

Central Coast Bush Fire Management Committee



Bush Fire Risk Management Plan 2020-2025

**Prepared by the Central Coast Bush Fire
Management Committee
Pursuant to section 52 of the Rural Fires Act 1997**

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Authorisation

In accordance with Part 3 Division 4 of the Rural Fires Act 1997, this Draft Plan has been prepared by the Central Coast Bush Fire Management Committee and has been endorsed by the BFMC via email response on 8th May 2020 for submission to the Bush Fire Coordinating Committee.

Recommended



Stuart Farleigh
Chairperson
Central Coast Bush Fire Management Committee

Approved



On behalf of the
NSW Bush Fire Coordinating Committee

1/12/20

Amendment List

Amendment		Entered	
Number	Date	Signature	Date

Glossary

Assets: anything valued by the community which includes houses, crops, heritage buildings and places, infrastructure, the environment, businesses, and forests, that may be at risk from bush fire.

Bush Fire: a general term used to describe fire in vegetation, includes grass fire.

Bush Fire Hazard: the potential severity of a bush fire, which is determined by fuel load, fuel arrangement and topography under a given climatic condition.

Bush Fire Risk: the chance of a bush fire igniting, spreading and causing damage to the community or the assets they value.

Bush Fire Risk Management: a systematic process that provides a range of treatments which contribute to the wellbeing of communities and the environment, which suffer the adverse effects of wildfire/bush fire.

Bush Fire Threat: potential bush fire exposure of an asset due to the proximity and type of a hazard and the slope on which the hazard is situated.

Consequence: outcome or impact of a bush fire event.

Fire Fighting Authorities: the NSW Rural Fire Service, NSW Fire Brigades, the National Parks and Wildlife Service and Forests NSW.

Likelihood: the chance of a bush fire igniting and spreading.

Major Bush Fire: A bush fire which requires the attendance of multiple brigades, or causes damage to property or injury to one or more persons.

Display Area: geographic area determined by the Bush Fire Management Committee which is used to provide a suitable area and scale for community participation and mapping display purposes.

Recovery Costs: the capacity of an asset to recover from the impacts of a bush fire.

Risk Acceptance: an informed decision to accept the consequences and the likelihood of a particular risk.

Risk Analysis: a systematic process to understand the nature of and to deduce the level of risk.

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.

Vulnerability: the susceptibility of an asset to the impacts of bush fire.

Chapter 1. Introduction

1.1 Background

Under the *Rural Fires Act 1997* the Bush Fire Coordinating Committee (BFCC) must constitute a Bush Fire Management Committee (BFMC) for each area in the State, which is subject to the risk of bush fires. Each BFMC is required to prepare and submit to the BFCC a draft Bush Fire Risk Management Plan (BFRMP).

A BFRMP is a strategic document that identifies community assets at risk and sets out a five-year program of coordinated multi-agency treatments to reduce the risk of bush fire to the assets. Treatments may include such things as hazard reduction burning, grazing, community education, fire trail maintenance and establishing community fireguard groups.

Annual programs to implement the treatments identified in this plan will be undertaken by the relevant land managers and firefighting authorities.

In exercising its functions under the *Rural Fires Act 1997*, including the preparation of a draft bush fire risk management plan, the Central Coast BFMC is required to have regard to the principles of ecologically sustainable development (ESD).

This document and the accompanying maps together form the BFRMP for the Central Coast BFMC area.

This BFRMP has been prepared by the Central Coast BFMC and covers both public and private lands. This BFRMP must be reviewed and updated within each successive five-year period from the constitution of the BFMC.

The BFCC recognises that climate change has the potential to increase bush fire risk. The risk assessment process applied in this BFRMP is based on current climatic conditions. The BFCC will monitor information on climate change and will modify the process when necessary.

1.2 Aim and Objectives

The **aim** of this BFRMP is to minimise the risk of adverse impact of bush fires on life, property and the environment.

The **objectives** of this BFRMP are to:

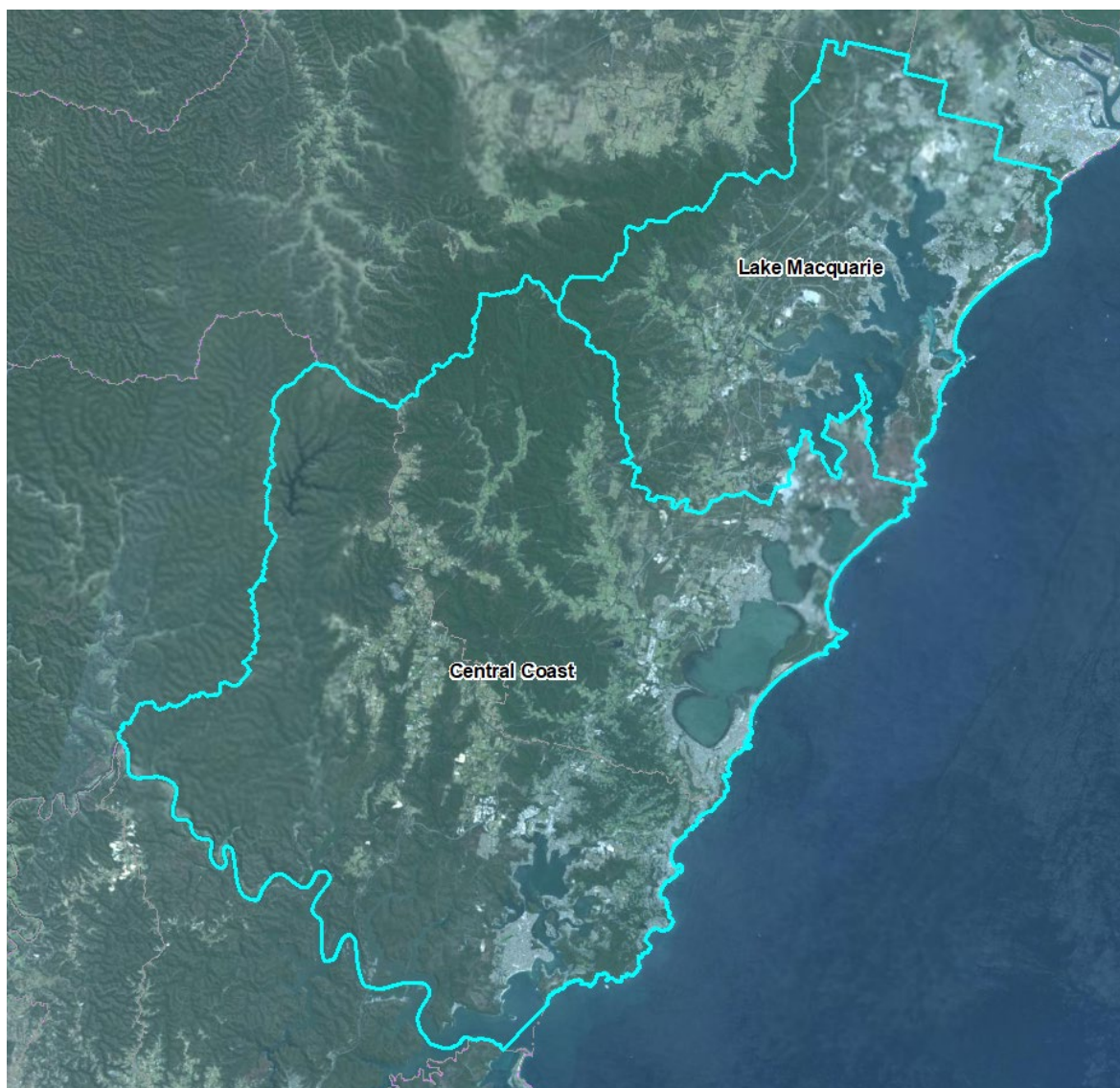
- reduce the number of human-induced bush fire ignitions that cause damage to life, property and the environment;
- manage fuel to reduce the rate of spread and intensity of bush fires, while minimising environmental/ecological impacts;
- reduce the community's vulnerability to bush fires by improving its preparedness; and
- effectively contain fires with a potential to cause damage to life, property and the environment.

1.3 Description of the Central Coast BFMC Area

1.3.1 Location and land tenure

The Central Coast BFMC area is located on the coast of New South Wales, north of the Sydney and south of the Newcastle. The Central Coast BFMC includes the combined Local

Government Areas (LGA) of Central Coast Council and Lake Macquarie City Council. There are considerable State Forest and National Parks within the BFMC area.



The total area covered by the Central Coast BFMC is 243,800 hectares (24,38km²).

The area covered by the Central Coast Council LGA is approximately 168,100 hectares (1681km²) and includes the land tenures outlined in Table 1.1.

Land Manager	% of BFMC area
National Parks & Wildlife Service	25%
Forests NSW	17%
Department of Lands	3%
Local Government	5%
Private	47%
All other	3%

Table 1.1 Land Tenure – Central Coast Council LGA

The area covered by the Lake Macquarie City Council LGA is approximately 75,700 hectares (757km²) and includes the land tenures outlined in Table 1.2

Land Manager	% of BFMC area
National Parks & Wildlife Service	10%
Forests NSW	5%
Department of Lands	5%
Local Government	3%
Private	60%
Lake Macquarie Waterway	17%

Table 1.2 Land Tenure – Lake Macquarie City Council LGA

1.3.2 Climate and bush fire season

The typical / average climate in the Central Coast BFMC area is divided into the eastern coastal strip (approx. 10-12km wide to the M1 Pacific motorway), and the western areas extending to the dividing range. The climate overall is cool temperate with predominately summer rainfall. The coastal strip is dominated by local coastal weather patterns (predominant coastal winds) and the western areas can be slightly warmer, drier and less humid, often influenced by wider wind systems. The bush fire season generally runs from August to March.

Prevailing weather conditions associated with the bush fire season in the Central Coast BFMC area are associated with coastal conditions, and more generally north-westerly winds accompanied by high daytime temperatures and low relative humidity. There are also occasional dry lightning storms occurring during the bush fire season.

1.3.3 Population and Demographic information

The Central Coast BFMC area is a rural and residential area, with some commercial and industrial land use. The combined population of the Central Coast BFMC area is approximately 546,961 people (ABS 2018). The Central Coast Council LGA comprising of approximately 342,047 people living in 144,594 dwellings and the Lake Macquarie City Council LGA comprising of approximately 204,914 people living in 77,000 dwellings. There are many major population centres and suburban townships spread across the coastal strip across both LGA areas, extending to outlying rural villages and townships surrounded by bushlands predominately west of the M1 Pacific Motorway.

Central Coast and Lake Macquarie LGAs contain natural bushland surrounds, State Forests and National Parks. The area contains key significant economic infrastructure such as electricity power stations and transmission lines, gas pipe lines, telecommunication towers, agriculture, coal mines, and industrial spanning across the area. The area contains key State and Federal transport infrastructure including the M1 Pacific Motorway (127km) and northern rail line corridor, used primarily as a transport route from Sydney to Brisbane.

Population growth has driven migration patterns and residential expansion into the region due to demand from metropolitan Sydney and housing affordability. Tourism is an increasing contributor to the area, with visitors seeking recreational activities at local beaches, lakes, parklands and National Parks.

1.3.4 History of bush fire frequency and ignition cause

The Central Coast BFMC area has on average 843 bush and grass fire incidents per year, of which 6 to 8 on average per year can be considered to be major fires.

The main sources of ignition in the Central Coast BFMC area are:

- Illegal burning activity
- Escapes from legal burning
- Arson & Incendiarism
- Ignition of abandoned/stolen motor vehicles
- Lightning
- Arching electrical power lines

Illegal burning activity; ignitions are mainly concentrated in rural areas, with a greater proportion of the ignition points on large private landholdings that are adjacent to populated areas, and are mainly from deliberate or negligent ignitions. This particular activity largely occurs from autumn to spring.

Escapes from legal burning; are mainly in rural areas, occurring in similar areas to illegal burning activity. This particular activity also occurs largely in mid to late spring.

Arson & Incendiarism; is unfortunately an increasing trend, and is most common in the bushland reserve areas adjacent to townships. Ignition records for the area show that the incidence of arson is increased during school holidays. Increasing visitation and urban growth are thought to be the main contributing factors to increased incidence of arson.

Ignition of abandoned/stolen motor vehicles; is a major cause of bush fire ignitions in State Forest and National Parks areas. Additionally, the isolated large public/private land areas adjacent to the power line easements and M1 Pacific motorway are frequently subject to the dumping and ignition of stolen motor vehicles causing bush fires. This activity occurs right throughout the year, and particularly during the summer months represents serious potential for major bush fires.

Lightning; activity in the District is mainly associated with late spring and summer thunderstorm activity, which is normally (but not always) accompanied by rainfall. The major lightning ignition areas in the Central Coast BFMC are in the western parts of the district. The reason for this natural phenomenon is due to the large deposits of ironstone in the area.

Arching electrical power lines; arcing of high voltage electrical power lines in high winds, particularly those on top and west of the escarpment, can result in the ignition of bush fires.

Chapter 2. Identifying and Assessing the Bush Fire Risk

2.1 Process

The Australia/New Zealand Standard *AS/NZS 4360: 2004 Risk Management* was used as the basis for the risk assessment process. See Figure 2.1 for the steps involved. For a detailed description of the process undertaken see the Bush Fire Risk Management Planning Guidelines for Bush Fire Management Committees on the RFS website: www.rfs.nsw.gov.au.

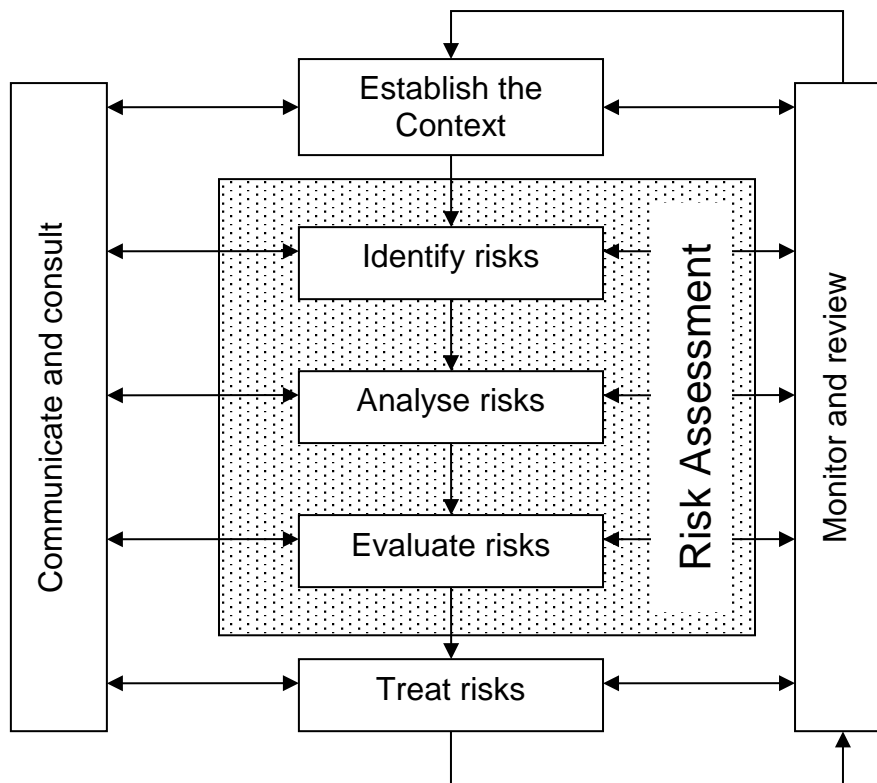


Figure 2.1 Overview of the risk assessment process

2.2 Communication and Consultation

Community participation is an integral part of risk management. The Community Participation Strategy involved developing and implementing a process to address the needs, issues and concerns of stakeholders within the BFMC area in regards to the BFRMP.

See Appendix 1 for the Community Participation Strategy used by the Central Coast BFMC in preparing this BFRMP.

2.3 Identifying the Bush Fire Risk

Identifying the level of bush fire risk firstly involved identifying important community assets considered to be at risk from bush fire in the Central Coast BFMC area, and then assessing the likelihood and consequence ratings.

2.3.1 Assets

BFMC members and the community, including RFS volunteers, identified assets within the Central Coast BFMC that they believed were at risk of bush fire. The assets were divided into four asset types:

Human settlement

- Residential areas including urban bushland interface areas and rural properties;
- Special Fire Protection areas including schools, hospitals, nursing homes, and tourist facilities; and
- Other human settlement areas including commercial and industrial areas where distinct from major towns.
- Neighbourhood Safer Place (NSP) is defined by the Rural Fires Act 1997 as *land or a building designated as a neighbourhood safer place under section 62C*. NSPs provide a place of last resort for people during a bush fire. All designated NSP locations for NSW are available at www.rfs.nsw.gov.au.

Economic

- Agricultural; e.g. major silos, regional saleyards, cropping/grazing land;
- Commercial/industrial e.g. major industries, waste treatment plants, sawmills;
- Infrastructure e.g. large power lines, gas and oil pipelines, major roadways, railway lines, electricity substations, communication facilities;
- Tourist and recreational e.g. tourist sites and facilities, resorts, retreats;
- Mines;
- Commercial forests e.g. pine plantations, eucalypt plantations and commercial native forests; and
- Drinking water catchments.

Environmental

- Threatened species, populations and ecological communities and Ramsar wetlands;
- Locally important species and ecological communities, such as species and ecological communities especially sensitive to fire.

Cultural

- Aboriginal significance – Aboriginal places and items of significance;
- Non-indigenous heritage – places and items arising from the early occupation of NSW by European or other non-indigenous settlers; and
- Other cultural assets – community halls, clubs and recreational facilities.

See *Appendix 2* for the full list of assets identified in the Central Coast BFMC area. See maps *Appendix 4* for the location of assets to be treated under this BFRMP.

2.3.2 Assessing the Bush Fire Risk - Consequence

Once the assets were identified, the consequence of a bush fire impacting on these assets was assessed.

See Appendix 2 for the consequence ratings assigned to each asset identified in the Central Coast BFMC area.

The different asset types had different assessment processes used to determine the consequence. These processes are identified below.

Human settlement

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

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

Due to circumstances surrounding NSPs and their use during a bush fire, stricter requirements for vulnerability assessment and rating will also apply to these assets.

Economic

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

Environmental

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

Cultural

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

2.3.3 Assessing the Bush Fire Risk - Likelihood

For all asset types the likelihood of a bush fire occurring was assessed. This involves considering fire history, including ignition cause and patterns, known fire paths, access, containment potential and potential fire run (size of the vegetated area). See *Appendix 2* for the likelihood ratings assigned to each asset identified in the Central Coast BFMC area.

2.3.4 Identifying the level of risk

The consequence and likelihood ratings were then used to identify the level of risk. See *Appendix 2* for the risk ratings assigned to each asset identified in the Central Coast BFMC area.

2.3.5 Evaluating the Bush Fire Risk

Once the risk ratings for each asset were identified, they were evaluated to:

- a) confirm that risk levels identified in the risk analysis process are appropriate and reflect the relative seriousness of the bush fire risk;
- b) identify which assets require treatments; and
- c) identify treatment priorities.

2.3.6 Prioritising Treatments

No organisation has limitless resources to deal with adverse risk. It is therefore necessary to define priorities. The bush fire risk ratings determined were used to prioritise the risk treatments, i.e. areas of extreme risk were considered first for treatment, then very high, then high, then medium, and then low. It was also necessary to prioritise within the risk levels i.e. determining which of the high risks was the most serious. This was done on the basis of the consequence and likelihood ratings.

Within the matrix, the risk levels are identified numerically from 1-5 with priorities from highest risk to lowest risk (e.g. 1 represents an extreme risk which has the highest priority). Where there is a need to prioritise within the risk levels a letter will indicate the priority level (e.g. A, B, C, or D). For example, 3A reflects the higher priority given to a particular asset within the high risk level and 3D reflects the lower priority given to a particular asset within the same high risk level.

Likelihood	Consequence			
	Minor	Moderate	Major	Catastrophic
Almost Certain	3D	2C	1C	1A
Likely	4	3A	2A	1B
Possible	5	4	3B	2B
Unlikely	5	5	4	3C

Table 2.2 Risk Matrix

Treatments used within the BFRMP can be applied annually, as a single targeted event, spread over the life span of this plan, or deemed necessary due to changing risks.

2.3.7 Risk Acceptability

Risks below a certain level were assessed as not requiring treatment within the life of this plan. This is due to a combination of the number of Extreme, Very High and High risk priorities and capacity to undertake the works.

Within the Central Coast BFMC area the minimum level of acceptability is Medium for Residential and Special Fire Protection Assets and Medium for Environmental and Commercial Assets. Areas of medium or low risk are likely to be managed by routine procedures and so do not require a specific application of resources.

Risk Rating	Mitigation
Extreme	Application of specific and coordinated treatment strategies as defined within this Bush Fire Risk Management Plan
Very High	
High	
Medium	Land owners/managers <i>may</i> apply the identified treatment strategy as part of their routine annual works, maintenance and inspection programs
Low	

Table 2.3 Risk Acceptability and Mitigation

All NSPs for a BFMC area will require ongoing treatment by the applicable land owner to ensure that the asset remains viable as a place of last resort for people during a bush fire. Therefore, all NSP assets are allocated specific treatments in this Plan, regardless of the level of bush fire risk identified and the risk acceptability nominated by the Central Coast BFMC.

NSP Name	NSP Address	Council Area
Belmont Foreshore Park (NSP)	690A Pacific Highway Belmont South	Lake Macquarie
Council Land - West Wallsend (NSP)	70 Carrington Street, West Wallsend	Lake Macquarie
Council Land - Country Grove Drive (NSP)	17 Country Grove Drive, Cameron Park	Lake Macquarie
William Bower Oval (NSP)	524 - 534 Main Road, Glendale	Lake Macquarie
Warners Bay Oval (NSP)	John Street, Warners Bay	Lake Macquarie
Foreshore Reserve (west of Fennell Bay bridge) (NSP)	38 Margaret Street, Fennell Bay	Lake Macquarie
Council Reserve - Belmont North (NSP)	49 Luskin Road, Belmont North	Lake Macquarie
Council Reserve - Rathmines (NSP)	Crn Fishing Point Road & The Circler, Rathmines	Lake Macquarie
Council Reserve - Arcadia Vale (NSP)	39A Alexander Parade, Arcadia Vale	Central Coast
Mannering Park Reserve (NSP)	2 Dunvegan Street, Mannering Park	Central Coast
Gamban Road Foreshore (NSP)	70 Gamban Road, Gwandalan	Central Coast
Noamunga Crescent Foreshore (NSP)	Between 32 & 34 Noamunga Cres, Gwandalan	Central Coast
Kullaroo Road Foreshore Reserve (NSP)	Between 33 & 35 Kullaroo Road, Summerland Point	Central Coast
Lake Munmorah Foreshore (NSP)	86-88 Anita Avenue, Lake Munmorah	Central Coast
Joshua Porter Reserve (NSP)	Lloyd Avenue, Chain Valley Bay	Central Coast
Chain Valley Bay (North) Foreshore (NSP)	End of Mulloway Road, Chain Valley Bay	Central Coast

NSP Name	NSP Address	Council Area
Buff Point Foreshore Reserve (NSP)	Buff Point Avenue, Buff Point	Central Coast
Charmhaven Foreshore (NSP)	Intersection of Panorama Avenue & Restlea Avenue, Charmhaven	Central Coast
Halekulani Foreshore (NSP)	Intersection of Lukela Avenue & Sunrise Avenue, Halekulani	Central Coast
Canton Beach Foreshore (NSP)	Beach Parade, Canton Beach	Central Coast
Osborne Park (NSP)	Peel Street, Toukley	Central Coast
Mt. Penang Parklands Village Green (NSP)	Corner Carinya Street & Parklands Road, Kariong	Central Coast
Kurraba Oval (NSP)	Kurraba Road, Berkeley Vale	Central Coast
Hylton Moore Park (NSP)	Coburg Street, East Gosford	Central Coast
Pearl Beach (NSP)	Pearl Parade, Pearl Beach	Central Coast
Public Wharf - Wagstaffe (NSP)	Mulhall Street, Wagstaffe	Central Coast
Public Wharf - Killcare (NSP)	Araluen Drive, Killcare	Central Coast
Public Wharf - Woy Woy Bay (NSP)	Bassan Street, Woy Woy Bay	Central Coast
Banavie Reserve (NSP)	Marine Parade, Macmasters Beach	Central Coast
Deerubbin Reserve (NSP)	Peats Ferry Road, Mooney	Central Coast
Patonga Beach Foreshore Reserve (NSP)	Brisk Street (East) off Bay Road, Patonga	Central Coast
The Springs Golf Club (NSP)	Peats Ridge Road, Peats Ridge	Central Coast
Mangrove Mountain Union Church Hall (NSP)	2 Waratah Road, Mangrove Mountain	Central Coast
Mangrove Mountain District Oval (NSP)	Bloodtree Road, Mangrove Mountain	Central Coast
Yarramalong Hall (NSP)	Yarramalong Road (crn Leewood Close) Yarramalong	Central Coast

Table 2.4 Neighbourhood Safer Places

Chapter 3. Treating the Risk

3.1 Bush Fire Management Zones

Bush Fire Management Zones were identified within the Central Coast BFMC area and mapped (see maps *Appendix 4*). These zones identify the fire management intent for a specific area. See Table 3.1 for descriptions of the zones and their purposes. The four categories of Bush Fire Management Zones are:

- Asset Protection Zone (APZ);
- Strategic Fire Advantage Zone (SFAZ);
- Land Management Zone (LMZ); and
- Fire Exclusion Zone (FEZ).

Some of these zones (usually Land Management Zones) may be further classified within this category by the land manager, e.g. LMZ -Heritage Management Zone (NPWS).

Zone	Purpose	Suppression Objective(s)	Zone characteristics
Asset Protection Zone	To protect human life, property and highly valued public assets and values.	To enable the safe use of Direct Attack suppression strategies within the zone. To minimise bush fire impacts on undefended assets.	As per RFS document <i>Standards for Asset Protection Zones</i> .
Strategic Fire Advantage Zone	To provide strategic areas of fire protection advantage which will reduce the speed and intensity of bush fires, and reduce the potential for spot fire development; To aid containment of wildfires to existing management boundaries.	To improve the likelihood and safe use of: Parallel Attack suppression strategies within the zone. and/or Indirect Attack (back burning) in high to very high fire weather conditions within the zone. To reduce the likelihood of: Crown fire development within the zone. and/or Spot fire ignition potential from the zone	Zone width related to suppression objectives and dependent upon: <ul style="list-style-type: none"> • Topography • Aspect • Spotting propensity • Location of adjacent firebreaks • Mosaic pattern of treatment Assess Overall Fuel Hazard (OFH) once vegetation communities reach minimum fire thresholds within this plan. Management practices should aim to achieve mosaic fuel reduction patterns so that the majority of the SFAZ has an OFH of less than high.
Land Management Zone	To meet relevant land management objectives in areas where APZs or SFAZs are not appropriate.	As per the land management and fire protection objectives of the responsible land management agency. To reduce the likelihood of spread of fires. To undertake mosaic burning.	As appropriate to achieve land management e.g. heritage and/or fire protection e.g. broad scale mosaic burning objectives.
Fire Exclusion Zone	To exclude bush fires.	N/A	Variable dependant on size of fire sensitive area requiring protection.

Table 3.1 Bush Fire Management Zones: Purpose, objectives and characteristics

NB: OFH refers the Overall Fuel Hazard Guide as described in the document published by (Dept. of Sustainability and Environment 3rd ed. 1999 & NPWS version); State-wide procedures for assessment of fuel hazard will be developed in conjunction with the BFCC.

Note: All areas that are not mapped or described as APZs or SFAZs are considered as LMZs.

3.2 BFMC Wide Treatments

BFMC wide treatments are activities which reduce the overall bush fire risk within the BFMC area and are undertaken on an ongoing basis as part of normal business. These treatments are not linked to specific assets in the BFRMP, rather they are applied across all or part of the BFMC area as designated by legislation or agency policy. BFMC wide treatments include the following:

- **Reviewing the bush fire prone land map**

These maps identify bush fire prone land and are used to trigger whether a development application is assessed using *Planning for Bush Fire Protection*¹.

- **Ensuring developments in bush fire prone land comply with *Planning for Bush Fire Protection***

This assessment process requires new applications for development to include bush fire protection measures.

- **Using the Local Environment Plan/s (LEPs) to control developments in areas with a bush fire risk**

LEPs can be used to exclude development in extreme bush fire risk areas or where bush fire protection measures cannot be incorporated.

- **Varying the standard bush fire danger period as required**

In years where the weather is particularly adverse the bush fire danger period may be brought in early or extended. This is assessed every year by the BFMC.

- **Requiring permits during the bush fire danger period**

In the bush fire danger period a fire safety permit is required to light a fire in the open. Permits specify conditions such as firefighting equipment that must be on site, or restrict burns based on weather conditions.

- **Prosecution of offenders in relation to deliberate ignitions**

Under the *Rural Fires Act 1997* persons may be prosecuted for breaching the conditions on a fire permit, lighting a fire during a Total Fire Ban, allowing fire to escape their property, or other breaches of the Act. In addition, the member agencies of the BFMC will co-operate with the NSW Police in relation to the prosecution of arsonists under the Crimes Act 1900.

- **Investigation of bush fire cause**

All bush fires which do not have a known cause are investigated to identify how they started.

- **Normal fire suppression activities**

Responding to bush fire is a normal business activity for the firefighting authorities.

¹ NSW Rural Fire Service 2006 *Planning for Bush Fire Protection: A guide for councils, planners, fire authorities and developers.*

- **Assessing and managing compliance with strategic firefighting resource allocation provisions**

Strategic firefighting resource allocation provisions is the process used to identify the number of stations, brigades and appliances required in an area, and considers members, training, assets and hazards.

- **Preparation of a S52 Operations Coordination Plan**

The Operations Coordination Plan is prepared biannually and sets out how coordinated firefighting will occur. It includes specific operational restrictions on firefighting techniques in certain areas, where fires will be managed from, and how agencies involved can communicate during operations.

- **Fire Management Plans or Plans of Management**

Some land management agencies have developed fire management plans or plans of management with specific fire or fuel management strategies, for example a Forests NSW Fuel Management Risk Plan, a NPWS Fire Management Strategy and Central Coast Council Natural Areas Bushfire Risk Analysis. These publicly exhibited plans form the basis for operational fire planning on public parks, reserves and forests.

- **Bush Fire Hazard Complaints**

If someone is concerned about possible bush fire hazards on a neighbouring property or any other land, then this can be reported to the RFS Commissioner or their local RFS Fire Control Centre. The complaint will be investigated and may result in a notice being issued to the landowner or manager to reduce the hazard.

3.3 Asset Specific Treatments

There are five (5) broad strategy groups available to treat the bush fire risk to assets identified in the BFRMP. The types of asset specific treatments in each strategy group used in the Central Coast BFMC area are listed below. A full list of the treatment strategies in the Central Coast BFMC area are in *Appendix 3*.

Strategy	Targeted treatments used in the Central Coast BFMC area
Ignition Management	Implement visitor management strategies on Total Fire Ban days Investigate & Implement Access Management Strategy
Hazard Reduction	Implement Burning Program Mapped in SFAZ Investigate Implementation of Burning within LMZ Inspect APZ & maintain as required
Community Education	Undertake Community Engagement activity
Property Planning	Complete site specific Risk Assessment Investigate Building Upgrades & Maintenance Investigate Communications & Power Supply Protection
Preparedness	Prepare & Maintain Pre-Incident Plan Inspect & Maintain Fire Trails as Required Review Special Fire Protection Facility Procedure Develop/maintain Emergency Management Plan

Table 3.2 Asset specific treatments used in the Central Coast BFMC area

3.4 Fire Thresholds

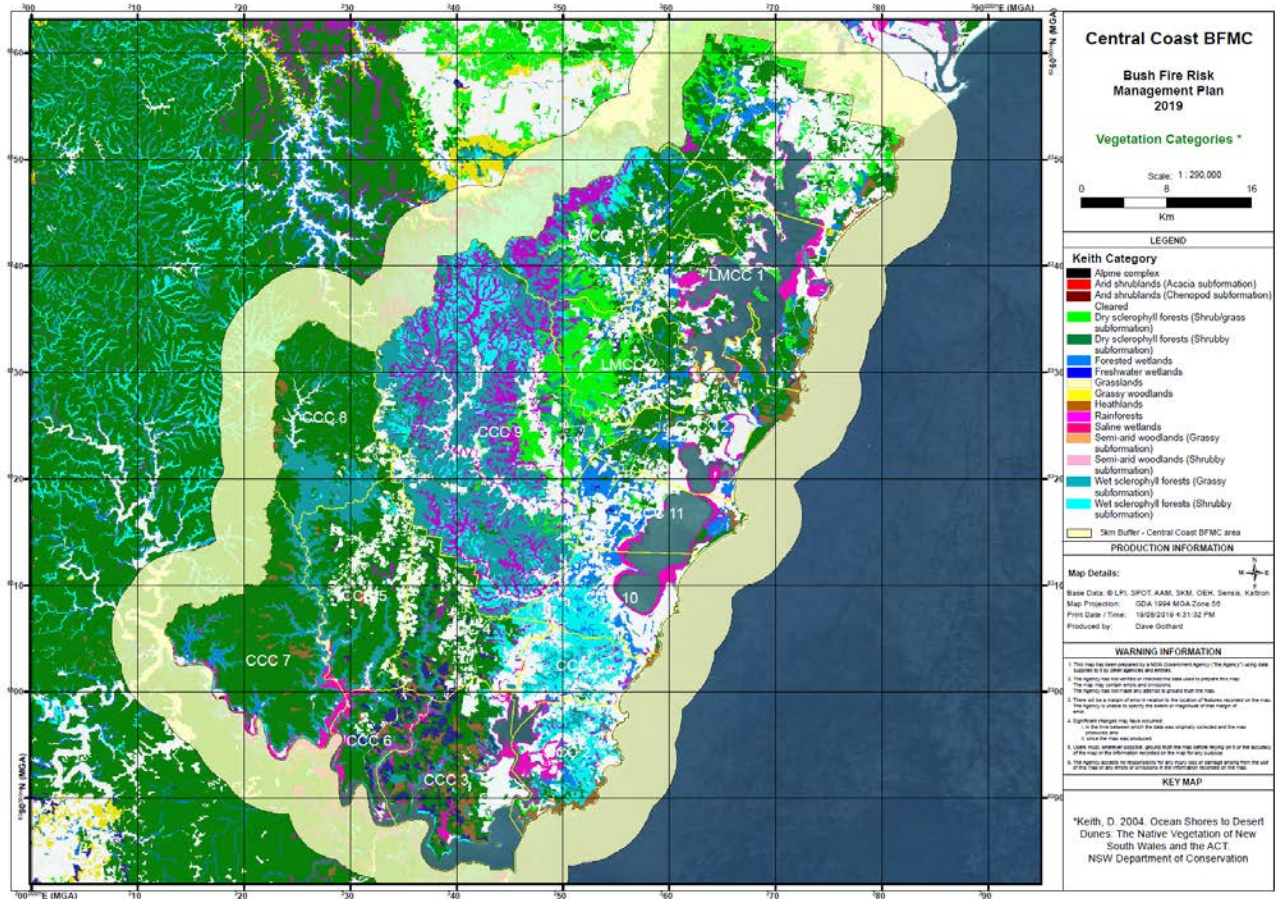
The vegetation in the Central Coast BFMC area was classified into fire threshold categories outlined in Table 3.3.

Vegetation formation	Minimum SFAZ Threshold	Minimum LMZ Threshold	Maximum Threshold	Notes
Rainforest	NA	NA	NA	Fire should be avoided.
Alpine complex	NA	NA	NA	Fire should be avoided.
Wet Sclerophyll forest (shrubby sub formation)	25	30	60	Crown fires should be avoided in the lower end of the interval range.
Wet Sclerophyll forest (grassy sub formation)	10	15	50	Crown fires should be avoided in the lower end of the interval range.
Grassy woodland	5	8	40	Minimum interval of 10 years should apply in the southern Tablelands area. Occasional intervals greater than 15 years may be desirable.
Grassland	2	3	10	Occasional intervals greater than 7 years should be included in coastal areas. Available evidence indicates maximum intervals should be approximately 10 years.
Dry sclerophyll forest (shrub/grass sub formation)	5	8	50	Occasional intervals greater than 25 years may be desirable.
Dry sclerophyll forest (shrub sub formation)	7	10	30	Occasional intervals greater than 25 years may be desirable.
Heathlands	7	10	30	Occasional intervals greater than 20 years may be desirable.
Freshwater wetlands	6	10	35	Occasional intervals greater than 30 years may be desirable.
Forested wetlands	7	10	35	Some intervals greater than 20 years may be desirable.
Saline wetlands	NA	NA	NA	Fire should be avoided.
Semi-arid woodlands (grassy sub formation)	6	9	No max	Not enough data for a maximum fire interval.
Semi-arid woodlands (shrubby sub formation)	10	15	No Max	Not enough data for a maximum fire interval.
Arid shrub lands (chenopod sub formation)	NA	NA	NA	Fire should be avoided.
Arid shrub lands (acacia sub formation)	10	15	No Max	Not enough data for a maximum fire interval.

Table 3.3 Fire Thresholds for Vegetation Categories

3.5 Vegetation

The vegetation in the Central Coast BFM area is classified by Keith (2004). Dominant vegetation types are: dry sclerophyll forest (shrubby), dry sclerophyll forest (shrub/grass), wet sclerophyll forest (shrubby), wet sclerophyll forest (grassy), with pockets of rainforest, heathlands, forested and saline wetlands.



3.6 Annual Works Programs

The land management agencies and fire-fighting authorities responsible for implementing the treatments identified in this plan will include those treatments in their annual works programs detailing how, when, and where the required activities will be undertaken.

The Central Coast Bush Fire Management Committee, through Risk-management Sub-Committee undertakes an Annual Works Program consisting of four main treatment types which are:

1. Prescribed Hazard Reduction Burning
2. Asset Protection Zone (APZ) works
3. Fire Access & Fire Trails program
4. Community Engagement

3.7 Implementation

When the treatments identified in this BFRMP are implemented there are a number of issues that need to be considered by the responsible agency including environmental assessments and approvals, smoke management and prescribed burn plans.

Chapter 4. Performance Monitoring and Reviewing

4.1 Review

This BFRMP must be reviewed and updated within each successive five-year period from the constitution of the BFMC. The Central Coast BFMC will also review this plan as necessary to account for any changes in context or risk. This may be triggered by a range of circumstances, including but not limited to:

- changes to the BFMC area, organisational responsibilities or legislation;
- changes to the bush fire risk in the area; or
- following a major fire event.

4.2 Monitoring

The BFMC is required to monitor progress towards the completion of treatment works listed in the BFRMP, and the timeliness of the works.

4.3 Reporting

The BFMC is required to report annually to the BFCC on its progress in implementing the bush fire risk management activities identified in this plan.

4.4 Performance Measurements

State wide performance measurements which are linked to the BFRMP have been identified by the BFCC. All BFMCs must use these to monitor and report on their success in reducing the bush fire risk in their BFMC area.

Appendices

***Appendix 1* Community Participation Strategy**

***Appendix 2* Asset Register**

2.1 Asset Register Table

***Appendix 3* Treatment Tables**

3.1 Treatment Index

3.2 Treatment Register

***Appendix 4* Maps**

4.1 Map Display Areas

4.2 Vegetation Categories

4.3 Fire Frequency

4.4 Prescribed Hazard Reduction Burn History

Appendix 1 - Community Participation Strategy

Date	Target Audience	Method of communication	Method of notification	Key messages/ purpose	Resources required	Responsibility
March 2018 – July 2019	BFMC	BFMC – BFRMP Working Group Meetings	Working Group – Central Coast Fire Control Centre	Ongoing Risk Plan Agency Consultation, Review & Development	Bush Fire Risk Register containing Maps & Treatments	BFMC – BFRMP Working Group
August 2019	BFMC	BFMC Meeting	Agenda Item	Explain Risk Plan and seek approval for Community Consultation & Public Exhibition in 2019	Bush Fire Risk Register containing Maps & Treatments Website – BFMC https://ccbfmc.org	BFMC Working Group
September – November 2019	Individual RFS Brigades	Website – BFMC https://ccbfmc.org	Central Coast District Update, Email distribution, Social Media,	How the plan effects their brigades & seek input to the future HR works in brigade areas	Maps, Risk Plan and Treatment Register. Website – BFMC https://ccbfmc.org	RFS
August 2019	Brigade Management Team (BMT) RFS	Pre-Planned Meeting	Agenda Item for BMT meeting	How the plan effects them & their input to the future HR works across LGA	Maps, Risk Plan and Treatment Register Website – BFMC https://ccbfmc.org	RFS
September 2019	LGA Wide	Newspaper and other Media	Display in Public Places	Public Exhibition	Media Release see template	BFMC working Group
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Belmont Library - 19 Ernest Street Belmont NSW 2280	Lake Macquarie City Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Cardiff Library – Ground Floor, Cardiff Marketplace, Crn. Main & Macquarie Road, Cardiff NSW 2285	Lake Macquarie City Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Charlestown Library – Crn. Smith and Ridley Street, Charlestown NSW 2290	Lake Macquarie City Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Edgeworth Library – 5 Minmi Road, Edgeworth NSW 2285	Lake Macquarie City Council

		Public Library Kiosk		affect the community with feedback provision		
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Morrisset Library – 39 Yambo Street, Morisset NSW 2264	Lake Macquarie City Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Speers Point Library – 139 Main Road, Speers Point NSW 2284	Lake Macquarie City Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Swansea Library – 228 Pacific Highway, Swansea NSW 2281	Lake Macquarie City Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Toronto Library – Crn. Brighton Avenue & Pemell Street, Toronto NSW 2283	Lake Macquarie City Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Wangi Wangi Library - 295 Watkins Road, Wangi Wangi NSW 2267	Lake Macquarie City Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Windale Library – 20 Lake Street Windale NSW 2306	Lake Macquarie City Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Bateau Bay Library - Bateau Bay Square, 10 Bay Village Road, Bateau Bay NSW 2261	Central Coast Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Erina Library - The Hive, Erina Fair, Erina NSW 2250	Central Coast Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Gosford Library - 118 Donnison Street, Gosford NSW 2250	Central Coast Council

September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Gwandalan Library - Community Hall, Koowong Road, Gwandalan NSW 2259	Central Coast Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Kariong Library – Shopping Centre, Crn Curringa Road & Arunta Ave, Kariong NSW 2250	Central Coast Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Kincumber Library – 3 Bungoona Road, Kincumber NSW 2251	Central Coast Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Lake Haven Library - Lake Haven Shopping Centre, Goobarabah Ave, Lake Haven NSW 2263	Central Coast Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Mooney Mooney Community Library – Mooney Mooney Public School site, Point Road, Mooney Mooney NSW 2083	Central Coast Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	The Entrance Library - 211a The Entrance Road, The Entrance NSW 2261	Central Coast Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Toukley Library – Crn. Main Rd & Victoria Avenue, Toukley NSW 2263	Central Coast Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Tuggerah Library – Westfield Tuggerah, 50 Wyong Rd, Tuggerah NSW 2259	Central Coast Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Umina Beach Library – Crn. West Street and Bullion Street, Umina NSW 2257	Central Coast Council
September – November 2019	Community in Bushfire Prone Areas	Website – BFMC https://ccbfmc.org Public Library Kiosk	Media Release, Social Media, Council flyers	Risk Plan Public Exhibition, how it could affect the community with feedback provision	Woy Woy Library - Crn. Blackwall Road & Oval Avenue, Woy Woy NSW 2256	Central Coast Council

Appendix 2 - Asset Register

Appendix 3 - Treatment Register

Appendix 4 - Maps – Map Display Areas

Map No	Location
CCC 1	The Ridgeway (Matcham / Holgate / Forresters Beach) / Rumbalara / Katandra (incorporating Green Point / East Central Coast)
CCC 2	Copacabana / Macmasters Beach / Killcare / Bensville / Empire Bay / Kincumber / Davistown / Saratoga
CCC 3	Patonga / Pearl Beach / Kariong / The Bays / Umina / Point Clare
CCC 4	Peats Ridge / Somersby / Lisarow / Narara / Wyoming / Central Coast
CCC 5	Peats Ridge / Mangrove Mountain
CCC 6	Mount White (incorporating Mooney / Cheero Point / Wendoree)
CCC 7	Spencer / Mangrove Creek
CCC 8	Mangrove Mountain
CCC 9	Ravensdale / Kulnura / Cedar Brush Creek / Yarramalong / Wyong Creek / Central Mangrove / Palm Grove / Palm Dale / Little Jilliby / Dooralong / Lemon Tree
CCC 10	Ourimbah / Fountaindale / Kangy Angy / Tuggerah / Chittaway Point / Berkeley Vale / Glenning Valley / Tumbi Umbi / Bateau Bay
CCC 11	Watanobbi / Warnervale / Wadalba / Hamlyn Terrace / Tacoma / Tuggerawong / Magenta / Norah Head
CCC 12	Halloran / Wallarah / Woongarra / Bushells Ridge / Charmhaven / Doyalson / Doyalson North / Colongra / Chain Valley Bay / Lake Munmorah / Summerland Point / Gwandalan
LMCC 1	Wakefield / Killingworth / West Wallsend / Seahampton / Barnsley / Teralba / Fassifern / Woodrising / Toronto / Valentine / Belmont North / Jewells / Redhead / Whitebridge
LMCC 2	Myuna Bay / Eraring / Dora Creek / Morisset / Rathmines / Buttaba / Belmont / Caves Beach / Cams Wharf / Catherine Hill Bay
LMCC 3	Martinsville / Cooranbong / Avondale / Freemans Waterhole / Ryhope / Awaba
LMCC 4	Mandalong / Durren Durren / Wyee / Wyee Point

Appendix 6 - Review of Submissions

Review of Submissions for Central Coast Risk Management Plan 2019/20

Date Received	Name and Address of Person/Organisation	Submission Details	Consideration	Recommended Action
30 Oct 2019	Lake Macquarie City Council Heritage Officer Sherrie-lee Evans sevans@lakemac.nsw.gov.au	Requested Environmental Impact Statement or Review of Environmental Factors for hazard reduction burning around the pinnacle of Mount Sugarloaf.	Submission concern for fire frequency & threatened species.	Referred to LMCC for fire history & land management info. Emailed response 30/03/20.
8 Nov 2019	NSW Telco Authority Emily Manchee emily.manchee@customerservice.nsw.gov.au	Assessment of Telecommunications Infrastructure relating to Public Safety Network (PSN). Verify assets, treatments and fuel reduction strategies.	Revision of infrastructure aligned with existing assets & treatments.	Meeting 21/01/20. No update to BFRMP.
11 Nov 2019	Centennial Fassifern Pty Ltd Alanna Ryan Alanna.Ryan@centennialcoal.com.au	Rename of three (3) Assets. Creation of eight (8) new Infrastructure Assets.	Approved, further information requested to confirm Assets.	Update BFRMP 19/2/20
19 Feb 2020	Centennial Fassifern Pty Ltd Alanna Ryan Alanna.Ryan@centennialcoal.com.au	Update; Rename of five (5) Assets Update; Creation of thirteen (13) new Infrastructure Assets.	Approved, reply received with additional changes.	Update BFRMP 3/3/20
25 Feb 2020	Central Coast Council Elizabeth Knight Elizabeth.Knight@centralcoast.nsw.gov.au	Creation of Mangrove Creek Weir Water Catchment Asset. Update various Water Catchment Risk Ratings	Approved, register updated	Update BFRMP 26/2/20
05 Mar 2020	Central Coast Council David Lemke David.Lemcke@centralcoast.nsw.gov.au	Review & Update of Risk Ratings for various Human Settlement – Residential areas in southern Central Coast LGA, for medium & low assets. 68 Asset risk upgraded from low/med to high/very high/extreme. Impact CCC LGA only.	For assessment & application of approved working group risk rating.	Update BFRMP 5/3/20
09 Mar 2020	Centennial Fassifern Pty Ltd Alanna Ryan Alanna.Ryan@centennialcoal.com.au	Creation of three (3) new Biodiversity Assets.	Approved, reply received with additional changes.	Update BFRMP 10/3/20