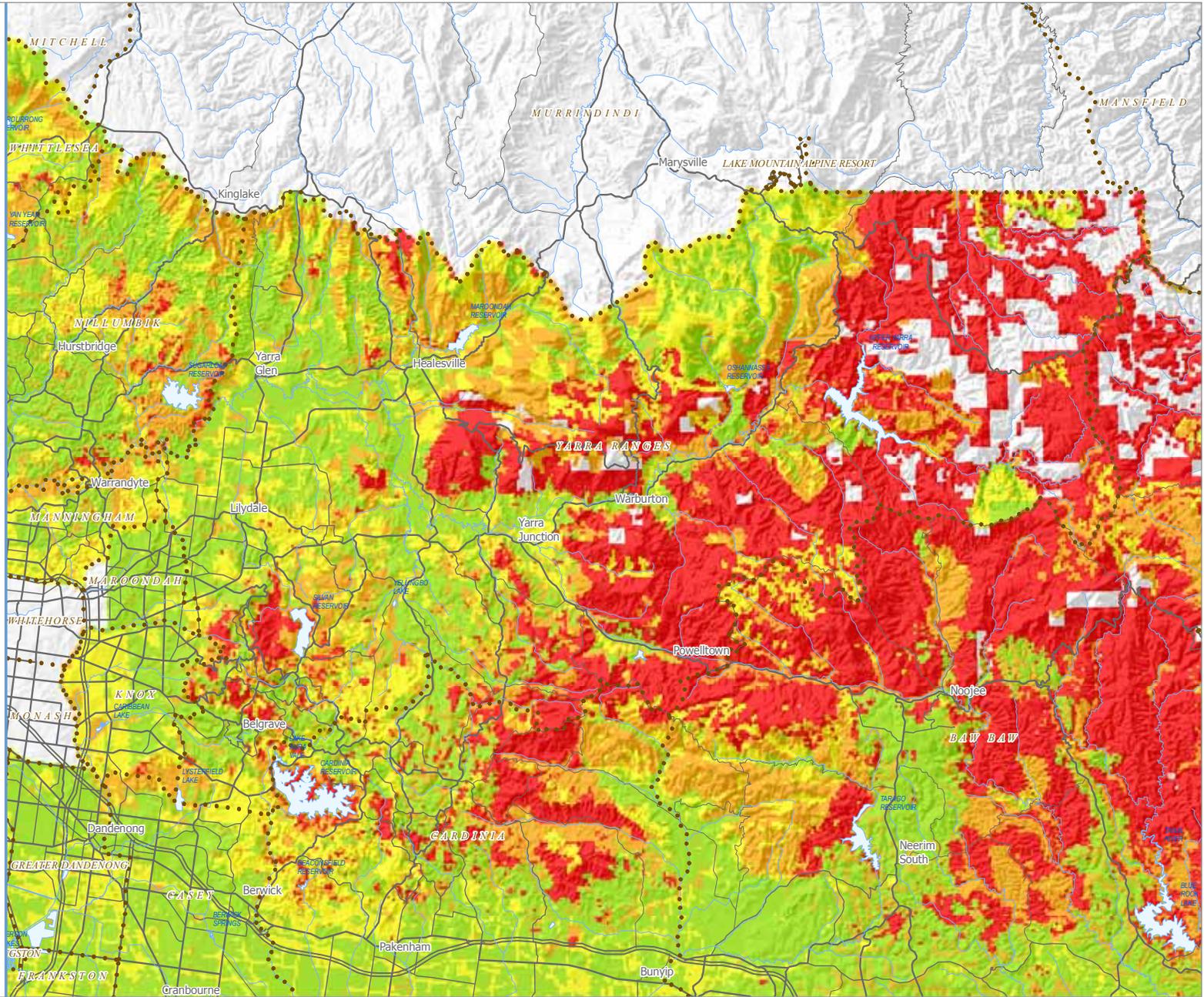
- Low
- Moderate
- High
- Extreme

This map shows modelled fire hazard at a hypothetical point in time, based on fuel loads, topography, and predetermined weather conditions. (FDI 100)

The information on this map is an example of a range of products being produced by DSE to assist in fire risk assessment. Updated and improved products are currently in development.



Produced by DSE, GIS Unit, Traralgon, Aug 2011. Ref EXT1112-1

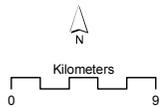
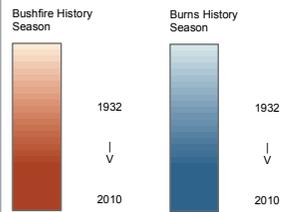


Eastern Metro Region

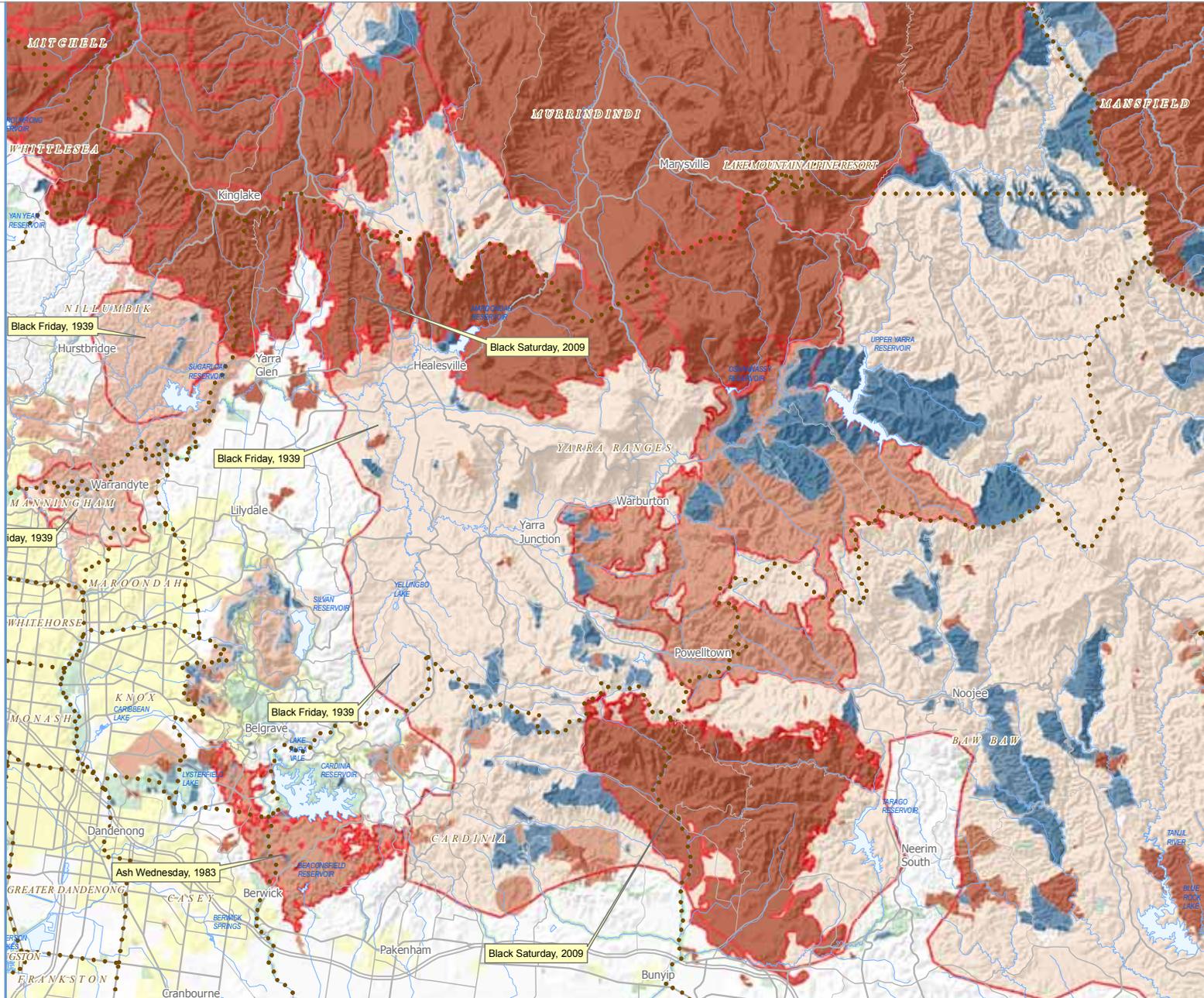
Fire History

Legend

-  Shire\_boundaries
-  Major fires
-  Public Land
-  Built up area



Produced by DSE, GIS Unit, Traralgon, Aug 2011. Ref RGL1112-23







No.	Objective	Actions	When	Who	Measures	
<b>1.0 Key theme: Committee becomes the driver (lead body) for fire management planning across the region.</b>						
<b>1.1</b>	Build capacity within and ownership of agencies to support IFMP across the region by establishing effective engagement strategies.	1.1.1	Seek ongoing commitment by agencies to support regional fire management through effective representation on the RSFMPC.	Ongoing	RSFMPC	All identified agencies continue to be represented on the RSFMPC.
		1.1.2	Development of information and presentation packages for Regional Managers and other parties.	June 2012	Chair and Executive Officer	Collates information regarding IFMP and engagement strategies and distributes via different mediums such as electronic news updates and conference style/info sharing workshop events.
		1.1.3	Present and interpret the regional plan to MFMPCs.	June 2012	Chairs – RSFMPC and MFMPC	All MFMPCs have received presentation by June 2012.
		1.1.4	Request agencies to consult early with new and evolving programs to the RSFMPC.	Ongoing	Chair	New key programs are raised at the regional level for consideration, discussion and consultation.
		1.1.5	Monitor agency strategies and initiatives and actively encourage alignment with the region.	Ongoing	Chair and Executive Officer	Reports and presentations from agencies.
<b>1.2</b>	Deal with emerging issues and challenges effectively.	1.2.1	Establish RSFMPC Executive to deal with urgent issues, supported by terms of reference and protocols around electronic communication to members.	June 2012	Chair	RSFMPC Executive established and terms of reference agreed.
		1.2.2	Provide guidance to municipal level and advocate to State level where legislation or policy conflict or similar emerging issues are evident.	Ongoing	RSFMPC	Guidance provided upon recognition of an emerging issue.

No.	Objective	Actions	When	Who	Measures	
<b>2.0 Key theme: Building and using knowledge.</b>						
<b>2.1</b>	Expand personal development and knowledge sharing opportunities to increase knowledge, relationships and understanding.	2.1.1	Identify and promote cross agency opportunity for secondments and training.	Ongoing Begin from first quarterly meeting 2012	Chair	Committee members shared opportunities available within their agencies.
		2.1.2	Identify and participate in regional forums or conferences to promote fire planning knowledge and expertise.	June 2012 Ongoing	Chair and Executive Officer	Facilitate the attendance of committee members and/or information sharing.
		2.1.3	Investigate and establish a means of sharing and recording key information relating to regional fire management eg. web portal.	June 2013	Chair and Executive Officer	Agencies actively share information, reports and plans. A web portal has been created.
		2.1.4	Undertake effective induction for new committee members.	June 2012	Chair and Executive Officer	Key documents are available and process developed.
<b>2.2</b>	Advocate for and use fire risk planning tools to support decision making (within and between agencies), eg. VFRR, UFRA, HILI, Phoenix	2.2.1	Explore and identify opportunities to share current tools for fire planning across agencies.	August 2012 Ongoing	RSFMPC	Member agencies have shared information to the RSFMPC about their use of tools in agency plans.
		2.2.2	Identify limitations and issues with fire planning tools and advise SFMPC.	Ongoing	DSE (HILI and Phoenix), MFB (UFRA) and CFA (VFRR)	Appropriate agencies have informed RSFMPC of limitations and issues with fire planning tools and Chair has advised State when deemed necessary.
		2.2.3	Assist and support member agencies to become competent in the use of fire risk planning tools.	When required	DSE, MFB and CFA	Information regarding risk planning tools has been distributed to committee members.

No.	Objective	Actions	When	Who	Measures	
<b>3.0 Key theme: Working with the community to manage fire.</b>						
<b>3.1</b>	Work with municipal committees and agencies to establish effective integrated community engagement strategies.	3.1.1	Aid municipalities in the identification of opportunities for integrated community engagement.	May (Annually)	Chair	List of fire engagement events to be included in calendar.
		3.1.2	Develop a regional community engagement calendar as an internal business tool for member agencies to enable integrated engagement strategies.	July (Annually)	Chair	Calendar created and accessible to all agencies.
<b>3.2</b>	Provide leadership and support to the municipal level to coordinate strategies to manage vulnerable communities.	3.2.1	Advocate to State to get clarity on the management of vulnerable communities.	2012	DHS and VICPOL	Report to RSFMPC.
		3.2.2	Work in collaboration with various support agencies and government departments to deliver targeted awareness sessions regarding hazardous materials to communities adjacent to dangerous goods and storage facilities.	Ongoing	MFB and CFA	Risk treatments have been implemented. Educational fire safety programs delivered.
		3.2.3	Support the implementation of multi-cultural initiatives and development of information on bushfire safety for Culturally And Linguistically Diverse (CALD) communities that may travel into bushfire prone areas.	December 2012 Ongoing	MFB, CFA and ParksVic	CALD communities have access to information.
<b>3.3</b>	Use Shelter in Place policy in metropolitan areas to protect life.	3.3.1	Support the Shelter in Place policy.	Ongoing	RSFMPC	Shelter in Place policy implemented during response phase.

No.	Objective	Actions	When	Who	Measures	
<b>4.0 Key theme: Delivering cross tenure outcomes that address fire risk at a landscape and regional level.</b>						
4.1	Support and review fuel management projects on private land in context of regional risk environment.	4.1.1	Engage with the Yarra Ranges Strategic Fuel Reduction Working Group. The RSFMPC is to provide this group with direction and provide relevant regional information.	Ongoing	RSFMPC and MFMPC (Yarra Ranges)	RSFMPC has met and engaged with Yarra Ranges Strategic Fuel Reduction Working Group. The RSFMPC has facilitated networking between this group and other projects within the region.
		4.1.2	Engage with the DSE Risk Based Bushfire Management Planning program.	Ongoing	RSFMPC	The RSFMPC has facilitated networking between this group and other regional programs and projects. DSE have reported to RSFMPC on progress and linkages to other programs.
		4.1.3	Advocate to the State for legislative changes to enable cross tenure burning.	June 2012/13	Chair	Formal letter has been sent from the Chair to the SFMPC.
4.2	Identify opportunities for projects/programs where cross tenure fuel management can occur.	4.2.1	Identify, promote and support cross tenure fuel management programs.	Ongoing	DSE, CFA, Municipal Council representatives and Melbourne Water	Successful implementation of fuel management. Consistency in strategic fuel breaks is evident across tenures.
4.3	Engage with State led fire projects that impact on the region to ensure consistency and successful outcomes.	4.3.1	Engage and define working relationship and structure with Dandenong Ranges Landscape Bush Fire Strategy Pilot Project.	To be decided when groups have been set up	Chairs – RSFMPC and MFMPCs (Knox and Yarra Ranges)	Engagement and participation at project management board levels have occurred.
		4.3.2	Engage and define working relationship and DSE Risk Based Bushfire Management Planning Program team.	To be decided when groups have been set up	RSFMPC	Meetings have been held and working relationships have been defined.

No.	Objective	Actions	When	Who	Measures	
<b>5.0 Key theme: Effective communications and marketing.</b>						
<b>5.1</b>	Coordinate effective communications and marketing of regional and municipal fire management activities.	5.1.1	Develop and maintain a communications plan for the region.	June 2012	Chair and Executive Officer	Communications plan in place.
		5.1.2	Review communications plan annually.	June 2013 (Annually)	RSFMPC	Communications plan annually reviewed and updated.
<b>6.0 Key theme: Continuous improvement.</b>						
<b>6.1</b>	Implement systems to ensure continuous improvement occurs across planning and projects.	6.1.1	Set up review committee.	October 2012	RSFMPC Executive	RSFMPC Executive has been set up.
		6.1.2	All regionally managed projects to have an improvement, reporting and review process.	March 2013	RSFMPC Executive	Evidence of improvement, reporting and review process included in all plans.
		6.1.3	Undertake the improvement, reporting and review process as outlined in section 8 of this document.	December 2013	RSFMPC Executive	Improvement, reporting and review process undertaken and report written.
<b>6.2</b>	Ensure all aspects of Prevention, Preparedness, Response and Recovery (PPRR) are managed appropriately.	6.2.1	Conduct a review of the regional plan to identify areas for improvement within each element of PPRR.	December 2013	RSFMPC Executive	Completed review of the plan and recommendations submitted to the RSFMPC.

No.	Objective	Actions	When	Who	Measures	
<b>7.0 Key theme : Identifying and treating significant natural, social, built and economic environments at risk.</b>						
<b>HUMAN SETTLEMENT</b>						
<b>7.1</b>	Reduce the threat to high risk communities.	7.1.1	Engage with the implementation, management and review of Shelter in Place options (including Neighbourhood Safer Place (NSP), refuges, bunkers etc) across the region.	Annually	CFA and Municipal Council representatives	Assessments for areas nominated for Shelter in Place options have been completed. Options have been discussed by RSFMPC and concerns and recommendations forwarded to CFA and Municipal Council representatives.
		7.1.2	Promote the use of risk based modelling to improve outcomes for fire management tools within interface residential areas.	August 2012	DSE	Show multi-agency consensus for the DSE Risk Based Bushfire Management Planning Framework.
		7.1.3	Ensure that MFMPCs give priority to communities rated with high and extreme risk in bushfire management.	August 2012	RSFMPC	Municipal plans have been reviewed to ensure they give priority to high and extreme risk communities in bush fire management
		7.1.4	Ensure MFMPCs will review the VFRR annually and that municipal plans are updated accordingly.	August 2012	RSFMPC	VFRR reviewed and plans reflect relevant changes.
		7.1.5	Investigate if current data exists regarding effectiveness of Fire Ready Victoria (FRV).	May 2012	CFA	Research of existing data regarding effectiveness of FRV has been shared with Chair and the RSFMPC.
		7.1.6	Advocate to the State to undertake a review of the effectiveness of FRV messaging in the region to determine gaps or areas of possible improvement.	May 2012	CFA	Letter written to SFMPC.
		7.1.7	Advocate to the State for the adoption of a structured framework for managing vulnerable communities	May 2012	DHS	DHS has provided data and advice to inform a letter written to SFMPC by Chair.
		7.1.8	Engage with municipal level committees to develop fire management plans for vulnerable community members.	August 2012	DHS	DHS have established a process to engage with municipal committees regarding management plans.
		7.1.9	Identify and review in consultation with MFMPCs suitable leave early destinations across the region and in neighbouring regions.	August 2012	RSFMPC	List is created and review has been conducted of suitable leave early locations across the region.

No.	Objective	Actions	When	Who	Measures	
		7.1.10	Support coordinated evacuation planning utilising available modelling tools and regional expertise.	Ongoing	VICPOL	Regional representatives actively engaged in coordinated evacuation planning process.
		7.1.11	Support the identification of high risk locations and management of arson initiatives.	Quarterly	VICPOL	VICPOL to inform the committee regarding arson events of last quarter at quarterly meetings.
		7.1.12	Look for opportunities to add value to arson prevention programs.	December 2012	VICPOL	Workshop has been held to inform member agencies how to best contribute to arson prevention programs.
		7.1.13	Look for opportunities to add value to pre visit fire messaging for visitors to recreational areas.	November 2012	ParkVic, DSE and Municipal Councils representatives	Information provided to RSFMPC with pre visit fire messaging for visitors to recreational areas.
<b>7.2</b>	Promote effective recovery.	7.2.1	Develop an understanding of the importance of 'recovery inception' to support effective recovery actions.	April 2012	Yarra Ranges Council representative	Presentation undertaken to inform committee about recovery inception.
		7.2.2	Promote the importance of the phases of recovery across PPRR.	April 2012	RSFMPC	To be advocated by all agency representatives to their respective agencies and the community.
<b>7.3</b>	Safely manage structural fire, HAZMAT and chemical hazards across PPRR.	7.3.1	Maintain an inventory of structural fire and HAZMAT risks and continue to develop targeted risk reduction strategies, and to disseminate information to MEMPCs and MFMPs on the region's clusters of hazardous material storage and transport routes.	July 2012 Ongoing	MFB and CFA	Roll out of Urban Fire Risk Assessment (UFRA) tool and Community Emergency Risk Management (CERM) processes. MFB fire statistic processes and research shared. Strategic Location Plan and Local Station Risk Profiling shared.
		7.3.2	Ensure all fire services identify and incorporate risk reduction strategies for hazardous materials.	Ongoing	MFB and CFA	Investigations and reports by exception from Dangerous Goods and Site Inspections provided to the RSFMPC.
		7.3.3	Review all MEMPs/MFMPs to ensure hazardous materials risk reduction strategies are included.	Established and Ongoing	MFB	Hazardous materials risk reduction strategies are addressed in the CERM and in the MFMPs.

No.	Objective	Actions	When	Who	Measures	
<b>NATURAL ENVIRONMENT</b>						
7.4	Reduce the negative impacts of fire on biodiversity.	7.4.1	Improve the collection and availability of flora and fauna data.	June 2013	DSE	Presentation undertaken to inform RSFMPC about the work being done.
		7.4.2	Review and update EVC mapping data to improve its accuracy.	June 2013	DSE	Report provided to RSFMPC on status of current projects.
		7.4.3	Improve the accuracy of fire event mapping to better reflect what has actually been burned.	June 2012	DSE	Reported on status and availability of data.
		7.4.4	Use the outputs from DSE Risk Based Bushfire Management Planning Framework to deliver more targeted burning.	August 2012 (Annually)	DSE	Report to RSFMPC on how DSE Risk Based Bushfire Management Planning Framework is contributing to more effective burning.
<b>ECONOMIC</b>						
7.5	Ensure economic risk is addressed across PPRR within the region.	7.5.1	Advocate that agencies and MFMPs/MEMPs consider economic impact from fire.	August 2012	RSFMPC Executive	Economic risk is considered in agencies and MFMPs/MEMPs.
7.6	Reduce the impact of burning on economic activities such as viticulture and tourism.	7.6.1	Work with industry groups to identify and address impacts of fire management practices on economic activities.	Ongoing	DSE	Reported by exception to RSFMPC.
7.7	Support municipalities and agencies to work with local tourism boards/businesses to promote PPRR.	7.7.1	Advocate for municipal committees to liaise with tourism boards and businesses regarding PPRR.	August 2012	Chair	Letter sent from the Chair to the MFMPC Chairs.

No.	Objective	Actions	When	Who	Measures	
<b>INFRASTRUCTURE BUILT</b>						
7.8	Ensure risk associated with the disruption of utilities is addressed throughout PPRR.	7.8.1	To work collaboratively with utilities to ensure appropriate planning across PPRR occurs.	Nov 2012	SP AusNet, Melbourne Water and Metro Trains	RSFMPC briefed to understand the potential impact of supply loss during an event and recovery timeframes post an event.
7.9	Ensure ignition risk from utilities is addressed.	7.9.1	Look for opportunities to add value to ignition risk management programs by utilities (particularly VBRC).	August 2012	Utilities	Member agencies have been informed how to best contribute to ignition risk management programs.
7.10	Reduce significant public infrastructure being impacted by major fire.	7.10.1	Ensure transport network planning including public transport, road and rail is integrated with fire management planning.	June 2012	VicRoads and Metro Trains	Reported by exception to RSFMPC.
		7.10.2	Regional traffic management plan to be developed and tested.	September 2012	VICPOL, VicRoads and Municipal Council representatives	Reported by exception to RSFMPC.
		7.10.3	Improve the committees understanding of the function and importance of the Mt Dandenong Communications Towers.	November 2012	Chair	Obtain information from infrastructure representatives, discuss implications of fire and identify actions required.
		7.10.4	Ensure MFMPs will review the VFRR annually as it relates to critical infrastructure and that municipal plans are updated accordingly.	August 2012	Chair	VFRR reviewed and plans reflect relevant changes.
		7.10.5	Improve the committees understanding of the process in place for continuity of services across PPRR for telecommunications.	May 2013	Chair	Information obtained from infrastructure representatives (ie. Telstra) discuss implications of fire and identify actions required.

No.	Objective	Actions	When	Who	Measures	
<b>SOCIAL</b>						
7.11	Reduce the impact of fire on significant social, cultural and heritage values.	7.11.1	Improve understanding of the significant social, cultural and heritage values within the region.	May 2013	Chair	Obtain information regarding social, cultural and heritage values, and discuss implications of fire and identify actions required.
		7.11.2	Expand environmental scan to include social and cultural aspects of significance.	August 2013	Chair	Environmental scan completed including values of social and cultural significance.
7.12	Reduce the impact of major fire on significant regional events, eg. festivals.	7.12.1	Where relevant, provide guidance to agencies and municipalities regarding events	As required	RSFMPC	Guidance has been provided where appropriate.
		7.12.2	Ensure MFMPs consider events.	As required	RSFMPC	Municipal plans consider events where appropriate.



## APPENDIX C – AGENCIES CONSULTED IN THE PLANNING PROCESS

Agency	Responsibilities
Boroondara City Council Knox City Council Manningham City Council Maroondah City Council Monash City Council Whitehorse City Council Yarra Ranges Council	Council's emergency management planning addresses how to prevent, prepare, respond to and recover from emergencies and natural disasters within the municipality as well as educate and assists the community in enhancing their resilience to such events.
Country Fire Authority (CFA)	Volunteer and community based fire and emergency services organisation that responds to bushfires, house fires, industrial fires, road accidents, rescues and other emergencies.
Department of Human Services (DHS)	Coordinates emergency relief and recovery in Victoria. Supports councils to deliver relief and recovery services and coordinates services across municipalities where required. Provides emergency assistance, information and support to communities affected by an emergency event.
Department of Planning and Community Development (DPCD)	Leads and supports development of liveable communities including improving urban planning and development, particularly in outer suburbs and growth areas.
Department of Primary Industries (DPI)	Enables transformation in Victoria's primary and energy industries to sustainably increase wealth and wellbeing while protecting and enhancing safety, community, animal welfare and the environment.
Department of Sustainability and Environment (DSE)	Environmental policy-maker, plays a key role in supporting the Victorian Government's priorities in environmental sustainability. Sets the standard for managing natural resource protection and use.
Melbourne Water	Manages Melbourne's water supply catchments, removes and treats most of Melbourne's sewage and manages rivers, creeks and major drainage systems.
Metropolitan Fire Brigade (MFB)	Protects life and property from the effects of fire within the metropolitan areas of Melbourne.
Parks Victoria (ParksVic)	Responsible for managing and expanding Victoria's parks networks.
SP AusNet	Transports high voltage electricity from where it is generated into electricity distribution networks within the entire State of Victoria. In addition to this, SP AusNet owns and operates an electricity network in the north- eastern part of the State and a gas distribution network in the western half of the State.
VicRoads	Manages the Victorian arterial road network and its use as part of the overall transport system.
Victoria Police (VICPOL)	Provides a 24-hour police service to the Victorian community. Lead agency in emergency coordination.
Victoria State Emergency Service (VICSES)	Prepares and responds to floods, severe storms, earthquakes, road crash rescue and conducts search and rescue operations in bush and alpine areas.

## APPENDIX D – STAKEHOLDER MATRIX

Stakeholder	Interest and influence	Level of engagement				
	High, Medium, Low	Inform	Consult	Involve	Collaborate	Empower
Boroondara City Council Knox City Council Manningham City Council Maroondah City Council Monash City Council Whitehorse City Council Yarra Ranges Council	High	√	√	√	√	√
Country Fire Authority (CFA)	High	√	√	√	√	√
Department of Human Services (DHS)	High	√	√	√	√	√
Department of Planning and Community Development (DPCD)	High	√	√	√	√	√
Department of Primary Industries (DPI)	High	√	√	√	√	√
Department of Sustainability and Environment (DSE)	High	√	√	√	√	√
Melbourne Water	High	√	√	√	√	√
Metropolitan Fire Brigade (MFB)	High	√	√	√	√	√
MFMPs in Eastern Metropolitan Region	High	√	√	√	√	√
Other regions in Victoria	High	√	√	√	√	√
Parks Victoria (ParksVic)	High	√	√	√	√	√
SP AusNet	High	√	√	√	√	√
VicRoads	High	√	√	√	√	√
Victoria Police (VICPOL)	High	√	√	√	√	√
Victoria State Emergency Service (VICSES)	High	√	√	√	√	√

APPENDIX E – VFRR PRIORITY 1A RATED ASSETS

Asset type	Asset sub type	Asset name	Asset Location	LGA	Tenure	Likelihood	Consequence	Risk rating	Priority rating
<b>Human Settlement</b>									
Human Settlement	Residential	Doongalla	Doongalla Road	Knox	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	The Basin South	National Park Boundary	Knox	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Ferntree Gully Fringe	National Park Boundary	Knox	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Upper Ferntree Gully North	Quarrie Road	Knox	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Powelltown	Powelltown	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Britannia Creek	Britannia Creek	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Millgrove	Millgrove	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Warburton Surrey Road	Warburton	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Warburton South	Warburton	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	McMahons Creek	McMahons Creek	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Reefton	Reefton	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Leith Road	McMahons Creek	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	North Don Valley	Don Valley	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Kallista	Kallista	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Olinda	Olinda	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Selby	Selby	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Tecoma	Tecoma	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Belgrave North	Belgrave	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Upwey West	Upwey	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Upwey North	Upwey	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Ferny Creek	Ferny Creek	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Sassafras West	Sassafras	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Kalorama	Kalorama	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Montrose East	South of Swansea Road	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A

Asset type	Asset sub type	Asset name	Asset Location	LGA	Tenure	Likelihood	Consequence	Risk rating	Priority rating
Human Settlement	Residential	Mt Evelyn SSW	Mt Evelyn	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Mt Evelyn Central 2	Mt Evelyn Central	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Healesville West	Healesville West	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Lowes Road	Healesville West	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Chum Creek	Chum Creek	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Cornelius Road	Healesville	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Residential	Moora Moora	Mt Toolebewong	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Other	Three Bridges	Three Bridges	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Other	Big Pats Creek	Big Pats Creek	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Other	Steels Creek	Steels Creek Road	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Other	Barrak Drive	Launching Place East	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Other	Wandin West	Wandin Bailey Grove	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Other	Macclesfield Road	Yellingbo	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Other	Sheep Station Creek Road	Yellingbo	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Melbourne Camp	Dee Road, Millgrove	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Gawler Foundation	Rayner Court, Yarra Junction	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Buddist Monestry	780 Woods Point Road, East Warburton	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Arrabri Lodge	450 Woods Point Road, East Warburton	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Hungarian Scouts	Stuart Road, East Warburton	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	O'Shannassy Lodge	East Woods Point Road, Warburton	Yarra Ranges	DSE	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Church of England Boys Society	1145 Healsville Kooweerup Road, Woori Yallock	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Wesley College - Chum Creek Campus	251 Old Chum Creek Road, Healesville	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A

Asset type	Asset sub type	Asset name	Asset Location	LGA	Tenure	Likelihood	Consequence	Risk rating	Priority rating
Human Settlement	Special Fire Protection	Scotch College - Chum Creek Campus	903 Chum Creek Road, Healesville	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Yarra Valley Conference Centre Wedgetail Room	2164 Melba Hwy, Dixons Creek	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Yarra Valley Conference Centre Main Residence	2164 Melba Hwy, Dixons Creek	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Candlebark Farm	531 Healsville-KooWeeRup Road, Healesville	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Church Camp	Pauls Lane, Dixons Creek	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Lake Yellingbo Camp	1234 Macclesfield Road, Yellingbo	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Lyrebird Park and Conference Centre	510 Beenack Road, Yellingbo	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Camp Eureka	100 Tarrango Road, Yarra Junction	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Grange Reception Centre	Wesburn	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	McAdam Gap Resort	Warburton Wood Point Road, Matlock	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Warburton Primary School	Horners Road, Warburton	Yarra Ranges	Other	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Sky High Restaurant	26 Observatory Road, Mt Dandenong	Yarra Ranges	ParksVic	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Silvan Reservoir Park	York Road, Silvan	Yarra Ranges	ParksVic	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Dom Dom National Park Picnic Area	Dom Dom Road and Maroondah Hwy, Fernshaw	Yarra Ranges	ParksVic	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Mt Morton Lodge and Camp	Fairmont Ave, Belgrave Heights	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Mt Rael Retreat	140 Healesville-Yarra Glen Road, Healesville	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Ferngully Lodge	269 Myers Creek Road, Healesville	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Mt Evelyn YMCA Camp	Tramway Road, Mount Evelyn	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A

Asset type	Asset sub type	Asset name	Asset Location	LGA	Tenure	Likelihood	Consequence	Risk rating	Priority rating
Human Settlement	Special Fire Protection	The Cottage Childcare Centre	208 Main Road, Monbulk	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Barra Shed	655 Little Yarra Road, Gladysdale	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Deloraine Homestead	355 Tarrango Road, Gladysdale	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Amerant Lodge	Don Valley	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Jumbana Lodge	140 Dairy Road, Launching Place	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Wedding Reception Milners Hills	Yarra Junction	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Human Settlement	Special Fire Protection	Upper Yarra Childrens Centre	41 Little Yarra Road, Yarra Junction	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
<b>Natural Environment</b>									
Natural Environment	Endangered	Nursey Helmet Honeyeater	Yellingbo	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Natural Environment	Endangered	Helmeted Honeyeater	Yellingbo Nature Reserve	Yarra Ranges	Parks Vic	Almost certain	Catastrophic	Extreme	1A
Natural Environment	Endangered	Leadbeater Possum	Yellingbo Nature Reserve	Yarra Ranges	Parks Vic	Almost certain	Catastrophic	Extreme	1A
<b>Cultural</b>									
Cultural	Aboriginal Significance	Badger Weir	Badger Weir	Yarra Ranges	Parks Vic	Almost certain	Catastrophic	Extreme	1A
Cultural	Other	Puffing Billy Rail Station - Belgrave	Belgrave	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Cultural	Other	St Mathews Anglican Church	Monash Ave, Olinda	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Cultural	Other	The Cuckoo Restaurant	508 Mt Dandenong Tourist Road, Olinda	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Cultural	Other	Puffing Billy Trestle Bridge	Selby	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
<b>Economic</b>									
Economic	Infrastructure	Seville East Gas Bleedoff Valve and Town Gate	Seville East	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Economic	Infrastructure	Mt Victoria Telecommunications Tower	Mt Victoria	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A
Economic	Infrastructure	Ridge Road Communications Tower Precinct	Ridge Road, Mt Dandenong	Yarra Ranges	Private	Almost certain	Catastrophic	Extreme	1A

## APPENDIX F – WEBSITES

Country Fire Authority (CFA)	<a href="http://www.cfa.vic.gov.au">www.cfa.vic.gov.au</a>
Department of Human Services (DHS)	<a href="http://www.dhs.vic.gov.au">www.dhs.vic.gov.au</a>
Department of Planning and Community Development (DPCD)	<a href="http://www.dpcd.vic.gov.au">www.dpcd.vic.gov.au</a>
Department of Primary Industries (DPI)	<a href="http://www.dpi.vic.gov.au">www.dpi.vic.gov.au</a>
Department of Sustainability and Environment (DSE)	<a href="http://www.dse.vic.gov.au">www.dse.vic.gov.au</a>
Department of Transport (DoT)	<a href="http://www.transport.vic.gov.au">www.transport.vic.gov.au</a>
Emergency Services	<a href="http://www.vic.gov.au">www.vic.gov.au</a>
Energy Safe Victoria (ESV)	<a href="http://www.esv.vic.gov.au">www.esv.vic.gov.au</a>
Fire Ready Kit	<a href="http://www.cfa.vic.gov.au/firesafety/bushfire/firereadykit.htm">www.cfa.vic.gov.au/firesafety/bushfire/firereadykit.htm</a>
Fire Services Commissioner	<a href="http://www.justice.vic.gov.au">www.justice.vic.gov.au</a>
Integrated Fire Management Planning (IFMP)	<a href="http://www.ifmp.vic.gov.au">www.ifmp.vic.gov.au</a>
Melbourne Water	<a href="http://www.melbournewater.com.au">www.melbournewater.com.au</a>
Metropolitan Fire Brigade (MFB)	<a href="http://www.mfb.vic.gov.au">www.mfb.vic.gov.au</a>
Municipal Association Victoria (MAV)	<a href="http://www.mav.asn.au">www.mav.asn.au</a>
Parks Victoria (ParksVic)	<a href="http://www.parks.vic.gov.au">www.parks.vic.gov.au</a>
SP AusNet	<a href="http://www.sp-ausnet.com.au">www.sp-ausnet.com.au</a>
VicRoads	<a href="http://www.vicroads.vic.gov.au">www.vicroads.vic.gov.au</a>
Victoria Police (VICPOL)	<a href="http://www.police.vic.gov.au">www.police.vic.gov.au</a>
Victoria State Emergency Services (VICSES)	<a href="http://www.ses.vic.gov.au">www.ses.vic.gov.au</a>
2009 Victorian Bushfires Royal Commission (VBRC)	<a href="http://www.royalcommission.vic.gov.au">www.royalcommission.vic.gov.au</a>

## APPENDIX G – GLOSSARY

Sources for this glossary are Australasian Fire and Emergency Services Authorities Council (AFAC) Bushfire glossary (AFAC, 2010), IFMP Guidelines (IFMP guidelines, 2010) and the Emergency Management Manual Victoria (EMMV) (State of Victoria, 2011).

<b>Actions</b>	For the purposes of this plan are documented in the action plan and specify how each objective will be met.
<b>Assets</b>	Anything valued by people which includes houses, crops, forests and, in many cases, the environment (AFAC, 2010).
<b>Assumption</b>	A conclusion that is reached based on the information available at the time (SFMPC, 2010).
<b>Bushfire</b>	A general term used to describe fire in vegetation, includes grass fire (AFAC, 2010).
<b>Community</b>	A group of people with a commonality of association and generally defined by location, shared experience or function (SFMPC, 2010).
<b>Consequence</b>	Outcome or impact of a bushfire event (IFMP guidelines, 2010).
<b>Emergency</b>	An event, actual or imminent, that endangers or threatens to endanger life, property or the environment, and that requires a significant and coordinated response (IFMP guidelines, 2010).
<b>Environmental scan</b>	Is a process of enquiry to detect, understand and apply to strategic thinking, early signals of potential future change (Environmental Scan 2009-2019).
<b>Evacuation</b>	The temporary relocation of persons from dangerous or potentially dangerous areas to safe areas (AFAC, 2010).
<b>Event</b>	Occurrence of a particular set of circumstances. An incident or situation that occurs in particular place during a particular interval of time (IFMP guidelines, 2010).
<b>Fire behaviour</b>	The manner in which a fire reacts to the variables of fuel, weather and topography (AFAC, 2010).
<b>Fire Danger Index (FDI)</b>	A relative number denoting an evaluation of rate of spread, or suppression difficulty for specific combinations of temperature, relative humidity, drought effects and wind speed. The numbers range from 1 to 100 (AFAC, 2010).
<b>Fire Danger Rating (FDR)</b>	A relative class denoting an evaluation of rate of spread, or suppression difficulty for specific combinations of temperature, relative humidity, drought effects and wind speed, indicating the relative evaluation of fire danger (AFAC, 2010).
<b>Fire ecology</b>	Fire ecology is the component of fire management that involves the study of fire and its interaction with the natural environment (AFAC, 2010).
<b>Fire management</b>	All activities associated with the management of fire prone land, including the use of fire to meet land management goals and objectives (AFAC, 2010).
<b>Fuel load</b>	The oven dry weight of fuel per unit area. Commonly expressed as tonnes per hectare (AFAC, 2010).
<b>Fuelbreak</b>	A natural or manmade change in fuel characteristics which affects fire behaviour so that fires burning into them can be more readily controlled (AFAC, 2010).
<b>Hazard</b>	A source of potential harm or a situation with potential to cause loss. A potentially damaging physical event that may cause loss of life or injury, property damage, social and economic disruption or environmental degradation (United Nations International Strategy for Disaster Reduction 2008 cited in (IFMP guidelines, 2010)).
<b>Likelihood</b>	Used as a general description of probability or frequency – can be expressed qualitatively or quantitatively (IFMP guidelines, 2010).

<b>Major bushfire</b>	For the purposes of this plan a bushfire that requires the attendance of multiple brigades, or causes damage to property or injury to one or more persons.
<b>Mission</b>	For the purposes of this plan it states the agreed upon general purpose of the planning committee.
<b>Mitigation</b>	Measures taken in advance of a disaster, aimed at decreasing or eliminating its impact on society and the environment (IFMP guidelines, 2010).
<b>Municipal</b>	Refers to the geographic area covered by the local government.
<b>Neighbourhood Safer Place</b>	Places of last resort are areas or premises that may as a last resort provide some sanctuary from the life threatening effects of a bushfire, ie. radiant heat or direct flame contact.
<b>Objectives</b>	For the purposes of this plan is a statement describing what is going to be achieved.
<b>Organisation</b>	Group of people and facilities with an arrangement of responsibilities, authorities and relationships (IFMP guidelines, 2010).
<b>Preparedness</b>	Ensuring the fire management sector and the community have plans and arrangements in place that are well practised, addressing all fire risks (IFMP guidelines, 2010).
<b>Prevention</b>	Focusing resources on the underlying causes of fires and treating them (IFMP guidelines, 2010).
<b>Public land</b>	For the purposes of this plan, public land includes all land managed by Government agencies including DSE, ParksVic, Municipal Councils, VicRoads and Melbourne Water.
<b>Recovery</b>	Helping to re-establish communities, businesses, infrastructure, buildings, biodiversity and ecosystem functionality (IFMP guidelines, 2010).
<b>Residential areas</b>	Are defined as being in a CFA precincts 'township and suburban living' risk type of 50 dwellings, having lot sizes of up to 4 hectares, a population of approximately 200 people having Wildfire Management Overlay (WMO) or Bushfire Prone Area (BPA) Building Code area and having a community hub or congregation point (AFAC, 2010).
<b>Resilience</b>	The capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organising itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction measures (IFMP guidelines, 2010).
<b>Response</b>	Actions taken in anticipation of, during and immediately after an emergency, to ensure its effects are minimised and that people affected are given immediate relief and support (IFMP guidelines, 2010).
<b>Risk</b>	The chance of something happening that will have an impact on objectives. The probability of harmful consequences resulting from interaction between natural or human-induced hazards and vulnerable conditions (United Nations International Strategy for Disaster Risk Reduction (2009) cites in (IFMP guidelines, 2010)).
<b>Risk analysis</b>	A systematic use of available information to determine how often specific events may occur and the magnitude of their likely consequences (AFAC, 2010).
<b>Risk assessment</b>	The overall process of risk identification, analysis and evaluation (IFMP guidelines, 2010).
<b>Risk management</b>	The culture, process and structures that are directed towards realising potential opportunities while managing adverse effects (IFMP guidelines, 2010).
<b>Risk reduction</b>	Actions taken to lessen the likelihood, negative consequences, or both, associated with a risk (IFMP guidelines, 2010).

<b>Risk register</b>	A list of risk statements describing sources of risk and elements at risk, with assigned consequences, likelihoods and levels of risk (IFMP guidelines, 2010).
<b>Risk treatment</b>	Process of selection and implementation of measures to modify risk. The term 'risk treatment' is sometimes used for the measures themselves (IFMP guidelines, 2010).
<b>Special Fire Protection</b>	Places and facilities requiring special consideration such as schools, child care centres, hospitals homes or other establishments for mentally incapacitated persons; group and seniors homes; and retirement villages.
<b>Stakeholders</b>	Those people and organisations who may affect, be affected by, or perceive themselves to be affected by, a decision, activity or risk (IFMP guidelines, 2010).
<b>Tolerable Fire Intervals (TFI)</b>	A term which expresses the minimum or maximum recommended time intervals between successive fire disturbance events at a site or defined area for a particular vegetation community. The time interval is derived from the vital attributes of plant and animal species that occupy the vegetation community. The TFIs guide how frequent fires should be in the future to allow the persistence of all species at the site or defined area.
<b>Township Protection Plan (TPP)</b>	Provides a planned response for emergency services and the community to a bushfire within close proximity to a township, which has the potential to impact on the local community. This is also known as a local plan (Bushfire Safety Plan).
<b>Treatment</b>	An existing process, policy, device, practice or other action that acts to minimise negative risk or enhance positive opportunities. The word control may also be applied to a process designed to provide reasonable assurance regarding the achievement of objectives (IFMP guidelines, 2010).
<b>Victorian Fire Risk Register (VFRR)</b>	Is a geospatial risk register that uses a risk assessment for bushfire based on vegetation type, slope, distance of an asset from vegetation and vulnerability of the community to assign a risk ranking.
<b>Vision</b>	For the purposes of this plan, is defined as the collective view of where the planning committee would like to see the plan heading in the future.
<b>Vulnerability</b>	The conditions determined by physical, social, economic and environmental factors or processes, which increase the susceptibility of a community (IFMP guidelines, 2010).





## REFERENCES

**AFAC.** (2010, December). *Bushfire glossary*. Retrieved November 22, 2011, from Australasian Fire and Emergency Services Authorities Council web site: [http://knowledgeweb.afac.com.au/data/bushfire\\_glossary](http://knowledgeweb.afac.com.au/data/bushfire_glossary)

**Eastern, North & West and Southern Metropolitan Regional Strategic Fire Management Planning Committees.** (2009). Environmental Scan 2009-2019. Victoria, Australia: Wheeler Strobel Consulting Group.

**Fire Services Commissioner Victoria.** (2010). *About Us*. Retrieved November 21, 2011, from Fire Services Commissioner Victoria web site: <http://www.firecommissioner.vic.gov.au>

**IAP2.** (2011). *Resources*. Retrieved November 23, 2011, from International association for public participation: [http://www.iap2.org.au/resources/list/asset\\_id/36/cid/1/parent/0/t/resources/title/IAP2%20Spectrum](http://www.iap2.org.au/resources/list/asset_id/36/cid/1/parent/0/t/resources/title/IAP2%20Spectrum)

**IFMP guidelines.** (2010, September). Integrated fire management planning guide. Victoria, Australia: Authorised by the State Fire Management Planning Committee.

**SFMPC.** (2009, September). State Fire Management Strategy 2009. (www.ifmp.vic.gov.au, Ed.) State of Victoria.

**Standards Australia and New Zealand Joint Technical Committee OB-007 Risk Management.** (2009, November). AS/NZS ISO 31000:2009 Risk Management - Principles and Guidelines.

**State of Victoria.** (2011, January). Emergency Management Manual Victoria.

**VBRC.** (2010, July 31). *About the Royal Commission*. Retrieved November 21, 2011, from 2009 Victorian Bushfires Royal Commission: <http://www.royalcommission.vic.gov.au/About-Us>

**VFRR.** (2011, November 11). *Victorian Fire Risk Register Reference Guide*. Retrieved November 22, 2011, from VFRR web site: [http://vfr.fileburst.com/VFRR/VFRR\\_Supporting\\_Documentation/](http://vfr.fileburst.com/VFRR/VFRR_Supporting_Documentation/)

**Victorian Government.** (September 2011). *The Victorian Government Green Paper: Towards a More Resilient and Safer Victoria*. Security and Emergency Management Branch. Finsbury Green.



**Disclaimer**

This publication may be of assistance to you. However the State of Victoria and its employees do not guarantee that the publication is without flaw of any kind, or is wholly appropriate for your particular purposes. It therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.



For more information go to: [www.ifmp.vic.gov.au](http://www.ifmp.vic.gov.au)

