



CITY OF  
TEA TREE GULLY  
*Naturally Better*

2022–2026  
**Bushfire  
Mitigation  
Framework**



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## The City of Tea Tree Gully is located in a bushfire prone region in South Australia.

Despite the relatively high urbanisation of the council area, there is a large amount of continuous native vegetation in the City and there is a significant bushfire risk in the City's rural zones, dry land park areas and in adjoining council areas.

The City of Tea Tree Gully has experienced bushfire events in the past that have impacted communities and businesses, caused injury to people and animals, caused destruction of property and displaced individuals and families from their homes.



# Executive summary

Bushfires cannot be eliminated from the landscape and there are circumstances when fire cannot be controlled, however prevention and preparedness activities can reduce the frequency, spread and impact of bushfire events.

The 2019–2020 bushfire season was unprecedented, resulting in devastating fires across Australia. The potential for bushfire to impact our lives cannot be underestimated. The City of Tea Tree Gully Bushfire Mitigation Framework has been developed as part of Council's overall approach to emergency management and disaster risk reduction.

This Framework provides Council with a strategic direction for the identification, assessment of bushfire risk and ensures a coordinated and integrated approach to bushfire management activities. It also outlines the effective work undertaken by Council to prepare land under its care and control, ensuring that Council meets its legislative responsibilities in regard to bushfire management and provides a safe environment for its community.

Bushfire preparedness requires a partnership approach and is a shared responsibility between government agencies, the private sector, non-government agencies, individuals and the wider community. Every land owner has a responsibility to undertake bushfire prevention and preparedness activities relevant to their location and situation.

Climate change is increasing the frequency of extreme fire weather and the severity of bushfire events. The City of Tea Tree Gully acknowledges the changing climate and recognises that bushfire management planning will need to be flexible to meet the challenges this imposes.





# Purpose

The City of Tea Tree Gully Bushfire Mitigation Framework (BMF) provides direction on how Council will implement bushfire mitigation treatments to reduce the risk and impact of bushfires on our area and community. The primary objective of bushfire management planning is the protection of life and property, followed by the protection of economic assets and the protection of environmental and cultural values.

This Framework builds upon the City of Tea Tree Gully Strategic Bushfire Management Plan 2010.

The purpose of the BMF is to:

- Document bushfire risk in the City of Tea Tree Gully
- Capture current and future bushfire risk treatment strategies
- Identify those asset or land owners responsible for managing the risks and reducing vulnerability to bushfire
- Support and inform bushfire management activities and operations to ensure legislative

compliance

- Ensure a flexible and adaptable bushfire mitigation treatment plan is implemented
- Mitigate the impact of bushfire to the City of Tea Tree Gully and its community.

This Framework is to be read in conjunction with the Adelaide and Mount Lofty Ranges Bushfire Management Area Plan and the following Council documents:

- Incident Management Framework
- Emergency Management Plan
- Total Fire Ban Day Plan
- Key Hazards and Risks Summary.

# Strategic directions

1



## **Assessment and understanding of bushfire risk within the City of Tea Tree Gully**

This treatment will build upon Council's existing knowledge of local bushfire risk to inform targeted and prioritised bushfire mitigation activities. New technologies will be considered to provide information via modeling, forecast data and spatial data mapping.

2



## **Develop a centralised Bushfire Treatment Action Plan and undertake a gap analysis to ensure legislative compliance**

This will provide an enhanced system to identify, record and monitor Council's bushfire mitigation treatments, using innovative, risk-based and future-focused approaches to prioritise and coordinate activities. It will identify opportunities for increased efficiency for those Council departments with responsibilities for bushfire management and increase operational capacity to treat bushfire risks during each bushfire season.

3



## **Develop a Bushfire Mitigation Treatment prioritisation tool**

This treatment will assist decision-making relating to Council's bushfire mitigation activities and will inform the Bushfire Treatment Action Plan and the allocation of resources based on current influences such as seasonal outlooks, climate change, fuel loads and budgetary considerations.



4

**Review existing fire track access network**

This includes the identification of track classification and requirement for current and future tracks. It will also inform the construction, reinstatement or realignment of existing tracks to meet the South Australian Firebreaks, Fire Access Track and Sign Standards Guidelines.

5

**Review sections of fire access tracks on non-Council land to define responsibility for maintenance and ensure access requirements**

Several fire tracks pass through multiple land tenures with different levels of maintenance and management standards. An opportunity exists to assess these tracks and establish terms of access and maintenance activities/responsibility.

6

**Further enhance community awareness and education to improve community safety**

This aims to increase community understanding of, and resilience to, bushfire risks through the delivery of inclusive and diverse localised information in partnership with other agencies.

# Relevant legislation

Legislation	Section	Details
Local Government Act 1999	s.7 Functions of a council	(d) to take measures to protect its area from natural and other hazards and to mitigate the effects of such hazards
Fire and Emergency Services Act 2005	s.105F Private Land s.105G Council Land	Owners of ... land must take reasonable steps to: <ul style="list-style-type: none"> <li>(a) Prevent or inhibit the outbreak of fire on the land; and</li> <li>(b) Prevent or inhibit the spread of fire through the land; and</li> <li>(c) Protect property on the land from fire; and</li> <li>(d) Minimise the threat to human life from fire on the land.</li> </ul>
State Bushfire Management Plan	NA	Established under s.73 of the <i>Fire and Emergency Services Act 2005</i> to provide strategic guidance for bushfire management at a state level.
Northern Adelaide Zone Emergency Management Plan	NA	Developed under the State Emergency Management Plan (established under the <i>Emergency Management Act 2004</i> ) and focuses on high level risks that could impact the zone.



## Fire Ban districts and Fire Danger season

The City of Tea Tree Gully is located in both the Adelaide Metropolitan and Mount Lofty Ranges Fire Ban Districts on the periphery of the Adelaide Hills, an area considered to be one of the most bushfire-prone regions in Australia.

Fire Danger seasons are set annually by the Country Fire Service Chief Officer based on recommendations from the Adelaide and Mount Lofty Ranges Bushfire Management Committee (formed under the State Bushfire Coordination Committee). These dates are generally from 1 December to 30 April annually

but may vary according to climate and weather conditions approaching and during the summer months.

The diagram on the following page shows the Fire Ban districts.

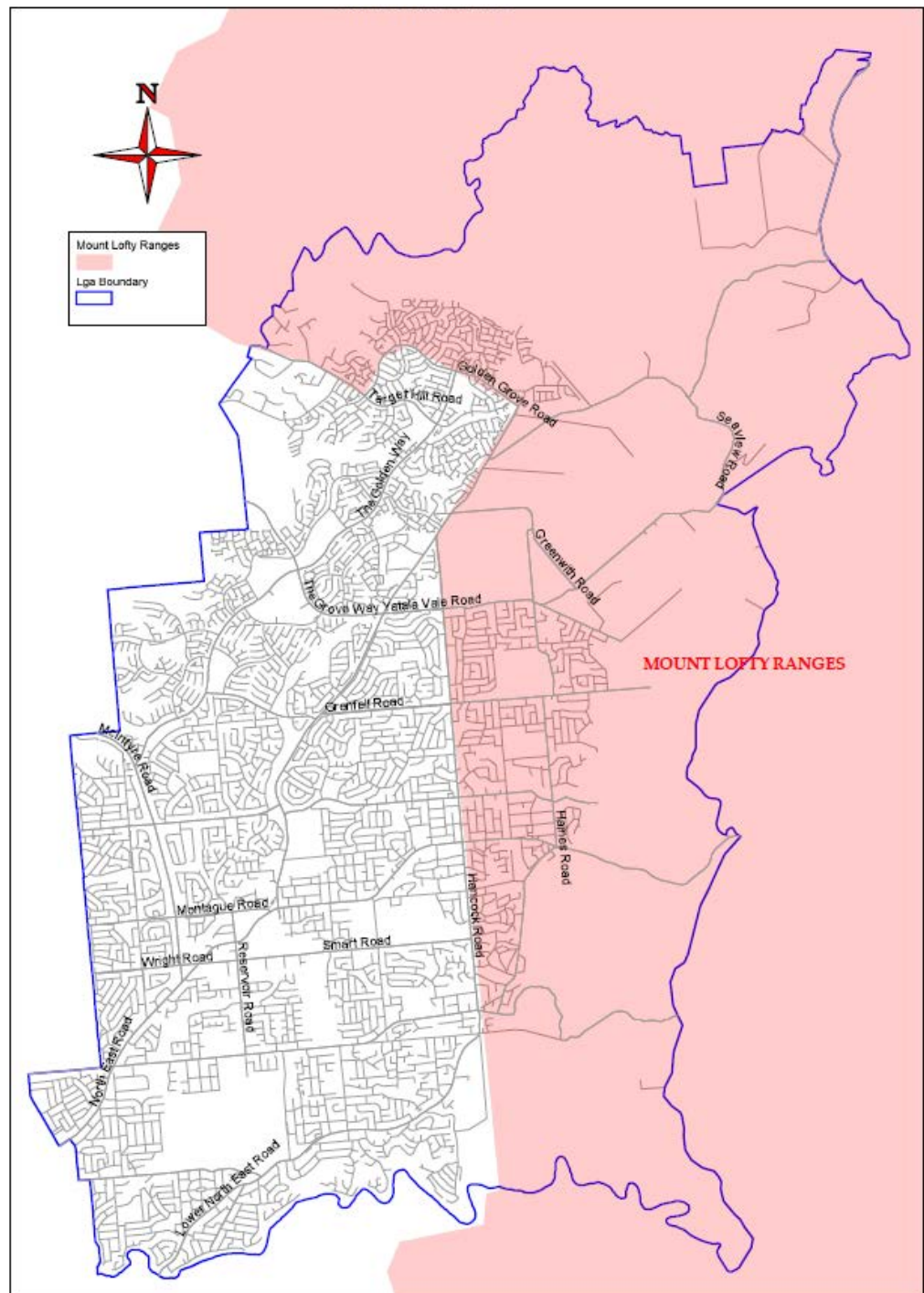


Figure 1  
City of Tea Tree Gully  
Fire Ban districts



## Australian Fire Danger Rating System

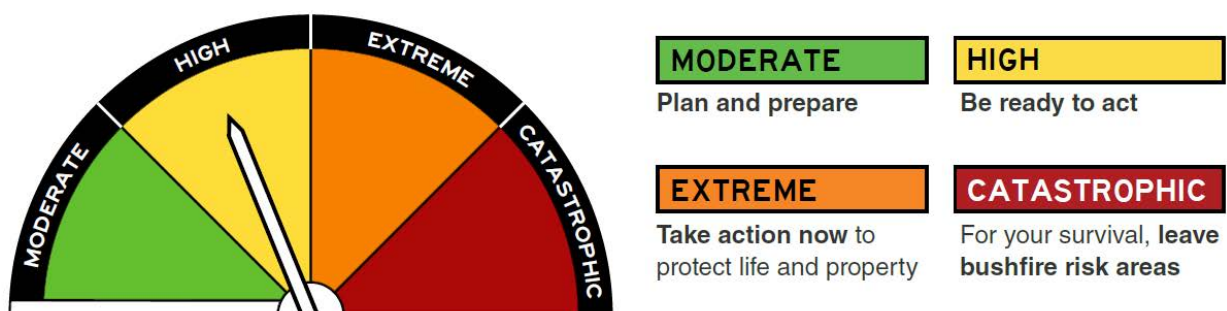
The Australian Fire Danger Rating System (AFDRS) has four levels with action-orientated messages to encourage people to protect themselves and others in the face of bushfire risks. Ratings are calculated using a combination of weather forecasting and information about vegetation that could fuel a fire.

These ratings describe the potential level of danger should a bushfire start and are implemented consistently across Australia. They do not indicate the chance of a fire occurring.

The AFDRS supports Council in decision-making processes regarding service delivery

on Total Fire Ban days to protect its workers and the community. Council's Total Fire Ban Day Plan outlines the processes for continuing, modifying or ceasing services on Total Fire Ban days. Any impacts to Council services on these days will be communicated to residents.

### The Australian Fire Danger Ratings (AFDRS) levels are:



# Inputs into the framework

## Bushfire Management Area Plan

The City of Tea Tree Gully is located within the Adelaide and Mount Lofty Ranges Bushfire Management Area. The Adelaide and Mount Lofty Ranges Bushfire Management Area Plan (BMAP) is a primary input into Council's BMF. The BMAP provides a strategic direction for bushfire management planning in the area, through the identification of strategies for bushfire risk modification to selected assets and areas and across the landscape regardless of tenure. The BMAP provides an assessment of bushfire risk in the Council area and is an evolving document managed by the Adelaide and Mount Lofty Ranges Bushfire Management Committee.

Council uses the BMAP to guide the development of bushfire management work plans for areas of land under its care and control. The BMAP is used to identify those areas of land that present the highest risk and to prioritise prevention and preparedness activities in those areas.

## Risk management

The 2019–2020 bushfire season was unprecedented and there were devastating fires across Australia. Bushfires burnt under conditions that exceeded the limits of firefighting capacity. In South Australia, losses included three lives, 196 homes, 68,000 livestock and approximately \$200 million in agricultural production.

Uncontrolled bushfire within the City of Tea Tree Gully or immediate surrounds is the primary risk identified in this Framework. People (residents and visitors), assets and the environment are at risk. Staff involved in bushfire management identify risk via several means, including using the BMAP which identifies specific areas that have been assessed as having an extreme, very high, high, medium or low risk rating. The BMAP further classifies assets as either human settlement, economic, cultural heritage or environmental.

Council has also identified areas that it deems as medium bushfire risk and a high bushfire risk. This assists Council to determine its service delivery on Total Fire Ban days and establishes a Tea Tree Gully Safer Working Area (refer Attachment 1) to ensure the safety of staff while undertaking works on high fire danger days.



Residents are able to report hazards to Council which assists in hazard identification at the property level.

### **Emergency risk assessment**

Council has undertaken emergency risk assessments on its five priority hazards, including bushfire. These risk assessments build on earlier risk assessments undertaken with the Northern Adelaide Zone Emergency Management Committee, using a process based on the National Emergency Risk Assessment Guidelines.

The bushfire risk assessment is based on a scenario of a fire starting in the Cobbler Creek Recreation Park (shown on map in Attachment 1) and provides Council with an understanding of the risks to the organisation and the community. The highest risks identified from the assessment process were to people and the environment. Treatment actions are identified and prioritised for implementation, contributing to disaster risk reduction.

The risk of bushfires cannot be eliminated, however Council implements several controls to reduce the likelihood or consequence of bushfire and to increase community resilience, enhance the ability of firefighting agencies to access and suppress bushfires, limit the spread of bushfire and protect people, assets and the environment.

### **Bushfire prevention and preparedness internal audit**

An internal audit focusing on Council's bushfire prevention and preparedness was performed in September 2022. The audit considered the adequacy and appropriateness of the bushfire management activities of Council. Recommendations and observations from the audit have been considered in the development of the BMF and associated procedures.

## Climate and weather

### Weather patterns

The City of Tea Tree Gully is in the centre of the Mount Lofty, Mount Crawford and Parafield Bureau of Meteorology weather observation sites.

The climate is Mediterranean type with cool, damp winters and hot, dry summers, however the weather can vary in different areas of the Council area.

### Rainfall

Rainfall varies across the Council area, with an annual average rainfall of 448mm in Parafield and 662mm in Mount Crawford. Approximately 75% of rainfall occurs in the cooler months of April to October.

Late spring/early summer rains may occur promoting a late growth of fire fuels and therefore potentially increasing the fire fuel loads for the fire danger season.

### Temperature

The hottest months are usually December, January and February with temperatures averaging around 30°C, however temperatures over 35°C and exceeding 40°C is common.

The hottest parts of the day are generally just before noon to late afternoon with

temperatures cooling during the night.

### Relative humidity

The relative humidity (RH) in South Australia is more typically lower during the summer months and a RH of less than 20% can occur regularly during this period. Generally, the RH will be at its lowest from midday to late afternoon and will rise during the evening.

### Aspect

Fuels on the more northerly/westerly aspect of the Council area will generally cure faster than the southern aspect. The areas having a northerly/westerly aspect will, in general, be more flammable earlier at the start of the fire danger season.

### Winds

Winds have a significant effect on the fire spread. During the summer months the most frequent wind direction across the Council area is from the south west near the Hills Face although northerlies and north-westerlies are common. Late afternoon changes from the south west are a regular feature after northerly winds.

Winds are influenced by topography and therefore the strength and direction may be very localised. Wind speeds of 30 to 40 km/h are not uncommon during the fire danger season and wind speeds that exceed 12 to



15 km/h will produce major changes in fire behaviour.

The City of Tea Tree Gully area is subject to katabatic (gully winds) which occur when cool air descends from the top of the Mount Lofty Ranges replacing the warmer air of the Adelaide Plains. These winds most frequently occur during the summer months, generally in the late afternoon and evening and are usually strong and variable in direction, causing changes in the direction of a bushfire.

A frequent summer weather pattern of most concern is during the strong northerly winds carrying hot, dry air combined with a frontal change causing winds to swing around and to come from the west and/or become much stronger, unstable and gusty from several directions. Fires that start and become established under these conditions may rapidly increase in size and may be difficult to control.

### **Lightning**

Lightning can be experienced any time of the year but is more frequent during late spring and summer. During the warmer months, storms can produce lightning and heavy, localised rainfalls although dry storms are occasional and are most likely to ignite fires.

### **Climate change impacts**

Climate change is likely to increase the likelihood and consequences of bushfires and affect those already especially vulnerable to this risk. Decreases in rainfall and higher evaporation rates will mean less soil moisture and less run off in rivers, streams and reservoirs. Changes in climate will have a range of impacts – for example on water resources, bushfire frequency and intensity, primary production, infrastructure and the health of our landscape.

Climate change indicators for bushfire predict a 200% increase in the number of extreme fire risk days in the future, with the number of days over 40°C projected to double by 2050<sup>1</sup>. Already the CFS has seen an increase in the length of the fire danger season for the Mount Lofty Ranges over the past several years, which could partly be due to the effects of climate change. With the average number of high fire danger days likely to increase, the delivery of Council services and programs may be directly impacted.

As well as direct environmental impacts of climate change, there is also the interaction with other drivers of change such as

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<sup>1</sup>ibid

population growth. The demand for water may also increase because of warmer temperatures and as the population grows.

Climate change and seasonal factors will be taken into consideration by Council when programming bushfire mitigation treatments to ensure outcomes are achieved with efficient and effective use of resources.

### **Seasonal bushfire outlook**

Seasonal bushfire outlooks are periodically released by the Australian Fire and Emergency Service Authorities Council (AFAC) in collaboration with the Bureau of Meteorology and other agencies. These publications given an indication of fire potential across the nation by considering conditions such as expected climate conditions, rainfall, soil moisture, land use types and vegetation.

In addition to this, pre-season weather briefings for the state are often provided by emergency services agencies and the Local Government Functional Support Group.

### **Climate outlooks**

The Bureau of Meteorology climate outlooks are released periodically and provide current information and intelligence on a range of weather forecasts.

## **Population and topography**

The City of Tea Tree Gully has a population of approximately 101,000 (2021), with the area being a mix of high and low density residential, light industrial areas and commercial businesses. An aging population within the Council area increases the vulnerability of these residents to bushfire risk.

The Council area is nestled in the foothills of the Mount Lofty Ranges with a westerly facing and rises to a height of 450 metres above sea level. The area has a significant portion of remnant vegetation and undeveloped land much of which is in the escarpments of the Mount Lofty Ranges which fringe the eastern Council boundary. This area is characterised by steep terrain and gullies which has the potential to increase travel speeds of bushfire and impair firefighter access. This is integrated with broad acre farming, intensive farming, extractive industries and rural living in the grassed rolling hills in the City of Tea Tree Gully.

### **Hills Face and rural areas**

The Hills Face zone incorporates the eastern third of the Council area, on the western aspects of the Mount Lofty Ranges. The

Hills Face zone is characterised by rugged topography and is generally dominated by Eucalyptus species, including stringybarks. This area presents a significant bushfire risk with the combination of slope and fuel.

Dwellings in this area are spread out and are located on sloping aspects. Fires from the north west would have serious impact on the dwellings if no bushfire mitigation program is implemented, in particular in the SA Water catchment area.

The eastern boundary is the most exposed area for bushfire risk within the City of Tea Tree Gully. Houses along and near Range Road North and South, and further along One Tree Hill Road are potentially isolated and are susceptible to fire entering their properties from the north, west or east. Anstey Hill Recreation Park and Black Hill Conservation Park provide further opportunities for bushfire.

In rural areas, prior to December, fuel loads of six tonnes per hectare results in a very high rate of spread should a fire occur. Over the remainder of the season the fuel levels decrease due to the grazing of properties and normal grass decay.

### **Golden Grove housing development area**

This area abuts the Little Para Catchment area in the north, the Para escarpment in the west, and extractive industries on the eastern side. The greatest threat to this area comes from the surrounding 1.8m brush fences. Cobbler Creek Recreation Park runs through the middle of this area. Buffer zones and firebreaks have been created by the removal of grasses, pest plants and undergrowth to a height of 10cm, reducing the bushfire risk to the area.





## Public land

A number of recreational parks are within the Council boundary which contribute to the fire risk of the area. These include the two key parks managed by the Department of Environment and Water (DEW):

- Cobbler Creek Recreation Park, 266ha

This park is situated on the boundary of the Cities of Salisbury and Tea Tree Gully amongst the residential areas of Golden Grove and Salisbury. The park has significant conservation value as it contains the largest remaining stand of mallee box grassy woodland on the Adelaide Plains. The park is surrounded by residential properties, businesses and parks.

- Anstey Hill Recreation Park, 362ha

This part is in the lower southern portion of the Council area near the Mount Lofty Ranges. The main vegetation communities are pink gum and long-leaf box communities and blue and red gum grassy woodlands. This area abuts the suburban area making the threat of bushfire high.

The Department for Environment and Heritage (now Department for Environment and Water) has established a Fire Management Plan for reserves of the Hills Face Zone and Mount Lofty Ranges. This includes plans for Cobbler Creek Recreation Park, Anstey Hill Recreation Park and Angove Conservation Park.





## Historic events

South Australia has a history of devastating fires across many areas of the state. Some of these have directly impacted Tea Tree Gully, while Council has been in a supporting role in several other bushfires outside of Council boundaries.

### Sampson Flat fire

In 2015 the Sampson Flat fire affected Tea Tree Gully, Playford and Adelaide Hills council areas. The fire burned for eight days from 2 to 9 January 2015. A total of 13,000 hectares was burnt, resulting in 24 houses and 192 sheds being destroyed, 134 people injured and impacts to 11 businesses.

Residents self-evacuated from suburbs including Greenwith, Golden Grove, Banksia Park, Yatala Vale and Upper Hermitage.





# Land tenure

## Council land

Bushfire preparedness on Council land is predominantly addressed through vegetation management and bushfire fuel reduction on reserves, road verges and unmade road reserves. Council has an annual program in place to guide the standard of vegetation management applied to differing parcels of land under Council's ownership or care and control.

Council maintains approximately 80km of fire access tracks throughout the area. These tracks provide access for emergency services

to undertake fire suppression activities and may also provide a fire buffer in some instances.

Council's responsibilities exist in the prevention, preparedness and recovery phases, with response activities during a bushfire conducted by the CFS as the control agency. Council may provide supporting resources (staff and equipment) to the control agency during the response phase.

More information about specific Council bushfire mitigation activities is provided in the section titled [Bushfire mitigation strategies](#).





## Private land

Council encourages landowners to take early action to reduce vegetation and bushfire fuel on their properties, reducing the risk of bushfire to the community. Council enforces the general duty of all landowners under the Fire and *Emergency Services Act 2005* (FES Act) to prepare their properties prior to the fire danger season. Under this Act, property owners are required to maintain their land to prevent/inhibit the outbreak or spread of fire on their property.

Council's Fire Prevention Officer inspects properties and issues Fire Prevention Notices to the owners of land requiring attention. Failure to comply with this notice may result in an expiation notice and/or Council to carry out the works at the cost of the land owner. Further information regarding Section 105F notices is provided in the section titled [Private property preparedness](#).

## Crown/Other land

Council does not have any legislative powers under the FES Act or other legislation to enforce hazard reduction on Crown land. Council seeks assurance from state government departments that they undertake appropriate bushfire mitigation activities inside their boundaries to prevent the spread of fire outside of their land.

The City of Tea Tree Gully will identify opportunities to collaborate with external agencies to enhance bushfire mitigation treatments within the Council area.

# Roles and responsibilities

## Council

### Local emergency management

The South Australian Country Fire Service (CFS) is the hazard risk reduction leader and control agency for rural fire. The Metropolitan Fire Service (MFS) is the hazard risk reduction leader and control agency for urban fire.

Council's Emergency Management Policy establishes the way Council will exercise its powers and functions under the various acts and agreements in an emergency event. The policy defines Council's roles and responsibilities in emergency management with a focus on disaster risk reduction, incident operations and recovery.

During a bushfire incident, Council may provide support, if requested, to the CFS and other emergency services/agencies in accordance with its Emergency Management Policy. This may be provided through direct support to the CFS or via the Local Government Functional Support Group (LGFSG).

### Fire Prevention Officer

Under the FES Act, Council is required to appoint at least one Fire Prevention Officer (FPO) who is responsible for:

- Assessing the extent of bushfire hazards within the relevant council area
- Assisting Council in providing advice and information to any bushfire management committee
- Providing advice to owners of property in respect to bushfire prevention and management
- Carrying out any other functions assigned to the FPO by the regulations.

Prior to the fire danger season, the FPO undertakes an inspection program of all vacant land in the Council area and other high-risk properties, specifically those properties that have been served a s.105F hazard reduction notice in the preceding two years. This inspection program includes:

Month	Activity
October (early)	Send correspondence to owners of vacant and high-risk land to proactively advise owners of the requirement to reduce vegetation and bushfire fuel hazards on their property prior to the formal inspection program.
November	First inspection of properties are conducted, with those properties who are not compliant with the requirements of the FES Act being issued as a s.105F hazard reduction notice, specifying the actions required to be completed within a 14 day timeframe.
Fire Danger Season (within first two weeks of commencement)	Compliance inspections are conducted with those properties still not compliant with the FES Act and the s.105 notice receiving an expiation notice (fine). Council engaged contractors will also be deployed to conduct works in default, with the costs of this work also charged to the landowner. This work is done by Council purely to reduce bushfire risk in the community.

During the fire danger season, the FPO responds to customer requests about properties that may present a fire hazard and can also issue Schedule 9 and 10 permits for hazardous activities if required.

Outside of the fire danger season, the FPO administers the vegetation pile burning permit process. This allows residents in

specified areas to burn bushfire fuel safely, in accordance with the CFS Vegetation Pile Burning Code of Practice.

At times, the FPO may liaise with the CFS to facilitate community education programs to increase community preparedness and resilience to bushfire events.



The FPO maintains relationships with neighbouring councils and key external agencies about bushfire management within the City of Tea Tree Gully and in areas adjacent to its boundaries.

## City Operations

Council's City Operations portfolio has responsibility for vegetation management and bushfire fuel reduction on Council land, specifically reserves and roadside verges. Staff undertake a scheduled year-round program of vegetation management.

City Operations staff are also responsible for maintaining the extensive fire access track network within the Council area. The annual maintenance program includes activities such as grading, weed management and vegetation clearance. At times, the need for a new fire access track may be identified in consultation with the CFS, and Council will consider these works as part of the annual budget.

Specific bushfire prevention activities are timed to be completed by the start of the fire danger season (anticipated to be 1 December annually) or when the fuel load has fully cured and will not regrow after cutting. Examples of the programming and types of activities undertaken are provided in the section [Bushfire mitigation strategies](#).

## Community

Bushfire prevention and preparedness is a shared responsibility of state and local government, hazard risk reduction leaders and control agencies, landholders and the broader community. This Framework promotes the concept that all members of the City of Tea Tree Gully community are responsible for the mitigation of bushfire risk and therefore need to understand and participate in bushfire prevention and preparedness.

Specifically the FES Act provides that owners of land must take reasonable steps to:

- Prevent or inhibit the outbreak of fire on the land
- Prevent or inhibit the spread of fire through the land
- Protect property on the land from fire
- Minimise the threat to human life from fire on the land.

Information relevant to all members of the community on bushfire prevention and preparedness can be found on the CFS website and Council's website.

Council will distribute information for the community via its various media channels

and publications to promote appropriate bushfire prevention and preparedness measures. From time to time, Council may also support the CFS and other agencies to facilitate community education and awareness programs.

## State Bushfire Coordination Committee

Section 71 of the FES Act establishes the State Bushfire Coordination Committee (SBCC) and its functions including:

- Promoting the state-wide coordination and integration of policies, practices and strategies relating to bushfire management activities
- Providing guidance, direction and advice to bushfire management committees
- Preparing and reviewing the State Bushfire Management Plan (SBMP) and to ensure Bushfire Management Area Plans (BMAPs) are consistent with the SBMP
- Approving and auditing BMAPs.

## Adelaide Mount Lofty Bushfire Management Committee

The SBCC has established the Adelaide Mount Lofty Bushfire Management Committee (AMLR BMC) under the FES Act. The key function of the AMLR BMC is to bring together all relevant agencies and organisations with a direct interest in bushfire management and facilitate a coordinated and collaborative approach to bushfire management planning and implementation of mitigation strategies.

Council's representative on this committee is the Manager Community Safety.

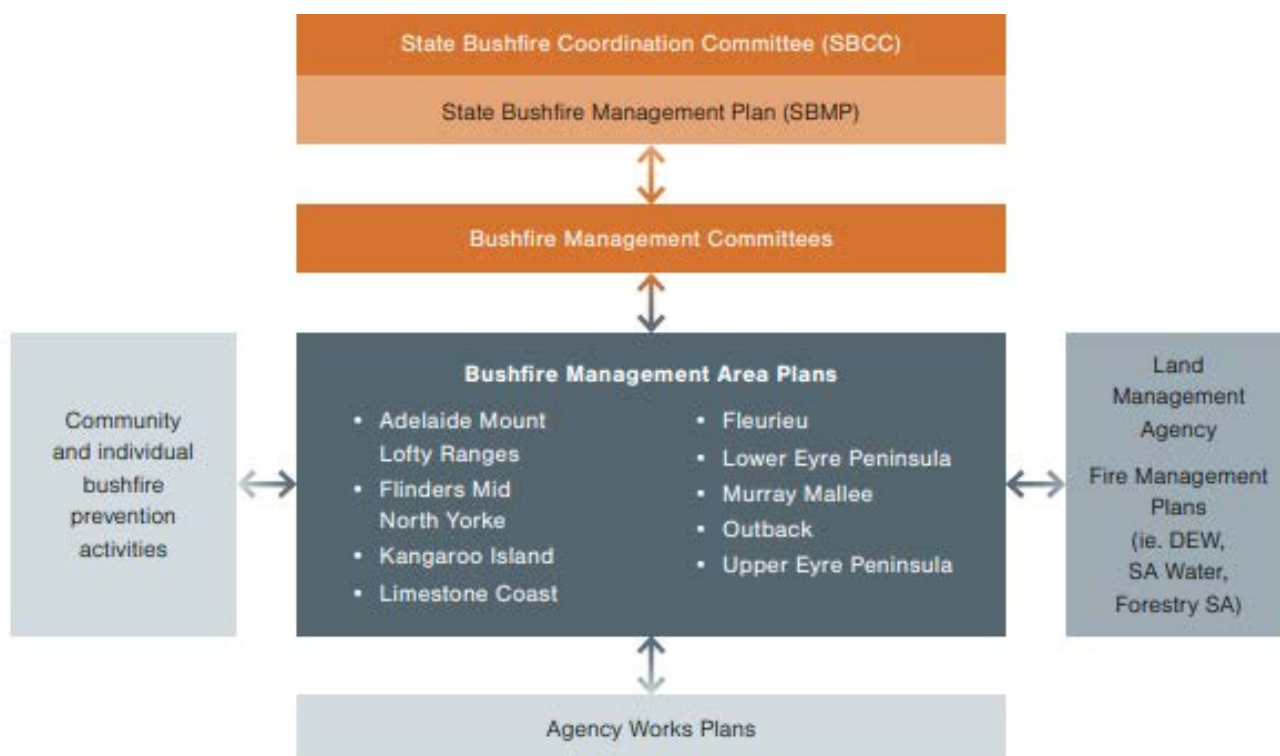
The statutory functions of the AMLR BMC include:

- Advising the SBCC on bushfire prevention in its area
- Promoting the coordination of policies, practices and strategies relating to bushfire management in its area
- Preparing and keeping under review a

BMAP for its designated area and ensuring that the BMAP is consistent with the SBMP

- Overseeing the implementation of the BMAP and report any failure or delay in this process to the SBCC or the Minister
- Working with local communities to promote and improve effective bushfire management.

The diagram below shows the relationship of the SBCC, BMCs and BMAPs.





# Bushfire mitigation strategies

## Council preparedness

Council undertakes a range of bushfire mitigation strategies to reduce bushfire risk up to and during the fire danger season every year.

A Bushfire Treatment Action Plan has been developed to record, monitor and track the various mitigation activities undertaken each year in line with the AMLR BMAP. This program will be reviewed prior to the fire danger season to ensure activities are prioritised based on climate, fuel growth, risk, resource availability and other influencing factors.

## Fuel hazard reduction principles

This Framework supports bushfire mitigation through:

- Reducing the occurrence of woody weeds adjacent to roadsides
- Reducing the intensity of potential fires on road reserves while preserving natural vegetation
- Ensuring the accessibility of fire fighting vehicles
- Providing space between potentially burning vegetation and vehicles caught on the road
- Providing opportunities, at regular intervals, for vehicles to turn around without being impacted by burning vegetation.

It is acknowledged that roadside native vegetation performs important ecological functions and is often remnant biodiversity and tree canopy cover where adjacent land has been cleared. Wholesale clearance of this vegetation is not permitted under native vegetation legislation. Dead trees on rural roadsides provide hollows and habitat for a variety of fauna. Provided they are structurally sound, these trees can remain in place for decades and can often survive a fire event.

## Rural roadside fuel reduction

Roadsides that are easily accessible and level are cut by contractors engaged by Council. Fuel reduction works are undertaken on approximately 65 roadside sites each year. Cutting usually starts in late Spring once grasses have cured and takes approximately two months to complete. Additional cutting may be required in some areas depending on fuel growth and bushfire risk.

## Reserve fuel load reduction

Council's urban grassland and woodland reserves are mowed/brush-cut, sprayed and pruned for fire hazard reduction in accordance with the BMAP. Where possible and appropriate, a 20 metre buffer is maintained from key assets and human settlements. These works are usually programmed from October onwards when grasses and vegetation dry out.

Some sites require multiple cuts, where as others only require one cut per year.

### Roadside marker sites

Roadside marker sites (RMS) consist of high value remnant vegetation that holds important biodiversity value. The maintenance of RMS is design to treat weeds and apply selective brush-cutting to reduce fuel loads. Council manages seven roadside marker sites with a total length of approximately 5km.

Council's Biodiversity Team undertakes selective cutting of exotic grasses in RMS along Churchett Road, Range Road North, Range Road South and parts of Seaview Road. These programs take place when grasses have cured as the sites are dense with native species that will seed at this time. Exotic grass cutting is also undertaken at sites of high biodiversity in reserves along the Hills Face zone and into residential areas where houses border the reserve vegetation.



From time to time, Council engages contractors to carry out fuel load modification works where die-back has become overabundant, restricting access for required maintenance. The fuel loads are modified rather than removed due to the significant habitat value of dead wood. Fuel modification works including lifting trees to two metres and dead trees are reduced or cut to lay along the ground rather than create a flammable vertical pathway where they stand.

### **Rural roadside pruning**

Council undertakes rural roadside pruning to ensure canopy and shoulder clearance requirements are met along rural roads. This is done on a five yearly pruning program, and is based on Department of Infrastructure and Transport guidelines for road clearance envelopes. While pruning work is not critical for fuel load management, it supports safe access for CFS assets during a fire event while also ensuring that compromised trees are removed before a fire causes them to fall onto critical access/egress routes.

### **Weed management**

Weeds can contribute to bushfire risk, holding a fuel load three to five times greater than native grasses. Council

implements a weed management program for the removal and containment of weeds on reserves and roadsides, forming part of the overall fuel load reduction for bushfire mitigation.

Weed management programs are undertaken to reduce weed populations, in particular Coolatai grass in escarpment areas (Hills Face zone) to help contain further outbreaks. Coolatai grass is an invasive tussock forming perennial grass which is highly flammable and a major pest plant in the Para Escarpments along the western edge of the Council area. Over the past ten years, Council has undertaken significant control efforts towards an eradication status with the assistance and grant funding from the Natural Resource Management and Green Adelaide. At the time of this Framework, a 90% eradication status has been achieved over a combined area of 320 hectares.

Woody weeds are treated and removed to mitigate fire hazards associated with understory fuel loads around native/desired trees. This material is mulched for recycling within Council's reserves.

The City of Tea Tree Gully also works with adjoining council areas, such as the City of Salisbury, as well as Friends Groups,



National Parks, SA Water and private land owners to create buffer zones across the Council boundaries.

## **Fire access tracks and fire breaks**

### **Fire access tracks**

Fire access tracks are designed, constructed and maintained for the safe passage of fire fighting vehicles undertaking fire suppression activities. Fire access tracks must permit access by standard CFS 34 units (4WD vehicles capable of carrying up to 3,500 litres). Tracks that do not meet this standard are classified as service tracks. Service tracks may have restricted access and should only be used in emergency operations with caution.

There are three classification of fire access tracks, being major, standard and minor. Requirements for these tracks are established in the South Australian Firebreaks, Fire Access Track and Sign Standard Guidelines.

Council maintains an 80km network of fire access tracks/service tracks. These tracks are maintained on an annual program beginning in September each year, and involves inspection, grading, slashing/cutting, weed management and vegetation clearance. Improvements may be made to existing tracks (eg. turning areas along tracks) where possible and in consultation with the CFS and Council's FPO.





## Firebreaks

A firebreak is an area or strip of land where vegetation has been removed or modified to reduce the risk of fire starting and to reduce the intensity and rate of spread of fires that may occur. The purpose of fire breaks is to:

- Provide protection for personnel, equipment and property from fire
- Provide an edge from which fire crews can undertake fire suppression or prescribed burning.

It is important to understand that fire breaks cannot be expected to prevent the forward movement of moderate to high intensity fires, particularly where spotting is likely to occur.

Council will establish and maintain its fire breaks in accordance with the requirements outlined in the South Australian Firebreaks, Fire Access Track and Sign Standard Guidelines.

## GIS mapping

Where possible, Council captures its various bushfire mitigation activities on Council's Geographic Information System (GIS) to assist in the recording and tracking of works. The AMLR BMAP is overlaid to ensure bushfire mitigation activities align with the risk level of identified assets and the assigned treatment actions.

Asset protection zones around dwellings which are in the extreme or very high risk areas are specifically targeted, demonstrating the use of the BMAP to guide Council's risk-based mitigation works.

## Staff work health safety considerations

Actual bushfires or conditions where fire danger ratings are Extreme or Catastrophic present specific risks to staff working in bushfire risk areas. Council's Total Fire Plan Day Plan provides guidelines for staff working on high fire danger days and specifies what services will be modified or ceased.

Staff are made aware of high fire danger days with an automated email the day before to assist with awareness and planning of works/services.

## Private property preparedness

Private property preparedness relates to action taken by landlords to reduce the risk of bushfire impacting on a house or other building. The primary focus of property preparedness should be the reduction of fuel hazards around the property and the elimination of ignition sources in areas surrounding or on structures by:

- Reducing or removing hazardous vegetation and fine fuels (long dead grass, dried leaves, etc.)
- Removing other flammable materials and liquids
- Reducing the impact from wind blown spark and embers, flame contact and intense heat radiated from bushfires.

If the occupants plan to stay and defend their home during a bushfire, having a well-prepared property is essential. Information and fact sheets on property preparedness are available on the [CFS website](#).

### Property hazard reduction

Property owners are responsible for maintaining their land throughout the fire danger season to reduce the risk of fire. Section 105F of the FES Act empowers

Council to direct property owners to take immediate action to protect life and property from the threat of fire. Section 105F notices may be issued to vacant land as well as home owners with fire hazards. Fire hazards include:

- Long, dry/dead grass above 10cm
- Piles of cuttings, dead branches and other combustible material
- Wood piles that are close to houses or fence lines.

FPOs have the authority to enter properties to undertake inspections and to issue directional 105F notices. If the property owner or the occupier does not complete the required work by the due date of the notice, an explanation notice may be issued and Council has the legal right to carry out the works on the property and recover the costs incurred.

## Burning in the open

Residents who live in a high fire risk area can apply for a permit to burn agriculture or forestry waste, for fire prevention or control. Applications will only be assessed outside of the fire danger season (usually between 1 May and 30 November), with only the CFS and National Parks and Wildlife Service being considered appropriate to undertake prescribed burning during the fire danger season.

Burning should be considered as a last resort and applications may not be approved if the assessing officer believes alternate measures would be more appropriate. Council provides a regular free green waste drop off service for residents as an alternate method for disposing of vegetation.

## Prescribed burning

Prescribed burning is 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. Prescribed burning by expert personnel from the Department of Environment and Water and/or the CFS may be undertaken on crown and/or private land within the Council area, or close to its boundaries.

## Planning and development

A key objective of planning and development is to consider protection from bushfire to ensure the safeguarding of human life and preventing the loss of assets including infrastructure, cultural heritage and ecological assets.

The *Planning, Development and Infrastructure Act 2016*, provides requirements for building or developing in bushfire prone areas. People who want to develop in bushfire prone areas must comply with specific planning and building requirements. Construction requirements for building in bushfire prone areas are detailed in the Building Code of Australia.

Council will require new buildings to be assessed against the provisions of the building rules to ensure they are designed and constructed to provide an appropriate level of protection ranging from just sparks and embers up to direct flame contact. This requires a site assessment in accordance with AS 3959.

## Native vegetation clearance

The *Native Vegetation Act 1991* and the *Native Vegetation Regulation 2017* provide that native vegetation may be cleared in certain circumstances, on being when native vegetation is within 20 metres of a dwelling and the sole purpose of the clearance is to protect a dwelling or other building from the threat of fire.

The [Department for Environment and Water](#) website has information, fact sheets and an explanation of any clearance approvals that may be required. Specific topics include native vegetation clearance relating to fences, tracks, burnt trees and fuel breaks. The Native Vegetation Council and the CFS also publish a guide called *Managing Native Vegetation – How to reduce the impact of bushfire and the steps you need to take* (available on the same website).



## Fire management zones

### Asset protection zones

An asset protection zone (APZ) is a reduced fuel area surrounding a built asset or structure, which is managed to minimise fuel loads, inhibit fire travel and reduce the effects of radiant heat, flame, ember and smoke attack on the asset. Radiant heat is the most common cause of death during bushfires and affects people (health and decision making), animals and structures, whilst ember attack on properties is the leading cause of building loss during a bushfire.

Establishing an APZ provides separation between a bushfire hazard and the asset, minimising direct flame contact and reducing the effects of radiant heat. They may apply to a group of similar properties or along a boundary where the hazard exists. An APZ may also be used within the boundary of a property to inhibit fire spreading onto the property. The required distance between vegetation and asset for an APZ is specified in the SBCC's Fire Management Zone Standard and Guidance for Use, based on the Australian Standard AS3959 for building in bushfire prone areas. The distance required between the asset

and the vegetation is to reduce the bushfire attack level below 12.5 KW/m<sup>2</sup>.

Property owners can generally reduce, modify or remove native vegetation within 20 metres of a building (including overhanging limbs). Significant trees may be protected under the *Development Act 1993*.

### Bushfire buffer zones

A bushfire buffer zone (BBZ) is a reduced fuel area that aims to provide a buffer to reduce the spread, intensity, ember attack and potential spotting from a bushfire. The works associated with the establishment of a BBZ are focused on selectively reducing the amount of fine fuel vegetation, predominantly grasses and understory. These zones minimise continuous fuel structures between surface and canopy fuels.

## Community engagement

Community engagement is a vital element of bushfire preparedness. While the prime responsibility for community education and provision of information relating to bushfires remains with the CFS, all residents need to be aware of their bushfire risk.

Community education and engagement activities can extend from simple information provision to extended training programs. These activities are undertaken by many different groups including CFS, MFS, SAPOL and the Australian Red Cross. The type of program or information that can be provided is dependent on the audience and their level of risk. Community engagement programs have the potential to achieve positive outcomes at both the individual resident and community levels.

Community engagement activities

undertaken by Council include:

- Promotion of CFS bushfire prevention and mitigation programs
- Linkages from Council's website to the CFS website
- Availability of CFS brochures at Council's Civic Centre, and key information via the digital screen network in key sites
- Written advice to owners of vacant blocks advising of fuel reduction responsibilities
- Targeted communication to residents living in high risk areas
- Roadside and reserve signage with bushfire risk messages installed in high risk locations
- Answering queries directly from the public
- Site visits as required
- Supporting the delivery of community education programs in partnership with other agencies.



# Monitoring and reporting

## Monitoring and evaluation

The implementation of the City of Tea Tree Gully Bushfire Mitigation Framework will be monitored by Council’s internal Emergency Management Group (EMG). The EMG will be responsible for measuring the performance of the Framework and associated documents, such as the Bushfire Treatment Action Plan. A review will be undertaken after each fire danger season to identify opportunities for improvement. The evaluation process will include:

- Effectiveness of bushfire mitigation treatments
- Changes to Council’s operational ability to implement required treatments
- Changes to legislation and planning requirements
- Council’s risk profile
- Consideration of climate and seasonal outlooks
- Changes to the Bushfire Management Area Plan.

The framework will be reviewed on a four-yearly cycle or after a significant bushfire event that impacts the City of Tea Tree Gully.

## Reporting

### Internal reporting requirements

Reporting on the performance of the Framework and the status of the Bushfire Treatment Action Plan will be provided to the Audit and Risk Committee and Council’s Executive Leadership Team twice per year. This will generally occur in November (pre fire danger season) and May (post fire danger season). Additional reporting may be provided as required.

Reporting will include:

- Status of bushfire mitigation treatments as identified in the Bushfire Treatment Action Plan
- Data analytics of tasks performed
- Pre fire danger season and post fire danger season analysis and assessment
- Seasonal impacts on Council’s risk profile
- Liaison and collaboration with other agencies
- Activities undertaken by external agencies and groups, such as Adelaide and Mount Lofty Ranges Bushfire Management Committee.



## State reporting requirements

The State Bushfire Coordination Committee must prepare an annual report for submission to the Minister, setting out the progress the SBCC has made during the reporting period in delivering the actions against each of the following objectives:

- To identify major bushfire risks in the State
- To set out strategies for coordination and integration of bushfire management
- To outline principles applying to hazard reduction
- To set out standards for BMAPs

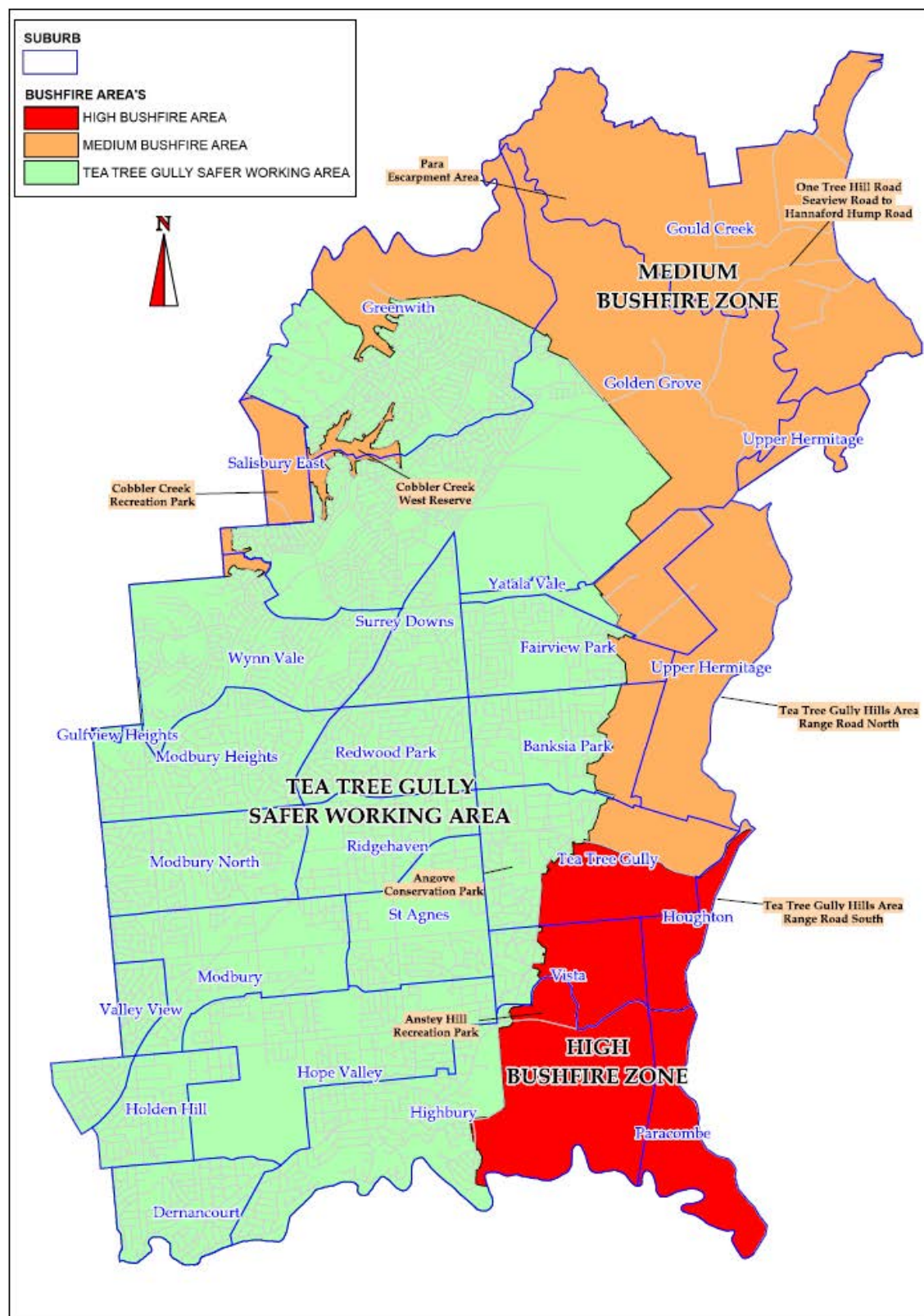
- To promote public awareness of bushfire management.

Council must provide regular reports to the AMLR BMC regarding relevant activities with regards to the BMAP and bushfire management. Generally, these reports are required on an annual basis after the fire danger season.

Any reports provided as part of the State reporting requirements will be distributed to relevant staff as appropriate. The information provided in these reports may be included in Council's internal bushfire mitigation reporting.

# Attachments

## Tea Tree Gully safer working area





## Bushfire mitigation task list

Action	Activity	Type	Department	Responsible Officer/s	January	February	March	April	May	June	July	August	September	October	November	December	As Required
Issue permits to light a fire (E.P.A. Policy, F.E.S.A.)	Permits	Administration	Community Safety	Fire Prevention Officer EPA Authorised Officer													
Issue Schedule 9 & 10 Permits (F.E.S.A.)	Permits	Administration	Community Safety	Fire Prevention Officer CFS Authorised Officer													
Inspect council area for new bushfire related hazards	FPO Inspections	Inspections / Scoping	Community Safety	Fire Prevention Officer													
Inspect Council strategic Fuel Breaks	FPO Inspections	Inspections / Scoping	Community Safety Civil Operations	Fire Prevention Officer, Team Leader Civil Maintenance													
Inspect rural properties	FPO Inspections	Inspections / Scoping	Community Safety	Fire Prevention Officer													
Issue 105F Notices to Residential Residents	FPO Inspections	Administration	Community Safety	Fire Prevention Officer Authorised Officer													
Send F.E.S.A. 105F Notices to rural properties	FPO Inspections	Administration	Community Safety	Fire Prevention Officer													
Erect Winter Fire Safety Signs	Community information	Works Program	Community Safety	Fire Prevention Officer													
Erect Summer Bushfire Safety Signs	Community information	Works Program	Community Safety	Fire Prevention Officer													
Prepare and deliver fire prevention material	Community information	Administration	Community Safety	Fire Prevention Officer													
Review and implement Communications Plan	Community information	Administration	Customer & Communications Community Safety Governance & Policy	Manager Customer & Communications Fire Prevention Officer Emergency Management Advisor													
Facilitate community information sessions	Community information	Administration	Community Safety Governance & Policy Library Services	Fire Prevention Officer Emergency Management Advisor Library Programs Coordinator													
City of Tea Tree Gully Emergency Management Group	Planning	Meeting	Governance & Policy Community Safety	GM City Operations GM Community Services Emergency Management Advisor													
Review Total Fire Ban Day Plan	Planning	Administration	Organisational Development	Team Leader WHS and Wellbeing													
Review Bushfire Mitigation Task List / Action Plan	Planning	Administration	Community Safety	CTTG Emergency Management Group Manager Community Safety Fire Prevention Officer													
Review Bushfire Prevention Budget	Planning	Administration	Community Safety	Manager Community Safety													
Scheduling of Works Program	Planning	Strategic Planning	Community Safety Civil Operations Parks	Fire Prevention Officer Team Leader Civil Maintenance Manager Parks													
Budget for Works Program	Planning	Administration	Community Safety Civil Operations Parks	Fire Prevention Officer Team Leader Civil Maintenance Manager Parks													
Bushfire Mitigation Framework Report - ELT and Audit Committee	Reporting	Administration	Community Safety	Fire Prevention Officer													
AMLR BMC Report	Reporting	Administration	Community Safety	Manager Community Safety Fire Prevention Officer													



## Definitions

**Asset(s)** – Anything valued by people which include houses, crops, heritage buildings and places, infrastructure, the environment, businesses and forests that may be at risk from bushfire.

**Australasian Fire and Emergency Services Authorities Council (AFAC)**

– The peak representative body for fire, emergency services and land management agencies in the Australasian region. It develops and promotes national standards for the fire industry.

**Bushfire** – An unplanned vegetation fire. A generic term which includes grass fires, forest fires and scrub fires.

**Bushfire management** – All those activities directed to prevention, detection, damage mitigation and suppression of bushfires. Includes relevant legislation, policy, administration, law enforcement, community education, training of firefighters, planning, communications systems, equipment, research and the multitude of field operations undertaken by land managers and emergency services personnel relating to bushfire control.

**Bushfire Management Area Plan(s)** – A systematic process that identifies assets at risk from bushfire, assess the level of risk to the asset and highlights the current range of risk mitigation treatments in place. The process enables risk identification and gap analysis.

**Bushfire risk** – The chance of a bushfire

igniting, spreading and causing damage to the community or the assets they value.

**Climate** – The atmospheric conditions of a place over an extended period of time.

**Consequence** – Outcome or impact of a bushfire event.

**Control agency** – The agency appointed in relation to an emergency, and is responsible for ensuring it is adequately prepared to respond to an emergency event. The control agency takes control of the response to an emergency.

**Disaster risk reduction** – Actions taken to avoid the creation of new disaster risks, reducing existing disaster risks and managing any residual risk.

**Fire danger rating** – Describe the potential level of danger should a bushfire start and are calculated using a combination of weather forecasting and information about vegetation that could fuel a fire. There are four levels used nationally – Moderate, High, Extreme and Catastrophic.

**Fire danger season** – The CFS declares fire danger seasons for each of the state's fire ban districts. The season generally runs from November through to April, but can be varied according to the seasonal conditions. During the fire danger season, restrictions are placed on lighting fires and undertaking other certain activities to reduce the chances of large fires starting.

**Fuel** – Any material such as grass, leaf litter and live vegetation which can be ignited and sustains a fire.

**Fuel reduction** – Manipulation, including combustion or removal of fuels to reduce the likelihood of ignition and/or lessen potential damage and resistance to control.

**Hazard risk reduction leader** – The agency assigned to a hazard to ensure that all aspects of the state’s approach to a hazard are coordinated. Responsible for leading emergency management planning activities in collaboration with other stakeholders for prevention, risk reduction, preparedness, response and recovery relating to the assigned hazard.

**Likelihood** – The chance of a bushfire igniting and spreading.

**Mitigation** – The elimination or reduction of the frequency, magnitude or severity of exposure to risks and minimisation of the potential impact of a threat.

**Recovery** – The coordinated process of supporting emergency affected communities in reconstruction of the physical infrastructure and restoration of emotional, social, economic and physical

wellbeing.

**Risk analysis** – A systematic use of available information to determine how often specific events may occur and the magnitude of their likely consequences.

**Risk assessment** – The overall process of risk identification, risk analysis and risk evaluation.

**Risk identification** – The process of determining what, where, when, why and how something could happen.

**Risk treatment** – The process of selection and implementation of measures to modify risk.

**Spotting** – The action of airborne firebrands or embers starting new fires ahead of the main fire front.

**Total fire ban day** – Declared on fire danger days rated at Extreme or Catastrophic. On these days, restrictions are imposed on certain activities to reduce the chance of a fire starting.



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