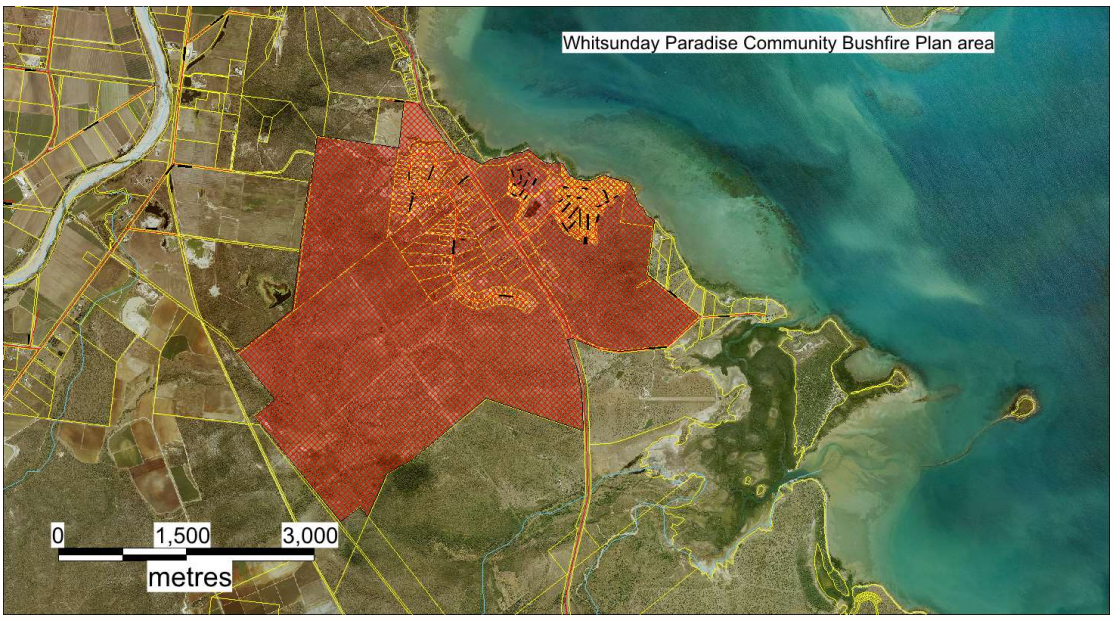
Community Bushfire Management Plan

Whitsunday Paradise
2024-2033



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Whitsunday Regional Council

Executive Summary

The purpose of the Whitsunday Paradise Community Bushfire Management Plan is to document bushfire hazard and describe how this hazard may be managed for the next 10 years (2024-2033 Para). This Bushfire Plan is specifically written for the Whitsunday Paradise residents and stakeholders. The Whitsunday Paradise Fire Plan area includes the land between Adelaide Point Road and Mount Gordon and covers 1430 ha. The land in the Whitsunday Paradise Community Bushfire Plan area includes; urban land use (56ha), 209ha of rural residential landuse and 1155ha of grazing land use and land used for environmental purposes. The council manages 10ha of coastal foreshore at Whitsunday Paradise.

The reason why this Bushfire Management Plan has been developed is the presence of residential and rural-residential dwellings occurring in and adjacent to medium to high bushfire hazard areas in the Whitsunday Paradise area. Fire management agencies are concerned that wild fires in the Whitsunday Paradise area could threaten numerous residential properties.

The Whitsunday Paradise Bushfire Plan seeks the following outcomes:

- Describe the extent of bushfire hazard, location of existing fire control lines and fire breaks.
- Identify possible ignition sites,
- List the roles and responsibilities for bushfire management.
- List the proposed schedule of bushfire mitigation tasks.
- Suggest actions to bushfire reduce hazard and risk

Community consultation involved a community meeting on the 24th of September 2023 to discuss the draft Plan. The Draft Plan was placed out for community consultation from the 21st of September to the 27th of October 2023. The main issues identified during the development of this Plan have been:

- Unmanaged land development lots with fire hazard,
- Complex mix of landuses and bushfire hazard,
- History of un-planned fires within the Whitsunday Paradise Management Plan area.

While this proposed Community Bushfire Management Plan provides a guideline on how the Whitsunday Paradise bushfire hazard could be managed. Each landholder is responsible under legislation to manage their own bushfire hazard. The Council encourages landholders to discuss their bushfire planning and management with their neighbours.

Acknowledgements

The Whitsunday Regional Council would like to thank the following stakeholders who have contributed to the Whitsunday Paradise Community Bushfire Management Plan; Queensland Fire and Emergency Services (QFES), Heronvale Rural Fire Brigade and local residents.

Document Control

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1. Introduction

The Whitsunday Paradise area is located between Adelaide Road and Mount Gordon approximately 4 km south of Bowen. The Whitsunday Paradise area has a mix of land uses and bushfire hazard. There have been three un-planned bushfires in the Whitsunday Paradise area over the last 15 years.

The land in the Whitsunday Paradise area have been identified as having a mix of low to high bushfire hazard due to the vegetation type, slope, terrain and aspect. The Whitsunday Paradise locality has a risk for loss of life and/or property if the bushfire hazard is not managed appropriately. Fire Management agencies are concerned that wildfires in the Whitsunday Paradise area could cause damage to a number of properties which are surrounded by grassland and eucalypt woodland.

The Council, together with the Queensland Fire and Emergency Services (QFES) have defined an area in the Whitsunday Paradise area which has vegetation and topographic conditions which warrant more detailed community bushfire planning. The Whitsunday Paradise Fire Plan area covers 1430ha and includes 434 residential lots. The Whitsunday Regional Council owns or manages 10ha of land along the Whitsunday Paradise foreshore. The Queensland government owns and manages 0 ha in the Bushfire Management Plan area. The Whitsunday Paradise Fire Plan area has been defined based on the likelihood of bushfires occurring and the threat to residential lots.

The purpose of this Community Bushfire Management Plan is to identify the actions required to reduce bushfire hazard in the Whitsunday Paradise and surrounding area for the next 10 years (2024-2033) (Figure 1). This Plan is designed for the area between Adelaide Point Road and Mount Gordon. The objectives of this Plan include;

- Identify where fire lines and fire breaks are required to protect life and property from fire,
- Identify possible ignition sites,
- Outline methods that could be used to reduce bushfire hazard,
- Improve community awareness,
- Maintain coordination and communication between landowners,
- Description of a maintenance program to manage bushfire hazard and risk.

It is envisaged that this Community Bushfire Management Plan will be used as a communication tool to inform stakeholders and the community of the bushfire hazard within Whitsunday Paradise and how it could be managed. Ultimately, each landholder will be responsible for managing bushfire hazard on their own land. The Council encourages a coordinated and cooperative approach to community bushfire hazard management.

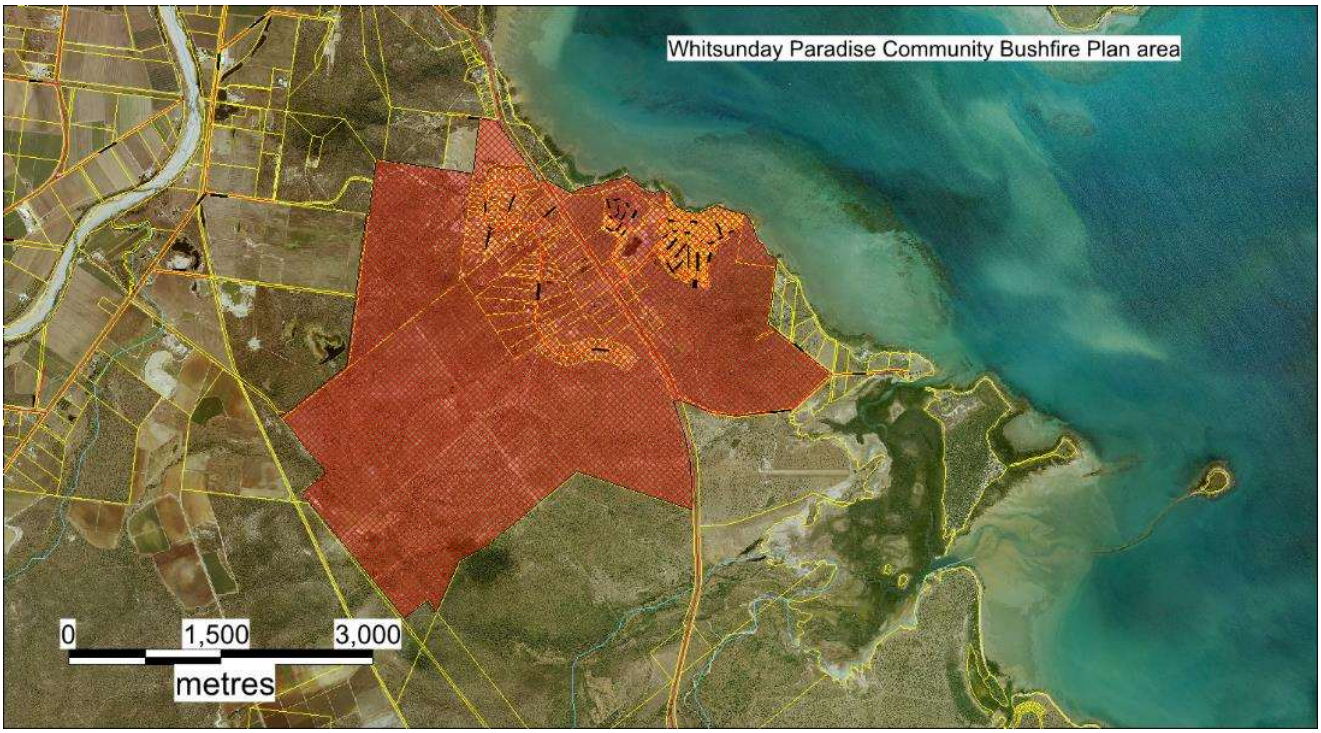

Figure 1: *The Whitsunday Paradise Community Bushfire Management Plan area.*

2. Background

2.1 Land Tenure and Ownership

The Whitsunday Paradise Community Bushfire planning area covers approximately 1430ha with 10ha being owned or managed by the Whitsunday Regional Council. There are over 302 urban residential lots, 132 rural residential lots and 11 grazing lots in the study area.

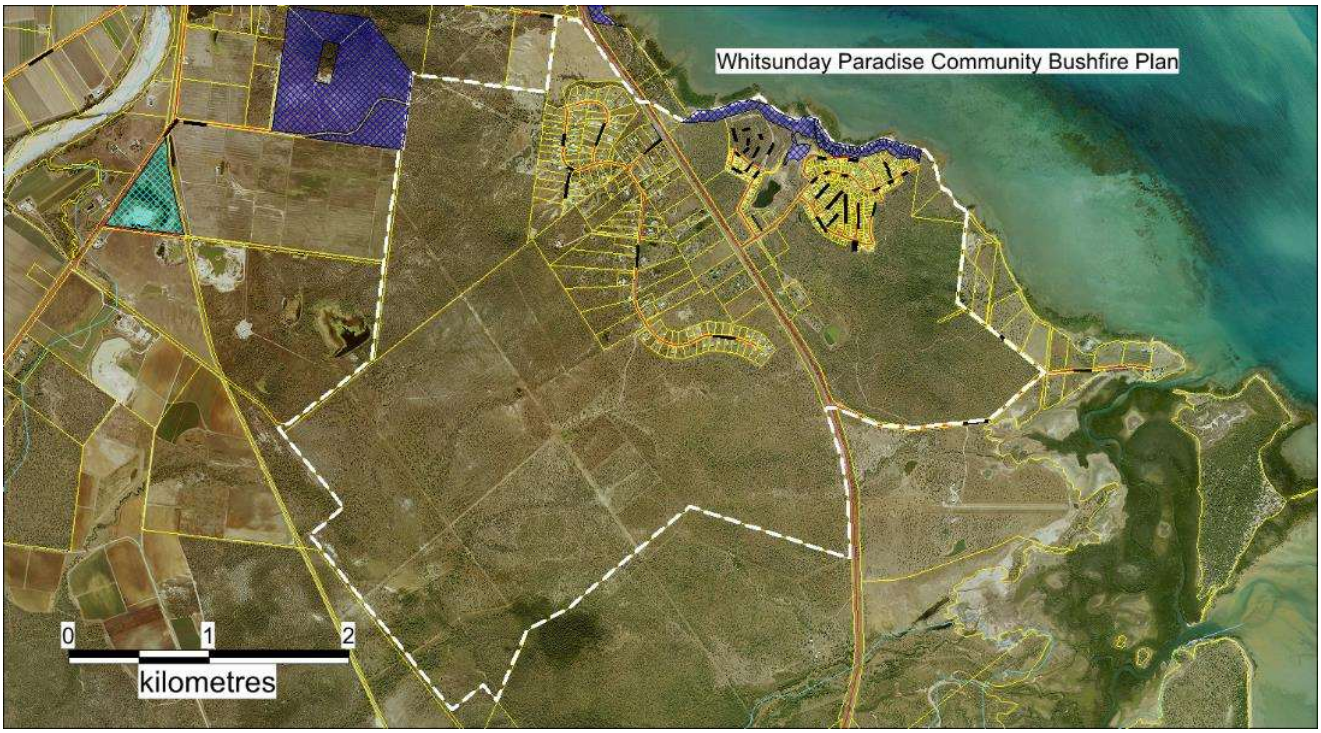

Figure 2: *Location of Whitsunday Paradise Bushfire Plan area and Whitsunday Regional Council land (blue lots).*

2.2 Site Description

Geology, Landform and Soils

The geology of the Whitsunday Paradise area was mapped by the Queensland government in 1972. An extract of the Bowen geology map is shown in figure 4. The hills to the east are formed on Carmila Beds (Pla) and intrusive granites to the west (Cud). The Carmilla Beds are formed from acid to intermediate volcanic rocks. The geology influences the fertility of the soils and also the type of vegetation which occurs.

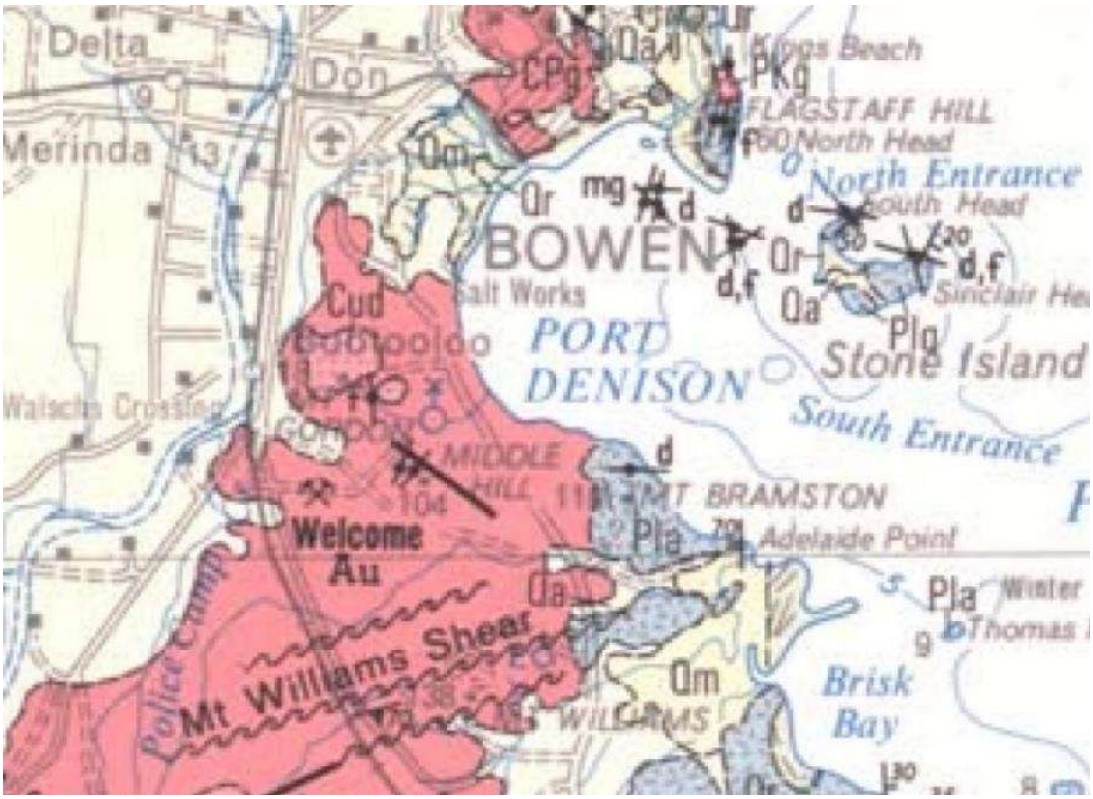

Figure 3: *The geology map covering the Whitsunday Paradise area (Paine and Cameron, 1972).*

The soils of the Whitsunday Paradise area were mapped by Hardy (2003). The main soils in the eastern section of the study area are sodic duplex soils and non-sodic gradational soils. The soils formed on intermediate volcanics are Riordanvale (Rv) and Habana (Hb) soil profile classes (Figure 4). Where the underlying rock is acid volcanics, shallower, sodic and sandy soils are formed (Whiptail soil type - Wh). The soils formed on intermediate intrusive rocks tend to be non-sodic (Finley – Fl). The land in the north-eastern section of the study area is formed on weathered Tertiary sandstone which produces low fertility, dispersive, erodible soils. The vegetation which forms on these deeply weathered tertiary soils are likely to have sparse ground cover and sparse shrub layers.

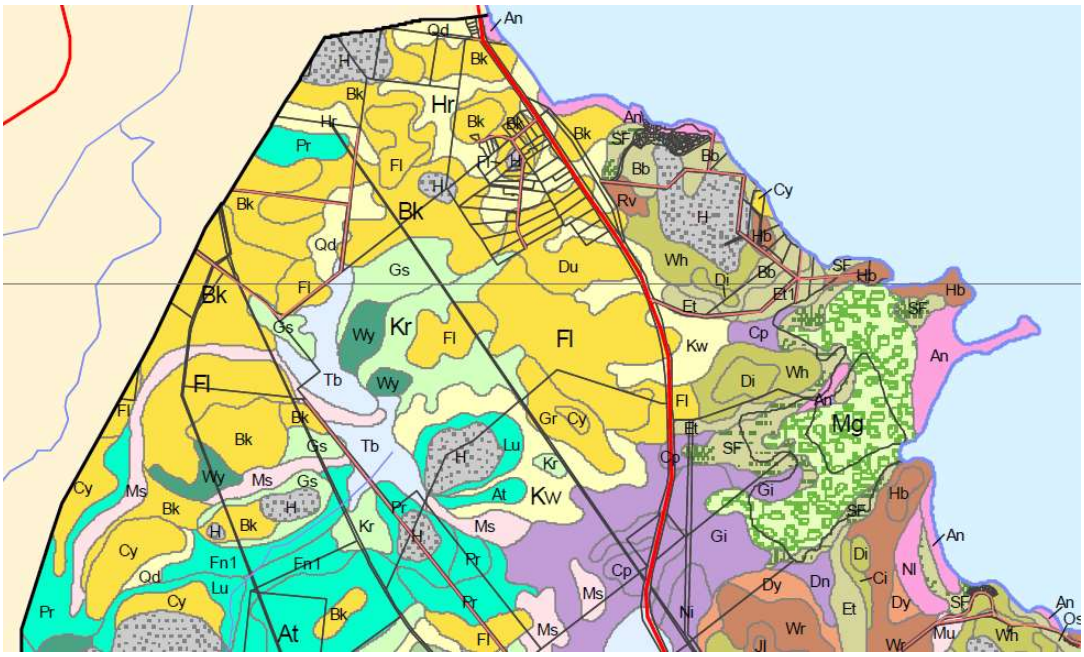

Figure 4: *The soils of the Whitsunday Paradise area.*

Vegetation

The vegetation of the Whitsunday Paradise area has been mapped by the State government. The regional ecosystem map for the Whitsunday Paradise area can be found in the appendix of this report. The geology, fertility of the soils and rainfall patterns influence the vegetation of the Whitsunday Paradise area. The dominant vegetation surrounding the Whitsunday Paradise area is eucalypt woodland. The dominant regional ecosystems are:

- RE 11.12.4 – Semi-evergreen vine thicket
- RE 11.12.9 - *Eucalyptus platyphylla* woodland on igneous rocks
- RE 11.3.30 - *Eucalyptus crebra, Corymbia dallachiana* woodland on alluvial plains
- RE 11.3.32 - *Allocasuarina luehmannii* low open woodland on alluvial plains

2.3 Bushfire Legislation and Policy

Australia and Queensland

All levels of government have a responsibility and role in bushfire management. In 2014, the Council of Australian Governments approved the National Bushfire Management Policy Statement (National Forest Fire Management Group, 2014). The National Policy identifies Local government and other landholders having an important role in bushfire management and planning. The National Bushfire Policy identifies four main strategic objectives and 14 bushfire management goals. The four strategic National bushfire management objectives are:

- Effectively managing the land with fire
- Involved and capable communities
- Strong land, fire and emergency partnerships and capability
- Actively and adaptively managing risk

In 2020, the Commonwealth government initiated a Royal Commission into bushfires. The final Royal commission report contained 80 recommendations (CoA, 2020). Of the 80 recommendations there are four which are particularly relevant to the development of the Whitsunday Paradise Community Bushfire Plan:

- **Recommendation 10.1 Disaster education for individuals and communities**
  - State and territory governments should continue to deliver, evaluate and improve education and engagement programs aimed at promoting disaster resilience for individuals and communities.
- **Recommendation 11.1 Responsibility for local government disaster management capability and capacity**
  - State and territory governments should take responsibility for the capability and capacity of local governments to which they have delegated their responsibilities in preparing for, responding to, and recovering from natural disasters, to ensure local governments are able to effectively discharge the responsibilities devolved to them.
- **Recommendation 11.2 Resource sharing arrangements between local governments**
  - State and territory governments should review their arrangements for sharing resources between their local governments during natural disasters, including whether those arrangements:
    - provide sufficient surge capacity, and
    - take into account all the risks that the state or territory may face during a natural disaster.
- **Recommendation 19.3 Mandatory consideration of natural disaster risk in land-use planning decisions**
  - State, territory and local governments should be required to consider present and future natural disaster risk when making land-use planning decisions for new developments.

There is a legislative requirement under Common Law and the *Queensland Fire and Emergency Services Act 1990* for Local Government and residents as owners and occupiers of land to prevent fires escaping from their land and damaging property (Tran and Peacock, 2002). Councils and other landholders have an obligation to manage their land responsibly to prevent the loss of life or property and reduce the 'human' impacts of bushfires. Landholders are also required however to achieve this and still maintain their obligations under other legislation. Obligations under the *Nature Conservation Act 1992* for example require local authorities to protect and conserve rare or threatened species, biodiversity and ecological processes.

The *Fire and Emergency Services Act 1990* is the principal legislation that deals with lighting fires in the open in Queensland. The Act makes it illegal to light a fire without a 'Permit to Light Fire' issued by a fire warden under most circumstances.

The *Queensland Vegetation Management Act (1999)* regulates vegetation clearing. However, there are exemptions available to clear vegetation to develop and maintain fire breaks and fire control lines. The exemptions are found in the appendix of this report.

Whitsunday Regional Council

Whitsunday Regional Council developed a Bushfire Management Policy and Bushfire Management Plan in 2018. The purpose of the Policy is to define Council's intension in bushfire management, planning and on-ground actions. The purpose of the Council's Bushfire Plan is to identify high risk Council lots for bushfire risk and outline a program of works to better manage bushfire risk on Council managed lots. The Council Bushfire Management Plan lists community education and awareness concerning bushfire hazard as an important action and outcome.

Council has developed a local law which includes the regulation of fires. The Whitsunday Regional Council Local Law No. 3 (Community and Environmental Management) 2014 defines fire hazard;

- s16 Fire hazards
  - (1) This section applies where an authorised person forms the opinion that a fire hazard exists on an allotment.
  - (2) The authorised person may, by compliance notice given to the responsible person for the allotment, require the responsible person to take specified action to reduce or remove the fire hazard.

The Whitsunday Regional Council Subordinate Local Law No. 3 (Community and Environmental Management) 2014 provides more information on the regulation of fire hazard:

- s8 Fire hazards—Authorising local law, s 16(3)(b):
  - For section 16(3)(b) of the authorising local law, the following are declared to be fire hazards—
    - (a) live cinders or hot ash that is not enclosed in a fireplace so constructed as to prevent the escape of cinders or ash;
    - (b) a substantial accumulation of grass clippings that is liable to spontaneous combustion;
    - (c) dry vegetation that could be easily ignited or other flammable materials;
    - (d) abandoned sugar cane crops which have not been harvested for 24 months or more;
    - (e) accumulation of goods and materials that could ignite or cause danger to persons or property.

2.4 Bushfire Hazard and Risk

Bushfire Hazard

Bushfire hazard refers to the conditions which could support the presence of a fire. There are a number of methods that can be used to assess bushfire hazard. One commonly used bushfire hazard assessment tool is documented in the Queensland State Planning Policy 1/03. According to Risk Frontiers (2011) the Queensland Fire and Rescue Service have used the SPP 1/03 bushfire hazard methodology and the Interface Zone (I Zone) methodology to identify bushfire hazard areas. The I-Zone is where the urban-rural residential land use meets flammable vegetation (Risk Frontiers, 2011).

The Queensland State Planning Policy bushfire hazard process involves the assessment of vegetation, slope and aspect. Scores are allocated to vegetation, slope and aspect. The bushfire attribute scores are then added to determine the total hazard score.

The vegetation communities hazard assessment is shown in Table 1, the slope assessment is shown in Table 2 and the aspect assessment is shown in Table 3. The classification of bushfire hazard is shown in Table 4.

Table 1: *Vegetation communities assessment table used to determine vegetation hazard score.*

Vegetation Communities	Fire Behaviour	Hazard Score
Wet sclerophyll forest, tall eucalypts (>30m), with grass and mixed shrub understorey	Infrequent fires under severe conditions, flame lengths may exceed 40m, floating embers attack structures for 1-hour, radiant heat and direct flame are destructive for 30 minutes.	10
Paperbark heath and swamps, eucalypt forest with dry-shrub ladder fuels.	Fire intensity depends on fuel accumulation, but can be severe, with flame lengths to 20m, spot fires frequent across firebreaks, radiant heat and direct flame for 15 minutes.	8
Grassy eucalypt and acacia forest, exotic pine plantations, cypress pine forests, wallum heath	Fire intensity may be severe with flam lengths to 20m, but less attack from embers	6
Native grasslands (ungrazed), open woodlands, canefields	Fast moving fires, available to fire annually to 4 years. Usually no ember attack, radiant heat for >10m, duration < 2minutes.	5
Intact acacia forests, with light grass to leaf litter, disturbed rainforests.	Fires infrequent, usually burn only under severe conditions, relatively slow fires, usually little ember attack.	4
Orchards, farmlands, kikuyu pastures	Fires very infrequent, slow moving, may be difficult to extinguish, frequent fire breaks.	2
Grazed grassland, slashed grass	Grazing reduces intensity and rate of spread of fire, duration < 2 minutes.	2
Desert lands (sparse fuels), mowed grass	Gaps in fuel, usually slow fire spread.	1
Intact rainforest, mangrove forest, intact riverine rainforest	Virtually fire proof.	0

Table 2: *The slope assessment table used to determine the slope hazard score.*

Slope	Hazard Score
Gorges and Mountains (>30%)	5
Steep Hills (20% - 30%)	4
Rolling Hills (10% to 20%)	3
Undulating (5% to 10%)	2
Plain (0% to 5%)	1

Table 3: *The aspect assessment table used to determine the aspect hazard score.*

Aspect	Hazard Score
North to North-west	3.5
North-west to West	3
West to South	2
North to East	1
East to South and all land under 5% slope	0

Table 4: *The determination of bushfire hazard using the Queensland SPP 1/03 system.*

Total Hazard Score	Severity of Bushfire Hazard
13 or greater	High
6 to 12.5	Medium
1 to 5.5	Low

Fuel load is a main contributor to bushfire hazard (Middelmann, 2007). There are a number of methods used to estimate, measure and assess fuel loads. Hines *et al.* (2010) have developed a system of measuring forest fuel loads in Victoria. The method developed by Hines *et al.,* (2010) for estimating fuel loads is based on separating the forest into fuel layers and then estimating or measuring the potential fuel within each of these layers. The amount of fuel contained in these layers is measured in terms of tonnes per hectare.

More recently the CSIRO have developed a slightly different approach to determining and mapping bushfire hazard (Leonard, 2014). The methods developed by Leonard *et al.,* (2014) have been used to develop the current Queensland bushfire hazard mapping. The CSIRO method uses vegetation type, slope and estimated fuel load to allocate land to 20 Vegetation Hazard Classes.

The Queensland Fire Emergency Service (QFES) have produced bushfire hazard rating maps for Queensland. Bushfire hazard is rated as either low, medium or high based on vegetation type, aspect, topography and climate. The QFES bushfire hazard rating maps are usually produced at a scale of 1:250,000 or 1:100,000. Bushfire hazard areas rated as low on the QFES maps mostly relate to rainforest areas, while high risk areas relate to Eucalypt and wattle areas. The bushfire hazard maps can be a useful guide to bushfire hazard and the likely risk of bushfire occurring in a locality. However, these bushfire hazard maps may not be accurate on properties less than 20ha. Land with a high or medium bushfire hazard rating should have some bushfire management plan or process in place.

Bushfire Risk

Bushfire risk refers to the likely occurrence or frequency of a bushfire. Middlemann, (2007) states that “the likelihood of bushfire hazard can be summarised in terms of the probability of a fire arriving at a point in the landscape and the intensity of the fire at that point “. Risk can be increased due to a number of factors including a high bushfire hazard and proximity to ignition sources such as roadsides and populated areas. Bushfire planning and mitigation measures can reduce bushfire hazard and risk.

Local governments are involved in bushfire risk reduction measures such as the development of local laws regulating fires, development planning, development of disaster management plans and implementation of bushfire mitigation measures (Middlemann, 2010).

There are a number of methods used to measure risk. The NSW Rural Fire Service (2008) have developed a matrix to describe bushfire risk (Figure 5). The NSW Rural Fire Service risk matrix requires the determination of the likelihood of a bushfire occurring and the likely consequences.

Consequence / Likelihood	Minor	Moderate	Major	Catastrophic
Almost certain	High	Very High	Extreme	Extreme
Likely	Medium	High	Very High	Extreme
Possible	Low	Medium	High	Very High
Unlikely	Low	Low	Medium	High

Figure 5: *The determination of bushfire risk (NSW Rural Fire Service 2008).*

The likelihood of a bushfire occurring will depend largely on the bushfire hazard. The consequence of a bushfire occurring at a given location will depend on the environmental values and development present (NSW Rural Fire Service, 2008).

New bushfire fire line intensity mapping

In 2019, the Queensland government released the Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy. The Bushfire Resilient Communities report outlines a revised method for assessing bushfire hazard. In addition, the report provides technical guidance on procedures for:

- reviewing bushfire prone area mapping
- undertaking a Bushfire Hazard Assessment (BHA)
- undertaking a Vegetation Hazard Class Assessment
- calculating asset protection zone provisions, and,
- preparing a Bushfire Management Plan and Landscape Maintenance Plan (QFES, 2019).

The new method of determining and mapping bushfire hazard is centred on the concept of Fireline intensity. According to QFES (2019), "potential fire line intensity is a function of fire weather severity (measured by the Forest Fire Density Index or FFDI), landscape slope and fuel load based on classified vegetation communities according to the method described by the CSIRO (figure 6). Fireline intensity is a measure of energy released from the flame or combustion zone, one of whose sides is a unit length of fire front (measured in kilowatts per metre of flaming front) (QFES, 2019). According to QFES (2019) Forest Fire Danger Index (FFDI) is the most widely used fire weather index in Australia and forms part of many operational systems and instruments, such as AS3959 (Standards Australia, 2009). The bushfire hazard maps produced by the Queensland are now expressed in terms of "potential Fireline intensity". The bushfire intensity levels are medium (4,000 – 20,000 kW/m), High (20,000 -40,000 kW/m), Very high (40,000+ kW/m) (QFES, 2019).

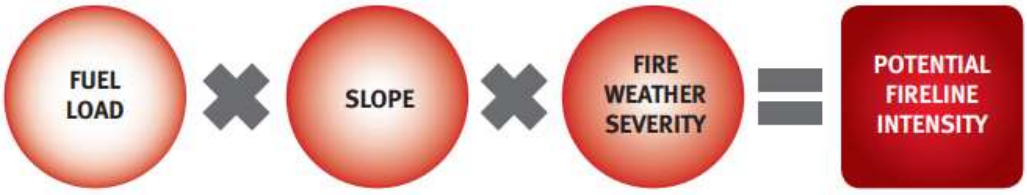

Figure 6. The attributes used to calculate potential Fireline intensity.

Whitsunday Paradise Bushfire Hazard

The Queensland State government have mapped the bushfire hazard (Fireline intensity) in the Whitsunday Paradise area (Figure 7). Most of the undulating terrain has been mapped as medium bushfire hazard.

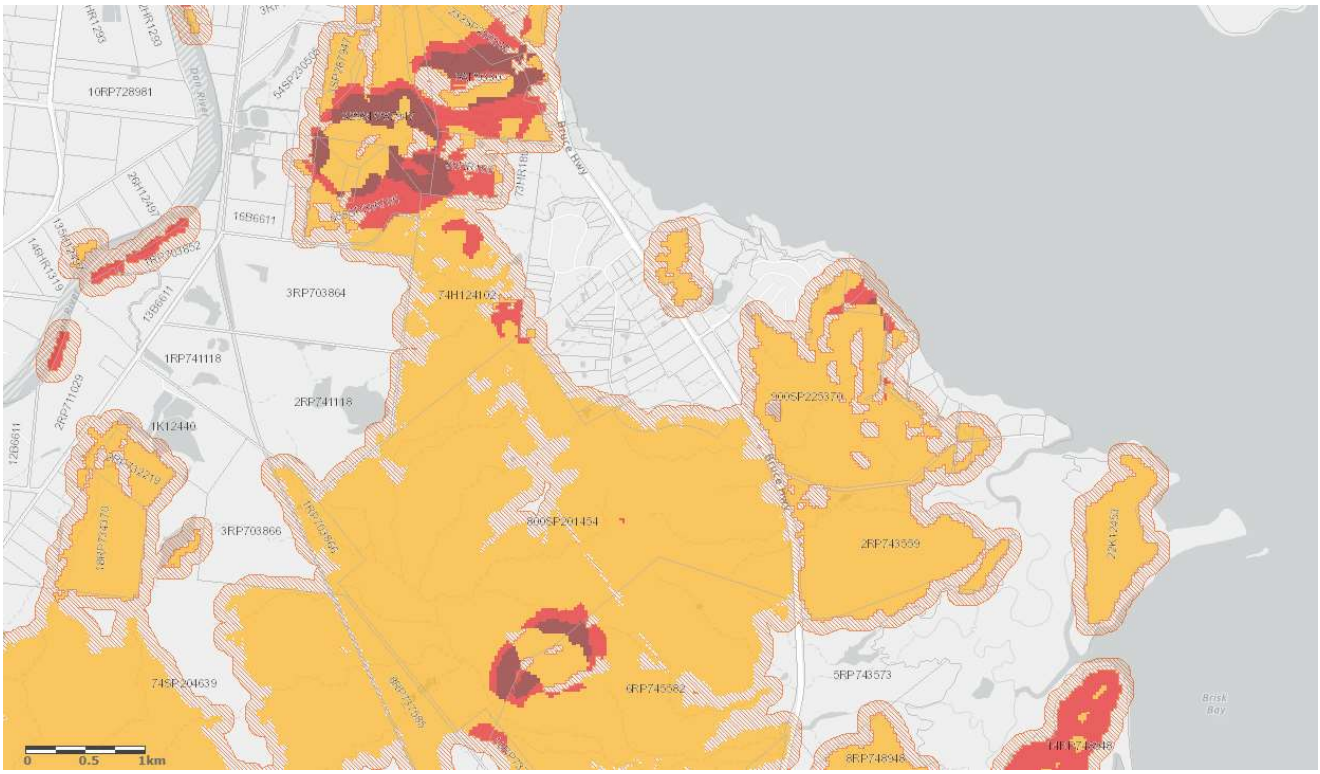

Figure 7: *Showing the bushfire hazard (Fireline intensity) in the Whitsunday Paradise area (Red = High hazard, Orange = Medium hazard).*

Source: https://spp.dsdip.esriaustraliaonline.com.au/geoviewer/map/planmaking).

2.5 Bushfire Management Guidelines

Bushfire Guidelines for Regional Ecosystems

The regional ecosystem characteristics can provide information which can guide bushfire management and planning. Council is partially included in the Central Queensland Coast and Northern Brigalow Belt bioregions. There are 83 individual regional ecosystems in the Central Queensland Coast bioregion and 172 regional ecosystems found in the Northern Brigalow Belt bioregion.

The type of vegetation community, it's fire requirements and hazard can be used for bushfire planning. Bushfire management advice for a selected number of regional ecosystems is listed in Table 5. The bushfire management advice provided by the Queensland State government for each regional ecosystem is found at: https://publications.qld.gov.au/dataset/redd/resource/c77196df-7af9-4c09-ac88-256867c39806

Table 5: *Showing the bushfire management advice for selected regional ecosystems in the Whitsunday Paradise Area.*

Bioregion	Regional Ecosystem	Description	Bushfire Advice
BRB	RE 11.12.4	Semi-evergreen vine thicket	STRATEGY: This vegetation requires protection from wildfire. Protection primarily relies on broad-scale management of surrounding country with numerous small fires throughout the year so that wildfires will be very limited in extent. Maintenance of fire breaks may be appropriate on flat country, but natural features will be useful as breaks in 'wild' country. ISSUES: Fuel reduction in the surrounding vegetation under low fire danger conditions and/or revegetation of cleared areas reduce the risk of damaging wildfires. Maintain or re-establish native vegetation communities adjacent to this ecosystem. Grazing may be useful in managing fuel loads created by introduced grasses such as buffel.
BRB	RE 11.12.9	*Eucalyptus platyphylla* woodland on igneous rocks	SEASON: Early dry season when there is good soil moisture, with some later fires in the early storm season or after good spring rains. INTENSITY: Various. INTERVAL: 5-10 years. STRATEGY: A predominance of early dry season fires is recommended, although there is value in occasional late dry season fires, or storm burns, over small areas. Burning should begin fairly soon after the wet season. Where possible, ignite initial fires from upper ridges to burn down. Multiple dates of ignition within the same forest area will produce a mosaic of burnt landscape. ISSUES: Avoid ignition such that fires burn from the bottom of hills upwards. Too frequent fires may eliminate fire-killed shrubs and small trees (such as Casuarinas). Once boundaries are secured with early fires, late dry season and storm-burning may provide the intensity required to enhance seed germination of many species, but restrict spread and allow the creation and maintenance of a multi-aged mosaic. Ensure moderate densities of mature casuarinas, cypress pine and wattles are maintained; ensure the persistence of large eucalypts.
BRB	RE 11.3.30	*Eucalyptus crebra, Corymbia dallachiana* woodland on alluvial plains	SEASON: Early dry season when there is good soil moisture, with some later fires in the early storm season or after good spring rains. INTENSITY: Primarily low to moderate, with occasional high intensity fires. INTERVAL: Typically 2 - 7 years, with some areas longer unburnt. STRATEGY: A predominance of early dry season fires is recommended, although there is value in occasional late dry season fires, or storm burns, over small areas. Burning should begin very soon after the wet season, to secure boundaries and adjacent fire-sensitive vegetation. Subsequent repeat ignitions can be used within the same section of land weeks or months after the boundaries have been secured by early burning, to produce a mixture of burnt areas with multiple ignition dates. Use topographical features to ignite areas as soon as they dry out. This will create a mosaic of areas that were burnt at different dates and unburnt sections within the same area of woodland. Burn away from riparian communities, which can be critical habitat for some species. Approximately 25% of the grassy woodlands within a landscape should receive patchy fires in most years. ISSUES: These woodlands have a diverse native grass and herb layer that is maintained and promoted by regular fire. Burning that starts immediately after the wet season, with follow up small fires ignited progressively over multiple dates can increase the availability of grass and herb seed, which is a critical food source for many birds and small mammals. Recently burnt grass clumps tend to produce more seed than unburnt clumps and the earlier burnt grass usually seeds earlier than later burnt grass. Maintaining a fire mosaic will help ensure protection of habitat and mitigate against wildfires. Low to moderate intensity burns with good soil moisture minimise the risk of losing hollow trees. An occasional late season burn will promote grasses and legumes. Ensure a diverse grass layer; maintain hollow-bearing trees and vegetation structure.
BRB	RE 11.3.32	*Allocasuarina luehmannii* low open woodland on alluvial plains	SEASON: Late wet to early dry season when there is good soil moisture. Early storm season or after good spring rains. INTENSITY: Low to moderate. INTERVAL: 6 -10 years. STRATEGY: Maintain fire management of surrounding country so that wildfires will be very limited in extent and do not penetrate Lancewood forests. ISSUES: Maintaining a fire mosaic will ensure protection of fauna habitats (such as dense stands of A. luehmannii) and mitigate against wildfires. Allocasuarina luehmannii (bull oak) can be both killed by fire and regenerate from seed following fire. Bull oak thickening/creation of whipstick communities may be controlled with planned low intensity burns. Drought index will help deliver required guideline. Jewel butterfly is significant in this community, but the jewel butterfly needs thick leaf litter/mature bull oak; so high intensity fire (or fire that removes the litter layer) could be detrimental to survival. Allocasuarina is also an important food source for glossy-black cockatoo.

Other Regional Fire Management Guidelines

The Reef Catchments Natural Resource Management Group together with the Clarke Connors Range Bush Fire Consortium developed fire management guidelines for the Central Queensland coast region (Reef Catchments, 2009). The fire guidelines have been developed for 12 landscape types. For each of the 12 landscape types recommendations are made for fire frequency, fire intensity, season and whether mosaic burns are required. The purpose of the guidelines is to reduce unplanned burns (wildfires). The landscape types and the recommended guidelines are shown in Table 6.

Table 6: *Clarke - Connors range fire management guidelines.*

Landscape Type	Fire Frequency	Fire Intensity	Preferred Season for Hazard Reduction	Mosaic Burning
Mangroves and estuaries	Not burnt	Nil	Nil	No
Beaches and foreshores	Not burnt	Nil	Nil	No
Hind dunes	Not burnt	Nil	Nil	No
Riverine and wetlands	Not burnt	Nil	Nil	No
Alluvial flat country	Every 5 years	Medium	Winter	50%
Grassy woodlands and open forests	Every 5 years	Medium	Winter	50%
Tall wet eucalypt forests	Every 3-5 years	Medium	Winter	50%
Eucalypt forest and woodlands on hills	Every 5 years	Medium	Winter	25%
Rainforest and vine thickets	Not burnt	Nil	Nil	No
Island and rocky headlands	Every 3-5 years	Medium	Winter	50%

The Queensland State government have developed Planned Burn Guidelines for Central Queensland Coast Bioregion of Queensland (DNPRSR, 2012). The planned burn guidelines are used to plan and implement prescribed burns in National Parks and State land. The State government guidelines are also applicable to Council owned and managed bushland lots and can be a guide to planned burns on private land.

2.6 Whitsunday Bushfire Management Planning Framework

The bushfire management and planning structure and workflow between organisations is reflected in Figure 8. Council has a Bushfire Management Policy and a Bushfire Management Plan to guide the management of bushfire hazard and risk on Council managed lots.

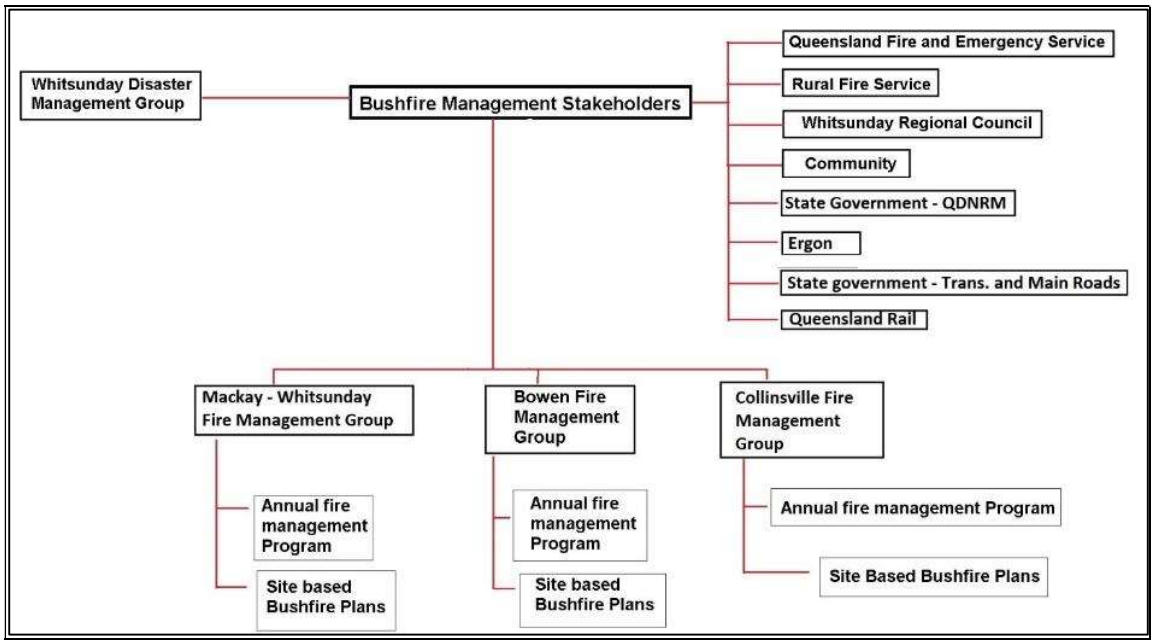

Figure 8: *The bushfire management and planning framework.*

2.7 Bushfire Mitigation and Management Strategies

There are a number of strategies that can be undertaken to reduce bushfire hazard and risk. Table 7 lists the bushfire risk factors and some of the mitigation measures that can be used to reduce the occurrence of bushfires.

Table 7: *Common bushfire mitigation strategies.*

Bushfire Factor	Mitigation Strategy or Measure
Litter build up from Eucalypt vegetation communities	• Obtain a permit to light fire from the local fire warden to reduce fuel loads. • Liaise with a local Rural Fire Brigade to undertake a fuel reduction burn. Subsequent burns may need to be conducted every 3 years. • Clear juvenile gum tree samplings from areas near the house and property. • Gum trees (such as Iron barks and Blue gums) should be removed from within 30 m of the house and properties. This may require an application to Council for permission. If in doubt contact the Council for advice.
Grass build up	• Grass species such as Guinea grass (*Megathyrsus maximus*) respond well to fire. This species needs to be chemically controlled, kept short through mowing or slashing, or grazed. • Revegetate areas with rainforest species to shade out grass and therefore reduce fuel loads. • Grass should be kept to a minimal height around houses and property using mowing, brush cutting or use of approved herbicides depending on site conditions. • Establish separation zones between buildings and grassy fuel by installing hard areas e.g. paving and gravel etc. • The use of cattle / live stock to control grass growth and fuel build up.
Aspect	• Northerly aspects are worse for fires. The siting or positioning of houses on a property should consider aspect. • The head of gullies should also be avoided • East to south facing slopes generally have a lower hazard rating.
Slope	• Updraughts assist fire movement upslope. There should be a sufficient distance down slope of houses and properties that are free of fire prone vegetation. • Slopes above 30% have a higher hazard score opposed to flat to undulating land. • Installation of hard areas of gravel and paving may be necessary.

	• To reduce erosion on steep slopes, these areas could be revegetated using rainforest shrubs or low growing grasses that are easily controlled and are less flammable.
Climate	• Hot dry climates assist fire. Beware of climatic conditions that increase fire risk severity such as the dry season in the Whitsunday's, especially between the months of July and December.
Proximity to land uses that use fire	• Fire breaks could be used to reduce spread of fire, provide access for fire fighters, a secure line from which to burn from or back burn from.
Vegetation communities that have a high fire risk	• Fire breaks could be used to reduce the spread of fire. The SPP recommends that perimeter roads be constructed that are cleared for 20 m AND comply with local government standards. • Fire maintenance trails should only be accepted if it is not practicable to provide firebreaks in the form of a road due to topographic conditions or vegetation constraints. • The construction of the fire breaks should consider plants protected under the *Nature Conservation Act (1992)* or communities protected under the Vegetation Management legislation. • Site the house in the lowest risk area on the property. • For lots greater than 2500m2, buildings and structures should be set back from hazardous vegetation by at least 1.5 times the height of the canopy vegetation (particularly if they are Eucalypt) or a minimum of 10 m. • Retention of rainforest in drainage lines and creeks will assist in reducing bushfire risk. • Design subdivisions without cul-de-sacs and provide access for a conventional drive vehicle (e.g., fire engine).
Access to water	• Residential houses develop suitable water sources for fighting fires and protecting dwellings. This may include the installation of additional water tanks, use of roof sprinklers or use of swimming pools.

2.8 Previous Bushfire Management

This Bushfire Plan is the first formal Bushfire Plan for the Whitsunday Paradise area. The following is a brief summary of previous planned and un-planned burns in the Whitsunday Paradise area:

- Unplanned-
    - Whitsunday Paradise – Mount Gordon – Don River 2008
    - Whitsunday Paradise – Mt Brampton – 2020
    - Whitsunday Paradise – Mount Gordon foreshore area - 2023

The map of historic bushfire scars in the landscape is found in the appendix of this report.

2.9 Community Consultation

The Whitsunday Regional Council conducted a community consultation process. The first stage of the community consultation process was an invitation of the bushfire stakeholders to provide feedback on the draft Bushfire Plan. The second stage of the community consultation process was a community stall established to seek community feedback on the draft Plan in September 2023. The Draft Community Bushfire Plan was placed out for community comment from the 21st of September to the 27th of October 2023. The issues raised at this meeting were:

- Concern over land banked large development lots and the management of bushfire hazard,
- Un-planned fires lit along roads,
- Management of bushfire hazard on rural residential lots.

3. Management Plan

3.1 Bushfire Plan Goals

The goals of this Bushfire Management Plan are:

- To protect life and property as a priority then ensure the bushfire management practises maximise biodiversity values.
- To ensure all stakeholders support a common bushfire management direction.
- To pro-actively manage the bushfire hazard within and surrounding Whitsunday Paradise.
- To develop and maintain good relationships between the stakeholders and landholders and encourage cooperative approaches to manage bushfire hazard in the area.

3.2 Stakeholder General Roles and Responsibilities

The general roles and responsibilities for bushfire management, planning and mitigation are summarised in Table 8.

Table 8: *The main tasks for each stakeholder.*

Task	Council	Rural Fire	QFES	Landholder
Legal control of the fire		✓		✓
Conduct hazard reduction burns		✓		✓
Applying for permits				✓
Supervising the hazard reduction burn*		✓	✓	✓
Informing the community	✓	✓		
Monitoring fuel loads		✓		✓
Maintaining the fire breaks				✓
Developing and updating the bushfire plan	✓	✓	✓	
Reporting hazard reduction burns		✓	✓	✓
Regulating and control of illegal dumping	✓			
Training rural fire fighters			✓	
Manage accumulation of green waste	✓			✓

- * Note: Rural Fires and QFES will only supervise planned burns where they are formally involved.

3.3 Bushfire Management Areas and Mitigation Measures

Main ignition areas and risk

The landscape of the Whitsunday Paradise area needs to be prioritised in terms of bushfire management and planning. Areas close to residential areas need a higher level of monitoring and fuel management than areas further away. The likely ignition areas in the Whitsunday Paradise area include:

- Ignition area 1 – Adelaide Point Road
    - Cause – Fire roadside caused by people and vehicles.
    - Likelihood – Medium to High
    - Risk condition and impact – With a south-east wind a fire could drive towards the Whitsunday Paradise residential area.

- Ignition area 2 – Bruce highway
    - Cause – Cigarette burn in road reserve
    - Likelihood – Low to medium
    - Risk condition and impact – With a south-eastly wind could drive fire north into residential areas
- Ignition area 3 – Rural residential burn-off escaped fire
    - Cause – burn-off escaped fire
    - Likelihood – Low to medium
    - Risk condition and impact – With a favourable wind, could drive fire to other rural residential areas.

Fire Management Areas and bushfire hazard

Fire Management Areas (FMAs) are tracts of land which have uniform vegetation, land use, bushfire hazard and assets. The Whitsunday Paradise area has a complex assemblage of land use, lots of land and landscape/vegetation areas. The complex land use and vegetation patterns have meant that there is a relatively high number of FMA's mapped in the Whitsunday Paradise Bushfire Plan area. There are 54 fire management areas identified for the Whitsunday Paradise Bushfire Plan Area (Figure 9).

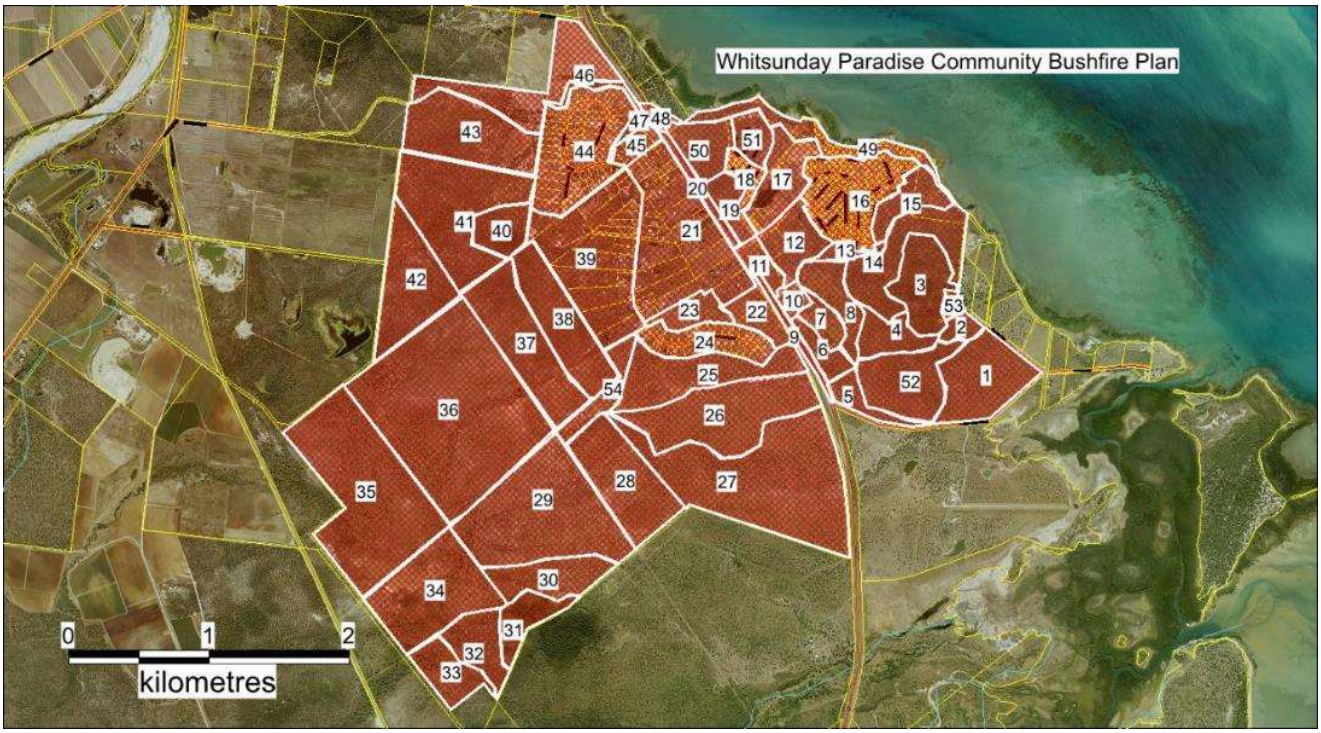

Figure 9: *The Whitsunday Paradise fire management areas.*

The high number of FMAs has been necessary to delineate so that a suitable bushfire hazard classification can be applied to the area, and a suitable planned burn regime developed. The bushfire management areas have been classified for bushfire hazard (Figure 10). Each resident should be aware of the bushfire hazards on their property and adjacent to their property.

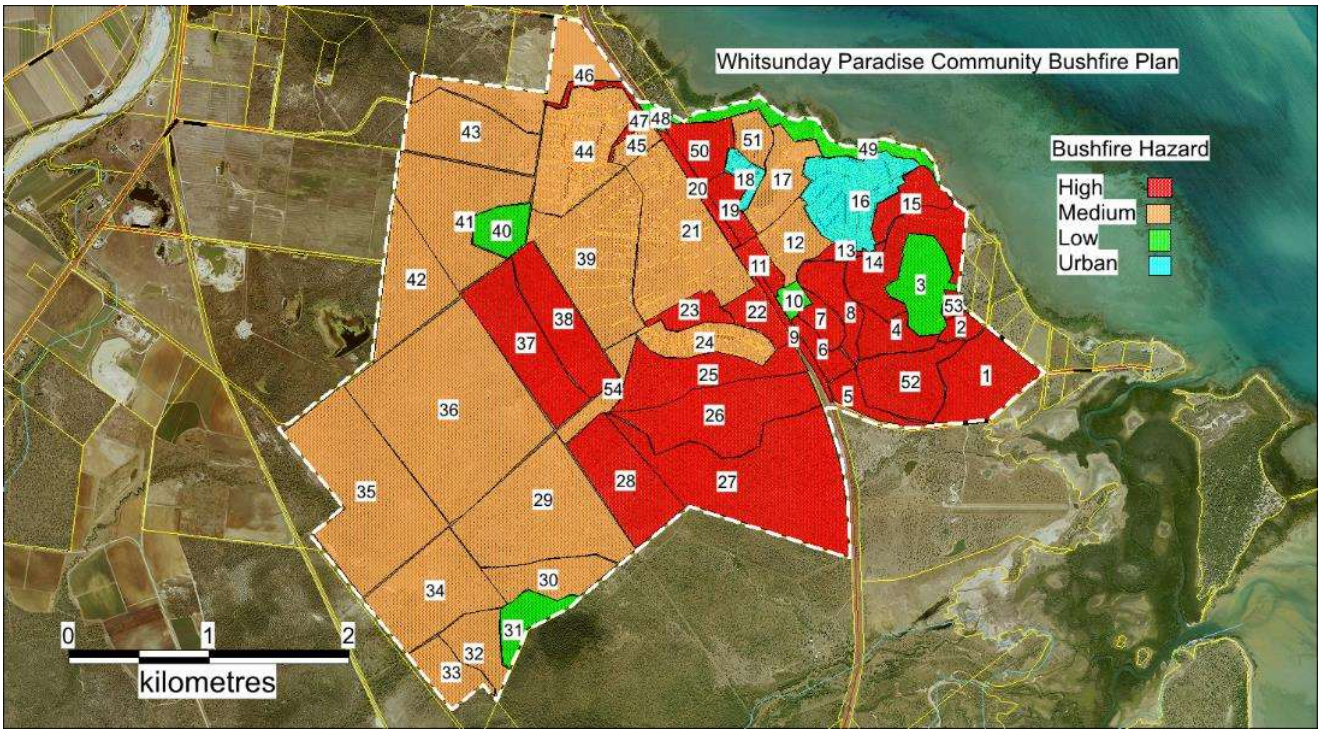

Figure 10: *Revised Bushfire hazard rating.*

The priority for bushfire management activities have been reviewed to reflect the bushfire hazard rating.

The Victorian state government has developed a system of prioritising bushfire management activities (DSE, 2012). The Victorian government have developed fire management zones as a means of prioritising land areas for bushfire management:

- APZ – Asset Protection zone - Areas close to residential areas – high priority for management (high hazard and high priority),
- BMZ – Bushfire Moderation zone – aim to achieve asset protection and achieve some ecological outcomes (medium hazard and medium priority)
- LMZ – Landscape management zone – planned burns are primarily undertaken for fuel reduction to maintain ecological processes (medium hazard and low - medium priority)
- PBEZ – Planned burning exclusion zone – no fire permitted (low-medium hazard and lower priority).

The priority for bushfire management activities have been reviewed to reflect the bushfire hazard rating. It is noted that there are individual residential properties on most of the 430 lots in the study area. In many cases there is cleared land around the residential houses. It is also noted that the dominant wind direction is from the south-east. The Asset Protection Zone (APZ) has been determined to be the urban residential area of Whitsunday Paradise and the smaller rural residential areas. The majority of the area has been mapped as “Landscape Management Zone” (LMZ) (Figure 11). The LMZ areas are land units where planned burns may be necessary to reduce fuel loads and maintain ecological processes. The BEZ management units have the potential for wildfires to threaten residential properties.

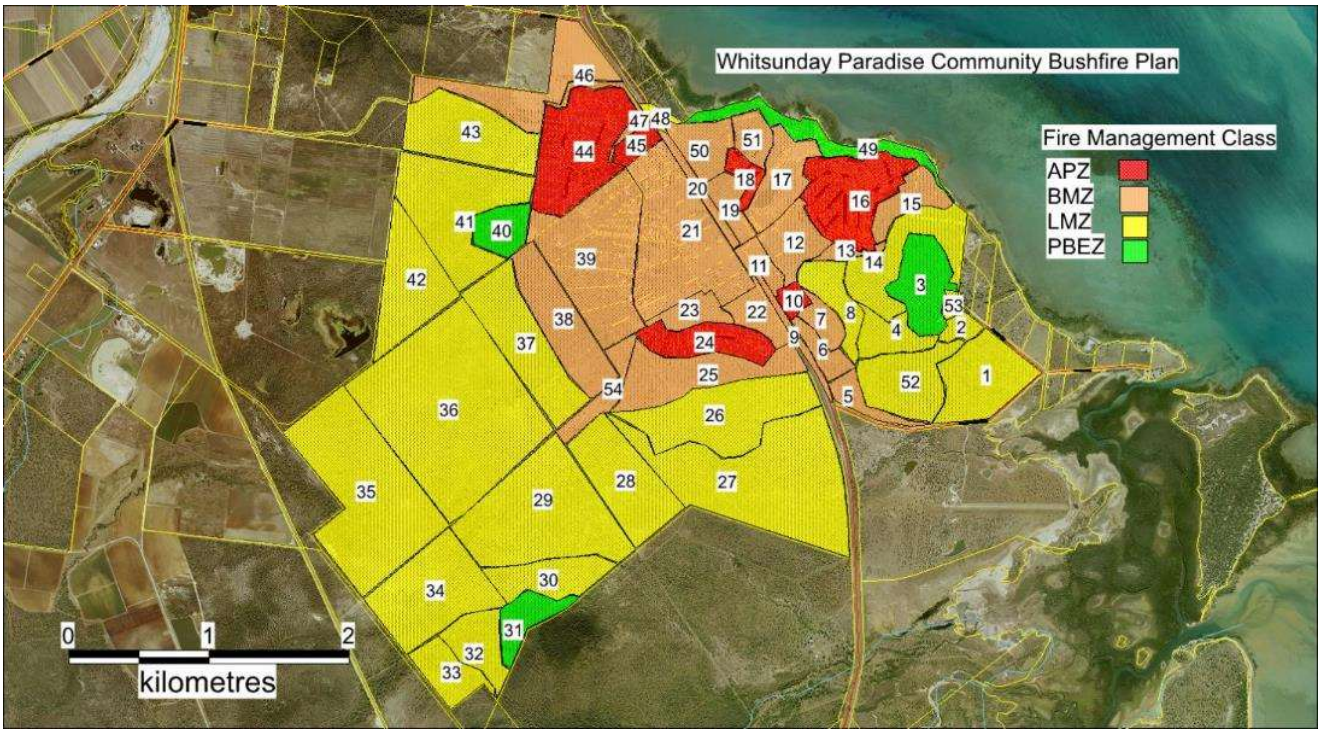

Figure 11: *The fire management areas and fire management class.*

The BEZ management units have the potential for wildfires to threaten residential properties. The bushfire hazard, risk to property and possible bushfire mitigation measures are suggested in table 9.

Prescribed burn schedule

The prescribed burn program for Whitsunday Paradise area will be programmed around the site vegetation, seasonal fuel load and timed for optimum climatic conditions. The grazing practises in rural areas will be a factor in those areas where cattle are used to control and manage grass growth and fuel loads. The timing of prescribed burns will be based on recommendations as given at the time of annual hazard assessments. The frequency of prescribed burns will be guided by the recommendations set out in "Fire Management Guidelines" by Reef Catchments 2009, recommendations from the Queensland government and from site specific annual fuel load assessments.

The fire management areas will also be used to determine hazard reduction burn frequencies. The proposed planned burn frequencies for each vegetation type are shown in Table 9.

Table 9: *Vegetation communities and hazard reduction burn frequencies.*

Vegetation Community	RE	Hazard Reduction Burn Frequency	Fire Zones
Semi-evergreen vine thicket	RE 11.12.4	No fire	PBEZ
Eucalyptus platyphylla woodland on igneous rocks	RE 11.12.9	5-12yrs	LMZ
Eucalyptus crebra, Corymbia dallachiana woodland on alluvial plains	RE 11.3.30	3-7yrs	LMZ
Allocasuarina luehmannii low open woodland on alluvial plains	RE 11.3.32	5-12yrs	LMZ

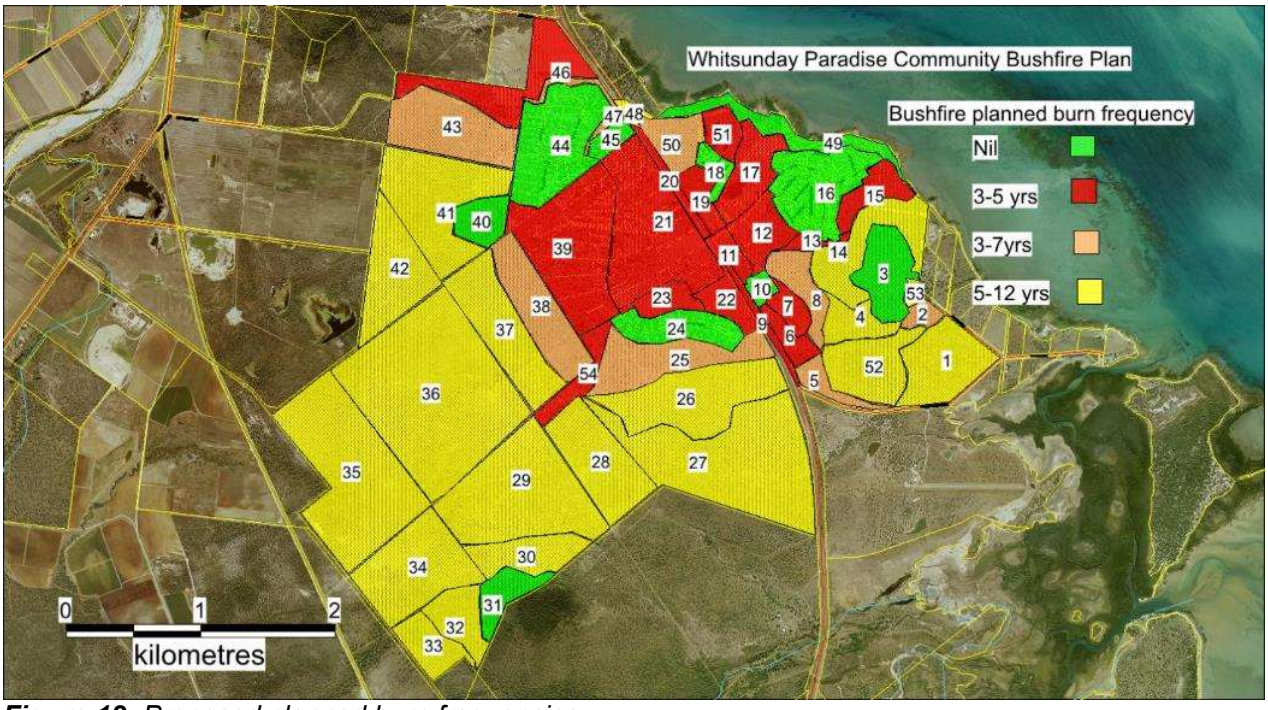

Figure 12: *Proposed planned burn frequencies.*

Table 10: *The bushfire hazard and mitigation measures for fire management units in the Whitsunday Paradise area.*

Fire Area	Hazard	Zone	Frequency (yrs.)	Land use	Mitigation Options
1	High	LMZ	5-12yrs	Bushland	Install and maintain firebreaks/control lines
2	High	LMZ	3-7yrs	Bushland	Install and maintain firebreaks/control lines
3	Low	PBEZ	Nil	Bushland	No fires
4	High	LMZ	5-12yrs	Bushland	Install and maintain firebreaks/control lines
5	High	BMZ	3-7yrs	Bushland	Install and maintain firebreaks/control lines
6	High	BMZ	3-5yrs	Bushland	Install and maintain firebreaks/control lines
7	High	BMZ	3-5yrs	Bushland	Install and maintain firebreaks/control lines
8	High	LMZ	3-7yrs	Bushland	Install and maintain firebreaks/control lines
9	High	BMZ	3-5yrs	Bushland	Install and maintain firebreaks/control lines
10	Low	APZ	Nil	Urban	Install and maintain firebreaks/control lines
11	Med	BMZ	3-5yrs	Rural Residential	Install and maintain firebreaks/control lines
12	Med	BMZ	3-5yrs	Rural Residential	Install and maintain firebreaks/control lines. Slash areas where possible to reduce fuel load.
13	High	BMZ	3-5yrs	Rural Residential	Install and maintain firebreaks/control lines. Slash areas where possible to reduce fuel load.
14	High	LMZ	5-12yrs	Bushland	Install and maintain firebreaks/control lines
15	High	BMZ	3-5yrs	Bushland	Install and maintain firebreaks/control lines
16	Low	APZ	Nil	Urban	No Fires
17	Med	BMZ	3-5yrs	Rural Residential	Install and maintain firebreaks/control lines. Slash areas where possible to reduce fuel load.
18	Low	APZ	Nil	Urban	No Fires
19	High	BMZ	3-5yrs	Bushland	Install and maintain firebreaks/control lines
20	High	BMZ	3-5yrs	Rural Residential	Install and maintain firebreaks/control lines. Slash areas where possible to reduce fuel load.

21	Med	BMZ	3-5yrs	Rural Residential	Install and maintain firebreaks/control lines. Slash areas where possible to reduce fuel load.
22	Med	BMZ	3-5yrs	Rural Residential	Install and maintain firebreaks/control lines. Slash areas where possible to reduce fuel load.
23	Med	BMZ	3-5yrs	Rural Residential	Install and maintain firebreaks/control lines. Slash areas where possible to reduce fuel load.
24	Low	APZ	Nil	Rural Residential	Install and maintain firebreaks/control lines. Slash areas where possible to reduce fuel load.
25	Med	BMZ	3-7yrs	Grazing	Install and maintain firebreaks/control lines. Manage grazing pressure to manage fuel loads.
26	Med	LMZ	5-12yrs	Grazing	Install and maintain firebreaks/control lines. Manage grazing pressure to manage fuel loads.
27	Med	LMZ	5-12yrs	Grazing	Install and maintain firebreaks/control lines. Manage grazing pressure to manage fuel loads.
28	Med	LMZ	5-12yrs	Grazing	Install and maintain firebreaks/control lines. Manage grazing pressure to manage fuel loads.
29	Med	LMZ	5-12yrs	Grazing	Install and maintain firebreaks/control lines. Manage grazing pressure to manage fuel loads.
30	Med	LMZ	5-12yrs	Grazing	Install and maintain firebreaks/control lines. Manage grazing pressure to manage fuel loads.
31	Low	PBEZ	Nil	Bushland	No Fires
32	Med	LMZ	5-12yrs	Grazing	Install and maintain firebreaks/control lines. Manage grazing pressure to manage fuel loads.
33	Med	LMZ	5-12yrs	Grazing	Install and maintain firebreaks/control lines. Manage grazing pressure to manage fuel loads.
34	Med	LMZ	5-12yrs	Grazing	Install and maintain firebreaks/control lines. Manage grazing pressure to manage fuel loads.
35	Med	LMZ	5-12yrs	Grazing	Install and maintain firebreaks/control lines. Manage grazing pressure to manage fuel loads.
36	Med	LMZ	5-12yrs	Grazing	Install and maintain firebreaks/control lines. Manage grazing pressure to manage fuel loads.
37	Med	LMZ	5-12yrs	Grazing	Install and maintain firebreaks/control lines. Manage grazing pressure to manage fuel loads.
38	Med	BMZ	5-12yrs	Grazing	Install and maintain firebreaks/control lines. Manage grazing pressure to manage fuel loads.
39	Med	BMZ	3-5 yrs.	Rural residential	Install and maintain firebreaks/control lines. Slash areas where possible to reduce fuel load.
40	Low	PBEZ	Nil	Bushland	No fires
41	Med	LMZ	5-12yrs	Grazing	Install and maintain firebreaks/control lines. Manage grazing pressure to manage fuel loads.
42	Med	LMZ	5-12yrs	Grazing	Install and maintain firebreaks/control lines. Manage grazing pressure to manage fuel loads.
43	High	LMZ	3-7 yrs.	Grazing	Install and maintain firebreaks/control lines. Manage grazing pressure to manage fuel loads.
44	Med	APZ	Nil	Rural residential	Install and maintain firebreaks/control lines. Slash areas where possible to reduce fuel load.
45	Med	APZ	Nil	Rural residential	Install and maintain firebreaks/control lines. Slash areas where possible to reduce fuel load.
46	Med	BMZ	3-5yrs	Rural residential	Install and maintain firebreaks/control lines. Slash areas where possible to reduce fuel load.
47	Med	APZ	Nil	Rural residential	Install and maintain firebreaks/control lines. Slash areas where possible to reduce fuel load.
48	Med	LMZ	5-12yrs	Rural residential	Install and maintain firebreaks/control lines. Slash areas where possible to reduce fuel load.
49	Low	PBEZ	Nil	Bushland	No fires
50	Med	BMZ	3-7yrs	Rural residential	Install and maintain firebreaks/control lines. Slash areas where possible to reduce fuel load.
51	Med	BMZ	3-5yrs	Rural residential	Install and maintain firebreaks/control lines. Slash areas where possible to reduce fuel load.
52	High	LMZ	5-12yrs	Bushland	Install and maintain firebreaks/control lines.
53	Low	PBEZ	Nil	Bushland	No Fires
54	Med	BMZ	3-5yrs	Rural residential	Install and maintain firebreaks/control lines. Slash areas where possible to reduce fuel load.

3.3 Schedule of Bushfire Management and Mitigation Tasks

The main tasks and actions identified for the Whitsunday Paradise area can be grouped under prevention and mitigation, and regulation:

- Prevention and mitigation
  - Landholders will be encouraged to develop a bushfire buffer on their lots where long grass is managed to reduce bushfire hazard. The bushfire buffer could involve the cutting of long grass to maintain it to a height less than 0.5m in the dry season in particular to reduce fuel load and reduce bushfire hazard.
  - Landholders with larger lots may be able to develop access tracks into the lots to assist with future bushfire fighting. It may not be feasible to develop 4wd access tracks into the larger lots without careful assessment of the stormwater management issues.
  - Landholders identify and develop suitable water sources to assist with fighting fires.
- Regulation
  - The Council explore the use of Local Law 3 Community and Environment and develop a mechanism to issue notices to landholders who do not manage bushfire risk appropriately on their land. This may include the expansion of the overgrown notices process to larger lots of land adjacent to residential areas.

The schedule of annual bushfire management and maintenance tasks is summarised in Table 9.

Table 9: *Schedule of annual bushfire management actions.*

No	Task	Who is responsible	Timing
1	Assess fuel loads	Landholders	May
2	Implement hazard reduction actions. This may include reducing long grass, reduce eucalypt regrowth. Maintain buffer.	Landholders	April, June, August, November
3	Slash fire lines/fire breaks	Landholders	May and October
4	Inspect condition of fire lines	Landholders	May
5	Earthworks for fire lines/breaks	Landholders	As required
6	Coordinate planned burns	Landholders	No planned burns for this area
7	Community awareness	QFES and Whitsunday Council	Use of media in May
8	Seeking fire permit	Landholders	As required
9	Vegetation regulation inspections – overgrown lots	Whitsunday Council	April, July, October

The draft schedule of planned burns for the various fire management areas are shown in Table 12. The intension of the planned burn schedule is to guide when and where planned burns could be implemented across the landscape to reduce bushfire hazard and risk. The proposed intension is to develop a mosaic burn pattern across the landscape and encourage a routine of coordinated planned burns.

Table 10: *The proposed timing of future planned burns for Whitsunday Paradise management areas.*

Fire Management Area	Description	Zone	Planned Burn Frequency	2023	2024	2025	2026	2027	2028	2029	2030	2031
1	Bushland	LMZ	5-12yrs									
2	Bushland	LMZ	3-7yrs									
3	Bushland	PBEZ	Nil									
4	Bushland	LMZ	5-12yrs									
5	Bushland	BMZ	3-7yrs									
6	Bushland	BMZ	3-5yrs									
7	Bushland	BMZ	3-5yrs									
8	Bushland	LMZ	3-7yrs									
9	Bushland	BMZ	3-5yrs									
10	Urban	APZ	Nil									
11	Rural Residential	BMZ	3-5yrs									
12	Rural Residential	BMZ	3-5yrs									
13	Rural Residential	BMZ	3-5yrs									
14	Bushland	LMZ	5-12yrs									
15	Bushland	BMZ	3-5yrs									
16	Urban	APZ	Nil									
17	Rural Residential	BMZ	3-5yrs									
18	Urban	APZ	Nil									
19	Bushland	BMZ	3-5yrs									
20	Rural Residential	BMZ	3-5yrs									
21	Rural Residential	BMZ	3-5yrs									
22	Rural Residential	BMZ	3-5yrs									
23	Rural Residential	BMZ	3-5yrs									
24	Rural Residential	APZ	Nil									
25	Grazing	BMZ	3-7yrs									
26	Grazing	LMZ	5-12yrs									
27	Grazing	LMZ	5-12yrs									
28	Grazing	LMZ	5-12yrs									
29	Grazing	LMZ	5-12yrs									
30	Grazing	LMZ	5-12yrs									
31	Bushland	PBEZ	Nil									
32	Grazing	LMZ	5-12yrs									
33	Grazing	LMZ	5-12yrs									
34	Grazing	LMZ	5-12yrs									
35	Grazing	LMZ	5-12yrs									
36	Grazing	LMZ	5-12yrs									
37	Grazing	LMZ	5-12yrs									
38	Grazing	BMZ	5-12yrs									
39	Rural residential	BMZ	3-5 yrs									
40	Bushland	PBEZ	Nil									
41	Grazing	LMZ	5-12yrs									
42	Grazing	LMZ	5-12yrs									
43	Grazing	LMZ	3-7 yrs									

44	Rural residential	APZ	Nil									
45	Rural residential	APZ	Nil									
46	Rural residential	BMZ	3-5yrs									
47	Rural residential	APZ	Nil									
48	Rural residential	LMZ	5-12yrs									
49	Bushland	PBEZ	Nil									
50	Rural residential	BMZ	3-7yrs									
51	Rural residential	BMZ	3-5yrs									
52	Bushland	LMZ	5-12yrs									
53	Bushland	PBEZ	Nil									
54	Rural residential	BMZ	3-5yrs									

The development of fire breaks, fire control lines and buffers are a landholder's responsibility. Ideally the breaks should be created along property boundaries, along contours, or between different forest types (e.g., rainforest- Eucalypt Forest). Fire breaks or control line tracks located on steep slopes will be subject to erosion and will cost more to maintain.

There are a number of proposed fire breaks or control lines proposed for the Whitsunday Paradise area. The firebreak and control line map is found in the appendix.

3.4 Fire Fighting – Response and Resources

The responsibility of responding to fires in the Whitsunday Paradise area is the primary role of the Whitsunday Paradise Fire and Rescue Service.

The water for fighting unplanned fires is sourced from:

- Helicopter water bombing – sea water
- Whitsunday Paradise hydrants
- Africandar Road hydrants
- Residential water tanks and swimming pools.
- Farm dams

4. Conclusion

The Whitsunday Paradise Community Bushfire Management Plan has been developed to document stakeholder responsibilities, guide mitigation measures and communicate the main bushfire priorities for this area. The Whitsunday Paradise area covers 1430ha and is divided up into 54 fire management areas based on land with similar land use and bushfire hazard. Each fire management unit has a set of recommendations to reduce the bushfire hazard and risk to property.

The council coordinated a two staged community consultation process. The first stage of the consultation process was stakeholder feedback on the Draft Plan followed by a community consultation process on the draft Plan from the 21st of September to the 27th of October 2023. Some of the issues noted in the community consultation were;

- There are a number of large land parcels which are “land banked” with bushfire hazard,
- Un-planned fires lit along roads,
- Management of bushfire hazard on rural residential lots.

The intension of this Bushfire Plan is to identify bushfire hazard and risk on the areas around Whitsunday Paradise. The Plan aims to outline how bushfire management mitigation may occur to maximise community safety whilst recognising the importance of the area’s ecological values.

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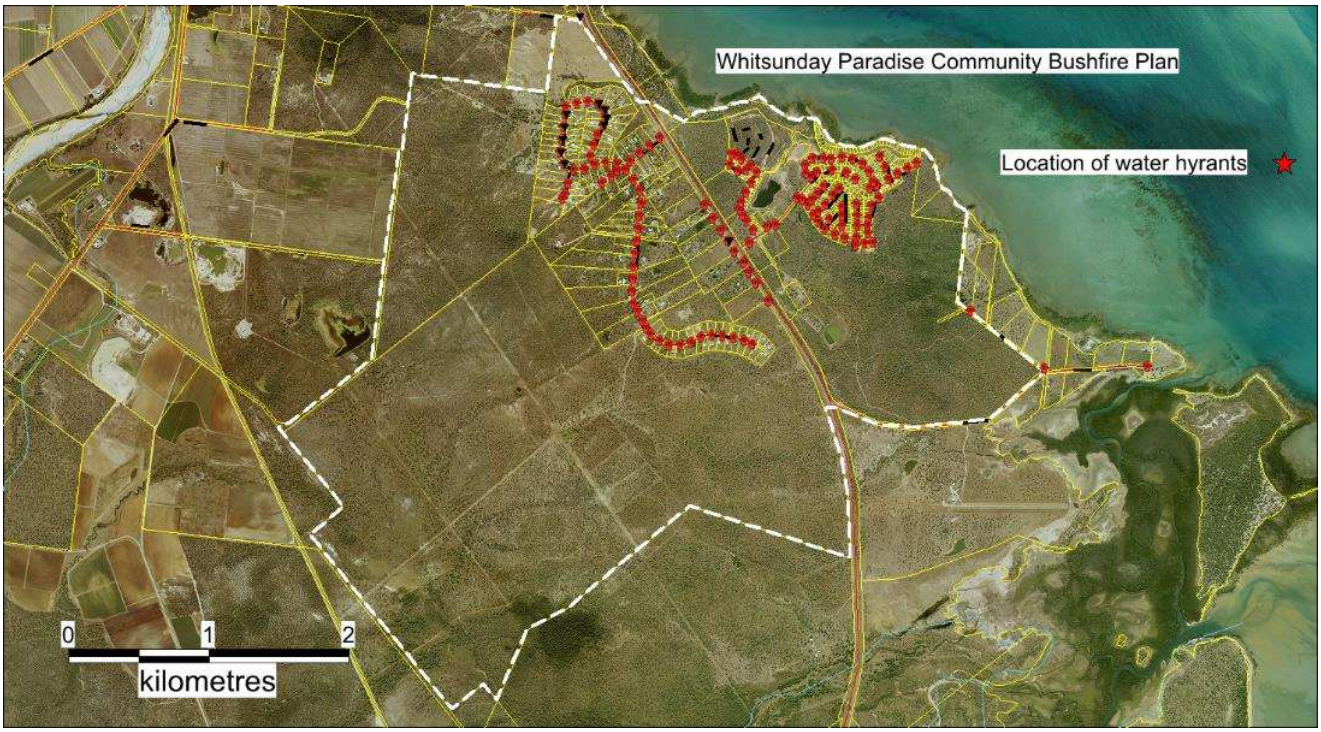
6. Appendix

6.1 Hydrant and Water Resources Map



Map 1. Location of fire hydrants.

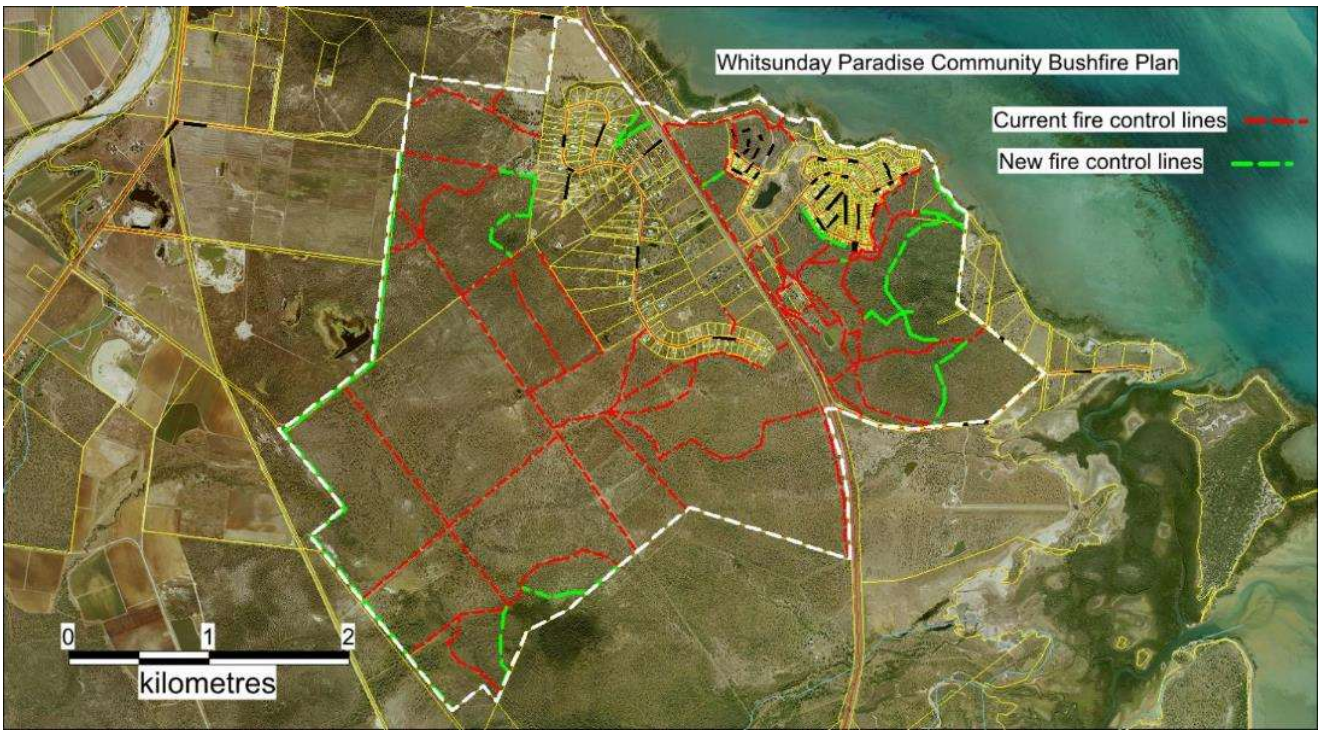
6.2 Regional Ecosystem Maps

Map 2. Regional Ecosystem map – regulated vegetation

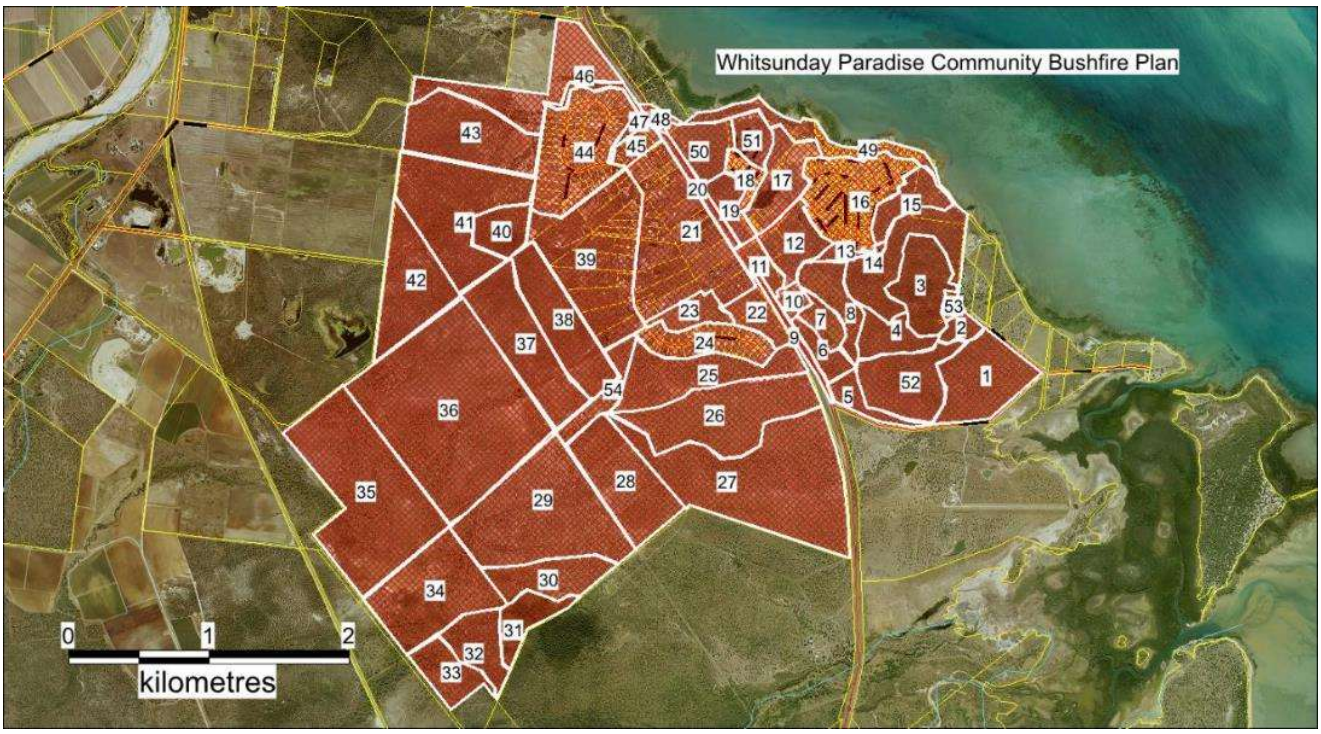
6.3. Contours and Fire Breaks

Bushfire Control lines and access tracks should be located along property boundaries and/or along the contour.

Map 3. Showing contours across the Whitsunday Paradise area.



Map 4: *Whitsunday Paradise area current and proposed fire breaks.*



Map 5 : *Showing fire management areas.*

6.4. Previous Bushfire Maps

Map 6. North Australia and rangelands fire information (NAFI) fire history for Whitsunday paradise area.

https://firenorth.org.au/nafi3/

6.5. Objectives for Bushfire Hazard Reduction Burning

Source: NSW Rural Fire Service
www.rfs.nsw.gov.au

A successful low intensity hazard reduction burn will reduce fuel load so that it creates a safe defensible area around an asset. It should also minimise the impact from the burn on the environment.

In carrying out a burn, you need to consider:

1. The fuel load and structure
2. The effects on the environment and the community
3. The specific zone objectives
4. If there are adequate fire breaks and control lines
5. The season and weather conditions
6. The topography and fire behaviour
7. What lighting patterns to use
8. Conducting a test burn
9. What safety measures may be needed
10. Mopping up afterwards
11. If you need to report the results

6.6. Check List for Hazard Reduction Burns

The following is a checklist of tasks and activities that should be followed prior to hazard reduction burns:

Table 11: *Checklist for Hazard Reduction Burns*

No.	Task	✓
1	Fuel load assessment conducted	
2	Bushfire fire hazard sufficient to warrant a hazard reduction burn	
3	Fire breaks and control lines are in good condition	
4	Burn plan developed – identifying where the burn will occur, timing and personnel availability	
5	Ensure adequately trained personnel are on hand for planned burn	
6	Fire permit gained for proposed burn plan	
7	Proposed hazard reduction burn is approved by Whitsunday Paradise Fire Brigade	
8	Community awareness plan is developed and activated prior to burn	
9	Bushfire stakeholders advised of hazard reduction burn timing	
10	Machinery and trucks are in good working order. Water available.	
11	Contingency plan developed in case fire escapes the target area	
12	Hazard reduction burn is undertaken in accordance with QFES guidelines	
13	Fire control personnel ensure fire is out before leaving fire control area.	
14	A brief account of the hazard reduction burn submitted to QFES and Council.	

6.7. Stakeholder Contacts

- Whitsunday Regional Council – Scott Hardy – 0428 722 236 / (07) 4945 0245.
- QDNRM –Tim Koch – 0418 970 097
- Heronvale Rural fire brigade – (07) 0409578836
- Bowen town fire brigade – 07 47861811

For more information regarding the Queensland Rural Fire Brigade, visit:
https://www.ruralfire.qld.gov.au/Pages/fw_finder.aspx

6.8. Map of Rural Fire Areas and Warden Contacts

Map 7: *Showing the rural fire areas and warden contact numbers.*

6.9. Landholder Bushfire Planning Checklist

The following checklist can be used by residential landholders to plan and manage their bushfire hazard:

Table 12: *Landholder Bushfire Planning Checklist*

Task	Checked
Structure	
Clear leaves, twigs, bark and other debris from the roof and gutters.	
Purchase and test the effectiveness of gutter plugs.	
Enclose open areas under decks and floors.	
Install fine steel wire mesh screens on all windows, doors, vents and weep holes	
Point LPG cylinder relief valves away from the house.	
Conduct maintenance checks on pumps, generators and water systems.	
Seal all gaps in external roof and wall cladding.	
Access	
Display a prominent house or lot number, in case it is required in an emergency.	
Ensure there is adequate access to your property for fire trucks - 4 metres wide by 4 metres high, with a turn-around area.	
Vegetation	
Reduce vegetation loads along the access path.	
Mow your grass regularly.	
Remove excess ground fuels and combustible material (long dry grass, dead leaves and branches).	
Trim low-lying branches two metres from the ground surrounding your home.	
Consider removing flammable trees near residential buildings (e.g. removal of eucalypt trees) and replace with non-flammable rainforest species.	
Personal	
Check that you have sufficient personal protective clothing and equipment. Relocate flammable items away from your home, including woodpiles, paper, boxes, crates, hanging baskets and garden furniture.	
Check the first aid kit is fully stocked.	
Make sure you have appropriate insurance for your home and vehicles.	
Find out if there is a nearby **Neighbourhood Safer Place**.	
Review and update your household **Bushfire Survival Plan**.	
Other	
Consider the location of water points and possible direction of bushfire threats. In rural residential areas ensure water tanks are more than half full in bushfire season.	
Keep swimming pool full of water.	

Source: https://www.ruralfire.qld.gov.au/BushFire_Safety/Pages/Prepare-for-bushfire-season.aspx

6.10. Vegetation Clearing Rules

Exemptions apply to some clearing activities permitted under other legislation, including the *Forestry Act 1959*, *Fire and Emergency Services Act 1990*, *Electricity Act 1994*, *Electricity Regulation 2006* and *Disaster Management Act 2003.* Visit the Department of Environment and Science website for more information.

Exempt clearing work for fire management sourced from the Queensland government websites:

- You can undertake certain clearing activities to protect your property from bushfires without getting approval or notifying the Queensland government. These exemptions are summarised in the Table below.
- If you need to clear a wider area, you might be able to clear using a vegetation clearing code or apply for a development approval.
- **Firebreaks** are low-fuel areas located immediately adjacent to existing infrastructure (including a building, or other structure, built or used for any purpose) that are cleared and maintained to slow or stop the progress of a fire, or to perform back-burning.
- **Fire management lines** are roads, fence line clearings or tracks (including existing property tracks) used to access water for firefighting or divide the property for fuel reduction burning or back-burning.

Table 13: *Vegetation Clearing Rules*

Purpose for Clearing	Vegetation Category	Clearing Allowances
Fences, roads and tracks	Least concern regional ecosystems	Clearing to establish a necessary fence, road or vehicular track to a maximum width of 10m
Fire management line	All	Clearing for a necessary for management line to a maximum width of 10m
Firebreaks	All	For a fire necessary to protect buildings and other structures (other than a fence line); to a width of up to 1.5 times the height of the tallest vegetation or 20m (whichever is the widest)
Hazardous fuel load reduction	All	Fuel reduction burns can be done under a permit issued by the local fire warden
Maintain existing infrastructure	All	Clearing necessary to maintain existing buildings and other structures, fences, roads and watering points.
Risk to people and infrastructure	All	Clearing necessary to remove or reduce imminent risk the vegetation poses to people or buildings and other structures.

https://www.qld.gov.au/environment/land/management/vegetation/disasters/fire/code

https://www.dnrme.qld.gov.au/__data/assets/pdf_file/0009/847800/vegetation-clearing-exemptions.pdf