Municipal Fire Management Plan

A SUB – PLAN OF THE STRATHBOGIE SHIRE
MUNICIPAL EMERGENCY MANAGEMENT PLAN

Strathbogie shire

State Government Victoria

Municipal Fire Management Planning Committee, 2015-2018

Preface

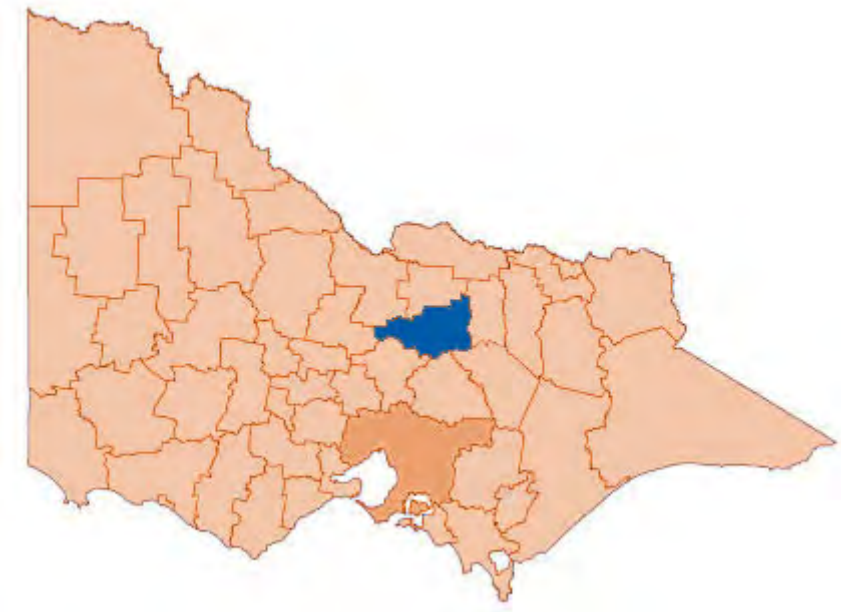
The Strathbogie Shire Municipal Fire Management Committee (MFMPC) is responsible for providing a strategic and integrated approach to fire management within the Strathbogie municipality. This task forms part of a broader state and regional framework established under the Emergency Management Act (1986) and is supported by the State Fire Management Planning Committee and the Hume Regional Strategic Fire Management Planning Committee (HRSFMPC).

A key responsibility of the Strathbogie Shire MFMPC is the development of a draft Municipal Fire Management Plan (MFMP) on behalf of the Strathbogie Shire Municipal Emergency Management Planning Committee for considered endorsement by the Strathbogie Shire Council. This plan, which aligns with the Hume Regional Strategic Fire Management Plan 2011-2021, describes how regional authorities, local government, fire agencies and other relevant organizations can work together to effectively anticipate, respond to and recover from bushfire events affecting Strathbogie Shire.

While the management of all types of fires is important, this plan has focused on bushfire in the first instance. The life of this plan is for three years and it is envisaged that future updates of this plan will include planning for other types for fire. Furthermore it is important to note that this plan recognizes, but does not duplicate, the extensive work already being undertaken in fire management across the municipality. This document is essentially a plan for improving integration of this existing work and developing improved methods for working together.

I join with the members of the MFMPC in commending this document to you. We see the development and implementation of this plan as important step in the ongoing journey to securing a safer, more resilient community, healthier environment and a prosperous economy for our municipality.

John Leben
Chair
Strathbogie Shire Municipal Fire Management Planning Committee



Version Control Table

Version number	Date of issue	Author(s)	Brief description of change
Version 1.0	21/6/12	C. Hajek C. Price	Draft MFMP for Comment
Version 2.0	27/6/12	C. Price	New edits (page numbers fixed, editing fixed)
Version 3.0	9/6/12	C. Price	Edits from MFMPC Meeting 4.2 on 28/6/12
Version 4.0 Including "Public comments"		G.Washusen	Inclusion of "Public comments": - Saferlinks Fig 18 - CFA Bushfire Management Plan, Attach. 7 - Strathbogie Shire Bushfire History, Map 1 - Strathbogie Shire Fire Origins, Map 2 - Community Information Guide instead of Township Protection Plan - Risk Assessment Matrix consequence labels re-aligned. - CFA and DELWP edits from HRSFMPC Meeting 21/9/12 - RSFMPC Edits 22/10/12
Version 5.0	12/12/12	C. Price	Final version HRSFMP comments from MFMPC 12/12/12
Version 6.0	23/4/14	G.Washusen	Inclusion of:- VicRoads 2013 Works Plan – Fig. 18, Action Plan ID 9 Update of NSPs - Attachment 4
Version 7.0	May/14	G.Washusen	Triannial review

Authorisation

This MFMP was adopted on the 30th of August as the first iteration of the Strathbogie Shire MFMP. This Plan was endorsed through the Strathbogie Shire MFMPC following a 28 day Public Consultation period - for which the Chair of the committee will sign for and on behalf of all members of the Strathbogie Shire MFMPC.

Signed: _____ Date: 22/2/13 **Plan endorsed by:**

Tony Owen

Operations Officer
CFA District 22
Chairperson
Strathbogie Shire Municipal Fire Management Planning Committee

This MFMP was endorsed as a sub plan to the Strathbogie Shire Municipal Emergency Management Plan through a formal motion by the Strathbogie Shire Municipal Emergency Management Planning Committee (MEMPC) at their meeting on 4/10/2012, for which the Chairperson of the committee will sign for and on behalf of the Members of the Strathbogie Shire MEMPC.

Signed: _____ Date: 24/2/13 **Plan endorsed by:**

Roy Hetherington

Municipal Emergency Resource Officer
Strathbogie Shire Council

This MFMP was adopted through a formal motion by the Strathbogie Shire Council as the MFMP for the Strathbogie Shire, at their meeting on 18/12/12 2012, for which the Chief Executive Officer will sign for and on behalf of the Strathbogie Shire Council.

Signed: _____ Date: 21/2/13 **Plan adopted by Council**

~~Steve Crawcour~~ PHIL HOWARD.

Acting Chief Executive Officer
Strathbogie Shire Council

The responsibilities and accountabilities attributed to the organisations represented at the Strathbogie Shire MFMPC are endorsed by:

Signed: _____ Date: 16/11/2012 **Plan endorsed by:**

Alan Dobson

Land and Fire Regional Manager
North East Region
DELWP

Signed: _____ Date: 22/02/13 **Plan endorsed by:**

Steve Allan

Operations Manager District 22
CFA

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1 Introduction

1.1 Context and Background

Victoria has a long history of community, government and organisations working cooperatively to combat the threat of bushfire. However recent challenges such as the decade of dry conditions, an increase in people living in high risk areas and the occurrence of a number of major fires, prompted the need for increased coordination and cooperation to secure fire safety across the state.

In response to these challenges the Victorian Government established an Integrated Fire Management Project (IFMP) Framework for Victoria in 2008.

> *IFMP aims to achieve a consistent and effective means for fire management planning within Victoria through a commitment to cooperation, including information sharing and the building of collective knowledge.*
>
> – The Integrated Fire Management Planning Framework, State Fire Management Planning Committee

IFMP provides a framework for consistent and effective fire management planning (see figure 1) across the fire management spectrum, by providing a multi-agency approach, bringing together fire management planners and other stakeholders, including emergency service agencies, government departments, private organisations and the community. Working together they build relationships and share information to plan across public and private land tenures for all types of fire. IFMP is based on analysis and management of risk, uses best practices and builds on existing information.

Figure 1: Fire Management Planning

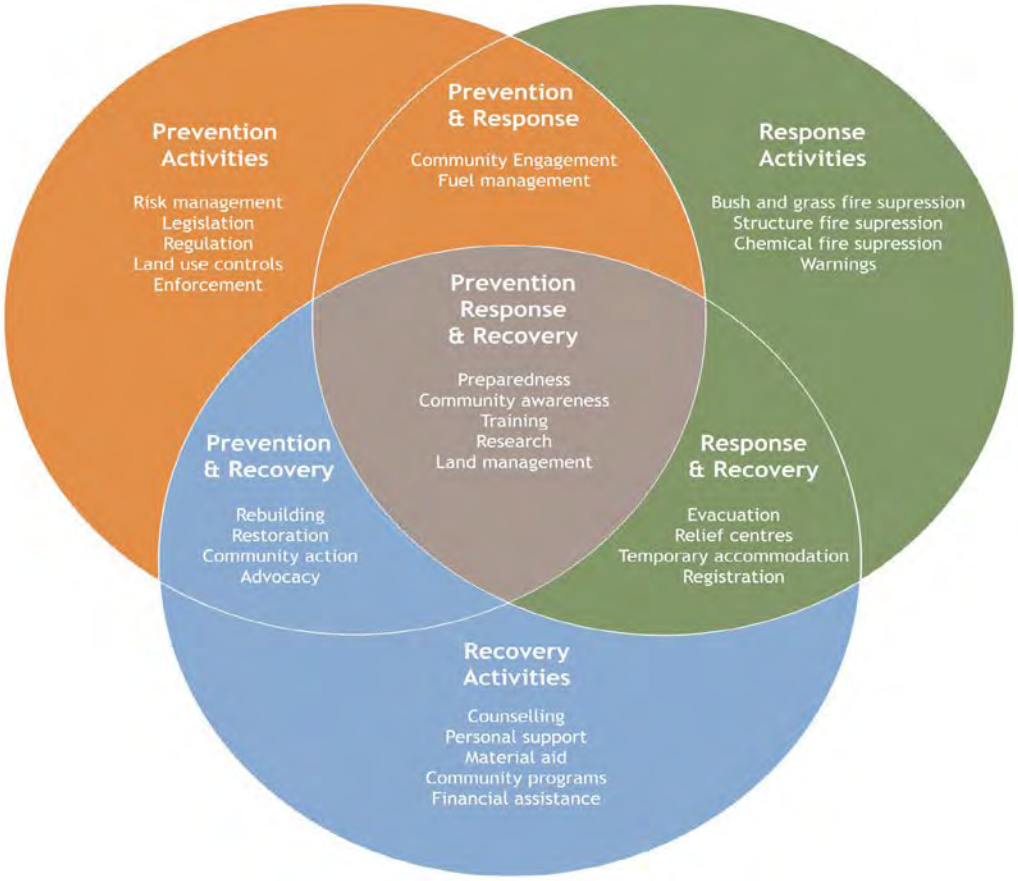
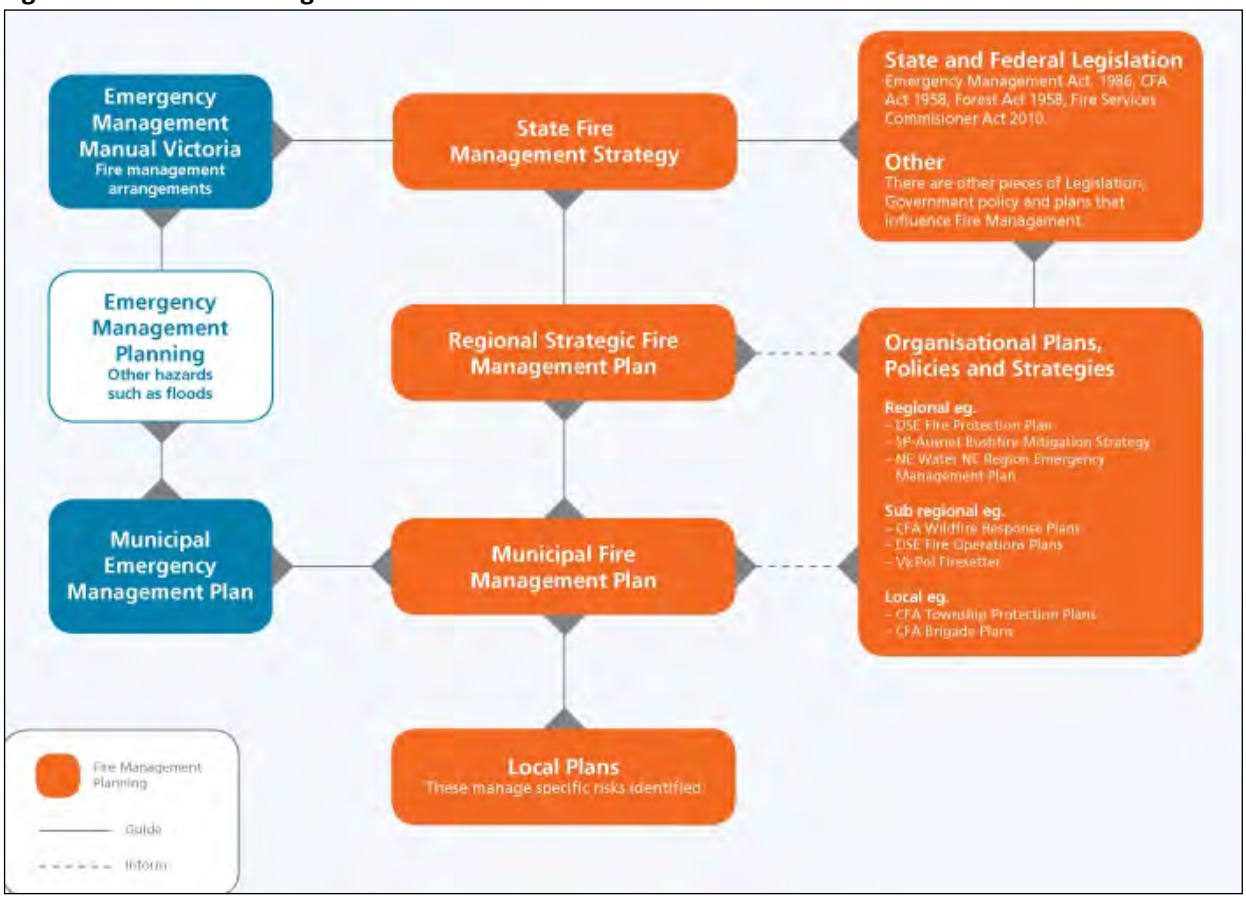


Figure 2: Victorian Management Plans and Policies



The framework provides structures, policies and procedures to help build on the existing spirit of cooperation and networks that already exist in fire management. It establishes a tiered system of state, regional and municipal plans that provide strategic direction to fire management in Victoria, as illustrated in figure 2.

The purpose of Municipal Fire Management Committees is to provide a municipal level forum for building and sustaining organisational partnerships with regards to fire management; and to ensure that plans of individual agencies are linked effectively so as to complement each other. This is facilitated by MFMPCs having a membership consisting of representatives from key stakeholder organisations with respect to fire management within the municipality.

Strathbogie MFMPC membership consists of:

- Strathbogie Shire
- Country Fire Authority
- Department of Environment Land Water & Planning

MFMPCs also act as a sub-committee of their respective Municipal Emergency Management Planning Committee. *Part 6A: Guidelines for Municipal Fire Management Planning*, of the *Emergency Management Manual of Victoria,* outlines the terms of reference for these committees, identifies their minimum core membership and requires the development of a Municipal Fire Management Plan.

The formation of an MFMPC and the development of a MFMP signify an important first step in the transition from Municipal Fire Prevention Plans developed under the guidance and direction of Municipal Fire Prevention Committees, to a MFMP developed under the guidance and leadership of a MFMPC.

1.2 Period and Purpose

Organisation and agencies involved in fire management already have a range of activities, plans, policies and procedures that are directly involved with, or that impact on fire management. This MFMP builds on this existing work, so as to chart and coordinate the implementation of measures in use across the municipality designed to minimise the occurrence and mitigate the effects of fire. It also seeks to identify the need for adopting or developing new activities, processes and policies, and communicating this need to the relevant responsible authority.

In doing so it takes into consideration all aspects of fire management:

- Prevention – Regulatory and physical measures to ensure that emergencies are prevented, or their effects mitigated
- Preparedness – Arrangements to ensure that in the event of an emergency occurring all those resources and services that area needed to cope with the effects can be efficiently mobilised and deployed
- Response – 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
- Recovery – The coordinated process of supporting emergency affected communities in the reconstruction of the physical infrastructure and restoration of emotional, social, economic and physical wellbeing.

MFMPs have a three year planning cycle and this plan has a three year duration commencing from the date of council endorsement. However it will be subject to annual review and modification as appropriate. This MFMP concentrates on bushfires; however it is expected that future versions of the plan will incorporate management of structural and chemical fires as well as the use of fire for a variety of purposes.

1.3 Preparation Process

This MFMP has been developed in accordance with Part 6A of the Emergency Management Manual of Victoria and using the IFMP planning process as described in the IFMP Guide. This process follows a seven stage planning cycle as illustrated in figure 3.

Stage 1: Environmental Scanning – establish a municipal base line from which fire management planning and decision making can be made and measured, including development of fire management objectives.

Stage 2: Risk Assessment – identification, analysis and evaluation of the fire risks that potentially impact on the municipality.

Stage 3: Analysis – analysis of treatment options for achieving the fire management objectives.

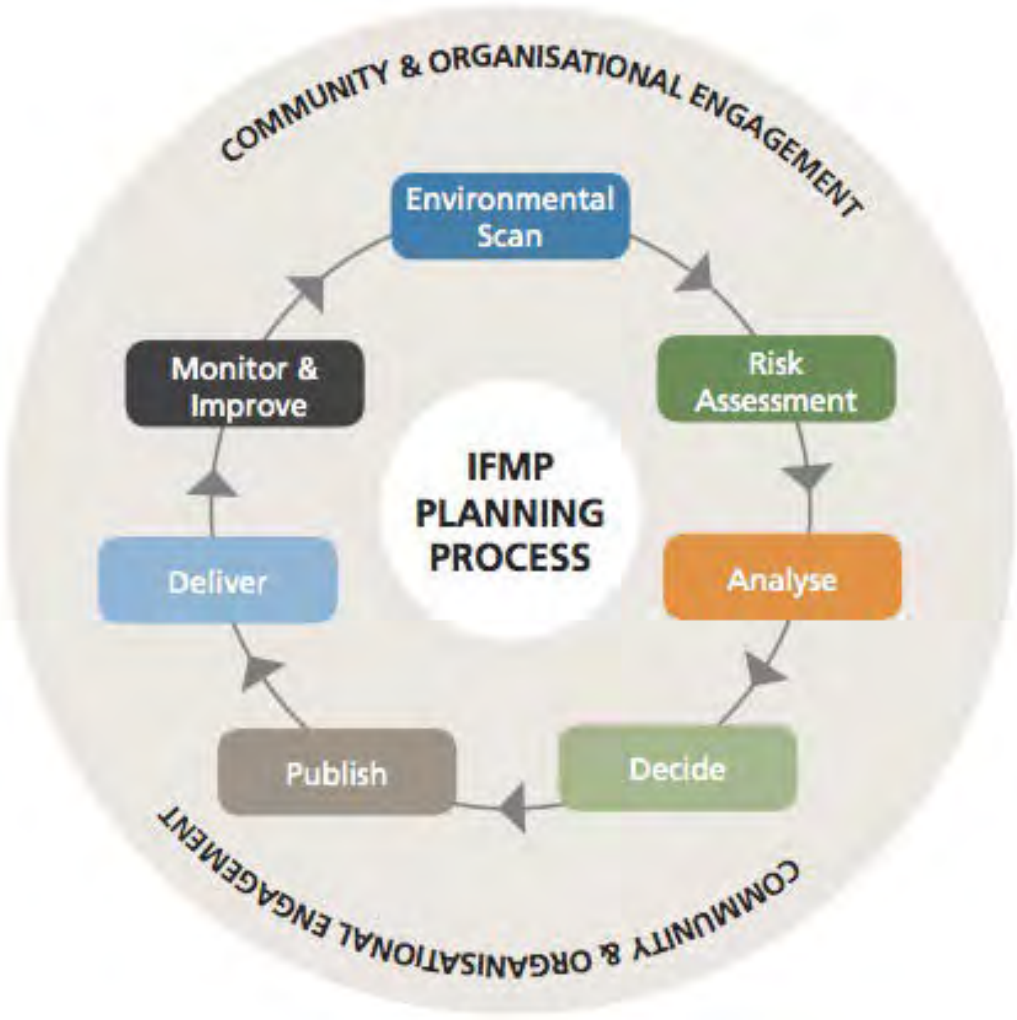
Stage 4: Decide – select the most appropriate risk treatment options to achieve the fire management objectives.

Stage 5: Publish –once the community and stakeholders have validated the draft MFMP, the relevant authorities endorse, publish and distribute it.

Stage 6: Deliver - relevant organisations implement the agreed risk treatments in the MFMP.

Stage 7: Monitor and Improve – track delivery and effectiveness of risk treatments so as to continually improve the MFMP's contribution to realising the fire management objectives.

Figure 3: Integrated Fire Management Planning Process



Over a period of 12 months members of the committee met on a regular basis to work through the steps outlined above for the purpose of developing this plan. This commenced with formally establishing the Strathbogie Shire MFMPC as a subcommittee of the Strathbogie MEMPC and endorsing the terms of references based on those in Part 6A of the Emergency Management Manual of Victoria.

Subsequent activities include undertaking a stakeholder analysis, developing a communications strategy, identifying and assessing fire risks of concern with the municipality and assigning appropriate treatments to address them.

This planning process is risk based and aligns with the Australian Standard AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines, figure 4 (page 11) describes how this is achieved.

All concerns identified were considered and defined as risk statements with the cause and impact clearly described. Each of these risk statements were then assessed using the State Bushfire Consequence Table, Likelihood table and Risk Assessment matrix (See Attachment 1) as endorsed by the State Fire Management Planning Committee.

Figure 4: IFMP Alignment with AS/NZS ISO 31000:2009

Stage of the IFMP planning cycle	Relevant aspect of the AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines
Engagement Plan	Communicate and consult
Environmental Scan	Establish the context
Risk Assessment > Analyse	Identify the risk > Analyse the risk > Evaluate the risk
Decide > Publish	Determine and document treatment options
Deliver	Treat the risk
Monitor and Improve	Monitor and review

2 Engagement and Communications

Stakeholder engagement and participation is an essential element of fire management planning. Stakeholders are required to participate for a range of reason, including (but not limited to):

- Legislative responsibilities in relation to fire management.
- Leadership
- Provision of hazard expertise and technical advice
- Subject to hazard impact – directly and/or indirectly
- Land tenure and management arrangements
- Expressed expectation
- Influenced and/or support mitigation.

Stakeholder engagement is required during all seven stages in the IFMP planning cycle, the aim being for them to participate together in the collaborative development, delivery and monitoring of the MFMP.

Engaging with stakeholders in the development and implementation of the MFMP is an essential tool for drawing on existing knowledge and experience and to build support for and involvement in this plan.

These communication and engagement tasks have been built around the model of public engagement developed by the International Association of Public Participation (IAP2). This model is called the Public Participation Spectrum and is detailed in figure 5 below. This spectrum provides a framework for planning effective stakeholder engagement about any issue or plan. It is used as the basis for communication and engagement planning during the development and subsequent implementation phases

Figure 5: IAP2 Public Participation Spectrum

Inform	Consult	Involve	Collaborate	Empower
Provide balanced information to stakeholders	Obtain feedback on analysis and decisions	Work directly together to ensure issues are understood	Partner in each aspect of decision making	Place final decision making in the hands primary stakeholders

2.1 Community and Organisational Engagement Plan

In accordance with the IFMP planning guide the Strathbogie MFMPC undertook a stakeholder analysis and used this as a basis for the development of a Communication and Engagement Plan concerning the MFMP.

The stakeholder analysis consisted of a two part process; first identifying the key stakeholders who needed to be engaged in the MFMP's development and secondly determining the nature and level of their interest in fire management planning. This second step involved considering each stakeholder in relation to eight different fire management roles which are described in figure 6 and four different stakeholder types as outlined in figure 7.

Figure 6: Fire Management Roles

Role	Description
Fire Coordination	Bringing together of fire management agencies and elements to ensure effective response to an incident or emergency. CFA has legislated responsibility under the *CFA Act 1958* for the prevention and suppression of fires and for the protection of life and property in the Country Area of Victoria. In accordance with provisions in the *CFA Act 1958* and the *Forest Act 1958*, DELWP has fire management and fire suppression responsibilities for state forests and national, state and regional parks.
Land Owner/Manager Responsibilities	Landholder/managers are heavily involved in fire prevention and fire suppression on land under their control. They have legislated responsibilities to extinguish a fire burning on their land and to prevent fires from starting from the use of equipment and vehicles (*CFA Act 1958, Crimes Act 1958*). They are also required to comply with relevant local government laws, relevant planning or building permit conditions and conditions associated with permits to burn.
Response	Actions taken in anticipation of, during and immediately after a fire incident to minimise the impact of the fire.
Recovery	A coordinated process of supporting emergency affected communities in the reconstruction of physical infrastructure and restoration of emotional, social, economic and physical well being.
Community Education	Community education is learning and social development, working with individuals and groups in their communities using a range of formal and informal methods
Community Care	Community care is about identifying and catering for groups or individuals with specific needs, before during and after fire.
Asset Protection	Asset protection involves protecting key community infrastructure such as power, water supplies, roads, gas pipes and protecting community assets such as parks and the environment. Asset protection can also involve the protection of private assets such as housing, plantations, crops and fences.
Regulatory	The issuing of permits for lighting fires. The development of and compliance with planning controls and permits for developments and building that take into account fire risk/management. The regulation and issuing of permits involving vegetation removal or fuel reduction activities for fire management purposes.

Once a stakeholder had been categorised, the appropriate level of participation in the process and the different types of engagement activities required were determined. The results of this stakeholder analyses and the resulting Communication and Engagement Plan can be found in Attachment 2.

Figure 7: Stakeholder Type and Engagement Level

Stakeholder Type	Description	Participation Level
Internal	Formal responsibilities for IFMP process and outcomes	Collaborate and empower
Primary	MFMPC membership, responsibility for development of the plan, communication and engagement across and within organisations rest with these organisations	Collaborate and empower
Secondary	RSFMPC membership or fire management role within municipality, may be requested to provide specific inputs, dependent upon outputs, or requested to be involved in specific tasks,	Involve and consult
Tertiary	Strong interest in outcomes and may have valuable information/viewpoints to share	Inform and consult

2.2 Community Engagement

During the development phase of the MFMP the Strathbogie MFMPC's communication and engagement efforts were focused primarily upon the key stakeholders. However a number of community groups were identified as Tertiary stakeholders and engaging with them and the broader community is seen as a critical component to the long term success of MFMP.

This community engagement process is very much seen as an ongoing responsibility of the Strathbogie MFMPC and it is expected to gain prominence going forward once the plan is endorsed and especially during review periods. Consequently the Communication and Engagement Plan should be viewed as a live and evolving document that will be shaped according to the MFMPC's needs over time. In this manner it will be able to guide the process of broader community engagement with additional activities and details being incorporated as required.

It is also anticipated that in addition to the activities attributed to the MFMPC, individual key stakeholders will be utilising their existing processes and undertaking their own community engagement activities in support of IFMP and the MFMP.

3 Environmental Scan

Environmental scanning involves identifying key themes, issues, trends and gaps that may affect or influence fire management. It establishes the base level of knowledge and understanding required for supporting risk identification, risk assessment and risk treatment within a fire management context.

It involves gathering and interpreting data and information relevant to fire management, so as to make predictions, assumptions and conclusions concerning fire risk for the municipality over the period of the plan. It also provides the basis for identifying fire management objectives and decision making with regard to selecting strategies to achieve these objectives.

3.1 Municipal Profile

3.1.1 Location and Tenure

Strathbogie Shire, located at the foothills of the eastern ranges of North East Victoria, and encompasses an area of approximately 3300 square kilometres. The Shire is approximately 150 kilometres north east from Melbourne. To the East it is bordered by the Strathbogie Ranges and on the west by the Nagambie Lakes district. The southern boundary is formed by the Goulburn River and the Hume Freeway dissects the middle of the municipality. Surrounding municipalities include Benalla Rural City, City of Greater Bendigo, City of Greater Shepparton and the Shires of Murrindindi, Mitchell, and Campaspe.

The Strathbogie Shire was created on 18 November 1994 by amalgamating the former Shire of Euroa (excluding the Arcadia, Karramomus and Terip Terip districts), the former Shire of Goulburn (excluding Murchison East district), the former Shire of Violet Town (excluding the Caniambo, Tamleugh and Warrenbayne districts), a portion of the former Rural City of Seymour (Avenel district), and a portion of the former Shire of McIvor (north of Puckapunyal range and east of Redcastle).

The Euroa District of the Shire of Strathbogie is a predominantly rural area situated on the Hume Highway between the main centres of Benalla in the north and Seymour in the south. Other population centres include Strathbogie to the south east, Arcadia to the north west and Violet Town to the north east.

The Nagambie District of the Strathbogie Shire is located at the southern entrance of the Goulburn Valley and is approximately 115 kilometres north of Melbourne with the northern boundary 31 kilometres south of Shepparton along the Goulburn Valley Highway. It covers both rural and urban lands, with the main urban population centre being Nagambie. Other population centres include Avenel and Longwood areas.

The Nagambie District of the Strathbogie Shire has a total area of 3,200 square kilometres. The western and northern sections of the district incorporate the State forests of Graytown and Whroo. The eastern part of the District forms a section of the Strathbogie Ranges.

The Goulburn River meanders through the middle of the District which also feeds into Lake Nagambie and is controlled by Goulburn Weir. Several tributaries flowing from the snow fields and mountainous areas in the east of the District also influence water volume in flood prone zones.

The township of Nagambie is located on the eastern foreshore of Lake Nagambie, which is fed by the Goulburn River. The area is also well known for its wineries, which include Mitchelton and Chateau Tabilk. Tourism is a main feature of this area with numerous caravan parks and camping grounds, including Chainman's Bridge.

Known as the 'Horse Capital' of Victoria, Strathbogie Shire is home to a number of horse studs, wineries and sheep production. The Shire relies largely on a rural economic base of wool, grain and cattle production.

Major land managers in Strathbogie include the Department of Environment Land Water & Planning, Hancocks Victorian Plantations and Strathbogie Shire Council.

3.1.1 Population and Demographics

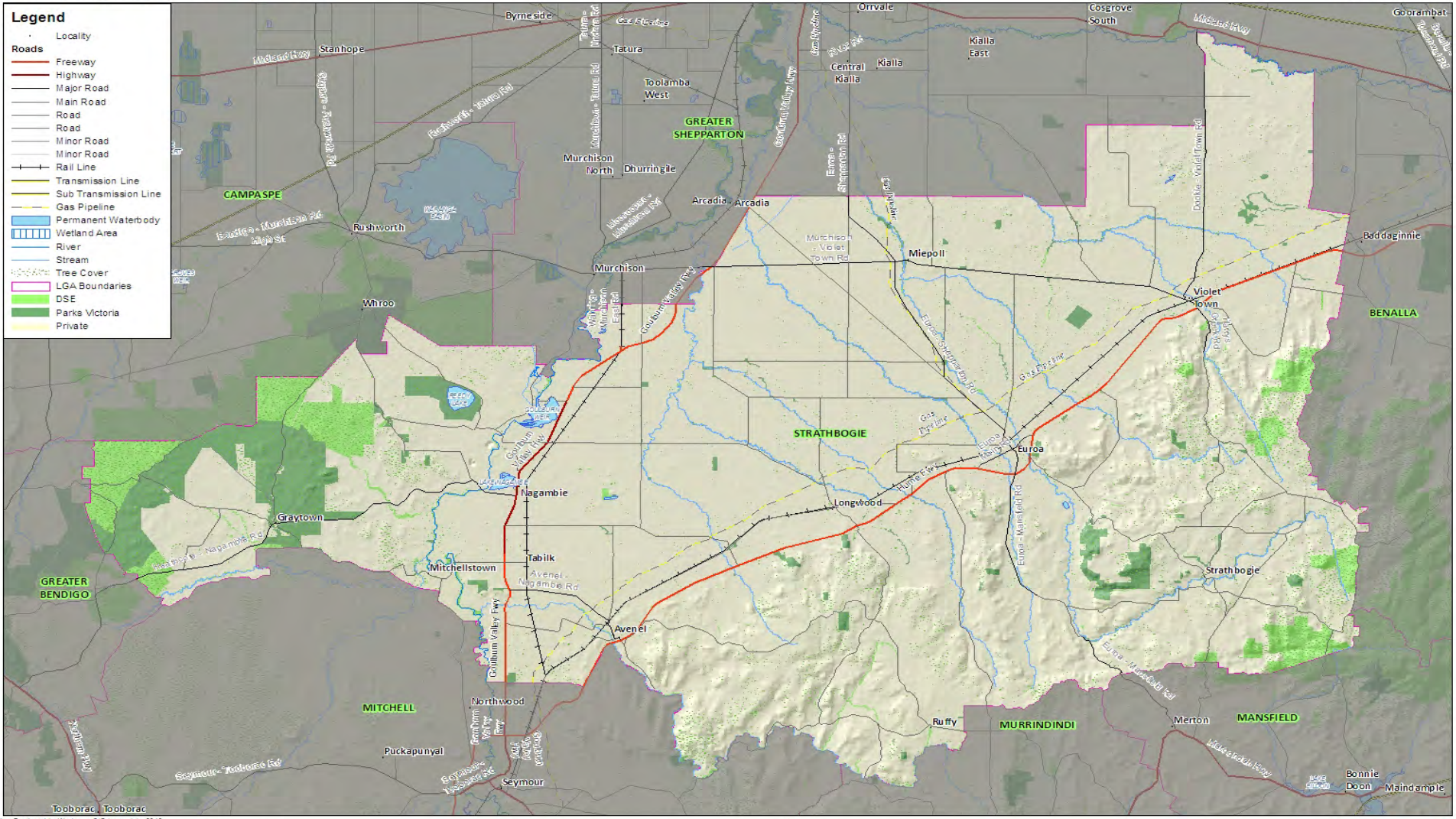
Strathbogie Shire has an estimated population of 10,012, which is a 4% increase in the population compared to the 2006 census. This is a change from the 1.5% population decline experienced from 2001 to 2006. 60% of the population in the Shire live in or around the main urban areas with the remaining 40% living in the surrounding rural areas.

Spread throughout Strathbogie Shire is four main urban areas consisting of: Avenel (population 550), Euroa (population 2800), Nagambie (population 1335) and Violet Town (population 580). Several smaller settlements include Kelly's Estate, Kirwan's Bridge, Longwood, Locksley, Mangalore, Ruffy, Strathbogie and Tabilk.

Like most areas in the Hume Region, Strathbogie Shire has an ageing population with 22% of the shire over the age of 65. This trend is forecast to continue and by 2026 it is estimated that 35.3% of the population with be over 65. These forecasts show that Strathbogie Shire will have the second highest population of people over 60 years of age in Victoria.

Figure 8: Strathbogie Shire Municipality Map

Date: 22/07/2012



Strathbogie is less culturally diverse than the majority of rural Victoria with 91.7% of the population born in Australia, compared to an average 84.4% across the Hume Region. 2.5% of people speak a language other than English at Home.

Approximately 31% of the population in Strathbogie Shire complete some form of voluntary work. Nearly half (48%) of the population have access to internet in the Shire although the majority of these people have dial up internet and not a broad band connection.

Strathbogie has the 16th lowest score most according the 2006 Socio Economic Indices for Areas (SEIFA). SEIFA is an Index of Relative Socio-Economic Disadvantage data and lower scores indicate that the area is more disadvantaged with families having low income, low rates of training and many having unskilled occupations.

The Shire also consists of a high proportion of non-resident rate payers (absentee land holders). The population also includes a high transition rate based on events and seasonal activities. A large volume of tourists visit the shire during summer months especially around the river and Lake Nagambie areas.

3.1.1 Natural Environment

Strathbogie is part of the Goulburn-Broken Catchment Area and has a number of natural features including Heathcote-Graytown National Park, the Strathbogie State Forest in the Strathbogie Ranges, the Goulburn River, Goulburn Weir and Lake Nagambie. The area is characterised by mountainous and hilly areas to the east in the Strathbogie Ranges, to flatter alluvial soil plains in the west.

Despite landscape wide changes including softwood plantations, grazing and cropping, Strathbogie Shire still has a large level of biodiversity due largely to State Forests and remnants on freehold land. Approximately 9% of the Shire has tree cover.

Over 215 species of native fauna have been described in the Strathbogie Shire, 38 of which are threatened including the endangered Barking Owl (*Ninox connivens connivens*) and Bush Stone Curlew (*Burhinus grallarius*). Of particular note is the endangered Grey-crowned Babbler (*Pomatostomus temporalis*) which has limited distribution in Australia. It is estimated that approximately 30% of the remaining population occur in the Strathbogie Shire in its parks, reserves, private land and on roadsides.

Roadsides in the municipality contain remnant vegetation of varying quality. It is important both as habitat for native flora and fauna and also as wildlife corridors between larger patches of remnant vegetation. A number of significant vegetation communities and Vulnerable, Rare or Threatened native species occur in these roadside areas, particularly north of the Hume Freeway

Of the 150 recorded native plant species, 14 are threatened and include the endangered Mountain Swainson-pea (*Swainsona recta*) and the vulnerable Euroa Guinea-flower (*Hibbertia humifusa ssp. Erigens*), Leafy Greenhood (*Pterostylis cucullata*) and Lima Stringybark (*Eucalyptus alligatrix ssp. limaensis*)

The main threats to biodiversity in the Strathbogie Shire include gully and sheet erosion on northern montane slopes and foothills and dryland salinity. Dryland salinity is generally found on freehold land adjacent to colluvial slopes of the Strathbogie plateau. Clearing and fragmentation of remaining native vegetation is also a threat to flora and fauna species in the municipality.

The Strathbogie Shire is traversed by a number of creeks and Rivers including the Goulburn River and Broken River although a number of these are degraded and eroding where they pass through cleared farmland. The Strathbogie Ranges generally drain into the Seven Creeks System.

The main remnant areas in the Strathbogie Shire are covered by the Highlands-Northern Fall bioregion that covers the entire Strathbogie Ranges. Much of the ranges are cleared but the steeper escarpments and higher plateaus are forested.

3.1.2 Land use, Economy and Employment

Land use in Strathbogie Shire is predominantly agricultural with 231,000 hectares of land used for this purpose, 4000 hectares of which is irrigated along the Goulburn and Broken Rivers. 7.4% of agricultural land is used for cereal production, 2% for fruit production and 7.6% of land is used for non-cereal broad acre crops. Stock also form a major part of the Agricultural industry consisting of:

- 530,000 sheep and lambs for meat and wool
- 63,000 beef cattle and
- 18,000 pigs
- 625 dairy cattle

Agriculture contributes $79.7 million gross to the economy of the region annually consisting of $20 million of crops, $46.2 million in livestock slaughtering and $13.5 million in livestock products.

Grazing occurs on the flatter plains in the central and north of the Shire with mixed farming occurring in the hills to the east and west. Vineyards are concentrated in the south. Key industries include wineries, poultry and pig production, the Mushroom Exchange, Mangalore Airport, timber production and the Thales Group (ammunition manufacturing).

Although large properties have traditionally been the norm in Strathbogie Shire, in more recent years smaller holdings have become more popular. These smaller farms often specialise in more unusual stock such as goats, fine wool, sheep, deer and fish or crops including herbs, blueberries, grapes nuts and cherries. There are pine plantations in Strathbogie Shire, particularly in the east of the Strathbogie Ranges. The larger sized plantations are managed by HVP Plantations but there are also a number that are privately owned.

The three biggest employers in the Strathbogie Shire are Agriculture, Forestry and Fishing (21.7%), Manufacturing (12.4%) and Retail Trade (10.2%).

Recreational activities in the Shire include motorcycling, horse riding and four wheel driving in the Strathbogie Ranges, canoeing on the Nagambie Lakes and rivers, bushwalking, fishing, bird watching, golf, cycling, wine tasting and a variety of other sporting activities.

The horse industry is substantial in the Strathbogie Shire and is known as Victoria's Thoroughbred Homeland with approximately eighteen of Australia's premier thoroughbred properties spread throughout the municipality.

Strathbogie is serviced by a number of roads of varying qualities and is traversed by major highways including the Goulburn Valley Highway and Hume Freeway. The Hume Freeway carries an average of 8600 vehicles per day, 43% of which are commercial vehicles. The Euroa Main Road (old Hume Highway) provides a thoroughfare for approximately 850 northbound vehicles per day, and 720 southbound vehicles per day, 10% of which are commercial vehicles. There are approximately 2,300kms of roads throughout the Shire 95% of which run through rural areas. In the Strathbogie Ranges in particular, some of the roads are steep, narrow have restricted access and are of low quality.

The main Melbourne-Sydney rail link, consisting of two tracks, passes through the district running parallel to the Hume Freeway.

The district is also traversed by the Melbourne-Sydney Natural Gas Pipeline and is under the direct air route from Melbourne to Sydney (a directional radio beacon is situated at Strathbogie township).

3.1.3 Climate

Strathbogie generally enjoys a temperate climate with an average summer maximum temperature ranging from approximately 29° C in the lower lying areas to 26° C on the slopes of the Strathbogie Ranges. Winter temperatures are cool with winter highs averaging 13° C in lower lying areas and 11° C in the areas of higher altitude. Winter minimums average 4.6° C in Euroa and 2° C in Strathbogie however sub-zero temperatures are common across the shire during the colder months.

Prolonged drought occurred throughout the Shire in the 1990s and early 2000s, followed more recently by flooding events in 2010, 2011 and 2012 causing flooding in some low lying areas. During 2000-2010 some parts of the Shire recorded a 30% reduction from the average rainfall.

Rainfall naturally varies in the Shire between the lower lying areas to the west and steeper country in the Strathbogie Ranges to the east. Euroa has an average rainfall of 650.7mm whilst Strathbogie in the foothills of the Ranges the average is considerably higher at 968.9mm. Like many areas in Victoria, rainfall is extremely variable in Strathbogie averaging 774mm Shire-wide. In 2006 Euroa recorded a record low of 268.2mm as did Strathbogie with 410.8mm. Euroa's highest recorded rainfall was 1119.9mm in 1973 and Strathbogie's 1732.6mm in 1956.

The Shire of Strathbogie commissioned a report by Marsden Jacob Associates (2011)[1] on the potential impacts of climate change on the Strathbogie Shire area. The report draws on Commonwealth Scientific and Industrial Research Organisation (CSIRO) and South East Australia Climate Initiative (SEACI) data and assumes a high global emissions scenario. Utilising this data it predicts that the future climate in the municipality is likely to be warmer with rainfall becoming less reliable and more extreme. The following table (figure 9) summarises the potential environmental changes.

Figure 8: Strathbogie Shire Indicative Climate Changes

Climate Variable	Current	Indicative Changes		Comments
Average Rainfall		**2030**	**2070**	Average annual rainfall could decrease by up to 25% by 2070 in the worst case In the decade to 2007, the regions annual rainfall was 12% below the 1961 to 1990 average
Annual	774 mm	-3%	-10%	
Spring	200 mm	-7%	-20%	
Summer	135 mm	-1%	-4%	
Winter	188 mm	-2%	-5%	
Autumn	251 mm	-4%	-12%	
Runoff		**2030**	**2070**	Reductions in runoff are linked to a number of variables including reduced rainfall, higher evaporation and lower soil moisture
Annual		-12% to -35%	> 50%	
Rainfall Intensity		**2030**	**2070**	Rainfall in the region is predicted to become more variable, with fewer rainy days but rain falling in more intense bursts
24 hour rainfall intensity		0% to plus 10%	+10% to +50%	
Probable maximum flood levels		+	+	
Flood return intervals		+	+	
Number of Rainy Days	130	-5%	-16%	
Fire Weather		**2030**	**2070**	The length of the fire season is projected to increase also
Number of high and extreme forest fire danger days	18	+4	+12	
Other		**2030**	**2070**	Average annual temperature could increase by

[1] Jacob Marsden Associates 2011. *Strengthening Strathbogie in a Changing Climate: Risk Assessment and Adaptation Strategy*, by Dr Peter Kinrade, Nadja Arold, Melbourne, December

Figure 8: Strathbogie Shire Indicative Climate Changes

Climate Variable	Current	Indicative Changes		Comments
Average Annual Temperature Potential Evaporation Solar Radiation	13.9 °C	+1 °C +3% +0.8%	+3 °C +8% +2.5%	up to 3 °C by 2070. Average annual temperatures in the last decade have warmed by 0.5 °C, reflecting increases in both daily maximum and minimum temperatures

The future climate across right across the broader Goulburn-Broken region is expected to follow a similar pattern and become hotter and drier than it is today[2]. It is also expected that there will be a larger proportion of hotter days, fewer frosts and a greater incidence of drought[3]. Higher intensity, but lower predictability, of rain events is also likely to occur with less rain available for irrigation. These climatic changes will influence and possibly increase the likelihood of fire in the municipality.

By 2030 it is predicted that the average temperatures across the region will increase by 0.8°C and by 2070, depending on emissions, temperatures will increase on average by 1.4°C to 2.7°C. The climate is likely to become increasingly erratic with higher occurrences of heat waves, and storms. These climatic changes will also make fire behaviour harder to predict.

3.1.4 Fire History

Although there is a fire season every year there has been only two major outbreaks in the municipality during the last 50 years; the Longwood Fire of 1965 and the Strathbogie fire of 1990. The Strathbogie Fire burnt for 14 days and was estimated to have cost the shire approximately 12 million dollars. It wiped out 13,500 stock and destroyed 16 homes and 150 other buildings. One person lost their life in this fire and a further 5 people were injured. Tragically during the Longwood Fire of 1965 seven members of the same family were killed and a large number of stock, homes and other buildings were destroyed.

There are 33 Fire Brigades that have all or part of their area within the Strathbogie Shire, these are as follows:

- Arcadia, Avenel, Baddaginnie, Bailieston, Balmattum, Boho, Branjee, Creighton's Creek, Earlston, Euroa, Gooram, Karramomous, Kelvin View, Koonda, Locksley, Longwood, Marraweeny, Miepoll, Molka, Moorilim, Mt. Camel, Nagambie, Riggs Creek, Ruffy, Sheans Creek, Strathbogie, Tarcombe, Terip Terip, Upton Hill, Violet Town, Wahring and Wirrate.

All Brigades are well equipped, with a number of the brigades having four wheel drive vehicles.
DELWP also maintain an active fire fighting role, particularly in relation to bush fire, and have well-resourced work centres located outside of the Shire at Rushworth, Benalla, Shepparton, Alexandra and Mansfield.

To describe the effect of fire in the municipality it is necessary to understand the fire history of the shire. This can be done by examining the number and type of Fire Danger Indexes (FDI) and Total Fire Bans (TFBs) for the municipality. FDIs are determined based on a range of meteorological factors including historical data (days since last rain, drought index) and current data (temperature, humidity, wind speed). Fire Danger Ratings (FDR) describe ranges of FDIs, and can be based on either historical data (actual FDR) or a combination of historical or forecasted weather parameters when predicting future FDRs. FDR is therefore a function of climate, however due to the significant difference between forest fire and grass fire conditions, two different FDI meters have been developed. FDI is also a factor used in the decision making process concerning the declaration of Total Fire Ban (TFB) days.

[2] DELWP 2008. *Climate change in Goulburn Broken*, Department of Environment Land Water & Planning, Victoria, Melbourne

[3] CSIRO and BOM 2012. *State of the Climate 2012*, Commonwealth Scientific and Industrial Research Organisation, Bureau of Meteorology.

The following figures provide a historical picture of the fire situation in the Municipality. Figure 10 gives us the average breakdown of the Municipalities fire season across the Moderate to Code Red categories of the FDR range, where 1 = forest and 2 = grassland. Whereas figure 11 describes the annual variation between each FDR category over different fire seasons for the last seven years. Finally figure 12 is a record of the number of TFBs declared within the Municipality (State-wide & Regional) over the last 10 years. What these statistics indicate is that the Municipality has a highly variable fire season, but it can expect to experience some "Moderate" to "High" FDR level days every year, with more severe conditions occurring on a regular if not annual basis.

Figure 9: Strathbogie Shire Fire Danger Rating History (2004-2011)

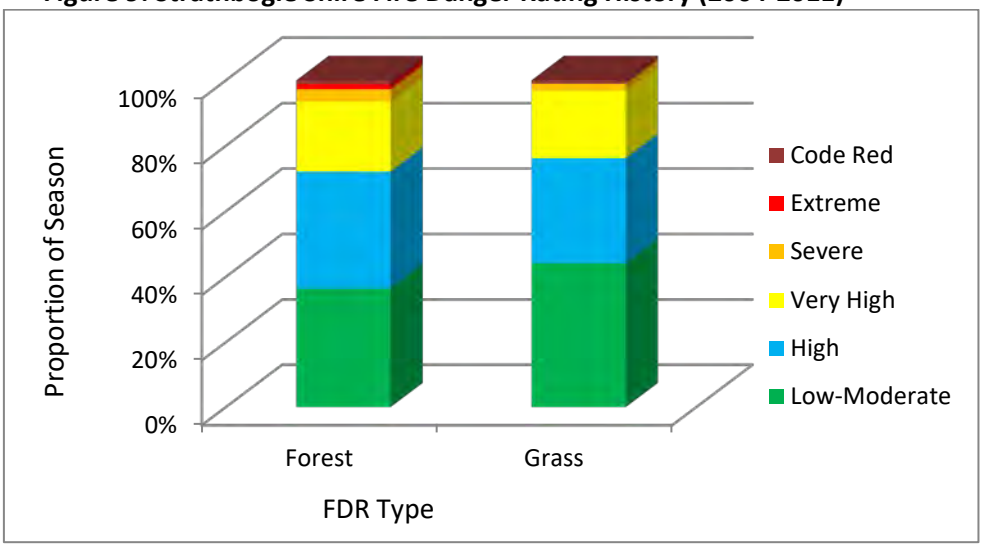


Figure 10: Strathbogie Shire Fire Danger Ratings Annual Variability (2004-2011)

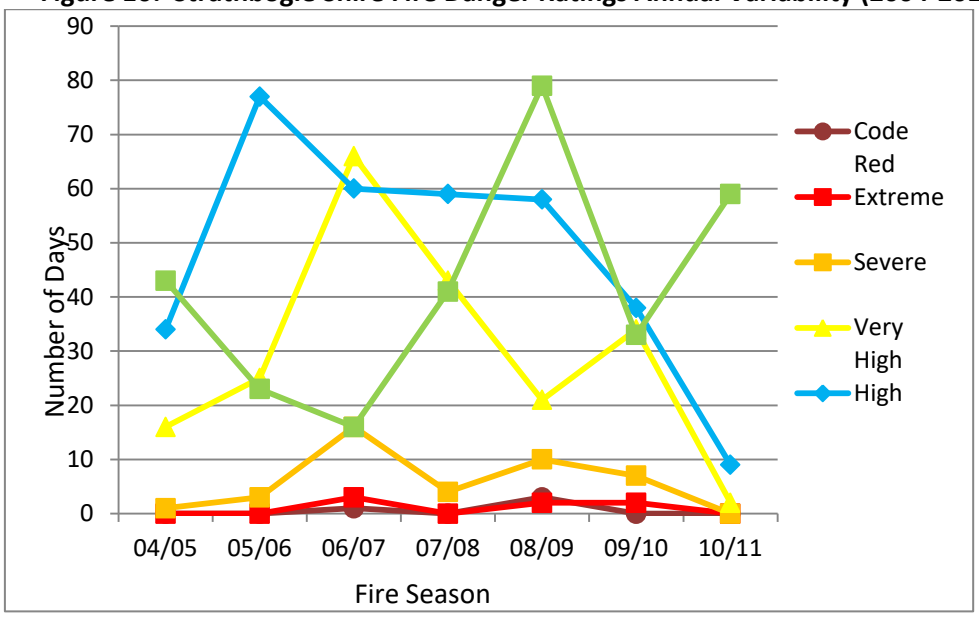
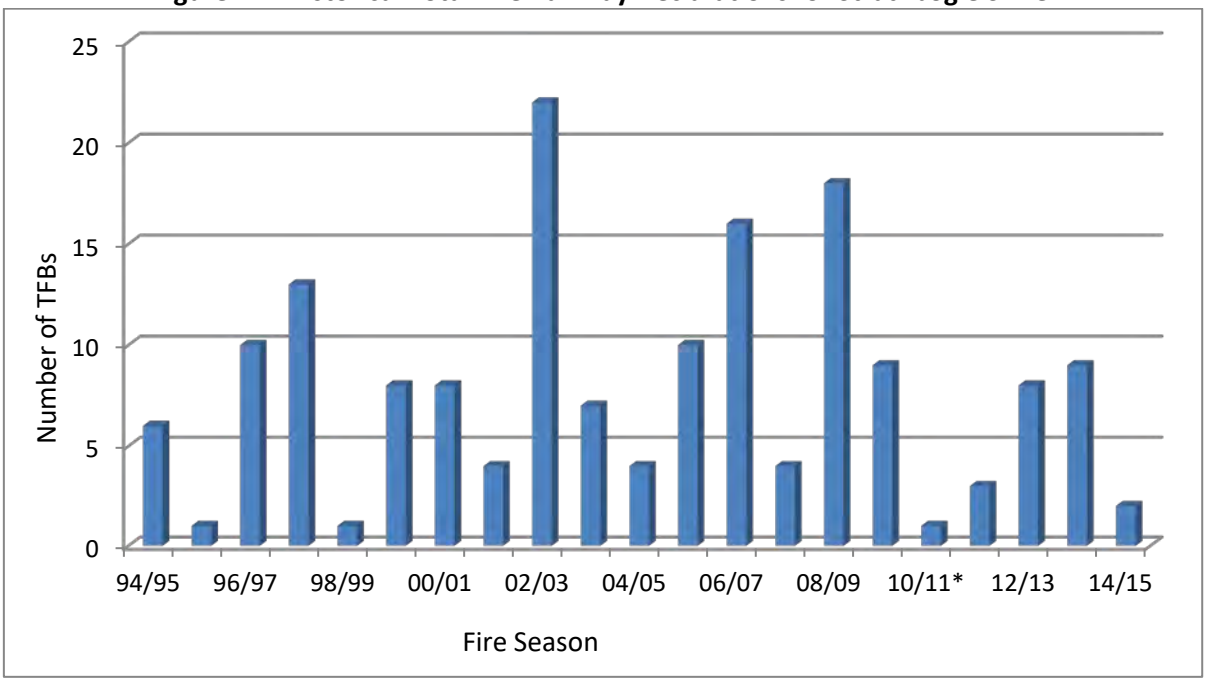


Figure 11: Historical Total Fire Ban Day Declarations for Strathbogie Shire



3.2 Strategic Implications

Bushfire can occur in any type of vegetation, such as grassland, trees, crops or scrub. This section describes the municipality of Strathbogie and factors that increase the likelihood of a fire starting and spreading across this area. Ensuring the municipality is a safe and healthy place to live and work, involves protecting the social, environmental and economic fabric of the municipality.

Strathbogie Shire has a range of assets and features which make it a vibrant place to work live or visit. These include large townships, small communities, rural areas, industries such as agriculture, agribusinesses and tourism and important infrastructure for essential services such as transport, power, and communications. In addition to the built environment the municipality boasts a range of natural assets such as high quality water resources and extensive native forests which are valued for their environmental, commercial and visual appeal.

The vegetation and topography of the Municipality create a number of challenges for fire management.
The topography in the Shire varies from flatter, sparsely vegetated flood-plains in the north and west, to heavily vegetated hilly country of the Strathbogie Ranges to the south and east. Response times in steeper and more heavily vegetated land can be delayed as locating and accessing fires with emergency equipment can be difficult.

3.2.1 Vegetation and topography

The woodlands and grasslands of Strathbogie Shire present a number of fire safety challenges particularly throughout the summer period. Much of the vegetation in the shire is confined to the Strathbogie Ranges, which have a number of steep escarpments and highly varying topography. They are heavily vegetated and have restricted access or egress and have a number of water courses flowing through them. All of these factors combine to make fire control and response in these areas difficult as locating and accessing fires with emergency equipment can be difficult.

A large percentage of remnant vegetation in the Shire is confined to roadside verges and river corridors. This presents a number of challenges to emergency services including access to sites and dense fuel loads adjacent to vehicular and pedestrian traffic. Fire management in and about these areas is an annual task.

The western area of the shire is traversed by the Goulburn River running north-south and the northern section by its tributaries which generally drain to the north-west. Although providing a reliable water resource and a natural fire break, access across the Goulburn River and its larger tributaries is generally restricted to bridges and crossing points which may delay emergency response times.

Bushfire threat is not confined to forested environments and the threat of grass fires is a significant one throughout the shire. While grassfires may have lower intensities and flame heights than forest fires, the combination of open ground and fine fuels can produce very fast moving destructive fires.

3.2.2 Weather and Climate

Weather conditions and climate also impact on fire management in Strathbogie Shire. For instance the bushfire season and associated fire restrictions is generally longer than that of other areas. Typically the municipality experiences spring rains and mild conditions that promote growth followed by hot summers which lead to high fuel loads.

The usual pattern during summer months is for north westerly winds accompanied by high day time temperatures and low relative humidity building up over several days to a storm event with a change to south westerly winds. This creates a situation whereby fire ignition from lighting becomes a likely possibility, with a propensity for the fire to run quickly in one direction before changing direction quickly, thus transforming the fires extensive flank into the new fire front.

With current trends and thinking in climate change, research modelling suggests the future climate will be warmer, drier and less predictable. We can therefore expect an increase in the number of extreme fire danger days as well as longer fire seasons. There is some expectation of up to 90 Total Fire Ban days per year by 2050.

3.2.3 People

Strathbogie Shire has experienced relatively few fires in recent history. That said the potential for fires to occur, particularly in the Strathbogie Ranges and to a lesser extent on the flood plains to the north and west, is still present. Strathbogie Shire's combination of rural lifestyle living, climate and vegetation coupled with the increasing number of people living in and visiting high fire risk localities during the fire danger period poses a significant issue for the municipality.

The municipality has people with different perspectives, different cultural backgrounds and different needs in regard to fire and fire safety. Understanding these needs is central to delivering effective community safety initiatives. This is particularly important for people new to the area or those that recently experienced a severe fire event.

The impact of a bushfire increases if the fire occurs in areas where people live, work and visit, so consequently, settlement patterns are important when understanding bushfire risk. There is significant population expansion around Avenel, Euroa, Violet Town and Nagambie, both intensively at the towns' edges and less intensively through rural residential development in the surrounding areas for lifestyle reasons. These patterns of human settlement have increased the amount of urban rural interface that requires intensive fire management.

Tourism also has considerable impact on human movement during the fire danger period, interacting with fire management at a several points. The same landscape features that may lead to increased fire danger, can also be underpinning elements of what makes the site attractive for tourism. Furthermore visitor numbers tend to increase as the fire season advances creating a situation of increasing potential impact as the fire risk rises.

4 Municipal Fire Management Objective

The Municipal Fire Management Objective provides a framework for considering, selecting and evaluating fire management activities. This objective was developed using the information examined during the environmental scanning process, as well as being informed by the Hume Regional Fire Management Plan and relevant issues and priorities from regional stakeholders and adjoining municipalities.

4.1 Municipal Objective

The fire management objective of STRATHBOGIE MFMPC is;

- *The participating agencies working together to plan for, respond to and recover from fire – to evaluate and work to reduce the risk of fire to the community, environment and economy in the Strathbogie Shire*

4.2 Strategic Direction

In developing strategic directions for the MFMP the MFMPC was mindful of the planning context within which they were undertaking this task. As illustrated in figure 2 the MFMP forms a critical third tier in the State of Victoria's Fire Management Planning hierarchy and therefore must not be developed in isolation from State and Regional level fire management plans. The MFMPC are keen to ensure any actions within the MFMP support and compliment any relevant State objectives and strategies with regard to fire management. Consequently the MFMPC have adopted the following broad strategic fire management deliverables from the State Fire Management Strategy 2009: PAUL

- Active participation of the 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 fire.
- Greater understanding of the fire sector within the community.
- Healthy natural, social and built economic environments.

4.3 Alignment of Regional & Municipal Objective

The Strathbogie MFMP fire management objective aligns closely with the Hume RSFMP objectives and vision for fire management. The development and implementation of this plan will therefore contribute significantly to the realisation of the Hume RSFMP's vision.

Hume Regional Fire Management Vision:

"The Hume Region working together to effectively anticipate, respond to and recover from major bushfire – to secure a safer region, more resilient community, healthier environment and a prosperous economy"

Furthermore the formation of the MFMPC and the development of a MFMP using the designated IFMP guide have strongly supported several of the RSFMP's key objectives. Evidence of this is described in the following table.

Figure 12: Alignment of MFMP & RSFMP objectives

RSFMP element	RSFMP objective	MFMP contribution
Planning together	Develop state, regional, municipal and local fire management plans and planning with a clear purpose and a consistent assessment of risk.	The MFMP provides the third tier in the IFMP process and utilises the same risk base approach as used with State and Regional plans
Collaborative implementation	Develop and implement fire management programs and activities in a collaborative manner.	The MFMPC consists of multiagency representation and has incorporated community engagement strongly into the development of the MFMP.
Building knowledge & capacity:	Build and share knowledge in the fire management sector and across the community. Improve the capability of communities, the fire management sector and the government to deal with fires.	The aspirations of the MFMPC converge with the regions in seeking to build both its members and the communities' knowledge and understanding of fire management.
Implementation support	Support the implementation of the IFMP framework in the Hume region	The development of this MFMP clearly demonstrates support for IFMP at a municipal level.

5 Fire Management Risk Strategies

Integrated fire management planning is the risk management process to establish priority setting for fire management activities and is consistent with the international standard for Risk Management ISO 31000. Risk is described within the standard as;

Risk Analysis = Consequence x Likelihood

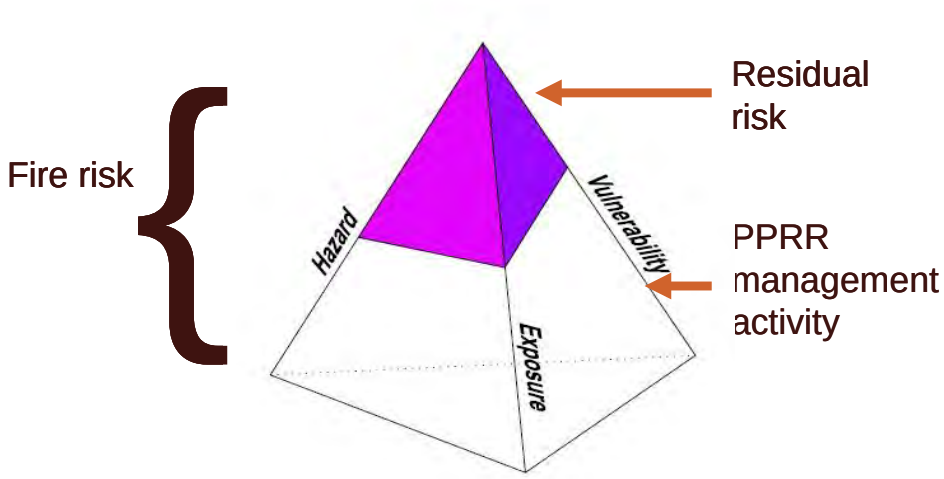
And the standard emphasises the need to establish and manage the risk to the objectives that have been set during the plan development process.

5.1 Risk Identification Process

These objectives and risks were identified through the environmental scanning process and primary to this process is Chrighton's Risk Pyramid. Chrighton's Risk Pyramid provides a framework for sorting, analysing and assessing information with respect to fire risk. It helps identify the amount of risk generated by the hazard x exposure x vulnerability relationship within the context (people, property, infrastructure, social, economic, biodiversity, the economy and heritage values) of a location or situation. Where;

- Hazard - is a specific event characterised by a certain magnitude and likelihood of occurrence
- Exposure - refers to the factors, such as people, buildings, the environment and economy that are subject to the impact of a specific hazard
- Vulnerability - refers to the characteristics of an element exposed to a hazard - road, building, person, and economy – that contributes to the capacity of that element to resist, cope with and recover from the impact of a natural hazard.

Figure 13: Chrighton's Risk Pyramid



By this means, the MFMPC was able to generate a list of bushfire risks for the municipality. As IFMP encompasses planning across all fire hazard environments, hazards need to be considered within a range of categories, so as to better understand the likely consequences and recovery risks involved. A copy of these categories can be found in Figure 14 below.

5.2 Risk Assessment Process

Risk is assessed by determining consequences and the likelihood of the consequence occurring, and the elements at risk. An event or set of circumstances may have multiple consequences and may affect multiple objectives. Existing risk treatments and their effectiveness should be taken into account when rating the level of risk.

As a first step in the assessment process each of the identified risks were refined into succinct risk statements and entered into the Risk Register. Risk statements are a description of the risk and simply describe the risk in terms of the source through to the impact. Each risk statement should outline:

- the hazard (source of risk)
- the element at risk
- the consequence of the interaction as a result of an event.

Each of these statements was then qualitatively assessed for their impact using the State Fire Management Planning Committee's State Bushfire Consequence Table (Attachment 1). Each consequence was considered in terms of both damage and disruption (loss of service or function) and in some cases, the consequence of an event was not realised at the local level but was of a significant impact at regional and/or state level. In addition the committee took into account existing treatments and their impact on the risk level. Consequence ratings were then entered into the risk register.

It is understood that a single fire incident that impacts an individual or group can be seen as a catastrophic event locally. In the preparation of the MFMP however, the MFMPC utilised State derived consequence tables to inform planning. These State consequence tables were utilised by all MFMPCs throughout Victoria so that individual risks and their consequences can be compared between municipalities, regions and the State. If a risk on Table 16 below has a lower risk rating, this relates directly to the State derived consequences and has no bearing on how consequences should be viewed by a local community, group or individual.

The likelihood of each event being realised was assessed using the data derived from the environmental scan and the *Likelihood Table* (Attachment 1). Where the committee did not believe it held the necessary technical expertise to make an assessment, advice was sought from relevant authorities outside the committee. Once agreement as to *Consequence* and *Likelihood* was reached the *Risk Assessment Matrix* (Attachment 1) was used to assign a risk level to each risk statement.

Figure 16 is a summary of the risk assessment process, detailing the highest priority bushfire risks in the Strathbogie Shire. The priority risks were determined by the combined fire experts on the MFMPC which utilised the fire experience of committee members, the VFRR risk register and the former Strathbogie Shire Fire Prevention Plan.

Once assessed, risks were also given categories using the Risk Categories Table (figure 15). This was done to group 'like' risks together. Primacy of life is the most essential element of the MFMP and is represented by the Risk Group – Social, and by the Risk Category- People and Social Setting. Other risk groups include economic risks, environmental risks and planning risks. The use of these categories and groups is utilised in both the risk assessment (Risk Register figure 16) and the Risk Management Strategy (figure 17).

Figure 14: Risk Categories Table

Risk Group	Risk Category	Risk Element	
SOCIAL	People & Social Setting	*Life & injury:* *Social services*: *Health & wellbeing:* *Displacement of people:*	Public Safety Functional continuity Social networks Employment/income
	Infrastructure	*Residential:* *Public accommodation* *Public assembly:* *Health care:*	House, flat, caravan, apartments Boarding house, hotel, hostel, correctional facilities Education, hall, theatre, stadium, cafe, restaurant Special accommodation homes, nursing homes and hospitals
	Cultural, Heritage	*Heritage sites and buildings* *Indigenous sites* *Iconic sites and features*: e.g. Puffing Billy	
ECONOMIC	Infrastructure	*Commercial:* *Industrial:* *Essential Infrastructure:* *Transport:*	Shopping complex, office Factory (heavy, light, special), warehouse, silo, chemical, petrol Pipelines, Power, public transport systems, Water Catchments, Power Water & Sewerage, Gas, Communications Road, rail, bridge, tunnel, port, marine, airport
	Production	*Agriculture and Farming:* *Business/Industrial Capacity* *Tourism*	Plantation, crop, pasture, poultry, feedlot, sawmill
ENVIRON-MENT	Biodiversity	*Assets that provide biological based ecosystem functions and/or services considered of value.*	
	Water	*Assets that provide of atmospheric/climatic ecosystem functions and/or services considered of value*	
	Air	*Assets that provide water-based ecosystems functions and/or services considered of value.*	
PLANNING	Governance & Regulation	*Corporate Governance Issues, including organisation structures; Boundary issues, Inter-Agency Agreements; Environmental scans; Population projections; urban development projections/planning; Volume projections; Long term/short term solutions; Infrastructure requirements to meet projected community needs*	
	Planning & Communication	*Internal, external, multi-municipal, communications strategies*	
	Stakeholder Management	*Community Expectations; Government expectations;* *Business and Industry Issues, including risks associated with developing and implementing programs to minimise the impact of fire on business and industry;*	
	Operational	*Encompasses the planning, daily operational activities, resources (including people) and support required within the 'area of interest', that results in the successful development and delivery of products/ services.*	
	Financial	*Ability to allocate limited financial resources to maximum effect; Ability to fund adequate resources to meet community needs; Skills & technical expertise; Management skills; Equipment maintenance, upgrades, and replacement funding; Geographical remoteness location needs; Government's ability to fund requirements to meet population growth needs*	

Figure 15: Risk Register

ID #	RISK DESCRIPTION (Defined)	RISK GROUP	RISK CATEGORY	CAUSE	IMPACT	COMMENT	LIKELIHOOD	RISK RATING
1	Risk to communities (people, residences and infrastructure) along Wiebye Track and Gap Road from fire on high and above FDR days	Social	People & Social Setting	Lightning and human factors	Loss of life, residences and infrastructure. Time and cost of recovery	Access/egress is limited, high fuel loads, limited acceptance of risk	Possible	Moderate
2	Risk to people, residences and infrastructure in remote areas and those living in fire prone areas along hillsides and mountains from fire on high and above FDR days	Social	People & Social Setting	Lightning and human factors	Loss of life, residences and infrastructure. Time and cost of recovery	Access/egress is limited, high fuel loads, limited acceptance of risk	Possible	Low
3	Risk to vulnerable people living in isolated areas and in aged care facilities in Strathbogie Shire from fire on severe and above FDR days	Social	People & Social Setting	Lightning and human factors	Loss of life	Relocation can cause loss of life	Unlikely	Low
4	Risk to people, residences and infrastructure along undulating grass lands such as Tabilk and Locksley from fire on severe and above FDR days	Social	People & Social Setting	Agricultural and human factors	Loss of life, residences and infrastructure. Time and cost of recovery. Loss of agricultural production	Substantial poultry industry in Euroa and Nagambie	Possible	Low
5	Risk that high roadside fuels on secondary roads will contribute to increased fire danger, and may also act as fire 'wicks' throughout the Strathbogie Shire from high and above FDR days	Social	People & Social Setting	Agricultural and human factors, lightning	Loss of life, residences and infrastructure. Time and cost of recovery. Loss of agricultural production	Many secondary roads are in mountainous areas, high road side fuels, only access and egress for isolated communities, access/egress for emergency services may be problematic	Possible	Low
6	Risk to reticulated water from fire in Euroa, Violet Town and Nagambie at any time of the year	Social	People & Social Setting	Structural fires or disruption to power grid	Loss of life, infrastructure and assets. Cost of recovery.	Electric pumps feed street mains and will not run without power (no backup)	Likely	Moderate

Figure 15: Risk Register

ID #	RISK DESCRIPTION (Defined)	RISK GROUP	RISK CATEGORY	CAUSE	IMPACT	COMMENT	LIKELIHOOD	RISK RATING
7	Risk to schools (including school bus access / egress) from fire on extreme and code red days	Social	People & Social Setting	Lightning and human factors	Loss of life	Procedures in place for code red days	Rare	Moderate
8	Risk to and from people participating in recreation activities as an ignition source of fire on high and above FDR days	Social	People & Social Setting	Lightning and human factors	Loss of life, loss of tourism	Including Wahring gliding club, School camps, Horse riders, Motorcycle, 4WDs, Caravan Parks, Camps, Lack of awareness from transient people	Possible	Low
9	Risk to and from people travelling on the Goulburn Valley Highway and Hume Freeway from fire on high and above FDR Days	Social	People & Social Setting	Human factors (accidental and malicious), mechanical failure, natural	Loss of life, Interruption to transport, diverting traffic onto smaller roads	Smoke impact, in many cases traffic diversions are not possible or they are problematic	Possible	High
10	Risk to and from agriculture of fires impacting upon communities and infrastructure in the broader area on high and above FDR days	Social	People & Social Setting	Lightning and human factors	Loss of life, assets and infrastructure, employment and economic loss to agricultural industry, time and cost of recovery	Includes machinery and haystack fires, haystack fires can occur at any time of year	Likely	Low
11	Risk from public land along waterways or topography impacting fire behaviour in a rural area potentially impacting residences, assets and infrastructure on severe and above FDR days	Social	People & Social Setting	Lightning and human factors	Loss of life, assets and infrastructure, employment and economic loss to industry, time and cost of recovery	Includes: Seven Creeks (Euroa and Strathbogie), Honey Suckle Creek, Hughes Creek, Goulburn River. Has a greater potential to impact residences, life and infrastructure in urban areas.	Possible	Low

Figure 15: Risk Register

ID #	RISK DESCRIPTION (Defined)	RISK GROUP	RISK CATEGORY	CAUSE	IMPACT	COMMENT	LIKELIHOOD	RISK RATING
12	Risk of distribution lines to Euroa being impacted/damaged by bushfire on an extreme and above FDR day leading to a loss of service	Social	People & Social Setting	Direct fire impact on poles/wires/structures, falling debris or vehicles accidents.	Loss of power to Euroa (location of effect dependant on location of impact)	Long length of exposed line, no alternative supply routes to these communities	Possible	Moderate
13	Risk of distribution lines & sub stations being impacted/damaged by bushfire on an extreme and above FDR day leading to a loss of service	Social	People & Social Setting	Direct fire impact on poles/wires/structures, falling debris or vehicles accidents.	Loss of power to local community (location of effect dependant on location of impact)	May take up to a week to restore power to towns	Possible	Low
14	Risk of fire fighters being injured or killed while responding to incidents	Social	People & Social Setting	Uncontrolled bushfire impacting on responding emergency services crews	Injury, loss of life	Consequence can have a significant impact on the broader community	Possible	Moderate
15	Risk to water catchments (local) and reduced water quality from fire after a fire event	Social	Infrastructure	Fire in the catchment	Reduced water quality, increased treatment costs due to increased turbidity, Impact on biodiversity	A number of nationally threatened aquatic species occur in the shire, A large percentage of the shire is a "Special Water Supply Catchment" and consequences could be widespread	Possible	Low
16	Residential fires in all human settlement areas	Social	Infrastructure	Human or other	Potential loss of life or infrastructure	Programs include Advance Program, Fire Safe Kids, CFA Mobile Education Unit, Residential Fire Safety Campaign	Almost Certain	Moderate

Figure 15: Risk Register

ID #	RISK DESCRIPTION (Defined)	RISK GROUP	RISK CATEGORY	CAUSE	IMPACT	COMMENT	LIKELIHOOD	RISK RATING
17	Risk of fire impacting cultural heritage and biodiversity (including threatened species) on extreme and above FDR days	Environment	Biodiversity	Lightning and human factors	Loss of biodiversity, loss of threatened species, loss of critical habitat, loss of cultural heritage	Access to AAV/DELWP databases needed, smaller fires without IMT could be a problem as cultural site location would be unknown	Unlikely	Low
18	Risk to Mt Wombat infrastructure (communication, telecommunication and flight infrastructure hub for municipality) from fire on severe and above FDR	Economic	Infrastructure	Lightning and human factors	Loss of infrastructure and assets. Time and cost of recovery. Interruption to function of emergency services	This may potentially impact flights including: Melbourne / Sydney flights: Mt Wombat beacon and Strathbogie beacon - National flight path. Local Flights: Wilsons Hill beacon, Lone Pine beacon, Creighton Hill beacon	Unlikely	Low
19	Risk to gas infrastructure (including the main Melbourne to Sydney line) from fire on severe and above FDR days	Economic	Infrastructure	Lightning and human factors	Potential impact state wide (on gas delivery)	Main Melbourne-Sydney gas feed runs through shire	Unlikely	Moderate
20	Risk to rail industry from fire and risk from fire starting on rail reserves and impacting on communities and infrastructure on severe and above FDR days	Economic	Infrastructure	Lightning and human factors	Loss of life, assets and services, time and cost of recovery	Some timber bridges present	Unlikely	Moderate
21	Risk of mobile service being interrupted due to towers being impacted by bushfire on very high and above FDR days	Economic	Infrastructure	Indirect impacts eg Loss of power to tower (most likely cause), direct impact to structure (unlikely)	Temporary loss of mobile telephone service for a small area	Towers themselves fairly fire resistance, other communications devices still operating, access to Mount Wombat may be limited during a fire event	Unlikely	Low

Figure 15: Risk Register

ID #	RISK DESCRIPTION (Defined)	RISK GROUP	RISK CATEGORY	CAUSE	IMPACT	COMMENT	LIKELIHOOD	RISK RATING
22	Risk of telephone communications being interrupted due to damage to cables during a bushfire on very high and above FDR days	Economic	Infrastructure	Dozer cutting lines during fire response or burning tree root near cable (rare)	Loss of all public communications services for a small area	Unusual but has been known to happen	Unlikely	Low
23	Risk to private and commercial tree plantations from fire on high and above FDR days	Economic	Production	Lightning and human factors	Loss of asset, cost and time of recovery	Commercial forestry have plans and firefighting infrastructure	Possible	Low
24	Risk to viticulture/wine industry from fire and smoke taint and risk from viticulture (fires entering and being difficult to contain) on high and above FDR days	Economic	Production	Lightning and human factors	Loss of production, time and cost of recovery	Smoke taint depends on time and amount of exposure	Possible	Low
25	Risk to infrastructure, employment, stock and people in the Equine industry from fire on severe and above FDR days	Economic	Production	Lightning and human factors	Loss of life, assets and infrastructure, employment and economic loss to equine industry, time and cost of recovery	Including: Creightons Creek Rd / Bartons Lane area in Creightons Creek (Lindsay Park stud), Longwood Gobur Rd in Longwood east (Several Studs), Northwood area, jus Southwest of Seymour, probably falls in Mitchell Shire (Darley Stud, Sweetenham Stud). Risks to assets minimised over summer period as grass levels are usually low.	Unlikely	Low

5.3 Risk Management Strategy

Having developed a register of risks for Strathbogie Shire, the committee was able to allocate the current treatments of responsible agencies against relevant risk areas and thus develop a Risk Management Strategy. This strategy is a matrix of;

Priority risks x treatment x agency x time frames

This creates a snapshot of who is doing 'what', 'where' and 'why' within the municipality, to reduce the risks posed by fire within the municipality.

The following table (figure 17) details all of the treatments or procedures being undertaken by all of the major infrastructure providers, regulatory agencies and community based agencies throughout Strathbogie Shire. Each of the statements was given by the Responsible Agency as something that they see as treatment essential to fire prevention, preparedness, response, recovery and the use of fire. They have been ordered using the risk categories in Figure 15, as have the risk assessments in Figure 16. This is so that some consistency of method can be utilised to group 'like' risks or treatments together. In Figure 17, some of the treatments may have additional risk groups. For example, a treatment that impacts people may also have a potential economic impact. They have however been ordered to reflect their 'priority' risk group. The highest priority in categorising the treatments is the 'primacy of life'.

Figure 16: Risk Management Strategy

Risk Group	Risk Category	Treatment		Treatment description	Spectrum					Responsible agency	Application	
		ID #	Name		Prevention	Preparedness	Response	Recovery	Use		Targeted*	Period (Year 1, 2, 3)
Social	**People and Social Setting**	1	Schools Program	Fire Safe Kids, Mobile Education Bushfire Unit.	·	✓	·	·	·	CFA	Y	All
		2	Brigade Burn Program	Removal of vegetation through burning to protect life & property includes Township Protection Burning, Planned Burn Program & Fuel Reduction Burns by CFA Brigades.	✓	✓	·	·	·	CFA	Y	All
		3	Vulnerable Communities Fire Awareness	Community education & information for vulnerable groups about fire.	✓	✓	·	·	·	CFA	Y	All
		4	Awareness	Fire awareness programs targeted at communities via shows/events/displays	·	✓	·	·	·	CFA	N	All

Figure 16: Risk Management Strategy

Risk Group	Risk Category	Treatment		Treatment description	Spectrum					Responsible agency	Application	
		ID #	Name		Prevention	Preparedness	Response	Recovery	Use		Targeted*	Period (Year 1, 2, 3)
Social	People and Social Setting	5	Fire Ready Victoria	Assists in perception & understanding of bushfire risk so as to modify behaviours and make individuals act more safely. Includes bushfire awareness sessions for communities, community groups, businesses & service providers.	·	✓	·	·	·	CFA	Y	All
		6	Public Information	Fire information through Fire Danger Rating signs, media etc to raise awareness of fire risk. Includes Fire Action Week.	✓	✓	·	·	·	CFA	N	All
		7	Community Information Guides	Planned response (for both emergency services & the community) to a bushfire within a close proximity to a township, which has the potential to impact on the local community.	·	✓	·	·	·	CFA	Y	All
		8	Community Fire Guard	A community development program designed to help reduce the loss of lives & homes in bushfires. It assists neighbouring residents to develop bushfire survival strategies that suit their level of risk, lifestyle, environment & values.	·	✓	·	·	·	CFA	Y	All
		9	Property Advice Service	Individual 1:1 plus Streetscape fire awareness & education for residents with the highest level of bushfire and grass fire risk. Advice on property management, planning, personal capacity & potential fire hazards.	·	✓	✓	·	·	CFA	Y	All
		10	Community Debriefs	Post fire debriefings for CFA members, community & stakeholders	·	·	·	✓	·	CFA	N	All

Figure 16: Risk Management Strategy

Risk Group	Risk Category	Treatment		Treatment description	Spectrum					Responsible agency	Application	
		ID #	Name		Prevention	Preparedness	Response	Recovery	Use		Targeted*	Period (Year 1, 2, 3)
Social	People and Social Setting	11	Routine Site Maintenance	Ongoing mowing/slashing/spraying of sites within crown land to reduce fuel loads for protection of assets or adjoining properties. Includes Asset Protection Zone work around high value assets and maintenance of Neighbourhood Safer Places within crown land.	·	✓	·	·	·	PV/DELWP	Y	All
		12	Communications	Maintenance of a communications network	·	✓	·	·	·	DELWP	N	All
		13	Information kits	"After the fires: Practical Advice" & "Recovery from emergencies"; information kits containing brochures & fact sheets for people affected by fire/emergency	·	·	·	✓	·	DHS	N	All
		14	Vulnerable persons toolkit	Identifies location, contact details & describes needs of vulnerable persons within a municipality	·	✓	·	·	·	DHS	N	All
	Infrastructure	15	Detection	Maintenance of a detection network. Includes fire lookout towers and detection flights	·	✓	·	·	·	DELWP	N	All
		16	Incident Control Centres	Maintenance of a strategic network of incident control facilities to support response in emergency management incidents. Includes agreed level 3 ICCs to predetermined standards	·	✓	·	·	·	CFA/DELWP	Y	All
		17	Air support facilities	Maintenance of a strategic network of air support facilities. Includes airbases & helipads.	·	✓	·	·	·	DELWP	Y	All
		18	Fire Risk Management System	GIS program identifying location & details of community facilities managed by DHS and allied agencies.	·	✓	·	·	·	DHS	N	All

Figure 16: Risk Management Strategy

Risk Group	Risk Category	Treatment		Treatment description	Spectrum					Responsible agency	Application	
		ID #	Name		Prevention	Preparedness	Response	Recovery	Use		Targeted*	Period (Year 1, 2, 3)
Economic	**Production**	19	Agricultural Management	Fire management & safety issues for land owners/managers to assist in the preparation of property fire management plans. Includes publication "On the land", "Farm Fire Safety" module (delivered via DELWP & TAFE Whole Farm Planning courses on request).	·	✓	·	·	·	CFA/DELWP	N	All
Economic	**Production**	20	Native Animal Welfare	Management of native animal welfare associated with an emergency incident.	·	·	·	✓	·	DELWP	N	All
		21	Relief & recovery services to primary producers	Assess damage to and loss of agricultural crops, livestock and infrastructure of commercial primary producers and rural land managers (including aquaculture), identify & refer personal and technical needs to appropriate businesses (within DELWP) or agencies	·	·	·	✓	·	DELWP	N	All
		22	Animal Welfare Needs	Liaise with animal welfare support agencies and organisations to deliver animal welfare services including assessing injured and affected animals (livestock & companion animals) in emergencies with an emphasis on the needs of commercial primary producers and rural land managers	·	·	✓	·	·	DELWP	N	All
	Infrastructure	23	Access Roads and Tracks	Establishment of constructed and maintained roads, bridges and tracks to allow safe passage for fire fighting vehicles. Includes Walking Track Maintenance.	·	✓	·	·	·	PV	Y	All
		24	Water point Maintenance	Maintenance of a strategic network of water points	·	✓	·	·	·	DELWP	Y	All

Figure 16: Risk Management Strategy

Risk Group	Risk Category	Treatment		Treatment description	Spectrum					Responsible agency	Application	
		ID #	Name		Prevention	Preparedness	Response	Recovery	Use		Targeted*	Period (Year 1, 2, 3)
Economic	Infrastructure	25	Fire Access Roads and Tracks	Maintenance of roads, bridges and tracks to specified standards.	·	✓	·	·	·	DELWP	Y	All
		26	Routine Maintenance of facilities	Ongoing mowing/slashing/spraying of sites to reduce fuel loads to ensure protection of assets, minimise ignition potential and ensure adequate access and egress. Includes routine maintenance of structures (eg gutter cleaning).	✓	✓	·	·	·	Ausnet Services	N	All
		27	Routine maintenance of transmission & powerlines	Vegetation management around powerlines and along easement, regular inspections, maintenance of access tracks.	✓	✓	·	·	·	Ausnet Services	N	All
		28	Routine Maintenance of facilities	Ongoing mowing/slashing/spraying of sites to reduce fuel loads to ensure protection of assets, minimise ignition potential and ensure adequate access and egress. Includes routine maintenance of structures (eg gutter cleaning)..	·	✓	·	·	·	Telstra	N	All
		29	Bushfire Mitigation	Removal of identified fire risks to lines & facilities, eg tree lopping	·	✓	·	·	·	Telstra	N	All
		30	Fire Plug and Hydrant Installation and Maintenance	Works carried out to ensure that the system will operate correctly when required to do so.	·	✓	·	·	·	LGA	Y	All
		31	Fire access Roads and Tracks	Establishment of constructed and maintained roads, bridges and tracks to allow safe passage for fire fighting vehicles.	·	✓	·	·	·	LGA	Y	All

Figure 16: Risk Management Strategy

Risk Group	Risk Category	Treatment		Treatment description	Spectrum					Responsible agency	Application	
		ID #	Name		Prevention	Preparedness	Response	Recovery	Use		Targeted*	Period (Year 1, 2, 3)
Economic	Infrastructure	32	Fuel Hazard Management	Reducing fuel loads to protect assets, fuel hazard mitigation eg slashing, burning, within townships, roadsides, reserves	✓	✓	·	·	·	LGA	Y	All
		33	Powerline Clearance	Vegetation management around powerlines in Euroa and Avenel.	✓	✓	·	·	·	LGA	Y	All
		34	Roadside Vegetation Management	Removal of fuel and vegetation management along roadsides. Includes Strategic Fire Fuse Breaks and routine Roadside Maintenance.	·	✓	·	·	·	Vic Roads	N	All
		35	Routine Maintenance of facilities	Ongoing mowing/slashing/spraying of sites to reduce fuel loads to ensure protection of assets, minimise ignition potential, includes routine maintenance of structures (eg gutter cleaning)..	✓	✓	·	·	·	DEECD	N	All
		36	Routine Maintenance of facilities	Ongoing mowing/slashing/spraying of sites to reduce fuel loads to ensure protection of assets, minimise ignition potential and ensure adequate access and egress. Includes routine maintenance of structures (eg gutter cleaning)..	·	✓	·	·	·	GVW	N	All
Environment	Biodiversity	37	Vegetation Management	Advice to landholders & linkages to CFA Brigades to manage vegetation & lower bushfire risk	✓	✓	·	·	·	CFA	Y	All
Planning	Governance and Regulation	38	Statutory & Legislative activities	Bushfire Prone Areas & Bushfire Management Overlay, declaration of TFBs, declared danger periods, regulation of burning permits.	✓	✓	·	·	·	CFA	N	All
		39	Park closures	Closure of parks/forests and facilities at times of very high fire danger	·	✓	·	·	·	PV/DELWP	N	All

Figure 16: Risk Management Strategy

Risk Group	Risk Category	Treatment		Treatment description	Spectrum					Responsible agency	Application	
		ID #	Name		Prevention	Preparedness	Response	Recovery	Use		Targeted*	Period (Year 1, 2, 3)
Planning	**Governance and Regulation**	40	Patrol/Inspection	Inspections of assets to ensure compliance with regulations and safety requirements and to assess for fire hazards. Includes Campfire Patrols and Parks Victoria Ranger Patrol Program.	✓	✓	·	·	·	PV	Y	All
		41	Enforcement	Programs which support legislative compliance. Includes patrols to enforce campfire regulations, forest closures, fire cause investigations and prosecutions.	✓	·	·	·	·	DELWP/PV	N	All
		42	Bushfire Management Overlay	Development of a new overlay, includes opportunity to modify to local conditions through schedules.	✓	·	·	·	·	DPCD	N	All
		43	Bushfire Prone Areas	Interactive online map service that identifies areas likely to be subject to fires and consequent construction standards requirements	✓	·	·	·	·	DPCD	N	All
		44	Patrol/ Inspection	Inspections of assets to ensure compliance with regulations and safety requirements and to asses for fire hazards. Includes Private Property Inspections, Property Inspections, and Fire Hazard Inspection Program.	✓	·	·	·	·	LGA	N	All
		45	Operation Firesetter	Increased resources in high risk areas on Severe+ FDI days, increased patrols, increased visibility and covert surveillance so as to reduce the risk of arson and increase capacity in the event of a bushfire occurring.	·	·	✓	·	·	Vic Pol	Y	All

Figure 16: Risk Management Strategy

Risk Group	Risk Category	Treatment		Treatment description	Spectrum					Responsible agency	Application	
		ID #	Name		Prevention	Preparedness	Response	Recovery	Use		Targeted*	Period (Year 1, 2, 3)
Planning	**Governance and Regulation**	46	Investigations	Investigate suspicious fires to ascertain cause and identify perpetrators	·	·	·	✓	·	Vic Pol	N	All
	Planning and Communication	47	Emergency Management Plan (Site)	CFA input into site specific Emergency Management Plans including bushfire component	·	✓	·	·	·	CFA	Y	All
		48	Emergency Management Response Plans	Ensure that proper and sufficient works for wildfire prevention and suppression activities in Victoria are conducted in an operationally safe, environmentally sensitive and cost- effective manner. Ensure efficient and appropriate response	·	✓	✓	·	·	PV	Y	All
		49	Technical advice	Provision of specialist technical advice and support to other agencies involved in fire management activities	·	·	✓	·	·	PV	N	All
		50	Fire Management Planning	DELWP Fire Management Zones. Strategic landscape scale zoning of public land across the state to achieve fuel management outcomes	·	✓	·	·	·	DELWP	N	All
		51	Planned burning	Implementation of planned burning and other works as identified in FOP on public land	·	✓	·	·	·	DELWP	Y	All
		52	Crown Land fuel management	Managing fuel loads on crown land. Includes slashing, mulching and burning.	·	✓	·	·	·	DELWP	Y	All
		53	Bushfire readiness	Provision of specified levels of skills and resources to respond to emergencies. Includes people (PFFs), equipment, heavy plant, aircraft, facilities and consumables	·	✓	·	·	·	DELWP	N	All

Figure 16: Risk Management Strategy

Risk Group	Risk Category	Treatment		Treatment description	Spectrum					Responsible agency	Application	
		ID #	Name		Prevention	Preparedness	Response	Recovery	Use		Targeted*	Period (Year 1, 2, 3)
Planning	**Planning and Communication**	54	Education	Programs which maintain public awareness of the bushfire threat, promote the importance of self-protection & encourage the responsible use of fire by the community. Includes multimedia messaging, in field patrols and publications.	✓	·	·	·	·	DELWP/PV	N	All
		55	Bushfire response	Respond to bushfires on public land to protect life and minimise impacts on property, communities and the environment. Includes timely provision of public information.	·	·	✓	·	·	DELWP	N	All
		56	Rehabilitation plan	Implement a works program to repair or replace fire affected infrastructure and minimise impacts upon natural values.	·	·	·	✓	·	DELWP/PV	N	All
		57	Emergency management support	Provide support to other organisations for emergency management, including expertise and specialist resources.	·	·	✓	·	·	CFA, DELWP, LGA	N	All
		58	Emergency Relief Handbook	Information & direction for emergency relief arrangements in Vic	·	·	·	✓	·	DHS	N	All
		59	Bushfire plan	Individual Bushfire plans for DHS run facilities (as necessary)	·	·	·	✓	·	DHS	N	All
		60	Bushfire hazard identification framework	Identifies the different level of bushfire hazard at a state wide scale and the different responses that planning and building systems will implement	✓	·	·	·	·	DPCD	N	All

Figure 16: Risk Management Strategy

Risk Group	Risk Category	Treatment		Treatment description	Spectrum					Responsible agency	Application	
		ID #	Name		Prevention	Preparedness	Response	Recovery	Use		Targeted*	Period (Year 1, 2, 3)
Planning	Planning and Communication	61	Public Awareness	Fire information through notice boards, brochures, signage etc to raise awareness of fire risk.	·	✓	·	·	·	Ausnet Services	N	All
		62	Technical advice	Provision of specialist technical advice, information & assistance to other agencies involved in emergency response eg temporary power cessation, line inspection in conjunction with field operations.	·	·	✓	·	·	Ausnet Services	N	All
		63	Supply continuity	Maintain a response capability (scaled to level of risk) so as to minimise length of power disruptions from incidents eg fire/storms	·	·	✓	·	·	Ausnet Services	N	All
		64	Restoration	Repair & replace damaged assets post fire so as to restore full services and minimise community impact	·	·	·	✓	·	Ausnet Services	N	All
		65	Powerlines Hazard Identification	Preparedness around powerlines including risk ratings, inspections, maintenance and response arrangements. Includes Powerlines Bushfire Mitigation Strategy, Powerlines Faults and Emergency Events.	·	·	·	·	·	Ausnet Services	Y	All
		66	Specialist Support	Provide specialist support to other agencies(eg Vic Pol, CFA, DHS, DELWP) involved in response to an emergency, eg doorknocks, transport, staging area mgt.	·	·	✓	·	·	SES	N	All

Figure 16: Risk Management Strategy

Risk Group	Risk Category	Treatment		Treatment description	Spectrum					Responsible agency	Application	
		ID #	Name		Prevention	Preparedness	Response	Recovery	Use		Targeted*	Period (Year 1, 2, 3)
Planning	Planning and Communication	67	Traffic Diversion Plans	Establishment of an appropriate traffic flow, through traffic management in the community and appropriate access and egress for property and business owners. Includes Traffic Management Strategies Assistance to other agencies.	·	·	✓	·	·	Vic Roads	N	All
		68	Bushfire Management Overlay	Planning referral for new subdivisions, buildings and works that increase population. Applies conditions for access, Water Supply, Buildings/ Works and Vegetation Management.	·	✓	·	·	·	LGA	N	All
		69	MERC	Coordinate municipal emergency response effort in the event of a major bushfire	·	·	✓	·	·	Vic Pl	N	All
		70	Evacuations	Coordinate evacuation measures undertaken in response to a bushfire threat	·	·	✓	·	·	Vic Pol	N	All
		71	Specialist Support	Provide specialist support to other agencies involved in response to a bushfire eg vehicle escorts	·	·	✓	·	·	Vic Pol	N	All
		72	Strategic Fire plan	Development and maintenance of strategic fire breaks and fire access tracks, operational restrictions on plantation activities based on forecasted FDI, a range of fire fighting resources on varying levels of preparedness based on forecasted FDI (includes fire fighting appliances, trained and experienced personnel, heavy machinery, and aerial support), strategic water points/ fire tanks placed throughout estate to ensure water availability for suppression activities.	✓	✓	✓	·	·	HVP	N	All

Figure 16: Risk Management Strategy

Risk Group	Risk Category	Treatment		Treatment description	Spectrum					Responsible agency	Application	
		ID #	Name		Prevention	Preparedness	Response	Recovery	Use		Targeted*	Period (Year 1, 2, 3)
Planning	Planning and Communication	73	Emergency Management Plan (Site)	Established framework for the effective handling of emergencies, includes an Emergency Management Plan for each school, childcare centre, preschool (public & private), mandatory training for staff, nominated bus routes, code red closures.	·	✓	·	·	·	DEECD	N	All
		74	Emergency response plan	Respond appropriately to the impacts of fire on water supply and waste management	·	·	✓	✓	·	GVW	N	All
		75	Alternative drinking water supply plan	Provision of alternative drinking water supplies to specific towns in the event of loss of normal supply	·	✓	✓	·	·	GVW	N	All
	Operational	76	Standard Operating Procedures	Dictate level of readiness according to the conditions so as to ensure appropriate resourcing & preparedness for optimum response	·	✓	·	·	·	CFA	N	All
		77	Resourcing	Strategic network of qualified & equipped staff, volunteers & appliances for mounting timely response to fires on private land.	·	·	✓	·	·	CFA	Y	All
		78	Fire Operations Plan	Planning of proposed fire prevention activities to be carried out on public land (includes all land managed by DELWP and PV) with the objective of reducing impacts of bushfire on life, community, critical infrastructure, industry and the environment. Includes planned burns, slashing and track works, grazing, and additions to the permanent network of strategic fuel breaks.	·	✓	·	·	·	DELWP	N	All

Figure 16: Risk Management Strategy

Risk Group	Risk Category	Treatment		Treatment description	Spectrum					Responsible agency	Application	
		ID #	Name		Prevention	Preparedness	Response	Recovery	Use		Targeted*	Period (Year 1, 2, 3)
Planning		79	Regional Resourcing & activation guidelines	Identifies DHS resource requirements for different emergencies and describes triggers for activation of different levels	·	✓	·	·	·	DHS	N	All
		80	Response program	Maintain service continuity and minimise disruptions by responding to faults or damage to facilities, includes deployment of mobile communication units and use of generators during power outages	·	·	✓	✓	·	Telstra	N	All
		81	Risk Management procedures	Operating procedures varied to reduce risk during high fire danger periods/events (eg reduce methane gas levels at waste treatment sites) and strategic spread of facilities and generators to spread risk and ensure continuity of supply	·	✓	·	·	·	GVW	N	All
	Financial	82	Fire Access Roads, Tracks & Water Points	Coordination of Fire Access Roads Subsidy Scheme (FARSS) to enable construction & maintenance of roads, bridges & water points.	·	✓	·	·	·	CFA/LGA	Y	All
		83	Emergency grants	Grant to families whose home is impacted by fire, allocated by municipality.	·	·	·	✓	·	DHS	N	All

5.4 Specific Treatments

In addition to the above Risk Assessment and Risk Management Strategy, the MFMPC came up with a list of specific treatments. This list (Figure 18 below) highlights the specific activities either currently undertaken or proposed to be undertaken to mitigate fire risk further and give further detail than listed in the Risk Management Strategy. Activity custodians refer to all agencies involved in the treatment regime. In terms of a timeline, the year column refers to the three year life cycle of the plan and which year the treatment is applicable.

Figure 17: MFMP List of Treatments

Action Plan ID #	Description	Specific Treatment Activity	Treatment Status	P.P.R.R or Use	Lead Agency	Other Agencies	Year 1	Year 2	Year 3	Comment
1	Wiebye Track and Gap Road	Property Advice Service	Current	Prevention	CFA	LGA	Yes	Yes	Yes	Rolling program
2	Roadside Fuel Management	Risk Profile Assessment Tool (by Terramatrix)	New	Prevention	Vic Roads	LGA	Yes			Need to determine Vic Roads process, Work in progress, Vic Roads are training LGA in use. (Rev 7.0) – 2014/15 - High Bushfire Risk Roads process developed by MFMPC. Collaborates with Action Plan ID No. 8 Saferlinks (Ref: MFMP Attachment XXX)
3	Roadside Fuel Management	LGA spraying program	Current	Prevention	LGA	DELWP	Yes	Yes	Yes	Limited funding, applies to 780km of road network
4	Roadside Fuel Management	LGA slashing program	Current	Prevention	LGA	DELWP	Yes	Yes	Yes	As required, limited funding, work prioritised with road safety in mind (Rev 7.0) – Program expanded 2014/15 to include rural interface
5	Highways and freeways	Investigate Vic Roads installation of cable rope barriers. MFMPC unaware of current standards, Investigate Headlight Barrier Vegetation Types (and effect on fire intensity), Investigate revegetation (types of plants) on Vic Roads land	New	Response	MFMPC	Vic Roads, HRSFMPC	Yes	Yes	Yes	Gaps, access; is there a current standard? Need for emergency service vehicles to gain access, Current plants have potential to increase fire intensity, Fuel loading and planting arrangements need to be taken into account, access/egress, Work with HRSFMPC and Vic

Figure 17: MFMP List of Treatments

Action Plan ID #	Description	Specific Treatment Activity	Treatment Status	P.P.R.R or Use	Lead Agency	Other Agencies	Year 1	Year 2	Year 3	Comment
										Roads Representative (Rev 7.0) – Correspondence to VicRoads and HRSFMP. Remedial works ongoing. Extra freeway crossover works. HRSFMP working on standards
6	Roadside Vegetation Management	Investigate funding avenues for further fuel reduction works on roadsides, and complete further works as advised by CFA and DELWP	New	Prevention	LGA	CFA, DELWP	Yes	Yes	Yes	Work with DELWP and CFA to determine priorities and requirements (eg *Flora and Fauna Guarantee Act 1988*) (Rev 7.0) –2013/14 2 No. FARSS applications of $25K (+1:1)not supported. Application to Natural Disaster Resilience Grants Scheme 2014/15 of $37.9K (+1:1) not supported.
7	Property Inspections	Property Inspections and issue of fire prevention notices for non-conformances	Current	Prevention	LGA	CFA	Yes	Yes	Yes	Inspections focused on towns and surrounding properties that may impact town areas. (Rev 7.0) – 2011/12 – FPN = 40, IN = 12 2012/13 – FPN = 227, IN = 14 2013/14 – FPN = 184, IN = 20 2014/15 – FPN = 194, IN = 9
8	Project 'Saferlinks'	Strathbogie Shire in conjunction with Upton Hill Fire Brigade is investigation a project concentrating on roadside fuel levels and the availability of safe zones/turn around zones for emergency services in a fire based incident	New	Preparedness	LGA	CFA (Upton Hill RFB)	Yes			Currently Strathbogie Shire is seeking to implement the project.

Figure 17: MFMP List of Treatments

Action Plan ID #	Description	Specific Treatment Activity	Treatment Status	P.P.R.R or Use	Lead Agency	Other Agencies	Year 1	Year 2	Year 3	Comment
9	VicRoads Roadside Bushfire Risk Assessment and Proposed Treatment Options	Works Plan 2013	New	Prevention	VicRoads		Yes			Infovision Doc ID 220313

5.5 Fire Management Responsibility

Fire management responsibility within the municipality may be described in three categories.

5.5.1 Response Agencies

5.5.1.1 Country Fire Authority (CFA):

CFA is charged under the CFA Act with the responsibility for Fire Safety Planning and Fire Suppression in all areas of Victoria excepting the area covered by the Metropolitan Fire Brigade and Fire Protected Areas. The CFA is a community based fire and emergency service whose mission is to protect lives and property. CFA responds directly to a range of emergency incidents, as well as conducting broader activities with the community such as education, awareness raising, industry brigades and fire investigation.

It should be noted that the treatments listed in Figure 17 above are proposed treatments only for the next 3 years, and that actual implementation in any given year may be influenced by a variety of factors such as availability of resources and seasonal conditions

Link to CFA website: www.cfa.vic.gov.au/

5.5.1.2 Department of Environment Land Water & Planning:

DELWP is responsible for fire suppression and management on public land (with support from Parks Victoria), including planned burning for ecological and risk management objectives. Their objective is to protect communities and critical infrastructure from fire and to promote healthy and resilient ecosystems.

Link to DELWP FOPs Planning:
http://www.DELWP.vic.gov.au/fire-and-emergencies/planned-burns/fire-operations-plans

DELWP is also responsible for agriculture recovery programs and animal welfare.

5.5.1.3 Strathbogie Shire Council

Strathbogie Shire Council is responsible for the management of all council owned property, as well as ensuring that private land holders appropriately manage their land. Council officers inspect properties within the municipality to assess the potential risk of a fire and where necessary may issue a fire prevention notice. They also undertake annual fire prevention works on roadsides and reserves leading up to and during the fire season. Strathbogie Shire is also involved in the delivery of the Local Government outcomes identified by the Victorian Bushfire Royal Commission (VBRC). The VBRC outcomes for Local Governments are (and are not limited to):

- Integrated Fire Management Planning
- Community Information Guides
- Shelter options, including neighbourhood safer places
- Native vegetation removal along roadsides
- Land use planning
- Local government resourcing and support
- Identification of vulnerable people
- Evacuation planning

- Hazard trees identification and notification procedures
- Animal welfare during emergencies
- Community alert sirens
- Fire Ready campaign

Link to Strathbogie Shire Website: www.strathbogie.vic.gov.au/
Link to VBRC: http://www.royalcommission.vic.gov.au/

5.5.1.4 Department of Human Services (DHS)

DHS is the appointed agency to co-ordinate recovery planning and operations at the State and regional levels. At a municipal level, the responsibility for recovery is with the Local Government Authority with recovery arrangements and plans outlined in the Municipal Emergency Management Plan (MEMP).

Link to DHS website: www.dhs.vic.gov.au

5.5.1.5 Department of Primary Industry (DELWP)

The Department of Primary Industries (DELWP) is responsible for agriculture recovery programs and animal welfare.

Link to DELWP Website: www.DELWP.vic.gov.au/

5.5.1.6 Parks Victoria

Parks Victoria is responsible for managing the parks and reserves in Victoria and supporting DELWP response efforts.

Link to Parks Victoria Website: http://parkweb.vic.gov.au/

5.5.1.7 State Emergency Services (SES)

VICSES is a volunteer based organisation responding to emergencies and working to ensure the safety of communities around Victoria. VICSES is the lead agency when responding to floods, storms and earthquakes and support agency in fire situations.

Link to SES website: www.ses.vic.gov.au/

5.5.1.8 VicRoads

VicRoads manage the Victorian arterial road network and its use as an integral part of the overall transport system.

Link to Vic Roads Web site: www.vicroads.vic.gov.au/

5.5.1.9 Department of Planning and Community Development (DPCD)

The Department of Planning and Community Development (DPCD) is responsible for managing the state's planning system and building stronger communities.

Link to DPCD Web Site: www.dpcd.vic.gov.au

5.5.1.10 Victoria Police (VICPOL)

Victoria Police are responsible for ensuring a safe and secure society.

Link to Victoria Police Web Site: www.police.vic.gov.au/

5.5.1.11 Goulburn Valley Water (GVW)

GVW provides water and sewerage services to 38 towns, villages and cities in North East Victoria, serving an estimated population in excess of 113,000 people in an area of approximately 20,000 square kilometres.

Link to GVW Web Site: www.gvwater.vic.gov.au/

5.5.1.12 Goulburn-Murray Water (G-MW)

G-MW is responsible for the operation of irrigation distribution channels, dams, lakes, and stock and domestic water diversion from streams. Goulburn Murray Water is responsible for the management of its assets, and the undertaking of fire prevention and fuel reduction works as part of their asset management.

Link to GMW Website: www.g-mwater.com.au/

5.5.1.13 Ausnet Services

Ausnet Services manages three Victorian energy networks – electricity transmission, electricity distribution and gas distribution.

Link to Ausnet Services Web Site: www.sp-ausnet.com.au/

5.5.1.14 Telecommunications (Telstra/Optus)

Telstra and Optus provide communication services and are responsible for telephone exchanges, mobile telephone towers, cabling and radio communication towers.

Link to Telstra Website: www.telstra.com.au/
Link to Optus Website: www.optus.com.au/

5.5.1.15 Goulburn –Broken Catchment Management Authority (GBCMA)

The Goulburn Broken Catchment Management Authority is responsible for service delivery for waterways (rivers and streams) and floodplain management.

Although the Goulburn – Broken Catchment Authority is not the manager of the land, the spreading of fires is a consideration when undertaking new vegetation plantations.

Link to GBCMA Website: www.gbcma.vic.gov.au/

5.5.1.16 Local Reserves Committees of Management

There are a considerable number of reserves throughout the Municipality, which are under the management of local Committees of Management. These Committees are responsible for fire prevention on these reserves. The extent of fire prevention work undertaken on these reserves should be determined after consultation with the local Fire Brigade.

5.5.1.17 Landcare

There are many active Landcare groups within the Municipality. Their main objective is to ensure the sustainable use of and the rehabilitation of the natural environment.

One of the functions of Landcare Groups is the planting of trees. It is acknowledged that trees play a vital part in the preservation of a healthy environment. However the location and type of trees can also be critical in the spread of wild fire and the safety of buildings. Tree planting on roads should only be undertaken after consultation with the Municipality, and should always have fuse breaks incorporated in any linear plantations. Trees with a low degree of fire resistance should not be planted closer than 40 m to buildings.

It must be noted that the approval of VicRoads is required before any trees can be planted on the Highway Road Reserve. Council also has a Rural Roadside Tree Planting policy.

Link to Strathbogie Landcare Website: http://strathbogie.org/?page_id=333

5.5.2 Community

Land managers, the community and individuals all have a responsibility to maintain their properties and to conduct their activities in a responsible manner with respect to fire management. The effectiveness of the Risk Management Strategy relies heavily upon the community understanding and accepting their responsibilities and acting accordingly.

While specific treatments cannot be attributed to private individuals and organisations within the Risk Management Strategy the MFMPC does have an expectation that members of the community will where appropriate;

- Prepare and plan for fires, both bushfire and structural
- Prepare their properties for fire events during the declared Fire Danger Period including preparing 10m wide fire breaks along the boundary of properties exceeding 5ha and removing all fire fuels and grass to less than 75mm in height for properties 5ha or smaller in town areas.
- Ensure adequate access and water for fire fighting appliances
- Maintain an awareness of fire danger levels and listen for alerts and warnings.

Advice, training and support to groups, businesses and individuals concerning all of these expectations can be obtained from the CFA (see link below).

Link to CFA Fire Safety: www.cfa.vic.gov.au/firesafety

5.6 Balancing Fire Risk Against Other Values

In the course of developing the Risk Register it became apparent to the MFMPC that some of the concerns being raised lay less with the impact of the actual fire and more with that of the treatments being applied. A number of the fire risk treatments adopted in Risk Management Plan pose a potential threat to some of the very values the MFMPC is seeking to safeguard. It is important that these threats are noted and that a balance be struck between protecting the community from fire and maintaining the economic, social, and environmental well-being of the municipality.

A number of processes and treatments are already in place to ensure that all values are taken into consideration and protected during the planning and implementation of fire risk treatments. Where conflict does occur the MFMP offers a dispute resolution process for member agencies by establishing a pathway for issues to be escalated and resolved at either a regional or state level by the responsible authorities.

5.7 Cross Boundary Management and Links to Other Programs/Processes

In developing this plan the STRATHBOGIE MFPC has endeavoured to ensure that concerns which cross municipal, regional or state boundaries are treated in a seamless manner with regard to risk assessment and treatments. This has been achieved through;

- Consistent use of processes and tools across the region.
- Deliberate alignment of municipal and regional objectives.
- Frequent cross membership of MFMPC's by agencies.
- Making draft and final MFMP's available to other MFMPC's.

6 Improvement, Plan Reporting and Review Process

Monitoring and improvement forms the final stage in the IFMP process during the development of the initial MFMP. However from this point on monitoring and improvement should be viewed as an ongoing activity as it actually entails continuous action, undertaken throughout the plans three year life.

It is important to track the performance of the plan and the degree to which it contributes to achieving the desired outcomes once implementation of the Fire Management Plan has commenced. Monitoring, evaluation and reporting occur throughout the life of the plan, the aim being to identify those treatments working effectively and those that may need to be modified. It also seeks to provide a transparent and accurate means of assessing the MFMP's progress in achieving its objective. The table below summarises the proposed implementation, reporting and review activities, as well who is responsible for undertaking them.

Figure 18: Strathbogie Shire MFMP Reporting and Evaluation Program

Frequency	Task / Action	Responsible Party
Ongoing	Implement treatments, as per agreed Action Plan	All treatment owners
	Further explore identified opportunities for new or enhanced treatments with relevant stakeholders, and agree course of action	MFMPC
Biannually (every 6 months)	Report to MFMPC on the progress of treatment implementation, including an evaluation of treatment appropriateness, impact, effectiveness, efficiency, and legacy	All treatment owners
	Update Risk Register & Action Plan to reflect treatment status, as reported by treatment owner	MFMPC
Annually (every 12 months)	Conduct strategic review of risks and associated treatment program, asking: Are the identified risks still valid? Do their pre-treatment and residual risk ratings still hold true? Are there new risks that need to be added to the register and managed? Do the treatments currently in place adequately address the identified risks? Are there any new or enhanced treatments required?	MFMPC
	Review and update Plan content and mapping to ensure validity	MFMPC
	Provide overarching progress report to Municipal Emergency Management Planning Committee, focusing on the collective effectiveness of treatments in the management of risks and progress towards the achievement of objectives	MFMPC
Triennially (every 3 years)	Conduct end-to-end review of Plan, with particular focus on the environmental scan and objectives	MFMPC

The integrated fire management planning process operates within a complex and challenging environment, with often limited and competing resources to achieve the desired outcome of acceptable levels of residual risk to the community. Therefore, fundamental to its success is the establishment and preservation of healthy stakeholder partnerships that allow for continued transparent and robust dialogue in the interest of achieving the Plan's objectives in the long-term. It is the role of the MFMPC to spearhead relationship management for this purpose.

7 Attachments

Attachment 1: Risk Assessment Tables

State Bushfire Consequence Table (From State Fire Management Planning Committee)

STATE DESCRIPTOR BUSHFIRE	People - Bushfire	Infrastructure - Bushfire	Public Admin - Bushfire	Environment - Bushfire	Economy - Bushfire	Social Setting
Catastrophic	50+ lives lost. Hundreds injured 1000+ houses destroyed. 2000+ people displaced. 30,000 + livestock lost.	Loss of critical infrastructure and/or services for 24-48 hours to the Melbourne metropolitan area. Loss of services to a major regional city/several suburbs for more than a week.	Significant statewide outrage. Royal Commission or other similar inquiry leading to changes in policy and practice.	Permanent total loss of one or more ecosystems or critical habitat elements. Loss of nationally significant cultural assets.	$1B or 30% of State revenue	Severe disruption to community wellbeing over the whole area or a large part of it for a period of many years
Major	10 -50 fatalities as a direct result of the bushfire event. 300 - 1000 houses destroyed. 500 -2000 people displaced. 10,000 - 30,000 livestock lost. Significant loss of breeding stock.	Loss of critical infrastructure and/or services for up to 8-24 hours to the Melbourne metropolitan area. Loss of services to a major regional city/several suburbs for 4 days and up to a week.	Significant regional and local outrage, with some occurring at state level. Parliamentary or other inquiry leading to change 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 $300M.	Severe disruption to community wellbeing over a wide area or for more than 24 months.
Serious	2 - 10 fatalities as a direct result of the bushfire event. Large number of people affected by smoke. 30 - 300 houses lost. 200- 500 people displaced 4000 - 10000 livestock lost.	Loss of critical infrastructure and/or services for up to 2-8 hours to the Melbourne metropolitan area. Loss of services to a major regional city/several suburbs for 2-4 days.	Some outrage 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 a regionally significant cultural asset such as Phillip Island penguins, Healesville Sanctuary, Puffing Billy.	Damage costs including legal actions and/or industry impacts (tourism, business etc) to the value of more than $100M.	Major disruption to community wellbeing over a moderate to large area* or for a period of months.
Significant	Single fatality and/or multiple serious injuries requiring hospitalisation as a direct result of the bushfire event. Up to 30 houses lost. 50 - 200 people displaced. 2000 - 4000 livestock lost.	Loss of critical infrastructure and/or services for up to 1 hour to the Melbourne metropolitan area. Loss of services to a major regional city for 1 day. Loss of services to 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, business etc) to the value of more than $30M.	Localised disruption to community wellbeing over a small area or for a period of weeks.
Important	Serious injury and disability, up to 50 people displaced, up to 2000 livestock lost	Loss of services to regional town for a day. Loss of services to local community of up to a week	Local concern	Temporary disturbance to local habitat . Local response and/or support for animal welfare.	Damage costs including legal actions and/or industry impacts (tourism, business etc) to the value of less than $30M.	Localised disruption to community wellbeing over a small area or for a period of up to one week.

Likelihood Table

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

Risk Assessment Matrix

	Consequence Level				
Likelihood Level	Important	Significant	Serious	Major	Catastrophic
Almost Certain	Moderate	Moderate	High	Extreme	Extreme
Likely	Low	Moderate	High	High	Extreme
Possible	Low	Low	Moderate	High	High
Unlikely	Low	Low	Moderate	Moderate	High
Rare	Low	Low	Low	Moderate	Moderate

Attachment 2: Stakeholder Analysis & Community Engagement Plan

Stakeholder type and engagement level		
Stakeholder Type	**Description**	**Participation Level***
Internal	Formal responsibilities for IFMP process and outcomes	Collaborate and empower
Primary	MFMPC membership, responsibility for development of the plan, communication and engagement across and within organisations rest with these organisations	Collaborate and empower
Secondary	RSFMPC membership or fire management role within municipality, may be requested to provide specific inputs, dependent upon outputs, or requested to be involved in specific tasks,	Involve and consult
Tertiary	Anyone with a strong interest in outcomes	Inform and consult

*IAP2 Public Participation Spectrum: *empower → collaborate → involve → consult → inform*

Fire Management Roles	
Role	**Description**
Fire coordination	Bringing together of fire management agencies and elements to ensure effective response to an incident or emergency. CFA has legislated responsibility under the CFA act 1958 for the prevention and suppression of fires and for the protection of life and property in the Country Area of Victoria. In accordance with provisions in the CFA Act and the Forest Act 1958, DELWP has fire management and fire suppression responsibilities for state forests and national, state and regional parks.
Land owner/manager responsibilities	Landholder/managers are heavily involved in fire prevention and fire suppression on land under their control. They have legislated responsibilities to extinguish a fire burning on their land and to prevent fires from starting from the use of equipment and vehicles (CFA Act 1958, Crimes Act 1958). They are also required to comply with relevant State government laws, local government laws, relevant planning and building permit conditions and conditions associated with permits to burn
Response	Actions taken in anticipation of, during and immediately after a fire incident to minimise the impact of the fire.
Recovery	A coordinated process of supporting emergency affected communities in the reconstruction of physical infrastructure and restoration of emotional, social, economic and physical well-being.
Community education	Community education is learning and social development, working with individuals and groups in their communities using a range of formal and informal methods
Community care	Community care is about identifying and catering for groups or individuals with specific needs, before during and after fire.
Asset protection	Asset protection involves protecting key community infrastructure such as power, water supplies, roads, gas pipes and protecting community assets such as parks and the environment. Asset protection can also involve the protection of private assets such as housing, plantations, crops and fences.
Regulatory	The issuing of permits for lighting fires. The development of and compliance with planning controls and permits for developments and building that take into account fire risk/management. The regulation and issuing of permits involving vegetation removal or fuel reduction activities for fire management purposes.

Strathbogie MFMPC stakeholder analysis														
Stakeholder	**Type**				**Fire management role within Hume region**									
	Internal	Primary	Secondary	Tertiary	Fire coord	Land mgr	Response	Recovery	Comm Education	Comm care	Asset protect	Regulate	RSFMPC member	Other
Hume RSFMPC	✓						✓	✓	✓				✓	Regional IFMP oversight & strategic fire planning
MEMPC	✓						✓	✓	✓					Municipal integrated & strategic emergency planning
MFMPC	✓						✓	✓	✓					Municipal integrated & strategic fire planning
Strathbogie Shire Council		✓				✓	✓	✓	✓	✓	✓	✓		
CFA		✓			✓		✓	✓	✓		✓	✓	✓	Fire safety expertise
DELWP		✓			✓	✓	✓	✓	✓		✓	✓	✓	Forest fire expertise
Parks Victoria			✓			✓	✓	✓	✓		✓		✓	
Landcare Groups			✓			✓								
DHS			✓				✓	✓		✓			✓	
DPCD			✓					✓				✓	✓	Oversight of rural adjustment & development programs, development of planning controls
Vic Pol			✓				✓						✓	
SES			✓				✓						✓	
Vic Roads			✓			✓	✓				✓	✓	✓	
Power Industry			✓							✓			✓	
Rail Industry			✓			✓					✓		✓	
Goulburn Valley Water			✓							✓	✓		✓	

Strathbogie MFMPC stakeholder analysis														
Stakeholder	**Type**				**Fire management role within Hume region**									
	Internal	Primary	Secondary	Tertiary	Fire coord	Land mgr	Response	Recovery	Comm Education	Comm care	Asset protect	Regulate	RSFMPC member	Other
Goulburn Murray Water			✓			✓					✓			
Telstra			✓							✓	✓		✓	
Optus			✓							✓	✓			
DELWP				✓				✓					✓	Animal health, agricultural loss & recovery responsibilities
VFF				✓		✓								
GBCMA				✓		✓		✓			✓	✓		
HVP				✓		✓	✓	✓			✓			
DEECD				✓						✓				
School Camps, Private Schools				✓						✓				
Ambulance Vic				✓						✓				
Media				✓			✓		✓					
Local community/industry groups				✓										
General public				✓		✓	✓	✓			✓			Responsibility for private property, social networks & personal well being.

Strathbogie MFMPC Communication & Engagement Plan

Stakeholder	Engagement Level	Engagement activity								
		Meeting minutes, reports & agendas	1:1 consultation	IFMP & Strathbogie Shire web site	Email document updates	Media articles	Special meetings	Draft consultation	3 year review	Individual org networks
Internal Stakeholders										
Hume RSFMPC	Collaborate & empower	✓		✓	✓	✓	✓	✓	✓	
MEMPC										
MFMPC										
Primary – answerable for activity/decision										
Strathbogie Shire Council	Collaborate & empower	✓	✓	✓	✓	✓	✓	✓	✓	✓
CFA										
DELWP										
Secondary – Contributory responsibility										
Parks Victoria	Involve & consult		✓	✓		✓	✓	✓	✓	✓
DHS										
DPCD										
Vic Pol										
SES										
Vic Roads										
Power Industry (eg SPAusnet etc)										
Rail Industry										
Goulburn Valley Water										
Goulbourn Murray Water										
Telstra										
Optus										
Landcare Groups										
Tertiary - Interested										
DELWP	Inform & consult			✓		✓		✓	✓	
VFF										
GBCMA										
HVP										
DEECD/Schools										
Ambulance Vic										
Media										
Local community/industry groups										
General public										

Attachment 3: Environmental Scan maps & data

Map 1: Strathbogie Shire Bushfire History

This map shows recorded bushfire history between 1939 and 2011.

Map 2: Strathbogie Shire Fire Origins

This map shows recorded fire origins for CFA 1998 – 2012 and DELWP 1972 – 2012.

Map 3: Victorian Fire Risk Register, Feature of Interest and Human Settlement

- This map shows the population centres and details the locations of Hospital/Community Health Centres, Education (camps and schools), Caravan Parks and Aged Care/Retirement Facilities.

Map 4: : Victorian Fire Risk Register, Human Settlements

- This map is the Victorian Fire Risk Register map produced by the CFA. It details where population centres are and rates locations from low to extreme fire risk (see legend).

Map 5: Strathbogie Shire DELWP Fuel Loads

- The map is a Hazard layer developed and maintained by DELWP, Office of Land and Fire. It is a state-wide coverage of <30 m^2> cell resolution with approximately 27 attributes detailing surface and elevated fuel loads, hazard ratings and vegetation descriptions. This map is a DELWP data layer and based upon computer modelling and limited ground verification. It is updated yearly by DELWP. The fuel load map details where it might be expected to find fuel loadings of low to extreme. This map is simply a guide and should not be relied upon to provide 100% accuracy in the determination of fuel loads. Visual and scientific tests should be applied in the field to properly determine fuel loads.

Map 6: Strathbogie Shire DELWP Fire Management Zones

- This map details DELWP's fire management zones. Different management regimes are used in each zone. For more information, contact DELWP
- There are four distinct DELWP fire management zones. These are:
    - **Asset Protection Zone (APZ):** This zone aims to provide the highest level of localised protection to human life, property and highly valued assets. Through reducing radiant heat, flame front and ember attack to a reasonable level using intensive fuel management. Fuel management will be carried out in the APZ through a combination of planned burning, and other methods such as mowing or slashing.
    - **Strategic Wildfire Moderation Zone** (**SWMZ):** This zone aims to reduce the speed and intensity of future bushfires. This zone complements the APZ, and also provides strategic areas to mitigate risk through the landscape. The use of planned burning in the SWMZ is designed to protect nearby assets from ember spotting during a bushfire.
    - **Ecological Management Zone (EMZ):** This zone aims to promote biodiversity and ecological renewal. Planned burning will be used to manage native species and ecological communities which require fire to regenerate. This also assists with fire protection outcomes by reducing the overall fuel hazard in the landscape.
    - **Prescribed Burning Exclusion Zone** (**PBEZ):** This zone excludes the use of planned burning, primarily in order to protect biodiversity – for example, fire sensitive rainforest.

Map 7: Strathbogie Shire Prescribed Burning - Burnt Area Last 10 Years

- This map shows the area of DELWP fuel reduction burning or 'treatments; in the last 10 years

Map 8: Strathbogie Shire DELWP WorkCentres and CFA Fire Stations

- This map highlights the DELWP workcentres and CFA Fire Stations spread throughout the Shire.

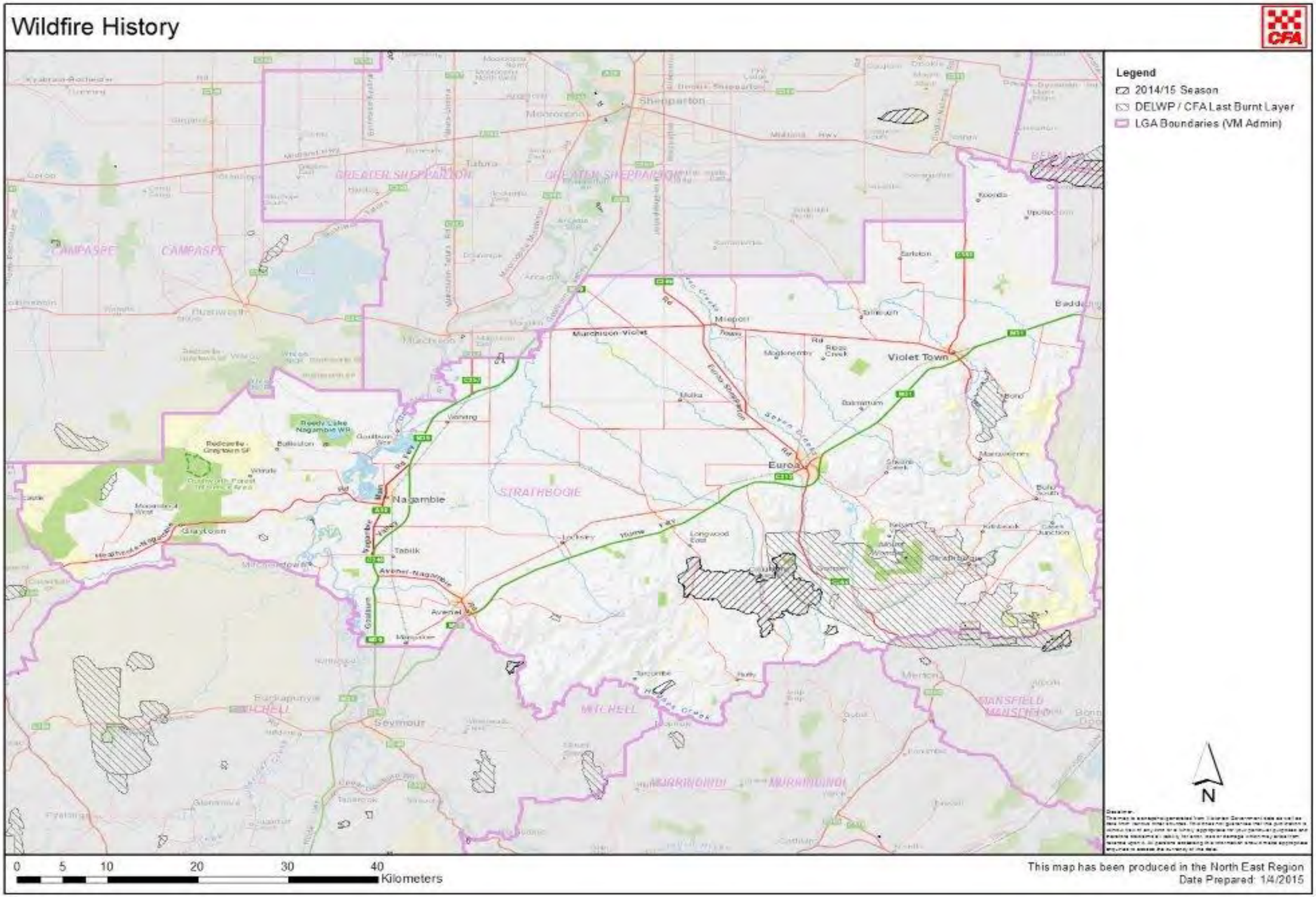
Map 9: Strathbogie Shire Biodiversity Values

- This map details the Biodiversity values of the Strathbogie Shire including Ecological Vegetation Classes. It is not an exhaustive list and should only be used as a guide for the location of biodiversity values. It flags values that need to be factored into any discussions regarding possible fire treatments.

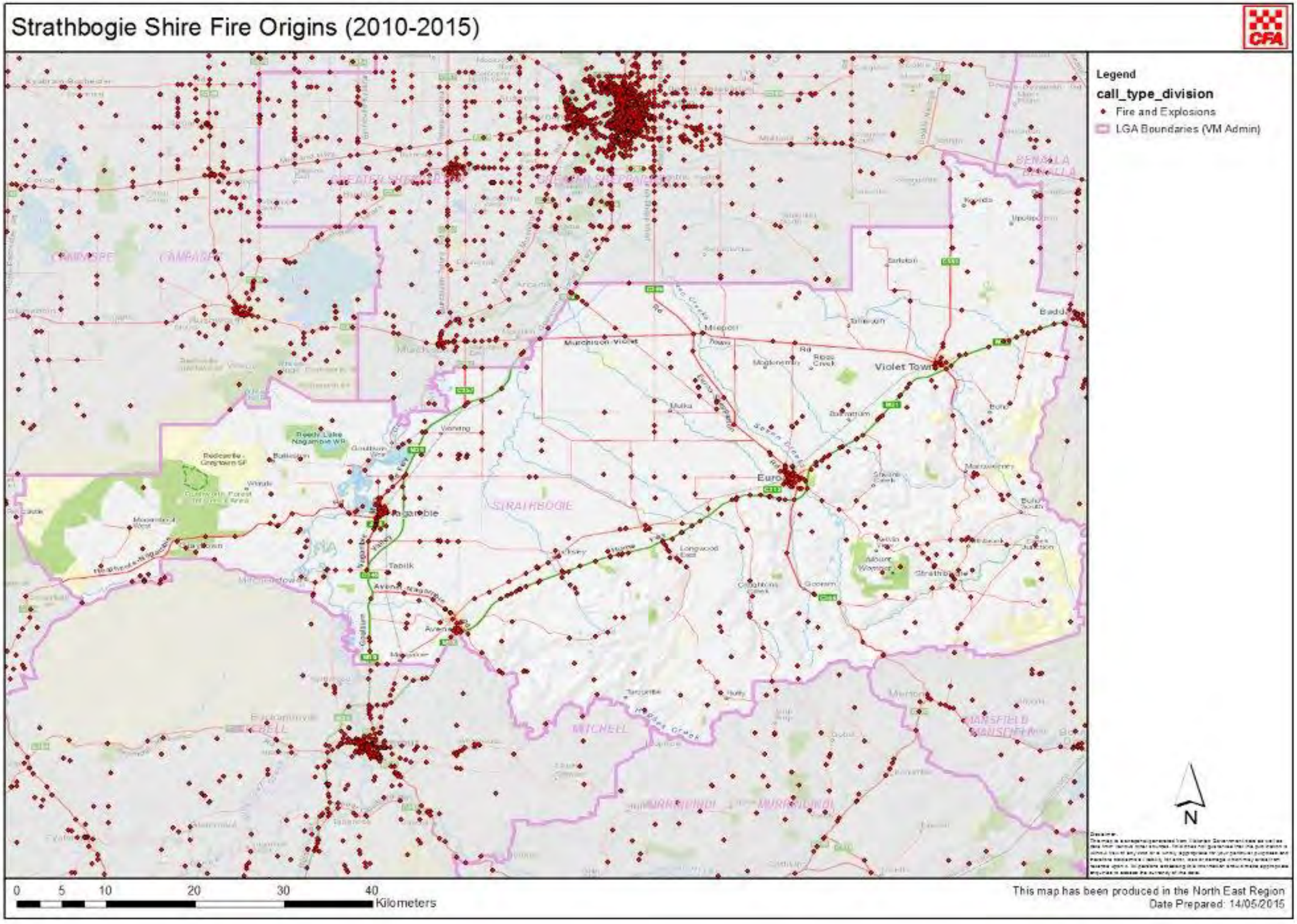
Map 10: Strathbogie Shire Key CFA Access/Egress Roads

- This map, provided by CFA, shows municipal roads capable of providing vehicular access under normal conditions. It is noted that most roads have potential to become impassable during severe storm or fire events.

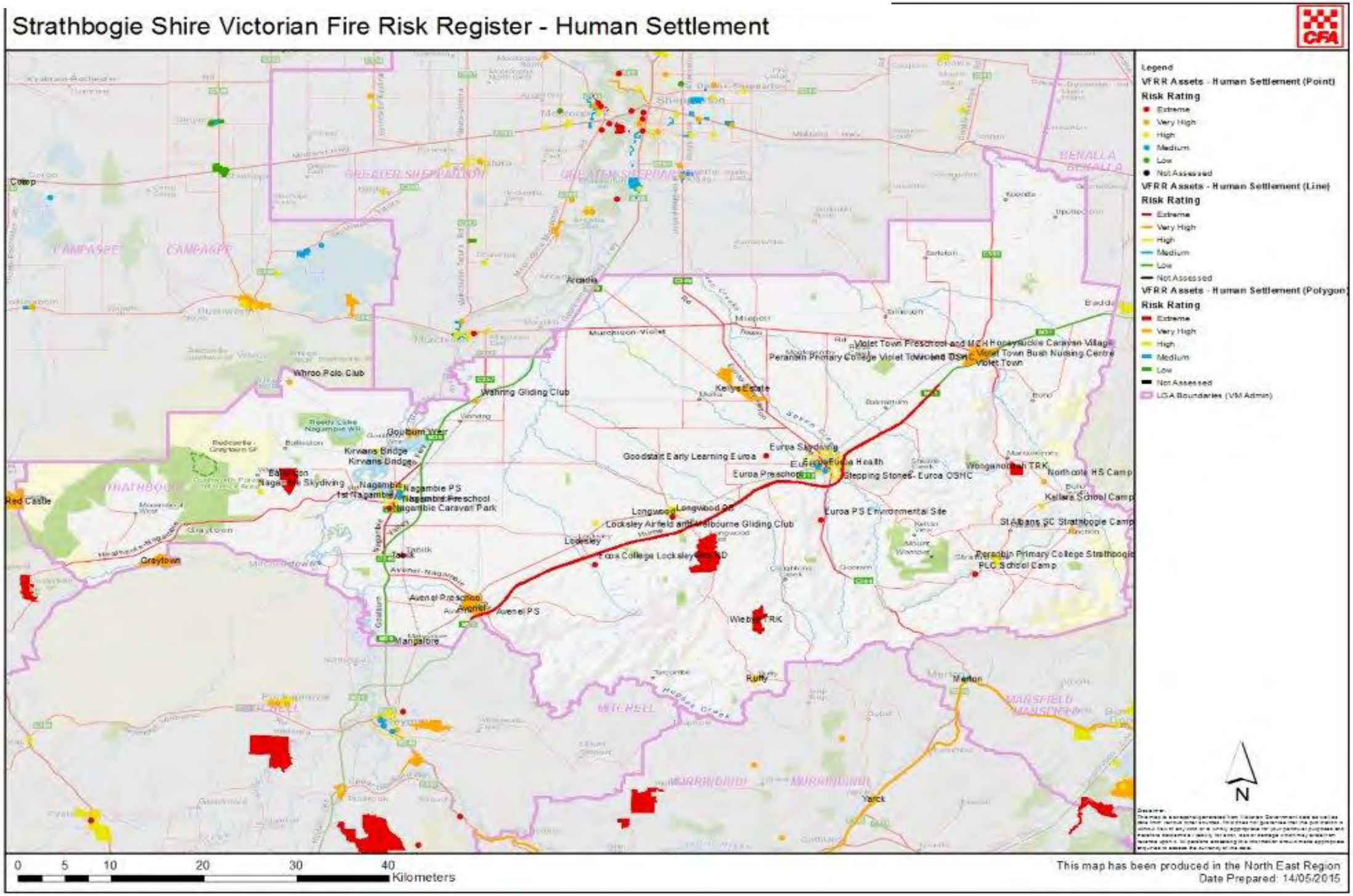
Map 1: Strathbogie Shire Bushfire History (1939-2014)



Map 2: Strathbogie Shire Fire Origins

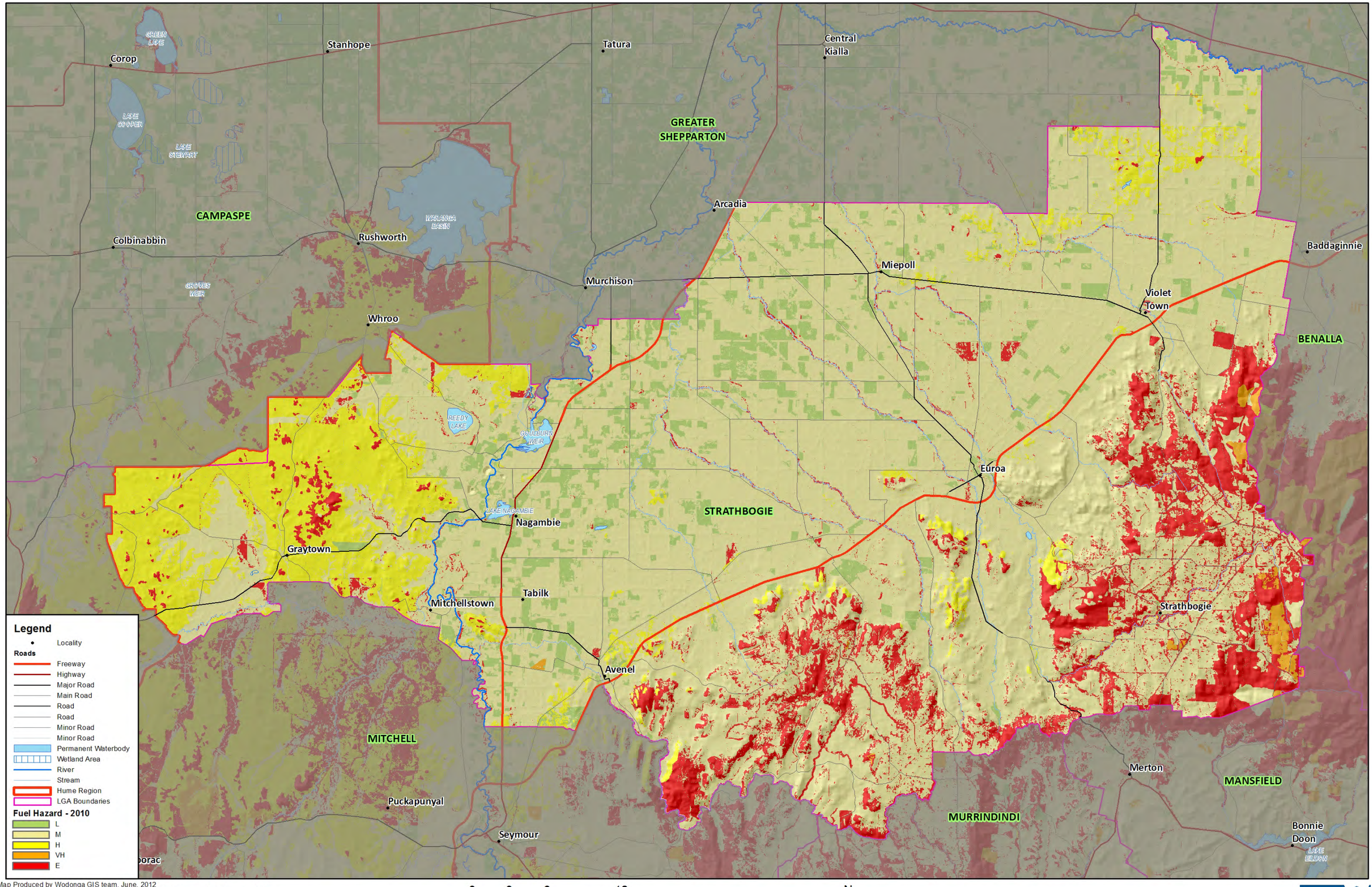


Map 3: Victorian Fire Risk Register, Feature of Interest and Human Settlement



Map 5: Strathbogie Shire DELWP Fuel Loads

Date: 24/06/2012



0 3 6 12 Kilometers

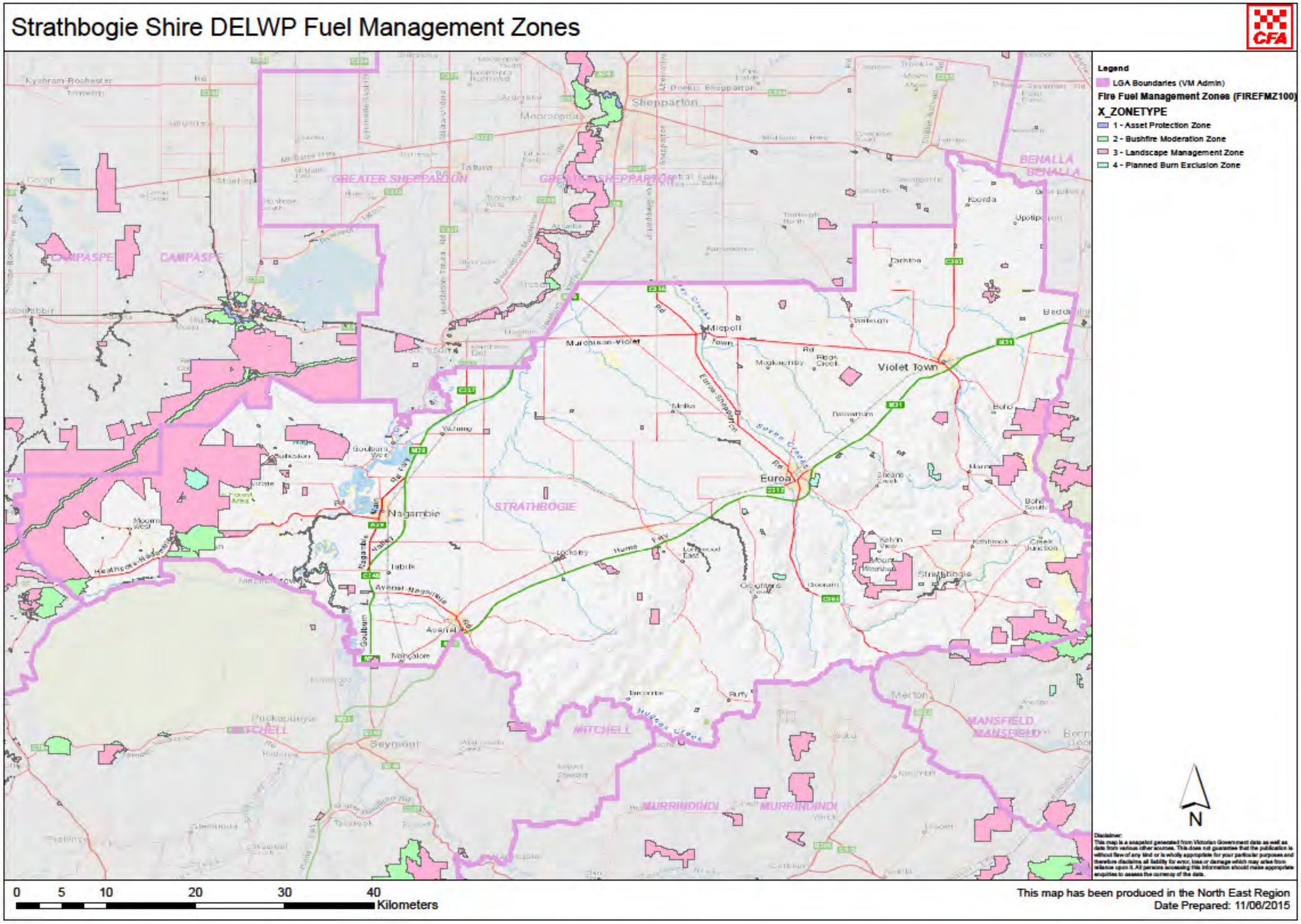
FUEL LOAD - this data is representative of 2010 fuel loads so may not reflect current fuel loads.

N

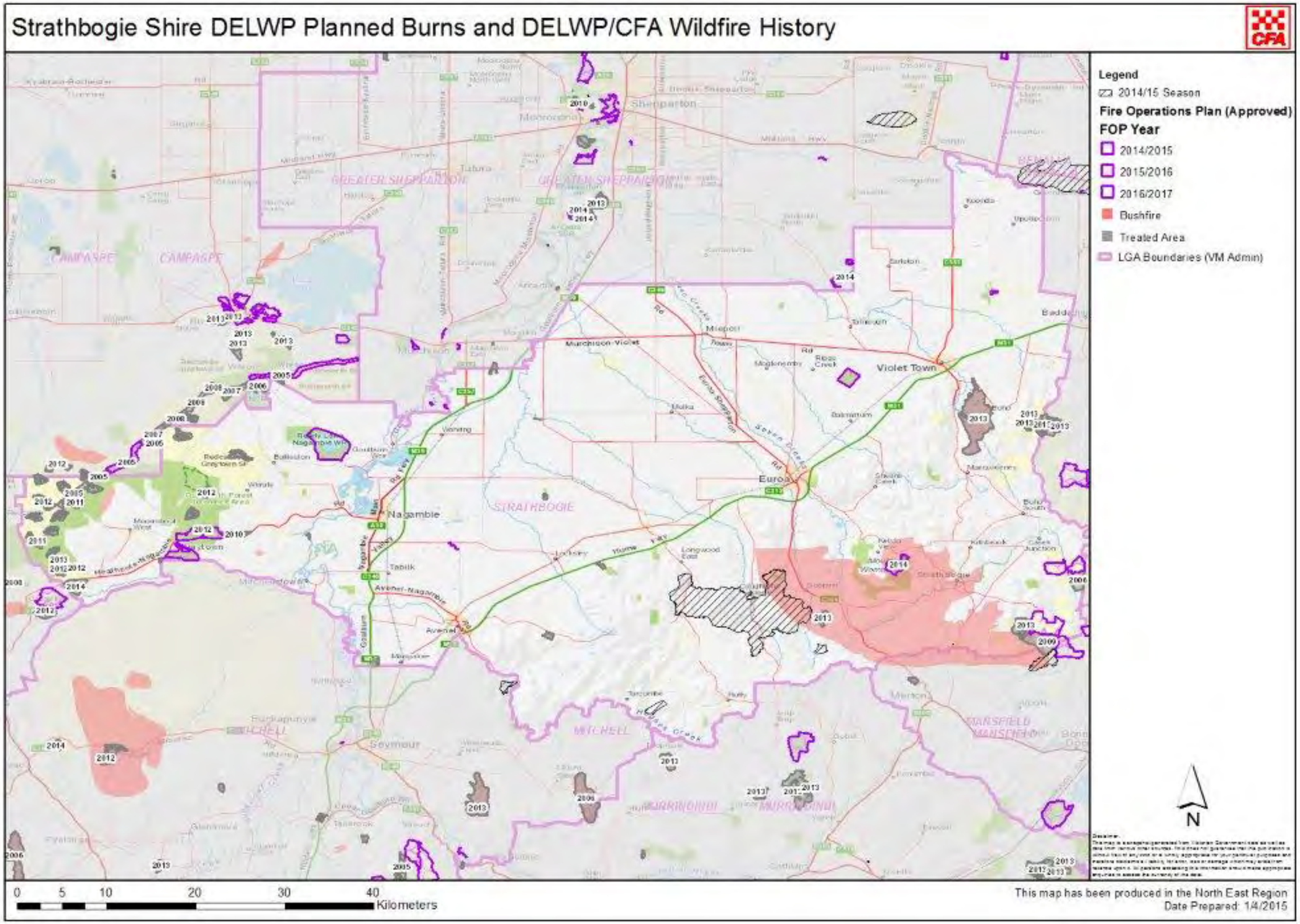
Scale: 1:270,000 GDA 1994 VICGRID94

State Government Victoria

Map 6: Strathbogie Shire DELWP Fire Management Zones

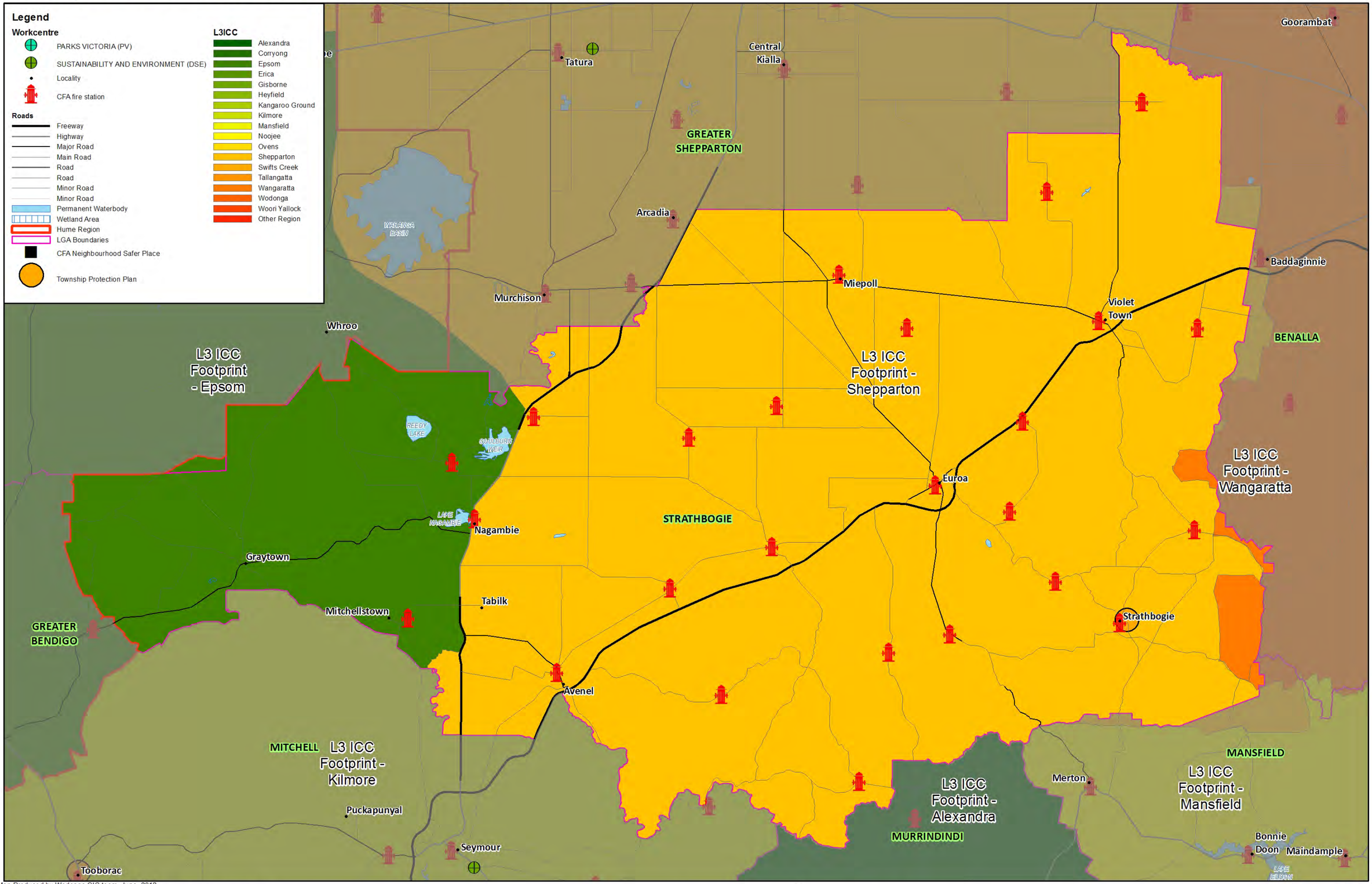


Map 7: Strathbogie Shire Planned Burning -Burnt area last 10 years



Map 8: Strathbogie Shire DELWP WorkCentres and CFA Fire Stations

Date: 25/06/2012



0 3 6 12 Kilometers

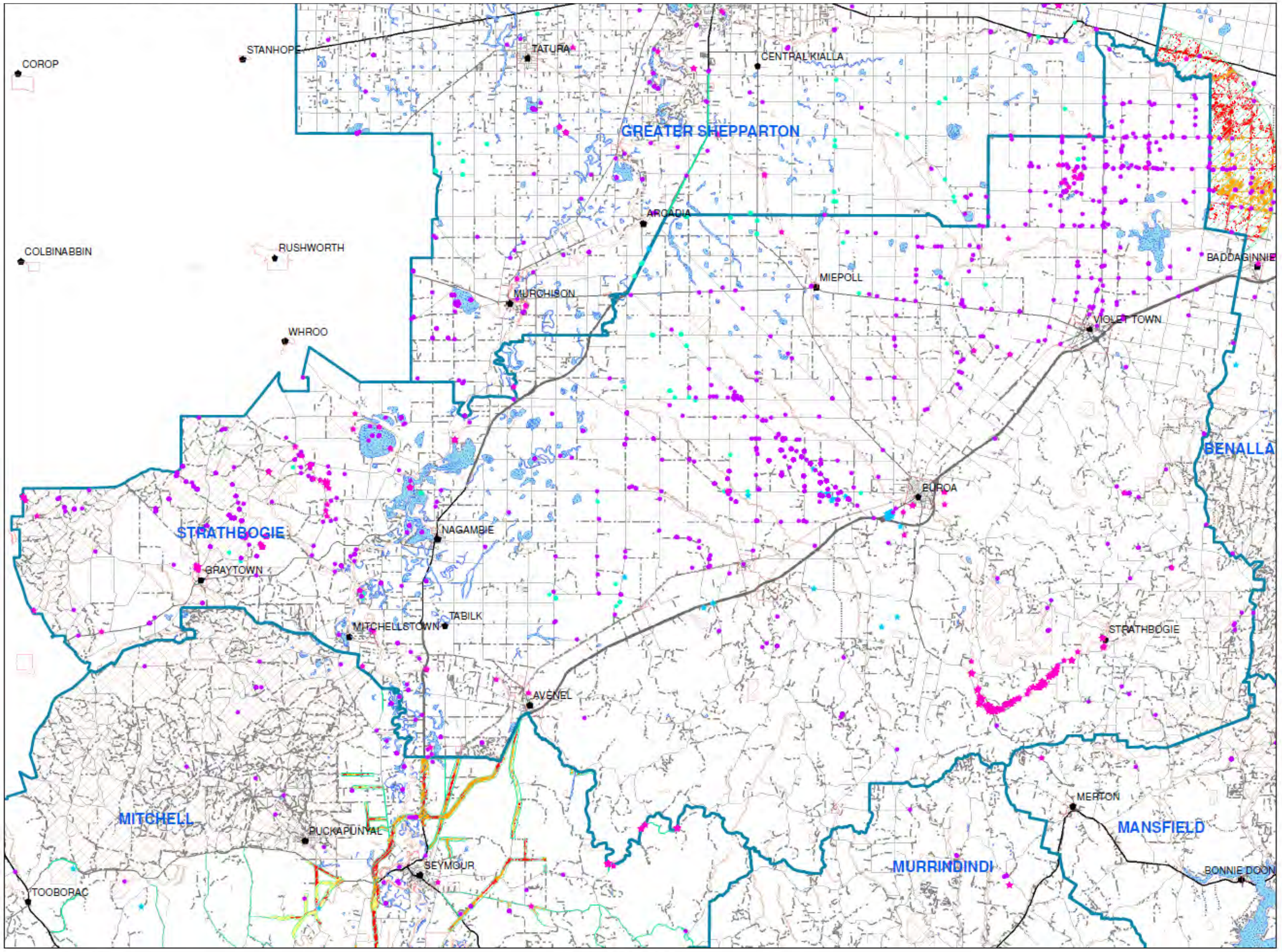
N

Scale: 1:270,000

GDA 1994 VICGRID94

State Government Victoria

Map 9: Strathbogie Shire Biodiversity Values



Legend

- EPBC Act listed Fauna
- FFG Act listed Fauna
- EPBC Act listed Flora
- FFG Act listed Flora
- Endangered
- Vulnerable
- Depleted
- Least Concern
- Vegetation Protection Overlay

Fire Sensitive vegetation

EVC NAME

- Montane Riparian Thicket
- Montane Riparian Woodland
- Montane Wet Forest
- Sub-alpine Shrubland
- Sub-alpine Woodland
- Wet Forest
- Wetlands
- Local Govt Areas
- Township Polygon
- Locality
- Freeway
- Highway
- Main
- Local
- 2WD
- 4WD
- Public Land

Please note the displayed data comes from DSE GIS Corporate Data Library, gaps will appear where there has been no past survey work, however this means due diligence should be undertaken by the proponent or land manager.

These layers have not been analysed and are shown to flag locations where the presence of environmental values need to be factored into any discussions regarding possible fire management treatments.

Data Source : DSE GIS CSDL 2011
(Refer to documentation for further information)

GDA_1994_VICGRID94

N

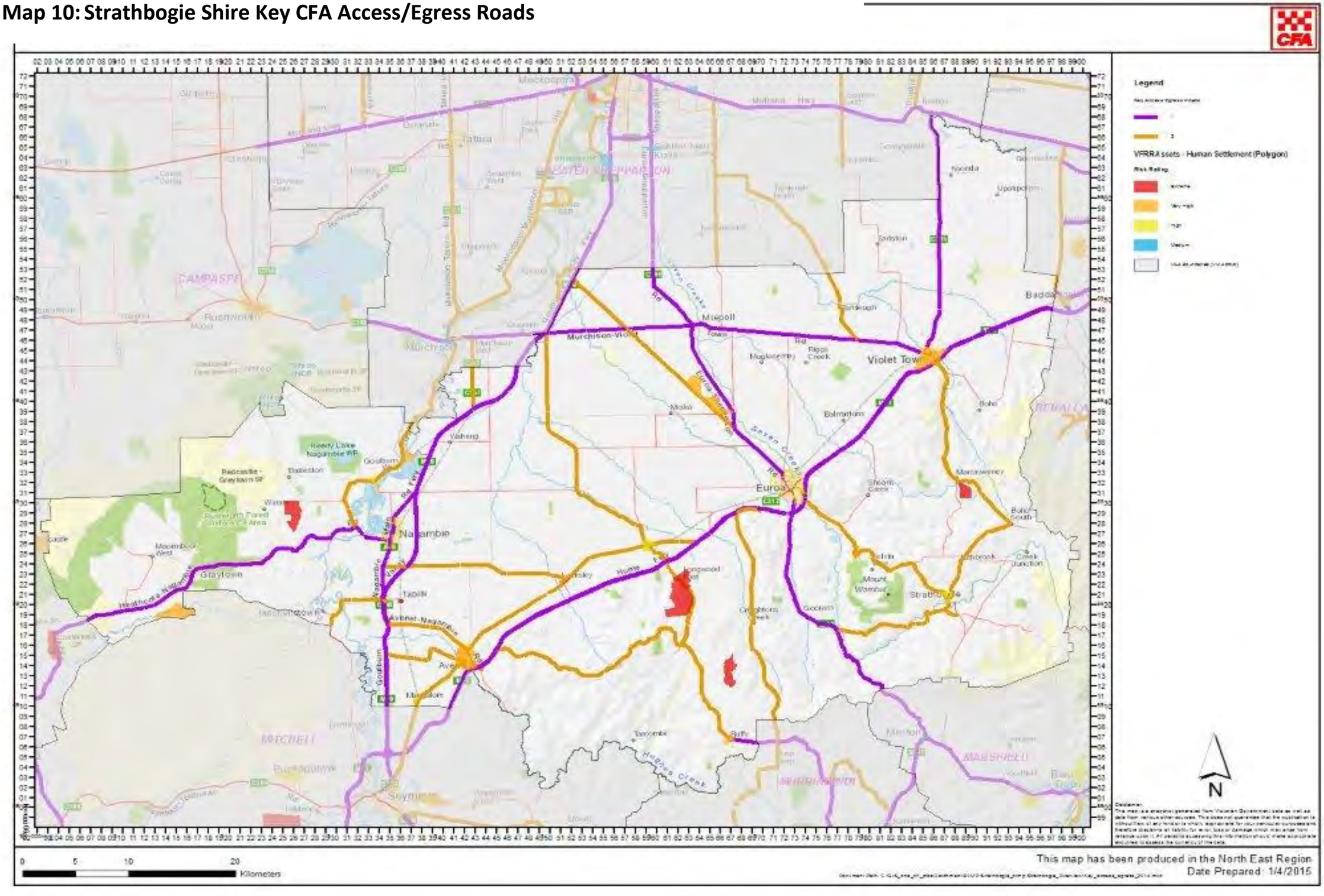
Date: 26/06/2012

Scale: 1:275,000

0 3.75 7.5 15 Kilometers

State Government Victoria

Map 10: Strathbogie Shire Key CFA Access/Egress Roads



Attachment 4: Community Information Guides (formerly Township Protection Plans) and Neighbourhood Safer Places

Community Information Guides (CIGs) :
Community Information Guides provide a planned response for both emergency services and the community to a bushfire within close proximity to a township, with potential to impact on the local community. These guides address the specific needs of the town's people, their safety and pre-planning, property preparation, asset protection, environment and economy, and is typically divided into 3 parts: a) Community Information. b) Township planning factors. & c) Fire Prevention

A Community Information Guide has been completed and is available for the following town in the Strathbogie Shire:

- Strathbogie

More information and copies of these Guides can be found on the CFA website at:

- cfaonline.cfa.vic.gov.au/mycfa/Show?.pageId=publicTownshipProtectionPlans

Neighbourhood Safer Places (NSPs):
Neighbourhood Safer Places are a place of last resort. They should only be used if a resident's Bushfire Survival Plan fails and residents have no other place for shelter. Welfare facilities will not be made available and the place may not provide shelter from smoke and embers.

Neighbourhood Safer Places have a number of limitations:

- They have limited capacity and provide no guarantee of safety;
- They do not cater for animals;
- There is no expectation that emergency services will be present;
- They do not provide meals, amenity or cater for special needs (eg. Infants, the elderly, the ill or the disabled);
- They may not provide shelter from the elements, particularly flying embers;
- There are risks to people during access, shelter during passage of the fire front and egress from the Neighbourhood Safer Place.
- They are NOT a Fire Refuge, Relief Centre, Recovery Centre, Assembly Area, or informal Places of Shelter, each of which has a different and specific purpose.

NSPs may require prescribed treatments to be in place throughout the fire danger period to meet the assessment criteria. These treatments must be secured by agreed terms entered into by the landowner ie Council, a public authority, an agency or private person.

Council has agreements in place with adjoining landowners for vegetation management of buffer zones for the Ruffy Recreation Reserve NSP;

- Pam Sprunt - Lot 2 LP97831, Buntings Hill Rd, Ruffy **(Refer Doc ID 236385)**
- John Drysdale – Lot 1 TP160744, Noye Lane, Ruffy **(Refer Doc ID 236387)**

CFA request a Statement of Activity for vegetation management at the time of NSP Annual Review. **(Refer Doc ID 63247)**

To date there are 8 Neighbourhood Safer Places that have been designated for Strathbogie Shire:

- Longwood Community Centre, Down Street (Depot Road) Longwood.
- Nagambie Regatta Centre, Loddings Lane (Off Vickers Road) Nagambie.
- Violet Town Recreation Reserve Pavilion, Tulip Street, Violet Town.
- Mangalore Airport, Aerodrome Road, Mangalore.
- Strathbogie Golf Club House, Armstrong Street, Strathbogie.
- Euroa Service Centre, Hume Freeway, Euroa.
- Ruffy Recreation Reserve, "Maygar Park", Noye Lane, Ruffy.
- Avenel Recreation Reserve Pavilion, Anderson Street Avenel

The above list of NSPs was correct at the time of printing. However, new NSPs may have been declared since that time. The most up to date list of NSPs can be found on the CFA Website:

- http://www.saferplaces.cfa.vic.gov.au A map of both NSPs and CIGs is overleaf.

Strathbogie Shire

Neighbourhood Safer Places & Community Information Guides

Map Created by Strathbogie Shire GIS Team 14/4/2016

N

MGA94 Zone 55

Disclaimer Note:

This map is a representation of the information currently held by Strathbogie Shire Council. While every effort has been made to ensure the accuracy of the data, Council disclaims all liability for any loss, cost, damage or injury, howsoever arising or connected with the use of this data. Any feedback on omissions or errors would be appreciated.

Attachment 5: Hazard Trees – Identification and Notification Procedures

Purpose

The Electricity Safety Act 1998 (Vic) (**ES Act**) provides that a municipal council must specify, within its Municipal Fire Prevention Plan:

(a) procedures and criteria for the identification of trees that are likely to fall onto, or come into contact with, an electric line (**hazard trees**); and

(b) procedures for the notification of responsible persons of trees that are hazard trees in relation to electric lines for which they are responsible.

Scope

This procedure applies to all powerlines with the Strathbogie Shire.

Due to legal requirements which require a clearance space to be created in all directions around an electric line, hazard trees are usually located outside the regulated clearance space. Despite being outside the clearance space, the tree may still have the potential to contact the line due to its size or because of a structural fault or weakness which renders part, or all, of the tree likely to contact or fall onto the line.

Definition

A hazard tree is a tree which 'is likely to fall onto, or come into contact with, an electric line'.

Who is responsible for a hazard tree?

Under the ES Act, the person responsible for maintaining vegetation and clearance space around power lines is referred to as the 'responsible person'. This includes responsibility for keeping the whole or any part of a tree clear of the line. Responsibility is allocated between distribution businesses and other owners of electricity infrastructure, land owners and occupiers, public land managers such as municipal councils and VicRoads.

Municipal councils are responsible for trees on public land within their municipalities, for which they are the land manager, where these are also within a Declared Area for the purposes of the ES Act. Primary responsibility for vegetation clearance and management within the municipality, for areas which are not within a Declared Area, will usually fall to the relevant electricity distribution company.

In relation to powerlines on private property the responsible person will generally be the person who occupies the land where the tree is located. This responsibility extends to situation where the tree has the potential to contact a private line located on an adjacent property.

Responsible Persons within Strathbogie Shire Council

For Strathbogie Shire Council, the Responsible Person is detailed in the table below:

Responsible Person	**Area of responsibility**
Executive Manager Assets Bruce Braines Email: Bruce.braines@strathbogie.vic.gov.au	Township of Avenel Township of Euroa

Phone: 5795 0156 Mobile: 0408 367 224	
PRIMARY RESPONSIBLE PERSON Ausnet Services Peter Scotto Select Solutions Email: Peter.Scotto@select-solutions.com.au Phone: 9237 4419 Mobile: 0408 403 749	All areas of Strathbogie Shire not included above.

Other relevant information

Responsible persons, other than private persons, must have an electric line clearance management plan in place for areas for which they have responsibility *(refer Electricity Safety (Electric Line Clearance) Regulations 2010)*

CRITERIA FOR REMOVING HAZARD TREES

In the course of everyday duties, potentially hazardous trees may come to the attention of staff or volunteer members of the entities with representation on the Municipal Fire Prevention Committee (**the Committee**), staff of the distribution business(es) or other persons, including members of the public.

There are a range of factors which may indicate that a tree is a hazard tree. That is, a tree which is likely to fall onto, or come into contact with, an electric line. Some of these factors will be obvious when looking at the tree but many may only be apparent when the tree is assessed by a person with specific expertise and training, such as an arborist.

The following criteria may be used to assist in identifying a hazard tree:

- The size of the tree suggests that it is likely to come into contact with the electric line, for example because it appears to be encroaching or growing into the line clearance space.
- There is an excessive lean on the tree, or branches hanging off the tree and the tree is in proximity to an electric (power) line.
- The size or appearance of the tree suggests it could come into contact with the line including under foreseeable local conditions.
- If a potentially hazardous tree is identified, the notification procedure outlined below should be followed. Where a responsible person becomes aware of a potentially hazardous tree for which they have responsibility, they must follow their own applicable internal procedure and the notification procedure described below does not apply.

To ensure this information is captured, the following procedure for the notification of hazardous trees should be followed.

Procedures for notifying of hazard trees

To ensure that information regarding potentially hazardous trees is captured in an efficient manner and, as appropriate, referred to the responsible person for action, the following procedure for the notification of hazardous trees should be followed:

Details of the report are to be captured on CSS and referred to Manager Projects and Works, Peterson Asante.

- Reports must include, at a minimum:
  - The name and contact details and any relevant qualifications where known of the person making the report
  - As much detail as possible about the location of the tree (including, where known, GPS coordinates, details of numerical/name plate on nearest pole, name of nearest road or crossroads, closest landmark, whether tree is on private land or road reserve etc.)
  - A description of the tree (including, if known, the genus and species of tree)
  - The primary reasons given for the tree being identified as potentially hazardous (eg. tree is in proximity to an electric line AND there is evidence of structural weakness and/or excessive lean and/or appears to be encroaching into line clearance space etc.)
  - An indication of whether or not urgent action is required.
- If the tree is **not** in the Euroa township area or Avenel township area, the Manager Project and Works shall forward the report to the **primary responsible person** (or their representative **PRPR**) ie ***SPAusnet, Peter Scotto.***
- If the tree is in the Euroa township area or Avenel township area, the Manager Project and Works shall instigate investigations and take appropriate action as required to rectify the hazard tree conditions. These actions shall be recorded on CSS.
- Where any person becomes aware of, or receives a report of, a potentially hazardous tree within the municipality, this should be referred to the PRPR for action as soon as practicable..
- The PRPR must take all necessary steps to advise the person responsible for the tree that it may be hazardous.

Procedures for Notification of Responsible Persons

Where a potentially hazardous tree has been reported to the PRPR, the PRPR should follow the procedure outlined below.

Step 1	Report provided to PRPR.	
Step 2	PRPR to determine who the responsible person is in relation to the reported tree. (If necessary, the PRPR can seek assistance from ESV for this step.)	
Step 3	Is the responsible person the primary responsible person?	**Yes =>** applicable internal procedure for referral and assessment of potentially hazardous tree to be followed.
		No => proceed to Step 4.

Step 4	Did the report indicate that urgent action is required?	**Yes =>** the responsible person should be notified by the close of the next business day].
		No => the PRPR must advise the responsible person of the existence and location of a potentially hazardous tree in accordance with the timelines below.*

* The PRPR should put in place mutually agreed arrangements for the manner in which it passes on reports of potentially hazardous trees to responsible persons.

Reporting Timelines

The PRPR should provide reports to the relevant responsible person as soon as practicable.

In circumstances where:

- the potentially hazardous tree is located within a high bushfire risk area (as per s.80 of the ES Act) and the potentially hazardous tree is reported during the fire danger period declared under the Country Fire Authority Act 1958 (Vic); or
- the report indicates that there is an imminent danger that the tree will contact or fall onto lines as a result of minor environmental changes;

the potentially hazardous tree must be referred to the relevant responsible person for action as soon as possible, and by the close of the next business day..

Each responsible person (other than the primary responsible person) must provide the PRPR with contact details of the person (position title) to whom reports should be provided. It is the responsibility of each responsible person to ensure that the PRPR is provided with up-to-date contact details.

Register

It is recommended that the PRPR maintain a register in which all notifications are recorded together with the date of receipt of the notification and the date the notification was reported to the responsible person.

It is recommended that responsible persons also maintain a register of notifications received of hazardous trees for which they are the responsible person.

PRPR Consultation

The Committee notes that the Primary Responsible Person was consulted in relation to the development of these procedures.

Attachment 6: Excerpts from Municipal Fire Prevention Plan

A: Structural Fire

The following excerpts (A-F) are taken directly from the now obsolete Strathbogie Municipal Fire Prevention Plan and are to be reviewed by the MFMPC with a view to integrating them into the next version of the MFMP. In the interim the MFMPC endorses their continued application. Due to the historical nature of the source document, any recommended treatments, actions or priorities contained within this attachment are included for temporary guidance only and should not be considered as being endorsed or attributed actions for any individual current member organisations of the MFMPC.

Dwellings Rural and Urban (Internal to structure)

6.01.01 Context

The majority of the population of the Municipality resides within the towns of Avenel, Euroa, Longwood, Nagambie and Violet Town and the rural districts of Creightons Creek, Graytown, Kelvin View, Kelly's Estate, Kirwans Bridge, Locksley, Mangalore, Mitchellstown, Strathbogie and Tabilk. There is a significant fire risk to life within the residential and domestic areas of the Municipality, compounded by the diversification of life styles within the general population. Statistics indicate that burns and other associated injuries, particularly to children, occur far too frequently and the highest cause of fire related death originate from fires in the home.

6.01.02 Risks, Strategies, Programs and Actions

Risk		Objective	Treatment/Program/Action	Responsibility	Others Involved	Time Frame
Details Loss of life	Rating Significant	Reduce Incidence and severity	Community Education including the following: •Advance Program •Brigades in schools •CFA mobile education unit • Residential Fire Safety Campaign Health and Community Services asked to check smoke detector installation and batteries in dwellings for residents under their care. Inspect for smoke detector installation when undertaking inspections for new dwellings or dwelling alterations Inspect for smoke detector installation when undertaking any building inspections.	Owner / Occupier CFA / DEDJTR	Fire Brigades	October & March Annually-Ongoing. September
Personal injury	Moderate	Maintain current nil level		Municipality	CFA & Fire Brigades	Ongoing.
Property Loss	Significant	Reduce Incidence and severity		Municipal/ Building Surveyors		Ongoing

6.02 Townships Residential-General (External to the Dwelling)

6.02.01 Context

The major population centres within the Municipality are the towns of Avenel, Euroa, Longwood, Nagambie and Violet Town and the villages of and Kirwans Bridge, Mangalore, Ruffy, Strathbogie and Tabilk. Some of these towns are located near rivers or streams and can be characterised as having many older timber buildings, an irregular layout and in many cases are heavily treed. The random residential development, undeveloped lots and irregular street layout of these towns has created pockets of vegetation and areas of poor access within the residential areas. The moderate rainfall and associated vegetation growth further complicate this. The vegetation patterns throughout the towns tends to restrict the ability to maintain clearance to exposed aerial power conductors, hence requiring regular inspection programs. The towns of Avenel, Euroa, Longwood, Mangalore, Nagambie and Violet Town are provided with a reliable reticulated water supply that is available for fighting purposes. The availability of the supply needs to be regularly checked to ensure its continued availability at all points within the Township.

6.02.02 Risks, Strategies, Programs and Actions

Risk		Objective	Treatment/Program/Action	Responsibility	Others Involved	Time Frame
Details	Rating					
Property loss and loss of personal effects.	Significant	Minimisation of loss of property and personal effects.	Undertake property inspections under Section 41 of the CFA Act.	Municipality	Owner / Occupier	October Annually
Loss/ damage to other property (exposures)	Moderate	Minimisation of spread of loss to other property.	Issue Fire Prevention Notices to owner/occupier whose property contains a fire /potential fire hazard. Local Laws			
Fireplugs inoperable or unmarked.	Low	Ensure that all fireplugs are fully operable and located.	Undertake maintenance to fire plugs and markers as required.	Municipality		Ongoing.
			Inspect all fire plugs and markers.	Municipality	Brigades	Ongoing

6.03 Rural Residential

6.03.01 Context

Rural residential areas are spread throughout the Municipality. The more notable of these are the localities of Gold Diggers Estate-Bailieston, Allowah Court-Angustown, Kellys Estate and Reids Estate. The future expansion of urban development into rural areas can significantly increase the exposure of the residents of those areas to the impact of wildfire. It is also recognised that many existing Rural Residential developments may contain special fire related risk environments requiring specialised treatment. This is particularly relevant for the urban areas that adjoin or are in close proximity to bushland. The occurrence of isolated single dwellings specifically designed for the 'Isolated Lifestyle' is increasing throughout the Municipality. These types of dwellings inherently have specific fire related risks ie isolation, restricted access, a lack of available water and vulnerable construction materials and design. The provision of electrical power by the use of exposed overhead conductors has a high potential for the occurrence of fire necessitating regular inspections/maintenance of the assets throughout the area. These areas generally are not provided with a reticulated water supply necessitating the use of dams and storage tanks that are in turn dependant on annual rainfall and supplementation by other means when required.

6.03.02 Risk Environments, Strategies, Programs and Actions

Risk		Objective	Treatment/Program/Action	Responsibility	Others Involved	Time Frame
Details	Rating					
Loss of life and property from the effects of uncontrolled fire (external to the building).	Significant	Reduce the incidence and intensity of uncontrolled fires. Prevention of loss of property and personal effects.	General public education eg "Fire Ready Victoria" programs, and "Stay or Leave Early" policy". (For further details of the education program see 6.01.02 'Dwellings')	CFA Community Education Coordinator	Fire Brigades	Ongoing
			Maintain vegetation clearance in accordance with the 'Code of Practise Powerline Clearances'. (Municipality for Avenel and Euroa Townships)	TXU		Completed prior to the declaration of the Fire Danger Period, annually.

Loss of life and property in a time of fire due to an inability to apply water.	Significant	Ensure the provision of adequate static water supplies and application methods. Enforcement of Building and Town Planning provisions.	Enforcement of Town Planning provisions for the maintenance of static water supplies and education to encourage a better understanding of the risks and treatments. (For further details of the education program see 6.01.02 'Dwellings') Encourage Brigades to identify all water points within their own Brigade Fire Prevention Plans.	Municipality	Owner / Occupier	Ongoing
Loss of life and property in a time of fire due to restricted / limited access.	Significant	Prevent/minimise the loss of life, property and personal effects.	MFPO to make application for Fire Access grants and appropriate roadworks undertaken.	Grants Officer	Fire Brigades CSM Groups	Fire Brigades to notify MFPO prior to pre fire season MFPC Meeting Applications annually in April

6.04 Industrial (both Rural and Urban)

6.04.01 Context

There are a number of industries within the Municipality that are generally located close to their supply of raw materials. The major industries at risk are the: wine processing, sawmills, timber preservation, light engineering/fabrication, motor vehicle trimming, panel beaters in Euroa, and Nagambie. And other lower risk industries located in Euroa and Nagambie There are a number of risks associated with these industries that include fire, hazardous materials spills (both storage and transport), and environmental damage from pollution and/or spillage. There are a number other depots and other industries that are located within the Industrial zones of the townships of Euroa and Nagambie where smaller amounts of dangerous goods are stored. 'This has in turn lead to an abundance of chemicals and dangerous goods being stored and used throughout the Municipality. Storage volumes are generally very low and therefore their use is not obvious to anyone other than the proprietors. Generally the controls on Industries are quite stringent and hence the likelihood of any major incident is low and is restricted to unforeseen events, accidents and bad practise. However in the case of any of these events occurring, there would be a significant impact on the community both economic and potentially to life.

6.04.02 Risks, Strategies, Programs and Actions

Risk		Objective	Treatment/Program/Action	Responsibility	Others Involved	Time Frame
Details	Rating					

Risk		Objective	Treatment/Program/Action	Responsibility	Others Involved	Time Frame
Details	Rating					
Loss of life from the effects of uncontrolled fire.	Significant	Maintain current nil level.	Identify and maintain a data base of at risk Industrial premises.	Municipality & CFA		June 2000 Commence June 2000 then annually ongoing
Property loss and resultant Economic loss both Public and Private.	Significant	Reduce incidence and severity				Commence June 2001 and then June annually
Environmental damage.	Significant	Reduce incidence and severity	Encourage local Fire Brigades to become familiar with the risks associated with the industries in their area, at MFPC meetings.	Municipality & CFA Group Officer		May 2000 and then as required

6.05 Commercial

6.05.01 Context

The major Commercial Centres within the Municipality are located the towns of Avenel, Euroa, Nagambie and Violet Town; with isolated establishments located sited at other localities. There are a number of risks associated with the occurrence of fire related to these commercial centres that include; a higher concentration of flammable materials and the proximity to other similar premises, particularly in the older townships. The loss of these premises as a result fire may result in major economic loss and the loss of employment. Due to the nature and operation of the Commercial Premises, shortfalls in the provision of adequate house-keeping practises and general fire safety can raise the level of risk to the general public and owners/employees for these types of premises.

6.05.02 Risks, Strategies, Programs and Actions

Risk		Objective	Treatment/Program/Action	Responsibility	Others Involved	Time Frame
Details	Rating					
Loss of life from the effects of uncontrolled fire.	Significant	Maintain current nil level.	Fire Prevention Planning. Develop a database of at risk Commercial premises. Details to be added in Appendix I.	Municipality & CFA	WorkCover Authority	June 2001 and then updated annually / ongoing

Risk		Objective	Treatment/Program/Action	Responsibility	Others Involved	Time Frame
Details	Rating					
Loss of property from the effects of uncontrolled fire.	Significant	Reduce incidence and severity	Risk management, including the inspection of a minimum of 5 properties per year on a random basis as necessary. Request written replies from identified Commercial premises stating planning and action in place to achieve stated objectives. Follow up with inspections and application of enforcement under the BCA as necessary.	Municipality & CFA	WorkCover Authority & Fire Brigades	Commence June 2002 then annually ongoing
Economic loss both Public and Private.	Significant	Reduce incidence and severity	Education. Provide information in the quarterly newsletter and press releases as required.	Municipality & CFA	CFA & Fire Brigades	June and December annually.
Environmental damage.	Moderate	Reduce incidence and severity	During inspections any anomalies or concerns are noted and reported to the EPA .	Municipality	EPA	Ongoing

6.06 Health Care

6.06.01 Context

There are Health Care Centres located in Euroa, Nagambie and Violet Town. By nature they contain a population that in general are dependent on outside assistance for mobility, day to day living, control and direction. Consequently this group that encompasses; special accommodation, nursing homes, hostels and hospitals are very vulnerable to a wide range of events. There is a risk inherent in all these facilities of multiple injuries and loss of life should a significant incident occur. Generally fire controls are high (eg fire protection equipment and structural safety), however any incident involving these premises, taking participant numbers into consideration, can lead to major consequences.

6.06.02 Risks, Strategies, Programs and Actions

Risk		Objective	Treatment/Program/Action	Responsibility	Others Involved	Time Frame
Details	Rating					

Risk		Objective	Treatment/Program/Action	Responsibility	Others Involved	Time Frame
Details	Rating					
Loss of life from the effects of uncontrolled fire.	Significant	Maintain current nil level.	Identify and maintain a database of at risk premises. Details to be placed in Appendix J	Municipality	Department of Health & Community Services, CFA	June 2003
Loss of property from the effects of uncontrolled fire.	Significant	Reduce incidence and severity	Risk management, including the inspection of a minimum of 1 property per year on a random basis and encourage compliance with the BCA where necessary.	Municipality & CFA	WorkCover Authority & Fire Brigades	Commence June 2002 then annually ongoing
Economic loss both Public and Private.	Significant	Reduce incidence and severity	Building Surveyor to provide an annual report to the MFPO summarising inspections and resultant action. Further education is provided where required	Municipality Owner / Occupier & Department of Health & Community Services	CFA	Annually from June 2003

6.07 Public Accommodation and Tourist Facilities

6.07.01 Context

The nature and range of these types of facilities varies greatly across the Municipality. The type, size and age of the premises has a very significant impact on the potential for the loss of both life and/or property. As a general rule these types of premises can contain a high number of people who will be sleeping on the premises and are unfamiliar with their surroundings, are exposed to varying standards of serviceability and different or a lack of safety procedures. In some cases the occupants have very little control over their surroundings and invariably have little interest in the risks associated with the accommodation. This group that includes; hotels, motels, school camps, church camps, guide and scout camps, cabins, bed and breakfast accommodation, caravan parks and camp sites. Although the likelihood of a large fire in these premises or facilities is rare, the consequence in the event of fire is major (loss life).

6.07.02 Risk Environments, Strategies, Programs and Actions

Risk		Objective	Treatment/Program/Action	Responsibility	Others Involved	Time Frame
Details	Rating					

Risk		Objective	Treatment/Program/Action	Responsibility	Others Involved	Time Frame
Details	Rating					
Loss of life from the effects of uncontrolled fire.	Significant	Maintain current nil level.	Fire Prevention Planning. Develop a database of all at risk premises. Details to be added in Appendix K.	Municipality & CFA	WorkCover Authority	June 2001 and then updated on an ongoing basis
Loss of property from the effects of uncontrolled fire.	Significant	Reduce incidence and severity	Risk management, including the inspection of a minimum of 2 properties per year on a random basis and application of enforcement under the BCA where necessary.	Municipality & CFA	WorkCover Authority & Fire Brigades	Commence June 2002 then annually ongoing
Economic loss both Public and Private.	Significant	Reduce incidence and severity	Building Surveyor to provide an annual report to the MFPO summarising inspections and resultant action.	Municipality		Annually from June 2003
Lack of Communication and access to/with bush campers.	Significant	Raise the awareness and create a safer recreation environment.	Raise public awareness through education (eg placement of fixed signs). Provide general information literature for general distribution. Inform Emergency Management personnel that campers cannot be notified in a time of fire.	DELWP & CFA	Local Brigades	November Annually

6.08 Public Assembly

6.08.01 Context

There are a number of these premises within the Municipality including public halls, sporting complexes (including regatta headquarters and boat sheds at Nagambie Lakes), swimming pools, churches, schools, preschools and childcare centres. Each facility or premises has its own particular risk that will require individual evaluation. Similar to Public Accommodation and Tourist Facilities the likelihood of a large fire in a public assembly area is low to moderate, however the risk to life in the event of an uncontrolled fire is very high. Past experience has shown that fires in dance halls or similar locations can have catastrophic consequences. As a general rule these types of premises can contain a high number of people who will be gathering together on the premises and are unfamiliar with their surroundings, are exposed to varying standards of serviceability and different or a lack of safety procedures. Panic by occupants during time of fire can lead to high levels of injury and death. In some cases the occupants have very little control over their surroundings and invariably have little interest in the risks associated with the premises.

6.08.02 Risks, Strategies, Programs and Actions

Risk		Objective	Treatment/Program/Action	Responsibility	Others Involved	Time Frame
Details	Rating					

Risk		Objective	Treatment/Program/Action	Responsibility	Others Involved	Time Frame
Details	Rating					
Loss of life from the effects of uncontrolled fire.	Significant	Maintain current nil level.	Risk management, including the inspection of a minimum of 5 properties per year on a random basis and application of enforcement under the BCA where necessary.	Municipality & CFA	WorkCover Authority & Dept Health	Commence June 2003 then annually ongoing
Loss of property from the effects of uncontrolled fire.	Significant	Reduce incidence and severity	Education. Provide an information letter to all identified premises to advice the owners/occupiers of the requirements to comply with the BCA.	Municipality & CFA	WorkCover Authority & Dept Health	June 2003 then annually ongoing
Economic loss both Public and Private.	Significant	Reduce incidence and severity	Fire Prevention Planning. Develop a database of at risk premises. Details to be added as a MFPPlan Appendix L. Building Surveyor to provide an annual report to the MFPO summarising inspections and resultant action.	Municipality & CFA Municipality	WorkCover Authority	June 2001 and then updated on an ongoing basis Annually from June 2003

6.10 Transport

6.10.01 Context

The Hume Freeway, Goulburn Valley Highway and the rail line between Melbourne and Sydney traverse the Municipality. The Hume Freeway and the Melbourne Sydney rail line are located close to the foothills of the Strathbogie Ranges for the majority of their length within the Municipality. This significantly increases the risk of any fire related incident escalating to a major situation during the summer period. The roads are critical to the economy of the region. These transport links however provide a high risk of potential fire ignition due to vehicle malfunction eg hot bearings, accident or inappropriate disposal of burning material by the users, such as cigarettes. All roads carry traffic to various degrees, depending on their location. The higher the traffic usage, the higher is the requirement for the road to be able to provide safe passage for vehicles during a wild fire. The vegetation on the road reserve varies significantly from open farm land to that of the bushed hills, giving a wide range of risk environments and hence the associated treatments must vary accordingly. Specific roads (see Appendix D) have been identified as having a major role as priority access roads and/or to act as control lines.

6.10.02 Risk Environments, Strategies, Programs and Actions

Risk		Objective	Treatment/Program/Action	Responsibility	Others Involved	Time Frame
Details	Rating					
Loss of life from the effects of uncontrolled fire.	High	Reduce incidence and severity.	Provide information relating the declared fire danger period to all road users.	CFA	Municipality	Annually at commencement of Fire Danger Period
Loss of property from the effects of uncontrolled fire.	Significant	Reduce incidence and severity.	Alleviate the risk through strategic identification of priority access roads. Undertake appropriate works to ensure the safety of the travelling public and provide safe access for Emergency Services in the time of fire. Encourage fuel reduction/hazard minimisation works around railway assets.	Municipality, VicRoads, Public Transport Corporation & CFA	WorkCover Authority	October and November Annually
Environmental damage.	Moderate	Prevention/ reduction of environmental damage as a result of uncontrolled fire.	Owner/Operators are fully informed of their responsibilities for the transport of dangerous goods.	EPA & CFA	Owner/ Operators	Ongoing

VicRoads requires that local land holders and Brigades wishing to undertake fire prevention work along the road frontage of Highways and Freeways must obtain the approval of VicRoads prior to undertaking any work. (It should be noted that no new ploughed or graded fire-breaks will be approved).

6.11 Special Risks

6.11.01 Context

Each Fire Brigade within their own locality will identify these risks. These identified risks should have adequate water storage for fire fighting purposes, appropriate fire suppression equipment (complying with appropriate legislation) and ready access provided for Fire Fighting Vehicles at the site.

B: Fire Refuges and Buffer Zones

Refuge From Fire in the Home
It is generally accepted that the home should be safe from fire. However recent experience has shown that, without adequate attention to the removal of hazards and proper construction practises, the home may offer limited protection.

If the home has been properly prepared, the chances of the home surviving the passage of a fire front are greatly increased by the occupants remaining and being able to extinguish any ember ignitions.

The CFA encourages people to remain with their homes where these premises have been properly prepared and protected. Planned and timely evacuation with appropriate notice is required were the decision to leave has been made. There is a clear onus on residents and owners to make every endeavour to reduce fire hazards around their homes and assets. Every encouragement should be provided to assist each householder and landowner in making the property as safe as possible, both from approaching fire and from one occurring within the property.

It is critical that if evacuation is planned, that it be undertaken well in advance of the approach of the fire front. Late evacuations must be avoided as they can prove fatal.

The CFA and the Municipality has significant educational material that includes videos outlining the options for evacuation.

Community Fire Refuges
The CFA and Municipalities are undertaking a major review of Community Fire refuges as a result of changing use patterns and requirements, and expanded legal responsibilities for the operation of Community Fire Refuges. This subject will be addressed later when the results of this major review have been made public.

Buffer Zones
Buffer zones are tools used in the treatment of a variety of situations. Eg:

- *Community assets.*
- *Individual dwellings*
- *Golf courses or parks located in a strategic position.*
- *High density population areas.*

Further details will be provided when the appropriate information becomes available.

C: Fuel Reduced Corridors and Priority Access Roads

General
It is acknowledged that Fire Brigades may identify and undertake treatments on local roads as Fuel Reduced Corridors within their own brigade boundaries, which may not necessarily be identified in the Municipality Strategy. These Fire Prevention works are not always undertaken annually, however all such works are undertaken specifically to minimise the threat to life and property from uncontrolled wildfire. The works that have been undertaken in the past form an integral part of the Fire Prevention Strategy of the Municipality and are supported by this document.

Fire Brigades are required to submit annually prior to the Fire Season, details of proposed Fuel Reduction Works proposed to be undertaken on council roads and/or reserves through CFA's Vegetation Management Officer.

All works are to be undertaken in accordance with the details following.

Fuel Reduced Corridors
Fuel Reduced Corridors must be sufficiently fuel-reduced to provide a safe corridor for the travelling public, provide a means of establishing a control line, reduce the time of travel to low-risk areas and to slow the spread of fire on the road reserve.

Fuel Reduced Corridors should where possible have the fine fuel reduced for a distance of 3 m behind the guideposts on either side of the road where practical. All overhanging obstructions less than 5 m above the road pavement should be removed, and dangerous trees/limbs should be removed to allow the safe passage of fire fighting appliances. They must be inspected annually by the controlling road authority and maintained prior to the fire danger period.

One or all of the following methods can be used to meet the requirements:

(a) Mowing or slashing a strip at least 3 metres wide on one or both sides of the road reserve, either adjacent to the shoulders of the pavement, or next to or inside the adjoining property, at the appropriate time to prevent regrowth and accumulation of dry slashed material.

(b) The grading of a strip to bare earth not less than 3 meters wide on both sides of the road reserve adjacent to the shoulders of the pavement. The over burden from the graded break should be graded back at the end of the summer fire danger period or removed to prevent the accumulation of earth and dry vegetation next to the break.

(c) The ploughing of an earth strip not less than 2 meters wide on both sides of the road reserve adjacent to the fence-line, where there has been a past history of ploughing.

(d) Fuel reduction low intensity burning by fire brigades on a coordinated basis.

(e) The spraying of herbicide where other treatments are not practical or cost effective, to create a strip a minimum of 1.2m wide with little or no vegetation present on both sides of the road reserve adjacent to the shoulders of the pavement. Burning may then follow as required. Spraying of native grasses should be avoided.

(f) Thinning out of vegetation within the reserve or easement, and removing potentially dangerous trees.

Fuel Reduced Corridors are to be identified in Brigade Fire Prevention Plans. Both the Council and Brigades may undertake works on these roads as resources permit.

The following Fuel Reduced Corridors have been identified:

- Euroa Shepparton Road
- Hume Freeway
- Goulburn Valley Highway
- Murchison Violet Town Road

Municipal Priority Access Roads

Priority Access Roads should be cleared of all low overhanging obstructions less than 5 m above the road pavement and dangerous trees/limbs need to be removed. A 3.0 m minimum width fuel-fuel reduced area on both sides of the road is desirable, to provide a clear travelled path all year round that has a 6.0 m minimum width.

It is noted that the provision of emergency exits on the Hume Freeway are critical to allow for alternate access in times of an emergency.

These roads must be inspected annually by the controlling road authority and maintained prior to the fire danger period.

The following Priority Access Roads have been identified:

- Avenel Nagambie Road
- Creightons Creek Road
- Euroa Mansfield Road
- Merton Strathbogie Road
- Euroa Shepparton Road
- Euroa Strathbogie Road
- Goulburn Valley Highway
- Harrys Creek Road
- Heathcote Nagambie Road
- Hume Freeway
- Kettles Road
- Longwood Ruffy Road
- Murchison Goulburn Weir Road
- Murchison Violet Town Road
- Weir Road (Nagambie Rushworth Road to Kettles Road)
- Nagambie Rushworth Road (Heathcote Nagambie Road to Weir Road)
- Upton and Oak Valley Road

Municipal Fire Access Roads

These roads are required to provide summer access for fire fighting vehicles and will be maintained by the Council accordingly, prior to the summer period.

The following Municipal Fire Access Roads have been identified:

- *Bonds Ln*
- *Buchans Rd*
- *Clarkes Rd*
- *Clement La*
- *Desaillys La*
- *Doxey's Lane (Upton Rd to Tarcombe Rd)*
- *Falcon Vale Rd*
- *Fergusons Ln*
- *Fletchers Rd*
- *Frosts Rd*
- *Killeens Hill Rd*
- *Lehmann Rd*

- *Lewis Rd*
- *Long Gully Rd*
- *McKenzies Rd*
- *McPherson Rd*
- *Monea Rd*
- *Morgan St*
- *Nagles Rd*
- *Vidlers Rd*
- *Watkins Lane*
- *Wicket Hill Road*
- *Stubbs Road*

Diagram of Typical Works on Roads

NOTE: The following diagrams show the optimum desirable situation. It must be noted that this may not be achievable or practical in all situations.

D: Emergency Services Safer Areas on High Bushfire Risk Roads

Emergency Services Safer Areas (ESSA's) are places along a road where emergency services vehicles, specifically CFA vehicles, can take refuge from a fire. ESSA's are intended to have low fuel loadings and in the event of a fire front passing through an ESSA, the fire intensity is predicted to be minimal and therefore pose an acceptable risk to a well prepared fire truck (or strike team) and crew that may seek refuge there.

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It must be made succinctly clear; ESSA's **are not intended to provide refuge for the general public in their vehicles,** rather there objective is to specifically aid fire service vehicles in bushfire suppression activities.

High Bushfire Risk Roads have considerable roadside fuel loadings capable of generating lethal levels of radiant heat (refer Figure 3) and ESSA's provide an opportunity for fire fighters to take refuge if a fire front threatens (refer Figure 4 & 5). ESSA's are generally areas of grazing land (farmer's paddocks) adjacent to the road reserve that have acceptable fuel loadings. They should be no more than 3 minutes travel time apart where roadside fuel loadings are high. ESSA's should have bare ground or fine fuel ie grass only, for a radius of at least 100m where vehicles would take refuge.

Generally all vegetation within the ESSA should be grass with the majority of the grass less than 100mm in height. It is understood that a fire in this type of fuel would not generate more than 10kw/m2 of radiant heat flux, a value recognized as the maximum safe exposure for persons in a vehicle. It is also recognized that fire fighting vehicles have a greater capacity to withstand radiant heat (including the potential capacity for fire suppression) than conventional vehicles and therefore an ESSA may not offer the same protection to the general public in cars.

High Bushfire Risk Roads

ESSA's are only applicable on high bushfire risk roads (HBRR). Generally a HBRR is a road in a High to Extreme fire risk rating area (according to Victorian Fire Risk Register), that has potential to generate >10kW/m2 of radiant heat on the carriageway during a fire and where there is a high likelihood of motorists becoming trapped, unable to turn around or disorientated during a fire. For more detail on

determining a high bushfire risk road refer to the Municipal Fire Management Plan extract on following page and refer to Figure 1 for high bushfire risk roads, risk assessment process.

On roads where the potential for radiant heat is <10kW/m2, ie lower fuel loadings, there is no real need to develop an ESSA as the inherent risk is considered acceptable. A fire truck caught on one of these roads would have a much reduced chance of fire impact on its occupants. HBRR's may be signed with a special "Bushfire Risk" sign (Refer Figure 6).

Establishment and Maintenance of ESSA's

The establishment of ESSA's should be coordinated through the Municipal Fire Management Planning Committee and involve the relevant Fire Brigades Group. ESSA's should be assessed by persons experienced in farming practices, fuel loadings and fire behavior eg an experienced fire fighter that also happens to be a farmer. Assessment should also be done with a representative of the road manager ie Council.

If the potential ESSA is on private property, the land owner must be consulted. Most farmers have an appreciation for fire management and are expert in their own property management practices. The success and sustainability of an ESSA is dependent on land owner cooperation.

Close grazing is probably the best and cheapest method of fuel management and is ideal for establishing an ESSA. Another option is to slash the grass at the end on the growing season ie late spring or early summer.

However the land owner may have other plans eg cyclic cropping that would disallow the establishment of an ESSA. Once agreement with the land owner is established, a sign to the attached specification (refer Figure 7) is to be installed on a star picket on the roadside, adjacent to the ESSA.

The signs should be located clear of traffic at least 2.0m from the edge of the road surface or at least 0.6m behind the line of the guide posts.

The local fire brigade needs to liaise with the particular land owner annually to determine if the fuel management goals are achievable. If not, the ESSA must be abandoned at least for the forthcoming fire season and signage removed. Reinstatement of the ESSA should be considered before the next season.

Cost

The cost of establishment and maintenance of an ESSA is minimal, apart from the fuel management costs that can be negligible ie stock eating grass, time talking to the land owner(s) is probably the highest cost next to purchase and installation of signs. 2014 costs for signage that required provision of a star picket, signs and bolts totaling $46.00 per site. It is expected installation of the signs would be done by the local fire brigade. Funding for this could be through the Fire Access Roads Subsidy Scheme applicable through the Municipal Fire Management Planning Committee on a scale appropriate to the need. Replacement of faded or damaged signs would be assessed as required.

High Bushfire Risk Roads *(extract from Municipal Fire Management Plan)*

High Bushfire Risk Roads are identified in the Municipal Fire Management Plan as Fuel Reduced Corridors & Priority Access Roads, and have been determined over time with multi –agency input through the Municipal Fire Management Planning Committee (formerly Municipal Fire Prevention Committee) using a risk assessment process.

Roads provide vital access for both emergency services and the public during a fire. While the public are strongly advised not to travel on roads during a bushfire, research shows that many do and people have

died because of this. Regardless, there is a general belief that roads will allow people to get somewhere safe during an emergency. Users of roads during a bushfire whether responding as emergency services or attempting to escape a bushfire to a perceived safer location, known refuge or access a Neighbourhood Safer Place, face the possibility of being trapped on the road.

Fire Management Objectives ie. (1) Prevent fires on roadsides, (2) Contain fires on roadsides, (3) Manage the safety of road users and (4) Provide control lines, are critical elements in assessing and identifying bushfire risk on roads.

Where high fuel loads, especially surface and near surface fuels are present, the likelihood of ignition by road users is increased. Accidental and deliberate ignitions can occur during the fire season. A spark from a faulty exhaust or a cigarette butt relies on fine fuel to create ignition.

Equally the likelihood of fire spread beyond the road reserve is increased as the fire danger rating increases. Much of the municipality has the ability for fire to spread across the landscape regardless of fire prevention planning and actions.

When a fire is running, the context of risk on roads focuses on managing the safety of road users. The impact a fire has on road users will depend on elements like, fire behaviour, weather conditions and the volume of traffic likely to be on a road when the fire impacts. Fires on extreme fire danger and code red days will be uncontrollable, unpredictable and fast moving. People caught on roads under threat from fire in these conditions are at extreme risk of death.

The Municipal Road Management Plan identifies road class based on physical standards of road formation and traffic volumes. The number of vehicles likely to be on a road during a fire has a direct relationship to personal safety. It is assumed that regardless of publicity campaigns and community education, people will be on roads during bushfire.

School buses are considered specifically vulnerable with difficulty turning around and retreating from fire on some roads and potentially exposing around 40 children to bushfire risk. Risk management plans are in place for school buses operations on Code Red Days, however the likelihood of a school bus being in the vicinity of a fire on other days needs to be considered.

People attempting to access a Neighbourhood Safer Place, face high risk considering they are likely to be on the road and under duress, probably because their own fire safety plan has failed and the fire is already impacting on the road(s) they are on.

The Victorian Fire Risk Register identifies risk areas based on various asset class ie human settlement, economic, environmental and cultural heritage. Roads in areas where VFRR risk ratings are very high to extreme need special consideration.

Safety of motorists depends on being able to avoid radiant heat or possibly drive through the fire front with minimal exposure. Being trapped on a road because of fallen tree(s) together with the inability to turn around because of road formation width or simply disorientation due to smoke, increases the risk of engulfment by fire.

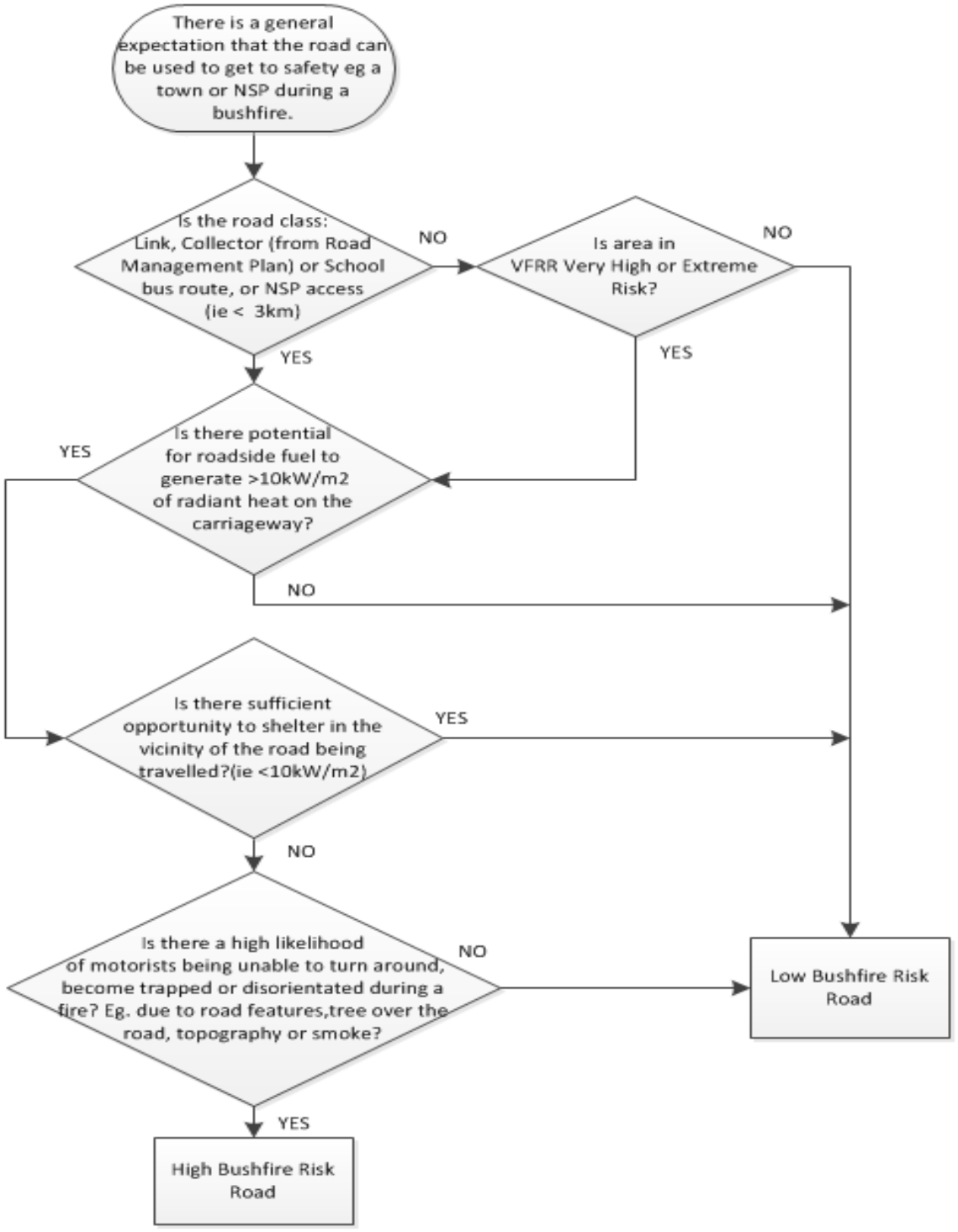
With the conservation of native vegetation on road reserves, on many roads within the Shire, the build up of fire fuel often contributes to high to extreme fire hazard rating. Fuel loads of this level have potential to generate fatal levels of radiant heat. Personal safety relies on nearby fuel levels low enough to produce radiant heat levels capable of sustaining life. The recognized maximum allowable radiant heat flux for occupied vehicles to withstand is 10kW/m2. The fact that some road users during a bushfire may be

pedestrians , cyclists or motorcyclists without the protection an enclosed motor vehicle eg. a car provides, also needs to be considered.

Examples of radiant heat flux:

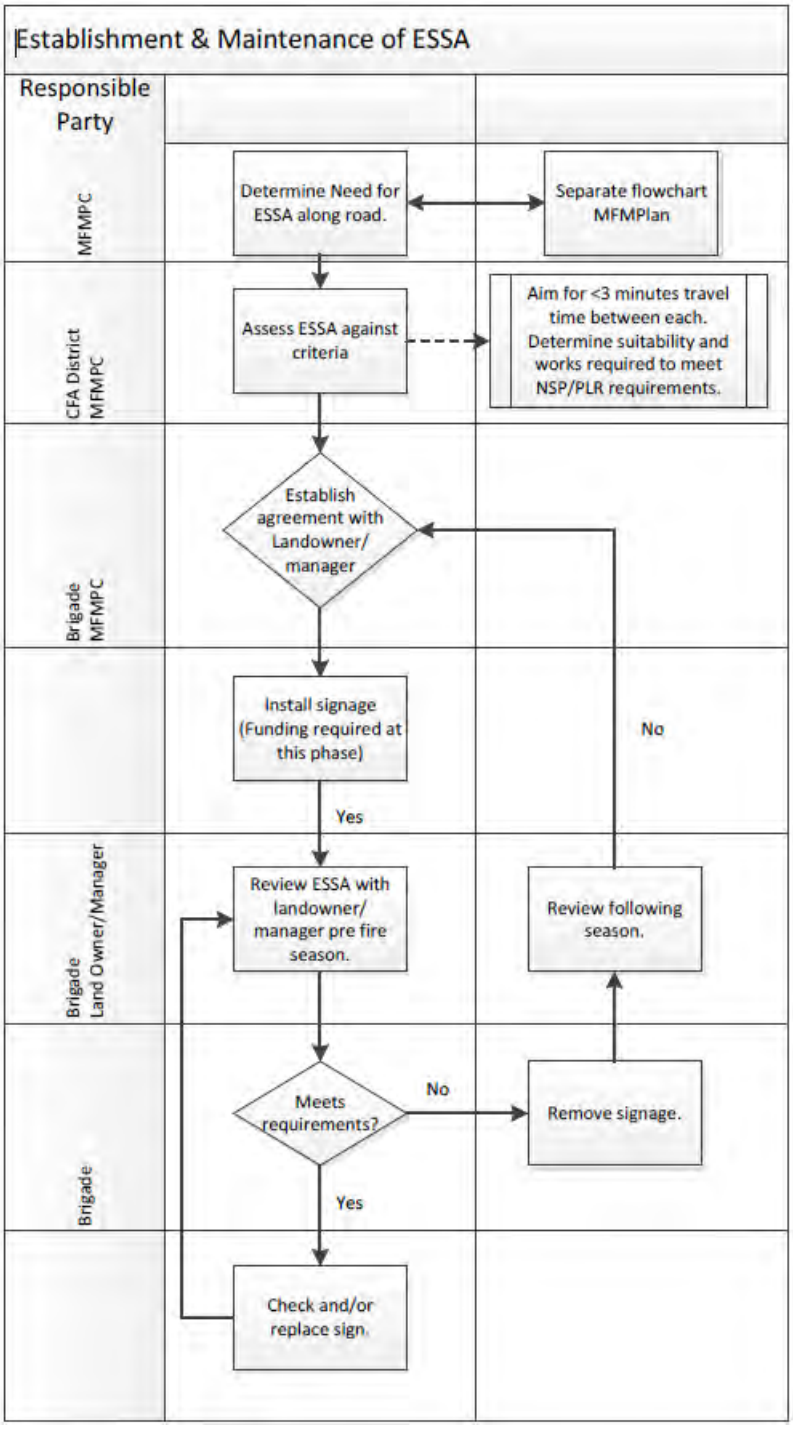
- 7kW/m2 is *"Radiative heat flux which will cause second degree burns to firefighters wearing protective clothing after 90 seconds exposure"* (Braun et al. 1980).
- 10kW/m2 can be achieved within 35m of dense grass 1m high.
- 60kW/m2 is *"Predicted maximum heat flux experienced by a firefighter standing 6m from a 21m tall flame"* (Tassios and Packham 1964)
- 120,000kW/m2 *"Maximum fire intensity observed in the Ash Wednesday fires of 1983"*

When caught on a road, users can gain protection by finding areas to shelter where fuel levels are sufficiently reduced. These areas may include breaks in the roadside vegetation or access to private property adjacent to the road where pasture provides lower risk.
The risk assessment process to determine High Bushfire Risk Roads is flowcharted below:



High Bushfire Risk Roads – Risk Assessment Process

Figure 1



Establishment and Maintenance of ESSA – flowchart
Figure 2

Emergency Services Safer Areas

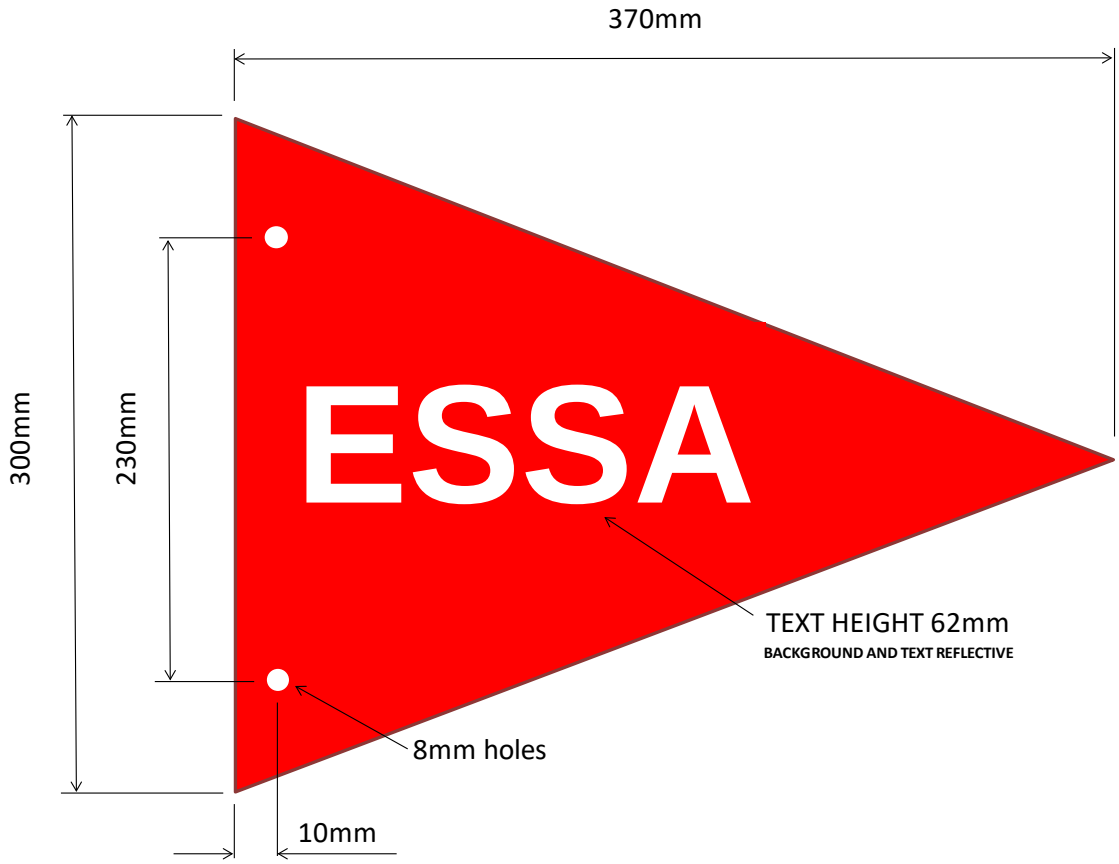
Typical Roadside Fuel Loadings on High Bushfire Risk Road
Figure 3

ESSA Sign indicating
Emergency Services Safer Area
Figure 4

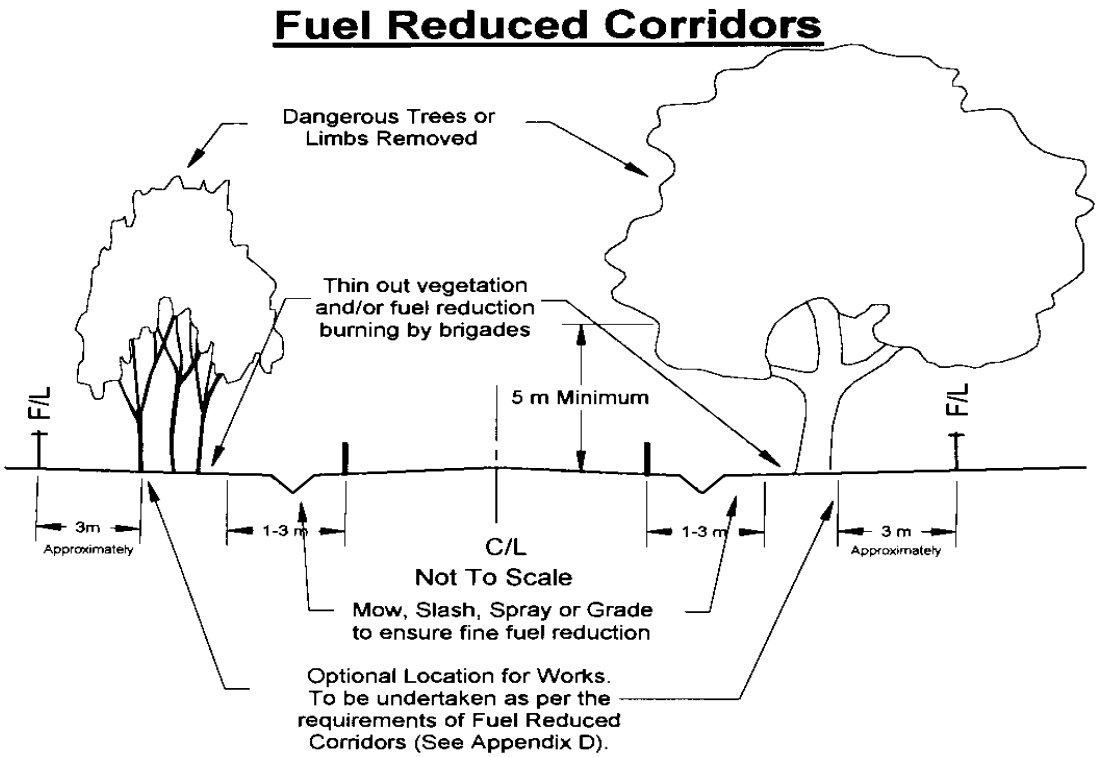
Tanker in the Refuge of an ESSA
Figure 5

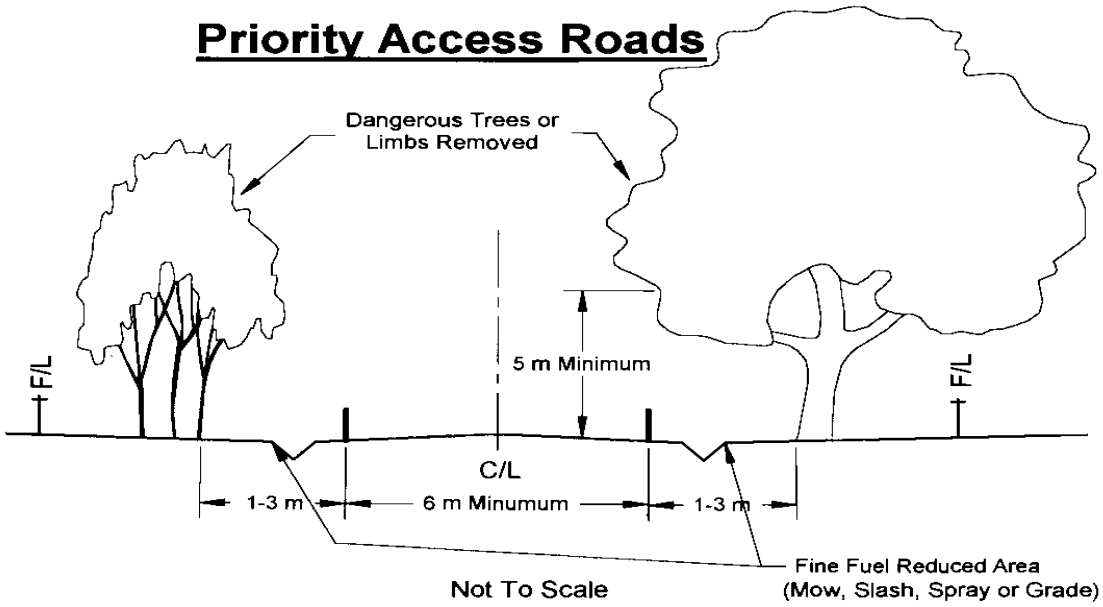
Bushfire Risk Sign
Figure 6

EMERGENCY SERVICES SAFER AREAS SIGN - DESIGN



ESSA Sign Design
Figure 7





D: Fire Hazard Removal and Fuel Reduction

Fire hazards are minimised throughout the year. Council Officers shall be instructed to note any occurrence during their normal inspections, which may be thought to constitute a fire hazard. When such a hazard is identified the MFPO will instigate appropriate measures to have the hazard removed.

Fire hazards/risks associated with commercial and industrial properties are controlled by legislation, such as the Building Code of Australia and the Planning and Environment Act. Where hazards are identified at

these locations this specialist legislation should be used, in **preference** addition to the powers provided under the CFA Act.

The property owners or occupiers should complete fire hazard removal, reduction and isolation, including the clearing of blocks pursuant to Section 41 of the CFA Act, prior to the introduction of the Declared Fire Danger Period. This must include blocks that have been cleared and have regrown.

A Public notice/press release may be placed in the Local Paper in mid-October advising the public as to their responsibilities for the removal of Fire Hazards from private land and the consequences of non-compliance. This is appropriate as it corresponds with CFA Summer Fire Campaign activities.

This public notice shall be followed by an inspection of the townships involving Shire personnel and the Brigade Captains. Block owners who own lots with the potential to be a Fire Hazard shall be sent advisory letters advising them of their responsibility to remove the potential hazards. These letters are to be sent in early November.

Depending on seasonal conditions it is expected that the Fire Prevention Officers or by agreement with the local Fire Brigade Captain will commence formal inspections of the Townships in the late spring, generally in early November, to determine which blocks require clearance. Owners who have not undertaken the works will then be issued with a Fire Prevention Notice. Following the expiration of the allowed time for the work to be undertaken (generally 14 days), the MFPO Fire Prevention Officers will undertake a further inspection of the Townships. Property owners who have failed to have the work performed will have the work undertaken by others at the owners expense, at the direction of the MFPO, and may have infringement notices issued to them.

Urban Residential Allotments

It is recommended that Urban Residential Allotments should have all the grass, weeds and undergrowth cut or burnt to a height of less than 100 mm including all grass up to and against fences, buildings and trees. However it is recognised that special circumstances may require a variance to this standard. Vegetation may be required to be removed (it should be noted that under the Catchment and Land Protection Act seeds of noxious weeds cannot be removed from the site), together with any dead wood or other flammable refuse from the allotments and the adjacent half width of the street.

Larger Allotments

Larger allotments, exceeding 1 hectare and less than 25 hectares, should have the fuel reduced by cutting, removing, grazing and ploughing for a distance of 20 m around dwellings and other assets, and a minimum of 6 m width around the boundary, or as deemed suitable by MFPO Spraying, if undertaken at the appropriate time can be used to make these breaks.

In forest areas it is recommended that:

- *All flammable vegetation and undergrowth be removed for a safe distance around buildings and other assets.*
- *Trees should be thinned, and cut trees and limbs removed.*
- *Clumps of dense vegetation should be isolated.*
- *A 6m minimum width firebreak should be constructed around the perimeter of the property by ploughing or spraying, where practical.*

The above may be varied as deemed necessary by the MFPO and Council Planning Provisions must be observed when removing vegetation.

In grassland areas fuel reduction should be undertaken by cutting, grazing or ploughing for a distance of 20 m around buildings and assets and other installations requiring protection. A 3m to 6 m minimum width break around the perimeter of the property should also be undertaken where practical. If necessary the MFPO may issue further directions.

Undeveloped Municipal Reserves and Municipal Public Land should have a fire break or fuel reduction strip of 6 m wide, as deemed suitable by MFPO, constructed around the perimeter of the Reserve where practical. There may be situations where environmental considerations prevent the construction of a fuel reduced strip. This may be varied as deemed necessary by the Municipal Fire Prevention Officer. Access for fire fighting vehicles should be provided where practical.

It is agreed that Longwood Fire Brigade will undertake fire prevention works annually in accordance with the following plan, made as a result of a decision made at the Municipal Fire Prevention Committee meeting held on the 18th of June 2007.

Rural dwellings should be located and constructed in accordance with the '*Design and Siting Guidelines- Bushfire Protection for Rural Houses.*

**** Strathbogie Shire Council Planning Scheme***

**** Building Code of Australia***

E: Burning within towns

Use of Incinerators and Burning of Material

(1) The burning of material in public places in a built-up area, such as road reserves, kerbs or gutters, is prohibited.

(2) In a built up area a person must not, without a permit, burn in the open air any material unless the material is burnt in an incinerator on a day and at a time permitted under sub-clause.

(3) Subject to sub-clause (4) a person must not light, allow to be lit or remain alight any material in an incinerator in any part of the built up area district other than on the following days and during the following hours on those days:

Burning days: Monday, Wednesday & Sunday Burning hours: 10 am – 3 pm

(4) Despite sub-clause (3) a person must not light, allow to be lit or remain alight an incinerator in any part of the municipal district on a Fire Ban Day or smog alert day.

(5) Sub-clause (2) does not apply to the use of a barbeque, on a day other than a fire ban day, if the barbeque is being used solely for the purpose of cooking food.

(6) The burning of material in public places in a non-built up area is not permitted at any time except for the purposes of fire prevention where a permit is required. In the Fire Danger Period, CFA "permit to burn" will apply.

10. Burning of offensive materials

(1) A person must not, without a permit, burn or cause to burn any offensive materials in any part of the municipal district.

(2) For the purpose of sub-clause (1) materials containing the following substances are offensive:
- (a) any manufactured chemical;
- (b) any rubber or plastic;
- (c) any petroleum or oil;
- (d) any paint or receptacle which contains or which contained paint;
- (d) food waste, fish or other offensive or noxious matter; and
- (e) any other material as determined by the Council from time to time.

Penalty: 2 Units

(3) In deciding whether to grant a permit, the Council must take into consideration:
- (a) the location of the proposed burning in proximity to adjoining land;
- (b) the zoning of the land on which the burning is to take place;
- (c) any alternative means of disposal;
- (d) any adequate means of supervising the burning;
- (e) any adequate means of controlling and extinguishing the spread of fire;
- (f) the degree to which the material to be burned may produce offensive, toxic or unpleasant smells or smoke;
- (g) any policies of the Environment Protection Authority; and
- (h) any other matter relevant to the circumstances associated with the application.

F: Permits to Burn

Requirement for Permit
The lighting of fires in the open is generally divided into 2 sections, ie. (a) rural areas and (b) within built up areas and both Council Local Laws and CFA legislation apply. A big factor in this is whether the declared Fire Danger Period (FDP) is in place. The FDP is set by CFA and typically this is over the summer period of November through to the 30th of April.

Under the CFA Act 1958 and CFA Regulations, Permits to Burn may be issued during the declared FDP.

During the FDP, the CFA in consultation with local CFA Group Officers and the relevant Municipal Fire Prevention Officer(s) continually review actual and predicted weather conditions and fuel loadings and will allow the issue of permits if conditions are favourable. If conditions are not suitable, the issue of permits will cease until favourable conditions prevail.
Any burning by individuals or brigades during the Fire Danger Period requires a Permit.

For Rural Areas
The Strathbogie Shire Council will only issue permits to farmers wishing to burn material less than 6mm in diameter eg. grass or stubble. These Schedule 13 Permits to Burn may be obtained from the Municipal Fire Prevention Officer.

People wanting to light a fire for other purposes eg. to burn stumps, scrub, piles of rubbish, or conduct other activities eg. hot air ballooning, must obtain a Schedule 14 Permit to Light a Fire for Miscellaneous Purposes by contacting the CFA District Office at Shepparton on 5833 2400.

Brigades wishing to burn during the Fire Danger Period require a Schedule 12 Permit to Burn by a Brigade, available from the MFPO or CFA District Office.

Individuals or brigades cannot burn anything that is toxic or offensive.

Within Built Up Areas
During times outside the declared Fire Danger Period, the use of an incinerator is allowed only at prescribed times set by the Council. Use of an incinerator outside those times, or to burn in the open, requires a Local Laws Permit.

Individuals cannot burn anything that is toxic or offensive.

A Schedule 14 Permit (see above) would be required if an individual wants to burn in the open, i.e. not in an incinerator and the material is more than grass or stubble.

Lighting a fire in a built up area during the declared Fire Danger Period is considered an unacceptable risk and a permit will generally not be issued during this period.

Fire Protected Areas
The DELWP area of jurisdiction on public land, and on some private land, is called the Fire Protected Area. Private land that lies within 1.5 kms of public land (such as parks and forests) may be within a Fire Protected Area and may require a Permit to Burn. Individuals or brigades should check at the local DELWP office.

Permit Conditions
All Permits to Burn have conditions which must be adhered to. Failure to comply with the conditions will be deemed as a breach of the permit and subject to the permit being revoked and prosecution by Council or VicPol.

Any permits issued are not valid on Total Fire Ban days.

Attachment 7: CFA Bushfire Management Plan

CFA submits that integral to the Municipal Fire Management is the CFA Bushfire Management Plan for the Shire of Strathbogie

This plan provides a clear perspective of CFA 's level of preparedness on an annual basis to meet its statutory obligation under the CFA Act and the Emergency Management Act.

This plan is complimentary to the Municipal Fire Management Plan and will be utilised in CFA's readiness and preparedness planning phases and in times of emergency by the Incident Management Team and Emergency Management Team.

The scope of the plan contains the following:-

- Risk Assessment for potential Bushfire vulnerability.

- Consequential risk exposure to:
    - Townships/city
    - Isolated communities
    - Critical infrastructure
    - Major Transport Networks

- Data analysis of:
    - Fire History
    - Vegetation
    - Land tenure
    - Vegetation fuel
    - Mitigation works

- Agency Capacity/Capability per municipality:-
    - Fire fighting vehicles
    - Incident Control Centre arrangements
    - Communications Plan
    - Incident Management Capacity
    - Local Preparedness Plans

- Proposed bushfire mitigation works to be undertaken by CFA.

Copies of the Plan will be provided to the Municipality.

Respecting the fact that some of the material within the CFA Municipal Fire Management Plan is of a **confidential nature, limited distribution will be restricted to:**

- **Municipal Fire/Emergency Management Functions**
- **Other Associated Agencies**
- **Incident Control Centres.**
- Divisional Control Centres.

Attachment 8: Glossary & Acronyms

Term	Description
ABS	Australian Bureau of Statistics
Acceptable Risk	The level of potential losses that a society or community considers acceptable, given existing social, economic, political, cultural, technical and environmental conditions.
APT	Australian Pipeline Trust
ARMB	Alpine Resort Management Board
AIIMS	Australasian Inter-service Incident Management System A nationally adopted structure to formalise a coordinated approach to emergency incident management.
Assets and Values	Recognised features of the built, natural and cultural environments. Built assets may include buildings, roads and bridges; Structures managed by utility and service providers; or recognised features of private land, such as houses, property, stock and crops plus associated equipment. Natural assets may include forest produce, forest regeneration, conservation values including vegetation types, fauna, air and water catchments. Cultural values may include recreational, indigenous, historical, and archaeological and landscape values. (Code of Practice for Emergency Management on Public Land)
AWS	Automatic Weather Station The Bureau of Meteorology's standard AWSs use sensors to monitor temperature, humidity, wind speed and direction, pressure and rainfall. Various advanced sensors are available for specialised applications. These sensors can monitor cloud height (ceilometer), visibility, present weather, thunderstorms, soil temperature (at a range of depths) and terrestrial temperature. (Developed from the BOM).
BASO	Brigade Administration Support Officer (for CFA)
BMO	Bushfire Management Overlay is a map based planning-scheme overlay that identifies areas of high fire risk in Victoria. Proposed buildings in these areas require a specific planning permit and type of building construction. It replaced the Wildfire Management Overlay (WMO) in 2012.
BOM	Bureau of Meteorology
Burning Program	A program of prescribed burns scheduled these for a designated area over a nominated time, normally looking ahead over one fire season (for the coming spring to the following autumn), but can also look ahead five years or more.
Burn Plan	The plan which is approved for the conduct of prescribed burning. It contains a map identifying the area to be burnt and incorporates the specifications and conditions under which the operation is to be conducted.
Bushfire	Unplanned vegetation fire. A generic term which includes grass fires, forest fires and scrub fires both with and without a suppression objective.
Bushfire Danger Period	A period of the year either established by legislation or declared by the relevant agency, when restrictions are placed on the use of fire due to dry vegetation and the existence of conditions conducive to the spread of fire.
Bushfire Management	All those activities directed to prevention, detection, damage mitigation, and suppression of bushfires. Includes bushfire legislation, policy, administration, law enforcement, community education, training of fire fighters, planning, communications systems, equipment, research, and the multitude of field operations undertaken by land managers and emergency services personnel relating to bushfire control.
Campaign Fire	A fire normally of a size and/or complexity that requires substantial fire fighting resources, and possibly several days or weeks to suppress.
CERM	Community Emergency Risk Management

Term	Description
CFA	Country Fire Authority
COL	Consequence of Loss - OESC A dataset that is owned and maintained by the OESC. The dataset contains records of infrastructure and assets under the categories: Economic Infrastructure, Economic Production, Environmental Biodiversity, Social Cultural, Social Human Life and Social Infrastructure. The dataset contains detailed attributes about the assets type, value and location.
CIG	Community Information Guide (formerly Township Protection Plan)
Consequence	Outcome or impact of an event
Control Authority	The agency, service, organization or authority with legislative responsibility for control of the incident. (Also referred to as the responsible authority or agency.)
Coordination	The bringing together of agencies and elements to ensure effective response to an incident or emergency. It is primarily concerned with the systematic acquisition and application of resources in accordance with the requirements imposed by the emergency or emergencies. Coordination relates primarily to resources and operates: • vertically, within an agency, as a function of the authority to command; • horizontally, across agencies, as a function of the authority to control.
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Curing	Drying and browning of herbaceous vegetation due to mortality or senescence.
DEECD	Department of Education and Early Childhood Development
DHS	Department of Human Services
DOT	Department of Transport
DPCD	Department of Planning and Community Development
DELWP	Department of Primary Industries
DELWP	Department of Environment Land Water & Planning
EHO	Environmental Health Officer – Council
Elements at Risk	The population, buildings and civil engineering works, economic activities, public services and infrastructure etc., exposed to sources of risk.
EMA	Emergency Management Act
EMMV	Emergency Management Manual Victoria
EPBC	Environmental Protection Biodiversity Conservation
Essential Infrastructure	Those services, physical facilities, supply chains, information technologies and communication networks that, if destroyed, degraded or rendered unavailable for an extended period, would significantly impact on the social or economic wellbeing of the community E.g. Water supply facilities.
FDI	Fire Danger Index A relative number denoting the potential rates of spread, or suppression difficulty for specific combinations of temperature, relative humidity, drought effects and wind speed.
FDP	Declared Fire Danger Period The FDP is set by CFA and typically this is over the summer period of November through to the 30th of April.
FDR	Fire Danger Rating A relative class denoting the potential rates of spread, or suppression difficulty for specific combinations of temperature, relative humidity, drought effects and wind speed, indicating the relative evaluation of fire danger.
FFG Act 1988	*Flora and Fauna Guarantee Act* 1988 – Victorian State Legislation
Fire Management	All activities associated with the management of fire prone land, including the use of fire to meet land management goals and objectives.
FOI	Freedom of Information

Term	Description
Fuel Break System	A series of modified strips or blocks tied together to form continuous strategically located fuel breaks around land units.
Fuel Management	Modification of fuels by prescribed burning or other means.
Fuel Modification	Manipulation or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control (e.g., lopping, chipping, crushing, piling and burning).
Fire Season	The period during which bushfires are likely to occur, spread and do sufficient damage to warrant organised fire control.
FRB	Fuel Reduction Burn
Fuel	Any material such as grass, leaf litter and live vegetation which can be ignited and sustains a fire. Fuel is usually measured in tonnes per hectare. Related Terms: Available fuel, Coarse fuel, Dead fuel, Elevated dead fuel, Fine fuel Ladder fuels, Surface fuels, and Total fine fuel.
Fuel Hazard	A fuel complex, defined by volume, type condition, arrangement, and location, that determines the degree of ease of ignition and of resistance to control.
Fuel Management	Modification of fuels by prescribed burning or other means. (AFAC)
GBCMA	Goulburn Broken Catchment Management Authority
G-MW	Goulburn-Murray Water
GVW	Goulburn Valley Water
Hazard	A source of potential harm or situation with a 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.
Hazard Layer – DELWP	Hazard layer developed and maintained by DELWP, Office of Land and Fire. It is a state-wide coverage of <30 m^2> cell resolution with approximately 27 attributes detailing surface and elevated fuel loads, hazard ratings and vegetation descriptions.
HRSFMPC	Hume Region Strategic Fire Management Planning Committee
HRSFMP	Hume Region Strategic Fire Management Plan
IAP	Incident Action Plan
IFMP	Integrated Fire Management Planning
IRSED	Index of Relative Social & Economic Disadvantage ABS scoring method for determining and comparing levels of social and economic disadvantage in given areas at a given point in time, with information displayed according to IRSED values from lowest (most disadvantaged) to highest (least disadvantaged).
ISO	International Standards Organisation
ISO 31000:2009	An international risk management standard that provides principles and general guidelines on how to manage risk (replaces standard AS/NZS 4360:2004)
ICC	Incident Control Centre The location where the Incident Controller and various members of the Incident Management Team provide overall direction of response activities.
LGA	Local Government Authority Represents relevant Municipal Council (or ARMB) for area of concern.
Likelihood	Probability or frequency of an event can be either qualitative or quantitative.
Loss	Any negative consequence or adverse effect, financial or otherwise.
MBS	Municipal Building Surveyor - Council
MDA	Map Display Area
MECC	Municipal Emergency Coordination Centre
MEM	Municipal Emergency Manager
MEMP	Municipal Emergency Management Planning

Term	Description
MEMPC	Municipal Emergency Management Planning Committee
MERC	Municipal Emergency Response Coordinator – Victoria Police
MERO	Municipal Emergency Resource Officer – Council
MFB	Metropolitan Fire Brigade
MFMP	Municipal Fire Management Plan
MFMPC	Municipal Fire Management Planning Committee
MFPC	Municipal Fire Prevention Committee *(superseded by MFMPC)*
MFPP	Municipal Fire Prevention Plan *(superseded by MFMP)*
MFPO	Municipal Fire Prevention Officer
Mitigation	Measures taken in advance of a disaster, aimed at decreasing or eliminating its impact on society and environment.
Municipal Area	The geographic footprint of the relevant LGA/ARMB
NSP	Neighbourhood Safer Place – Place of Last Resort
OESC	Office of Emergency Service Commission
PPRR	Prevention, Preparedness, Response, Recovery
Practicable	What is realistic to achieve in the context of: The severity of the hazard. The state of knowledge about the hazard or risk and any ways of removing or mitigating it. The availability and suitability of ways to remove or mitigate that hazard or risk. The cost of removing or mitigating that hazard or risk (Dangerous Goods (Storage and Handling) Regulations 2000)
Preparedness	Arrangements to ensure that in the event of an emergency occurring all those resources and services that area needed to cope with the effects can be efficiently mobilised and deployed.
Prescribed Burning	The controlled application of fire under specified environmental conditions to a predetermined area and at the time, intensity, and rate of spread required to attain planned resource management objectives.
Prevention	Regulatory and physical measures to ensure that emergencies are prevented, or their effects mitigated.
Probability	A measure of the chance of an event occurring, often expressed as a number.
Recovery	The coordinated process of supporting emergency affected communities in the reconstruction of the physical infrastructure and restoration of emotional, social, economic and physical wellbeing.
Residual Risk	Risk remaining after implementation of a risk treatment.
Resilience	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. (UN/ISDR, Geneva 2004)
Response	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.
Risk	The exposure to the possibility of such things as economic or financial loss or gain, physical damage, injury or delay, as a consequence of pursuing a particular course of action. The concept of risk has two elements, i.e. the likelihood of something happening and the consequences if it happens.
Risk Analysis	A systematic use of available information to determine how often specific events may occur and the magnitude of their likely consequence.
Risk Assessment	The overall process of risk identification, analysis and evaluation.
Risk Criteria	Terms of reference by which the significance of risk is assessed.
Risk Evaluation	Process of comparing the level of risk against criteria.

Term	Description
Risk Identification	The process of determining what, where, when, why and how something could happen.
Risk Management	The culture, process and structure that are directed towards potential opportunities whilst managing adverse effects.
Risk Management Process	The systematic application of management of policies, procedures and practices to the tasks of communicating, establishing the context, identifying, analysing, evaluating, treating, monitoring and reviewing risk.
Risk Reduction	Actions taken to lessen the likelihood, negative consequences, or both, associated with a risk.
Risk Register	A listing of risk statements describing sources of risk and elements at risk, with assigned consequences, likelihoods and levels of risk.
Risk Treatment	Process of selection and implementation of measures to modify risk.
RSFMPC	Regional Strategic Fire Management Planning Committee
SEACI	South East Australia Climate Initiative
SES	State Emergency Services
SFMPC	State Fire Management Planning Committee
SMR	StateNet Mobile Radio
SOP	Standard Operating Procedures
Source of Risk	Source of potential harm
Stakeholders	Those people and organisations who may affect, be affected by or perceive themselves to be affected by a decision, activity or risk.
Susceptibility	The potential to be affected by loss
TAPO	Technical Administrative Project Officer (for IFMP)
TFB	Total Fire Ban (A day of Total Fire Ban)
Tolerable Risk	A risk within a range that society can live with so as to secure certain net benefits. It is the range of risk regarded as non-negligible and needing to be kept under review and reduced further if possible.
TOR	Terms of Reference
TPP	Township Protection Plan renamed by CFA as Community Information Guide (CIG)
Treatment	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.
Treatment Assessment	Systematic review of processes to ensure that controls are still effective and appropriate.
Urban Rural Interface	The line, area, or zone where structures and other human development adjoin or overlap with undeveloped bushland.
VBRC	Victorian Bushfire Royal Commission
VFRR	Victoria Fire Risk Register CFA process that identifies assets at risk from bushfire, assesses the level of risk and highlights the risk mitigation treatments currently in place along with the responsible agencies for implementing these treatments. The output is a geographic layer and associated attributes that identifies the asset type; name; location and risk factors and priorities of these assets based on a wildfire occurring in its vicinity on a day of 100 FDI.
VICPOL	Victoria Police
Vulnerability	The conditions determined by physical, social, economic and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards. (UN/ISDR, Geneva 2004)

Term	Description
Vulnerable People	Those living in high bushfire risk areas and who are unable to make an independent decision, including due to cognitive impairment; physically dependant and totally reliant on in home personal care and support; and people who live alone and are geographically isolated with no co-resident carer or family. (DHS)
WTP	Water Treatment Plant