Bushfire Management Plan

Conway
2020-2030

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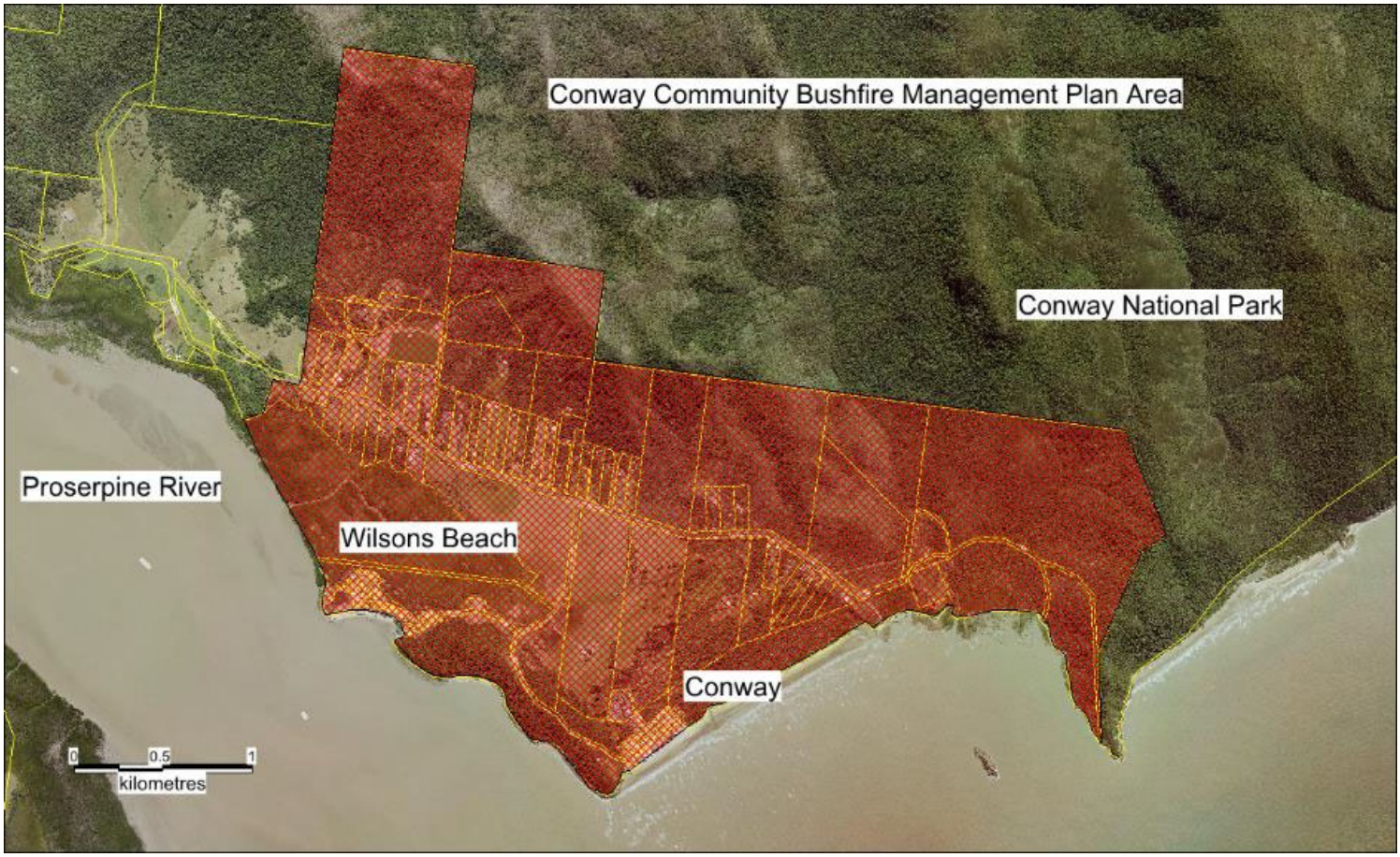
Date: 21 January 2021



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Executive Summary

The purpose of the Conway Community Bushfire Management Plan is to document bushfire hazard and describe how this hazard will be managed for the next 10 years (2020-2030). This Bushfire Plan is specifically written for the Conway residents and stakeholders. The Conway Fire Plan area covers the land between Repulse Bay, Conway National Park and Montrose Hill and covers 947 ha.

The Conway Community Bushfire Plan includes 81 rural residential lots and 108 residential properties (Wilsons Beach 57 lots and Conway 51 lots). The residential areas cover 14ha and the Council owns 235ha. The adjacent Conway National Park covers 12,910ha.

The reason why this Bushfire Management Plan has been developed is the large number of residential and rural-residential dwellings occurring in and adjacent to medium to high bushfire hazard areas in the Conway area. Fire management agencies are concerned that wild fires in the Conway area could threaten numerous residential properties. In addition, there was a wild fire in the Conway area in November 2017 which threatened a number of rural residential lots.

The Conway Bushfire Plan seeks the following outcomes:

- Describe the extent of bushfire hazard.
- Describe the location of existing and potential fire control lines and fire breaks.
- List the roles and responsibilities for bushfire management.
- List the proposed schedule of bushfire mitigation tasks.

While this proposed Community Bushfire Management Plan provides guidelines on how the Conway 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.

The Council has developed this Community Bushfire Management Plan in consultation with the Queensland Fire and Emergency Services (QFES), Queensland Parks and Wildlife Service (QPWS), Reef Catchment, and representatives of the local Rural Fire Brigade. The information contained in this Bushfire Plan is based on data collected from stakeholders over recent years and information available on the Queensland Rural Fire Brigade website.

Acknowledgements

The Whitsunday Regional Council would like to thank the following stakeholders who have contributed to the Conway Community Bushfire Management Plan;

- Queensland Fire and Emergency Services (QFES)
- Queensland Parks and Wildlife Service (QPWS)
- Reef Catchments Natural Resource Management Group
- Conway Rural Fire Brigade

Document Control

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1. Introduction

The Conway area has been identified as having a medium to high bushfire hazard due to the vegetation type, slope and aspect. The Conway area includes the small residential area localities of Conway and Wilsons Beach.

The locality of Conway has a history of planned and unplanned bushfire in the Eucalypt woodlands of Conway National Park and some of the rural residential lots. The Conway locality has a risk for loss of life and/or property if the bushfire hazard is not managed appropriately. There are numerous residential dwellings located in and adjacent to flammable vegetation. Fire Management agencies are concerned that wildfires in the Conway area could cause damage to a number of properties which are surrounded by unmanaged Eucalypt and Acacia woodland.

The Council, together with the Queensland Fire and Emergency Services (QFES) have defined an area in the Conway area which has vegetation and topographic conditions which warrant more detailed community bushfire planning. The Conway Fire Plan area covers 947ha and includes 108 residential lots. The Whitsunday Regional Council owns or manages 235ha of land in this area. The Queensland government owns and manages 12,901ha adjacent to the Bushfire Management Plan area and residential land covers 14ha. The Conway Fire Plan area has been defined based on the likelihood of bushfires occurring and the residential lots which could be affected, but also the boundary of Conway National Park.

The purpose of this Community Bushfire Management Plan is to identify the actions required to reduce bushfire hazard in the Conway and surrounding area for the next 10 years (2020-2030) (Figure 1). This Plan is designed for the area between Conway National Park, repulse bay and Montrose Hill. The objectives of this Plan include;

- Identify where fire lines are required to protect life and property from fire,
- Maintain an ecologically appropriate controlled burn program,
- 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 Conway 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.

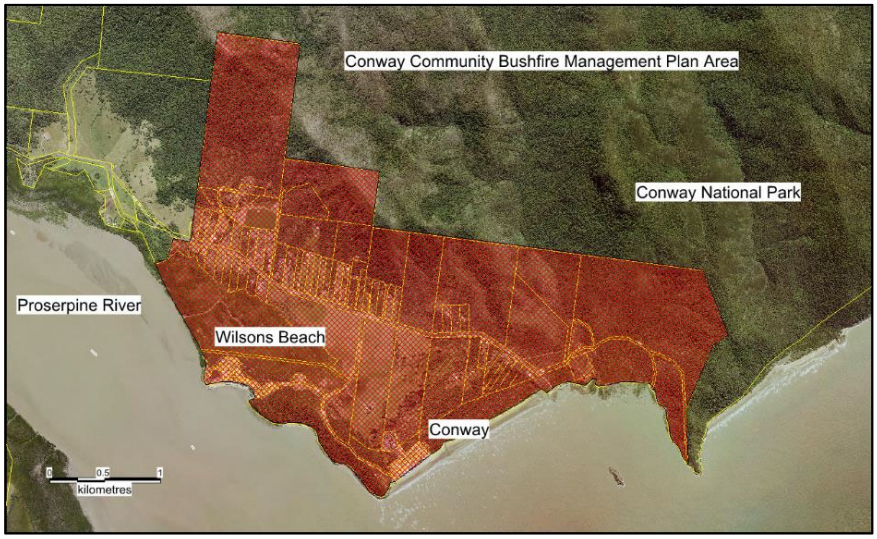

Figure 1: *The application area for the Conway Community Bushfire Management Plan.*

2. Background

2.1 Land Tenure and Ownership

The Conway Community Bushfire planning area covers approximately 947ha with 235ha being owned or managed by the Whitsunday Regional Council. There are 108 residential lots which cover 14ha.

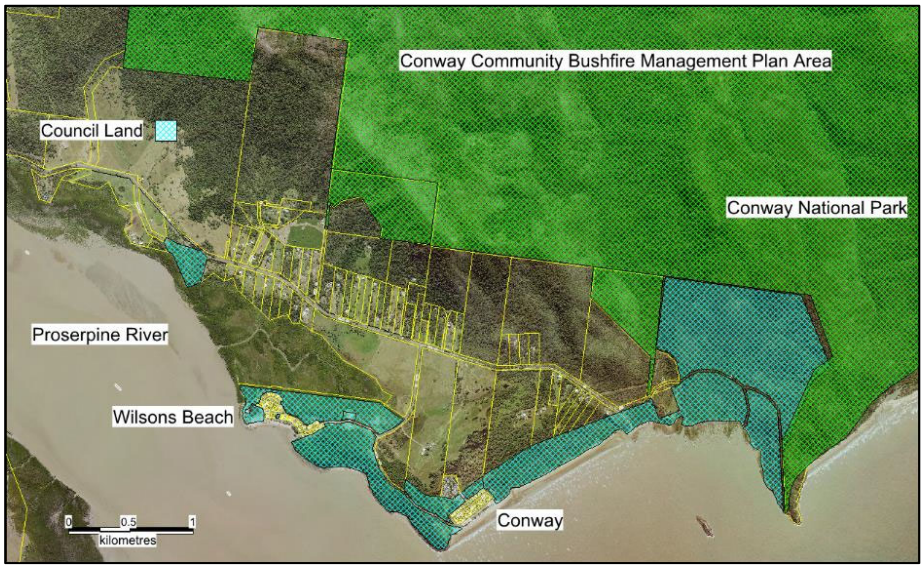

Figure 2: *Location of Conway National Park and Whitsunday Regional Council land.*

2.2 Site Description

Geology, Landform and Soils

The geology of the Conway area was mapped by the Queensland government in 1972. An extract of the Proserpine geology map is shown in figure 4. The hills are formed on Proserpine volcanics (Kp) which are Lower Cretaceous in age and dominated by acid to intermediate volcanic and pyroclastic flows. The geology influences the fertility of the soils and also the type of vegetation which occurs.

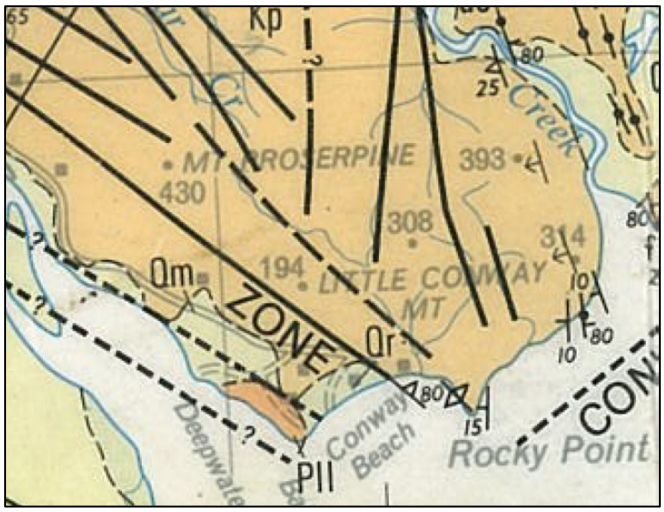

Figure 3: *The geology map covering the Conway area (Paine and Cameron, 1972).*

The soils of the Conway area were mapped by Hardy (2003). The main soils in the northern section of the Management Area in the hillslope areas are shallow sandy, dispersive duplex soils with low fertility (Dittmer and Ossa soil profile classes) (Figure 4). The southern areas of the management area are dominated by marine sediments and sand dunes.

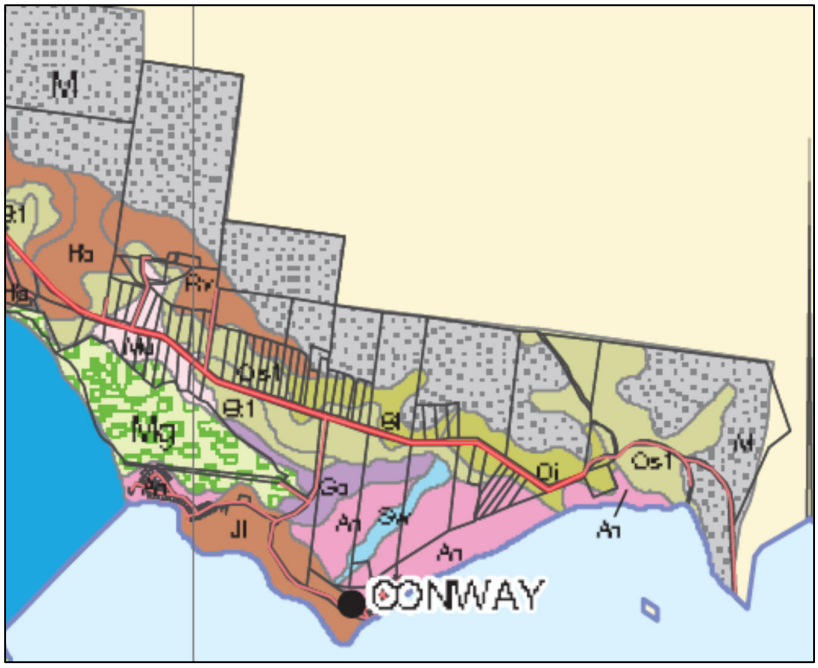

Figure 4: *The soils of the Conway area.*

Vegetation

The vegetation of the Conway area has been mapped by the State government. The regional ecosystem map for the Conway area can be found in the appendix of this report. The geology, fertility of the soils and rainfall patterns influence the vegetation of the Conway area. The dominant vegetation surrounding the Conway area is eucalypt forest and Semi-evergreen microphyll vine thicket. The dominant regional ecosystems are:

- RE 8.1.1. Mangrove closed forest of marine clay plains and estuaries
- RE 8.3.5. Eucalyptus platyphylla and/or Lophostemon suaveolens and/or Corymbia clarksoniana woodland on alluvial plains
- Re 8.12.5: Eucalyptus portuensis and/or Lophostemon confertus and/or E. exserta and/or Corymbia trachyphloia and/or E. fibrosa open forest on Mesozoic to Proterozoic igneous rocks
- RE 8.12.18. Semi-evergreen notophyll/microphyll to complex notophyll Argyrodendron spp. vine forest +/- Araucaria cunninghamii, of foothills and uplands on near-coastal ranges and islands, on Mesozoic to Proterozoic igneous rocks

The regional ecosystem map for the Conway area can be found in the appendix.

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

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 principle 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.

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.

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 of the most 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).

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 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.

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).

Conway Bushfire Hazard

The Queensland State government have mapped the bushfire hazard in the Conway area (Figure 6). The bushland through most pf Conway national Park and the south facing slopes have a medium to very high bushfire hazard.

The Conway National Park is periodically burnt by Queensland National Parks and Wildlife service every 3 to 12 years depending on fuel loads in mosaic burn patterns.

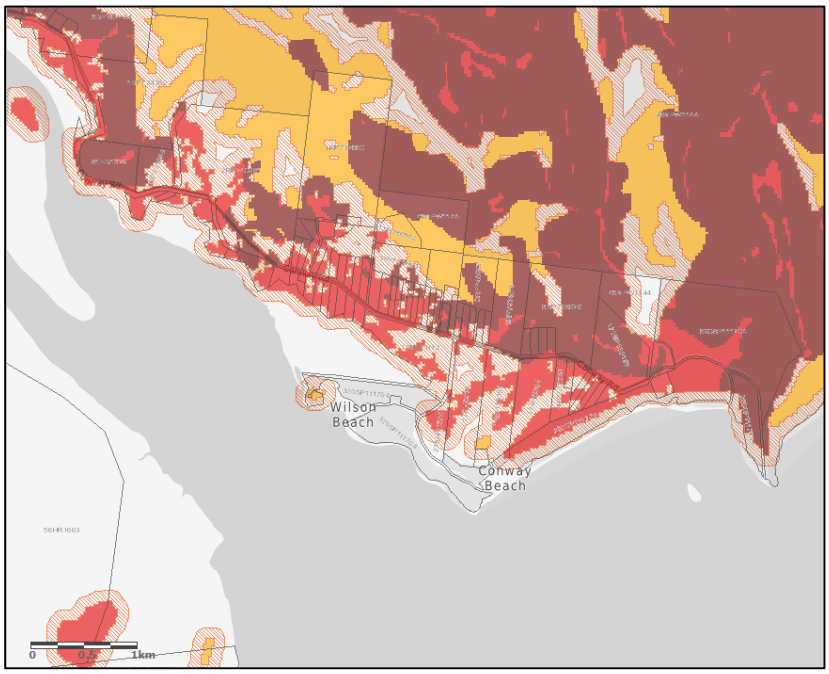

Figure 6: *Sowing the bushfire hazard in the Conway area (Red = High hazard, Orange = Medium hazard)*

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 are 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 Conway Area.*

Bioregion	Regional Ecosystem	Description	Bushfire Advice
CQC	8.1.1	Mangrove closed forest of marine clay plains and estuaries	ISSUES: Scorching within the supra-littoral margin, particularly when this ecotone merges into flammable vegetation such as woodlands and forests of Melaleuca spp.
CQC	8.3.5	Eucalyptus platyphylla and/or Lophostemon suaveolens and/or Corymbia clarksoniana woodland on alluvial plains	SEASON: Vary; winter, late winter and storm burns. INTENSITY: Moderate. INTERVAL: No more frequent that 3 - 5 years except were weed control takes priority (i.e. within rehabilitation zones). STRATEGY: Aim to burn no more that 70 % of any given area preferably less. ISSUES: Fire regimes required by this ecosystem will be largely dependant on the level and type of weed infestations present, and/or the level of vine forest emergence present. The implications of grazing either domestic and/or feral animals also needs consideration. In areas historically subjected to cattle grazing (lack of fire over long periods) or frequent burning, this woodland may have significant gaps in canopy layering. Fire management should consider the long term goal of maintaining the woodland structure.
CQC	RE 8.12.5	Eucalyptus portuensis and/or Lophostemon confertus and/or E. exserta and/or Corymbia trachyphloia and/or E. fibrosa open forest on Mesozoic to Proterozoic igneous rocks	SEASON: 8.12.5a and c: Early winter. 8.12.5b: Any time when sufficient soil moisture is present (during growing season). INTENSITY: 8.12.5a: Moderate. 8.12.5b: Low to moderate. INTERVAL: 8.12.5a and c: 4 - 7 years. 8.12.5b: Minimum 4 - 7 years. STRATEGY: Attempt to retain at least 20% unburnt at any given time. ISSUES: 8.12.5a and b: Important to maintain layering within the forest structure. High fuel accumulations are possible and as such it is important to adopt fire regimes which will maintain fallen litter and timber habitats on the forest floor. 8.12.5c: In the Whitsunday sub-region prone to development of dense vine thicket understorey which will eventually preclude burning. High fuel accumulations are possible and as such it is important to adopt fire regimes which will maintain fallen litter and timber habitats on the forest floor.
CQC	8.12.18	Semi-evergreen notophyll/microphyll to complex notophyll Argyrodendron spp. vine forest +/- Araucaria cunninghamii, of foothills and uplands on near-coastal ranges and islands, on Mesozoic to Proterozoic igneous rocks	ISSUES: Fire sensitive.

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.

2.6 Whitsunday Bushfire Management Planning Framework

The bushfire management and planning structure and workflow between organisations is reflected in Figure 7. Council has a Bushfire Management Policy and a Bushfire Management Plan to guide the management of bushfire hazard and risk on Council managed lots.

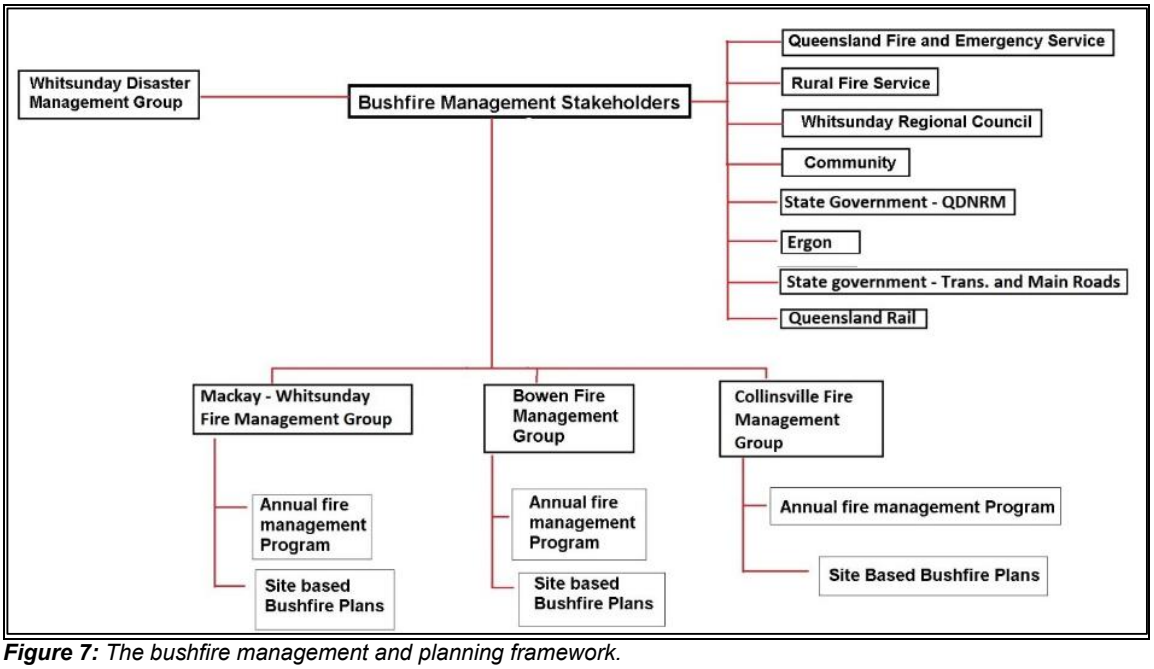

Figure 7: *The bushfire management and planning framework.*

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.
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 low 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. • Sugarcane land has a moderate to high bushfire risk
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).

2.8 Previous Bushfire Management

This Bushfire Plan is the first formal Bushfire Plan for the Conway area. The QPWS has a fire management plan for Conway National Park.

The following is a brief summary of previous planned and un-planned burns in the Conway area:

- Unplanned-
    - Conway National Park and Conway locality – November-December 2018 (see appendix)

2.9 Community Consultation

The Whitsunday Regional Council placed the Conway Community Bushfire Management Plan out for community comment from 14 September to 15 November 2020. There was one on-line community meeting which was held on 29 September 2020. The main discussion points from the meeting were:

- Three people attended the meeting, no community members.
- One Queensland Fire and Emergency Services staff attended.
- Could hire someone on a contract to approach each resident directly and meet/discuss with them the Plan and how it affects their property.
- Put in place a long-term strategy to build awareness and engagement over time. Have the plans available on the website for a 12 month period, engage directly with residents by letter in 2021 in the lead up to Bushfire season from May/June.
- Run social media campaigns each year to promote the actions of the bushfire plans and create content from prescribed burns and drone footage.
- Discussion around existing online platforms, eg WRC Disaster Dashboard, Rural Fire website has current burns/fires and DEA Hotspots website. Currently this mapping is reflected on WRC's Disaster Dashboard.
- Aim for 40% engagement from residents in a twelve month period.
- It was suggested that on Allens Road there is currently no firebreaks marked, and improved fire modelling should be done in this area to update the mapping.
- There are 50 plus residential properties which border the National Park area and there is no planning for reducing vegetation or installing fire breaks and control lines. It was suggested that QPWS engage with those residents to establish prescribed burns to help protect their properties in case of wildfire.

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 Conway.
- 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	QDNRM	QPWS	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	✓					
Manage accumulation of green waste	✓					

3.3 Bushfire Management Areas and Mitigation Measures

The landscape of the Conway 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 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.
- BMZ – Bushfire Moderation zone – aim to achieve asset protection and achieve some ecological outcomes.
- LMZ – Landscape management zone – planned burns are primarily undertaken for fuel reduction to maintain ecological processes.
- PBEZ – Planned burning exclusion zone – no fire permitted.

Each resident should be aware of the bushfire hazards on their property and adjacent to their property. The bushfire hazard on the Unallocated State land will be managed and monitored by the Queensland Department of Environment and Science.

There are 11 fire management areas identified for the Conway Fires Area (Figure 8). The bushfire management areas have been classified for bushfire hazard (Figure 9).

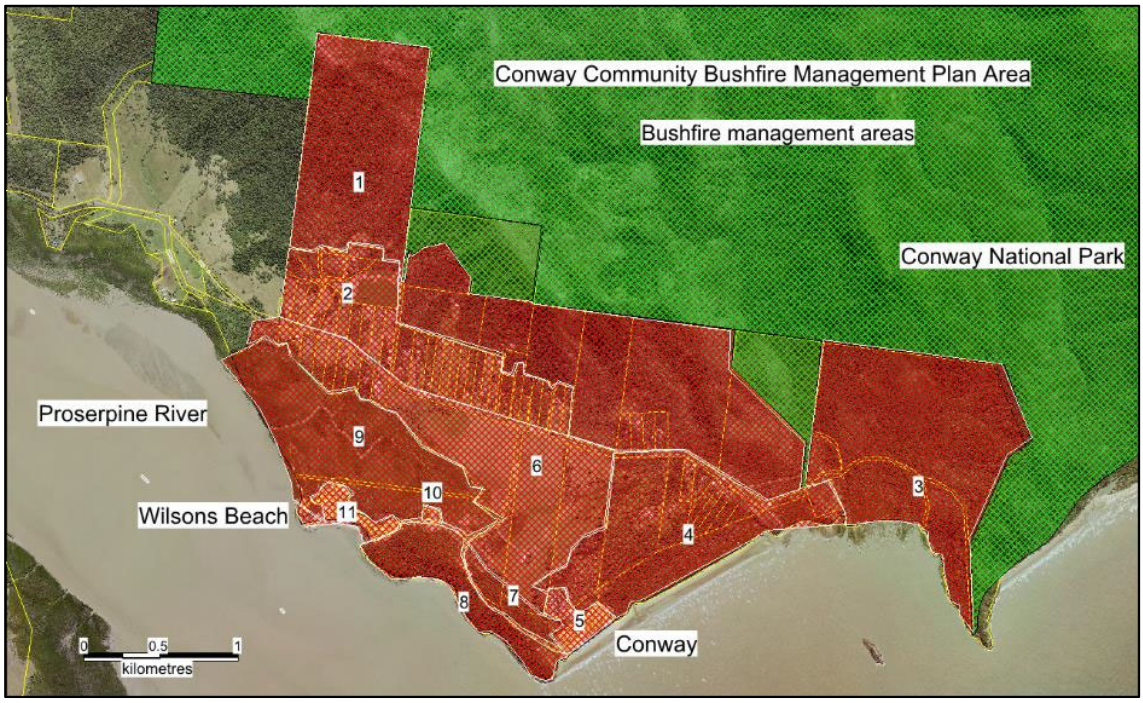

Figure 8: *The Conway fire management areas.*

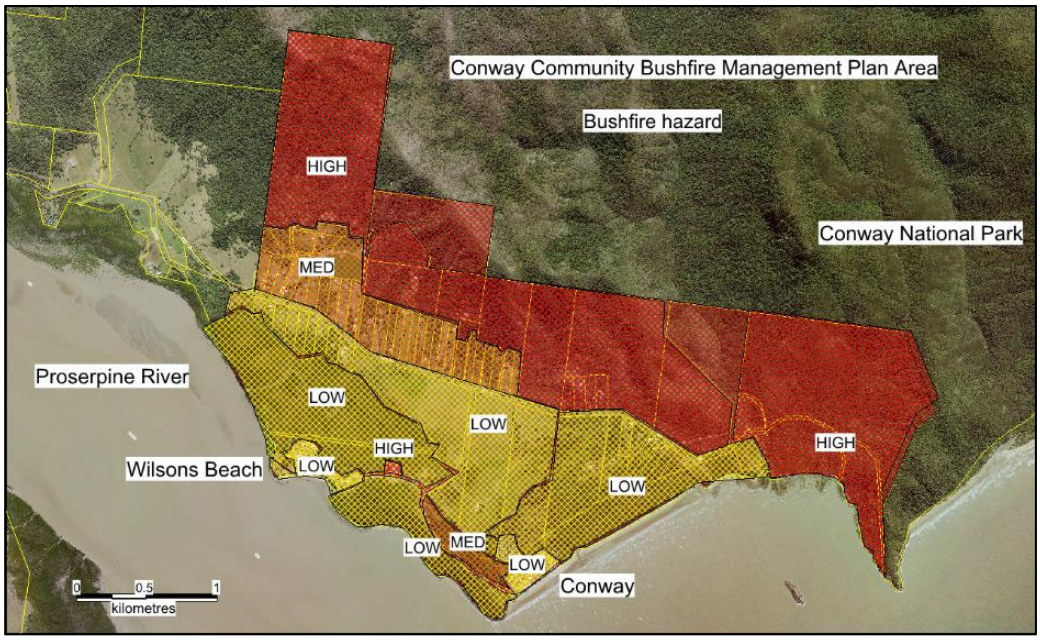

Figure 9: *Revised Bushfire hazard rating.*

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 26 lots. In many cases there is cleared around the residential houses. It is also noted that the dominant wind direction is from the south-east, consequently, if a wild-fire did occur it is unlikely to affect all lots. The majority of the Conway area has been mapped as “Landscape Management Zone” (LMZ) (Figure 10). The LMZ areas are land units where planned burns may be necessary to reduce fuel loads and maintain ecological processes. The fire management areas can be further summarised as:

- Red = APZ (high hazard and high priority),
- Orange = BMZ (medium hazard and medium priority)
- Yellow = LMZ (medium hazard and low - medium priority)
- Green = PBEZ (low-medium hazard and lower priority).

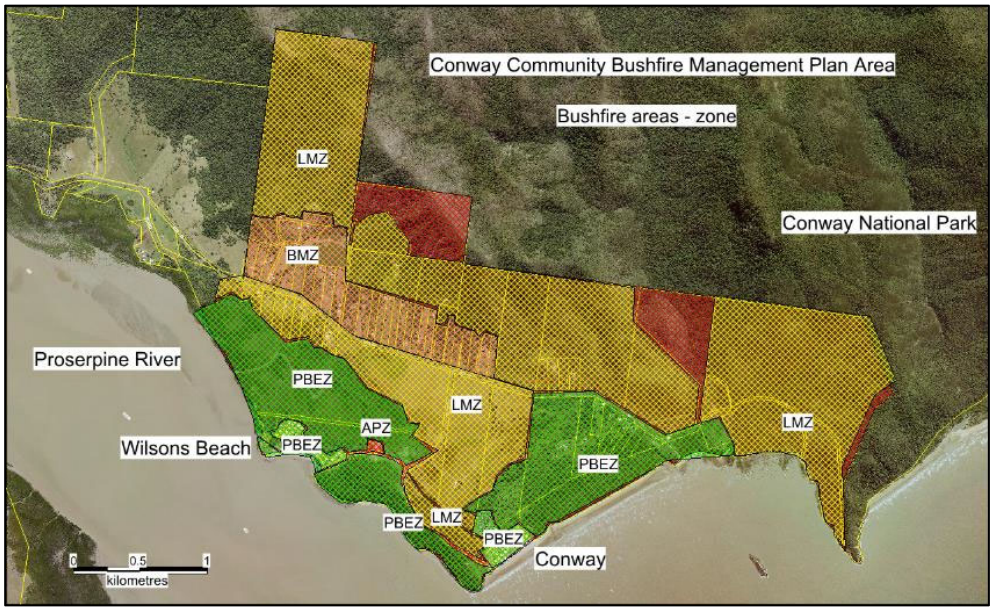

Figure 10: *The fire management areas and fire management class.*

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.

Table 9: *The bushfire hazard and mitigation measures for fire management units in the Conway area.*

Fire Area	Hazard	Zone	Mitigation Options
1	HIGH	LMZ	Bushland - Ensure adequate separation distances between dwellings and bushland.
2	MED	BMZ	Rural residential areas. Monitor green waste fires. Keep property boundaries clear. Ensure water options identified.
3	HIGH	LMZ	Bushland - Nil
4	LOW	PBEZ	Marine environment and wetland. No mitigation required.
5	LOW	PBEZ	Conway Township
6	LOW	LMZ	Open flats.
7	MED	LMZ	Foot slope mixed vegetation on edge of Conway locality.
8	LOW	PBEZ	Mostly rainforest. Not to be burnt.
9	LOW	PBEZ	Mangroves
10	HIGH	APZ	Waste area.
11	LOW	PBEZ	Wilson Beach township

3.4 Hazard Reduction Burning Frequencies and Methods

The prescribed burn program for Conway area will be programmed around the site vegetation, seasonal fuel load and timed for optimum climatic conditions. 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 10.

Table 10: *Vegetation communities and hazard reduction burn frequencies.*

Vegetation Community	RE	Hazard Reduction Burn Frequency	Fire Management Areas	Fire Zones
Eucalyptus portuensis and/or Lophostemon confertus	8.12.5	4 -7 years if present	1, 2, 3	LMZ
Semi-evergreen notophyll/microphyll to complex notophyll Argyrodendron spp. vine forest +/- Araucaria cunninghamii, of foothills and uplands on near-coastal ranges and islands, on Mesozoic to Proterozoic igneous rocks	8.12.18	Not burnt	7, 8	PBEZ, LMZ
Eucalyptus platyphylla and/or Lophostemon suaveolens and/or Corymbia clarksoniana woodland on alluvial plains	8.3.5	3-5 years	6	LMZ
Mangrove closed forest of marine clay plains and estuaries	8.1.1	Not burnt	(4), 9	PBEZ

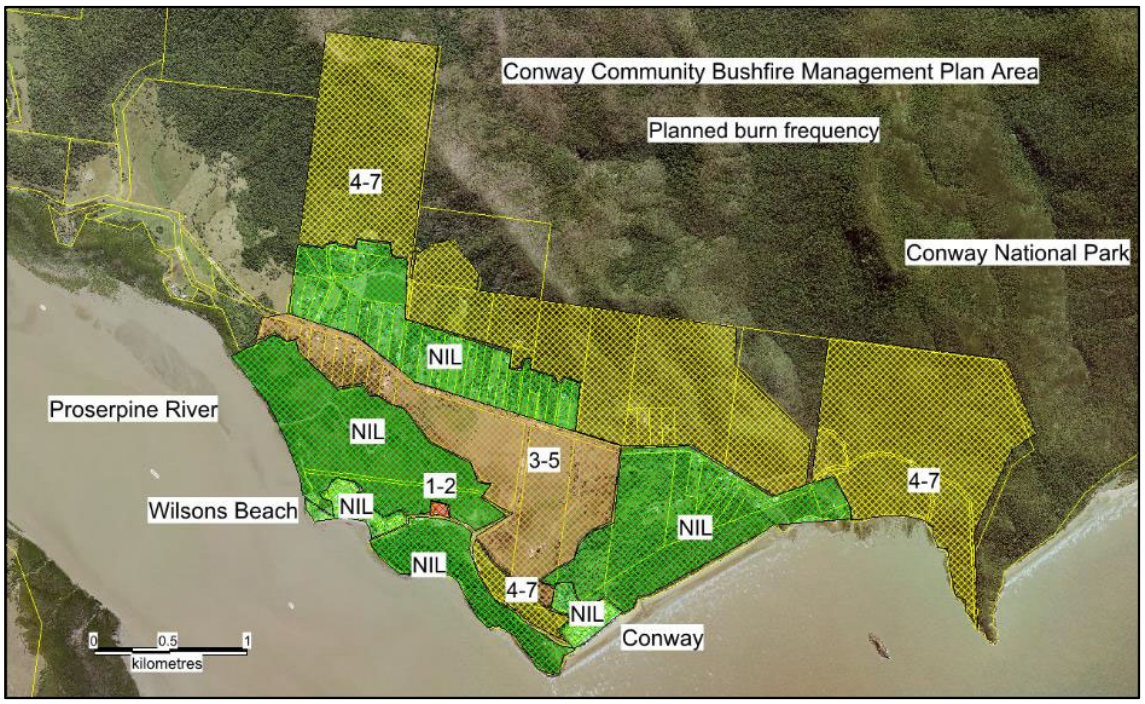

Figure 11: *Proposed planned burn frequencies.*

3.5 Schedule of Bushfire Management and Mitigation Tasks

The schedule of bushfire management and maintenance tasks is summarised in Table 11.

Table 11: *Schedule of bushfire management actions.*

No	Task	Who is responsible	Timing
1	Assess fuel loads	Landholders and Rural Fire Brigade	May
2	Develop an annual fire plan	Rural fire brigade and residents	June
3	Approve the annual fire plan	Rural fire brigade	June
4	Slash fire lines/fire breaks	Landholders	May and October
5	Inspect condition of fire lines	Landholders	May
5	Earthworks for fire lines/breaks	Landholders	As required
6	Coordinate planned burns	Rural fire brigade/QFES and residents	As per approved plan
7	Community awareness	Rural fire brigade/QFES and residents	Use of media in May
8	Seeking fire permit	Landholders	As required

The draft schedule of planned burns for the various fire management areas are shown in Table 12.

Table 12: *The proposed timing of future planned burns for Conway management areas.*

Fire Management Area	Description	Zone	Planned Burn Frequency	2020	2021	2022	2023	2024	2025	2026	2027	2028
1	Bushland	LMZ	4-7									
2	Rural residential areas	BMZ	Nil									
3	Bushland	LMZ	4-7									
4	Wetland and marine environment	PBEZ	Nil									
5	Conway township	PBEZ	Nil									
6	Open flats	LMZ	3-5									
7	Footslope	LMZ	4-7									
8	Rainforest	PBEZ	Nil									
9	Mangroves	PBEZ	Nil									
10	Waste area	APZ	1-2									
11	Wilsons beach township	PBEZ	Nil									

The development of fire breaks and fire control lines are a landholder's responsibility. Ideally the breaks should be created along property boundaries, or 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. The more fire prone areas do not lend themselves to the creation of new fire breaks. There are no new fire breaks recommended for the Conway Fire Plan area.

One of the key conflict areas is the boundary between the Conway National Park and rural residential areas (areas 1 and 2). It is recommended between the National Park and rural residential properties, residents should ensure:

- there are cleared area between dwellings and bushland upslope.
- these areas have adequate water for fire fighting. There may be a case for a dedicated water tank for fire fighting which is monitored.
- Each property has a property bushfire plan.
- residents have suitable evacuation routes.

3.6 Fire Fighting – Response and Resources

The responsibility of responding to fires in the Conway area is the primary role of the Conway rural fire brigade.

The water for fighting unplanned fires is sourced from:

- Conway fire station water tanks
- Residential water tanks and swimming pools.
- Farm dams

4. Conclusion

The Conway Community Bushfire Management Plan has been developed to document stakeholder responsibilities, guide mitigation measures and communicate the main bushfire priorities for this area. The Conway area covers 947ha and is divided up into 11 fire management areas based on land within similar land use and bushfire hazard. Each fire management unit has a set of recommendations to reduce the bushfire hazard and risk to property.

This Plan was placed on public notice from September to November 2020. During the public consultation period the following were the main points noted:

- There are possibly 50 rural residential lots which back onto Conway National Park, many do not have functional fire breaks and fire control lines (tracks).
- It would be a good goal to have all properties which back onto the National Park with individual property Bushfire Plans.
- How to coordinate and fund fire breaks and control lines between residential properties and the National Park?
- Need to investigate whether residents would like training on bushfire planning and management.

The intension of this Bushfire Plan is to enable bushfire management mitigation to occur under agreed conditions and to maximise community safety whilst recognising the importance of the areas ecological values.

5. References

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Ramsay, C. and Rudolf, L., 2003. *Landscape and building design for bushfire areas*. CSIRO publishing, Melbourne

Paine, A.G.L. and Cameron, R.L., (1972). *1:250,000 geological series explanatory notes for Proserpine, Queensland* (Sheet SF/55-3 international index). Australian Government Publishing service, Canberra.

Reef Catchments, 2009. Clarke Connor Range Fire Management Guidelines. Reef Catchments, Mackay.

Risk Frontiers, 2011. State-wide Natural Hazard Risk Assessment: Report 3: Current exposure of property addresses to natural hazards. Project report for the Queensland Department of Community Safety, Brisbane.

Tran. C & Peacock. C (2002) Fire Management Strategic Manual; Guidelines for planning and implementing a council or shire wide fire management strategy. SEQ Fire and Biodiversity Consortium Queensland Australia.

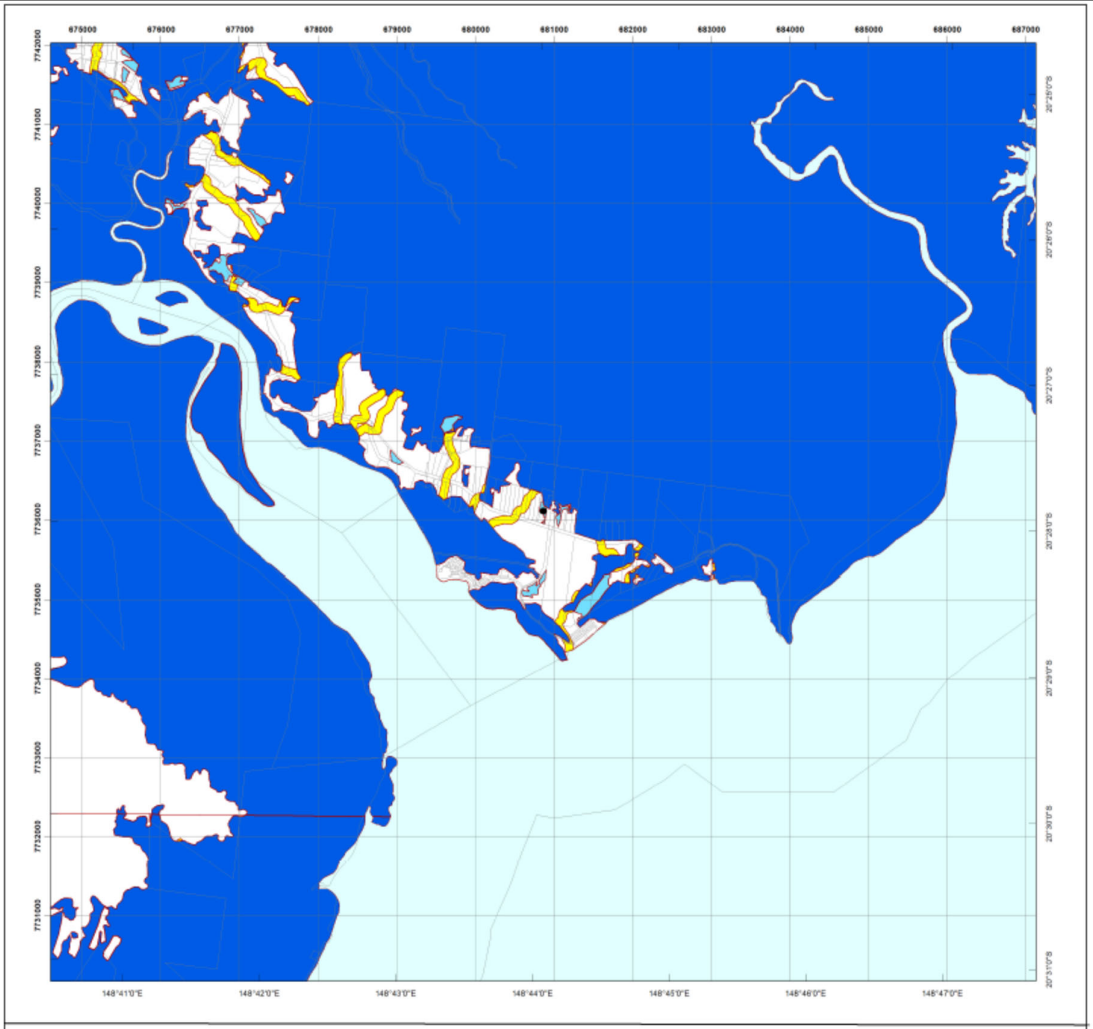
6. Appendix

6.1 Hydrant and Water Resources Map

There is no town water – there are no water hydrants.

There are no or limited farm dams for water.

6.2 Regional Ecosystem Maps



Regulated Vegetation Management Map

Legend

- Coordinates
- Category A area (Vegetation offsets/compliance notices/VDecs)
- Category B area (Remnant vegetation)
- Category C area (High-value regrowth vegetation)
- Category R area (Reef regrowth watercourse vegetation)
- Category X area (Exempt clearing work on Freehold, Indigenous and Leasehold land)
- Water
- Area not categorised
- Other land parcel boundaries

LOCALITY DIAGRAM

N

0 675 1,350 2,025 2,700 3,375 m

Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Natural Resources, Mines and Energy makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

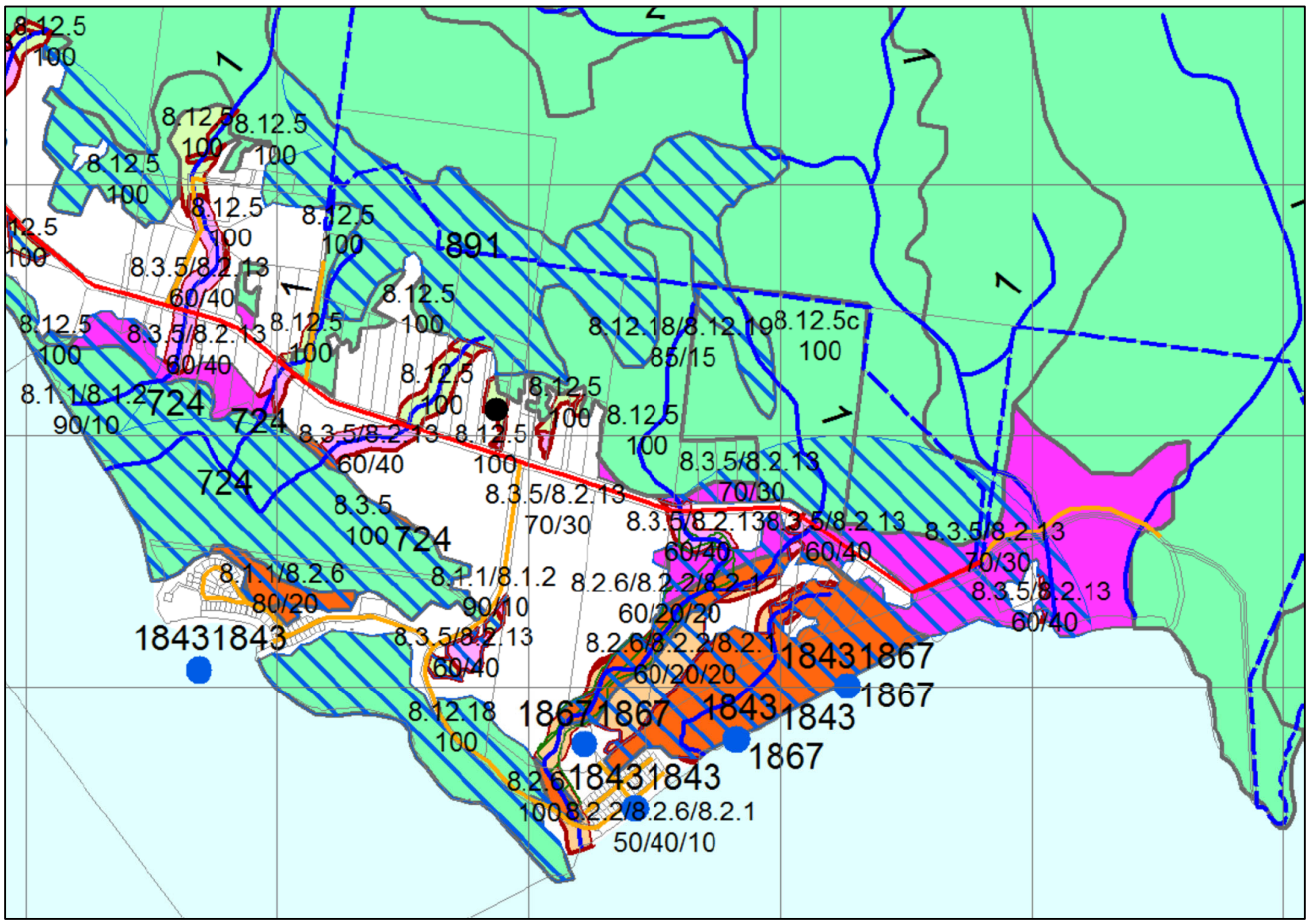
Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: www.dnrme.qld.gov.au or contact the Department of Natural Resources, Mines and Energy.

Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

Land parcel boundaries are provided as locational aid only.

This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.

This product is projected into:
GDA 1994 MGA Zone 55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6.3 Contours and Fire Breaks

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

Figure 12: *Conway area contours*

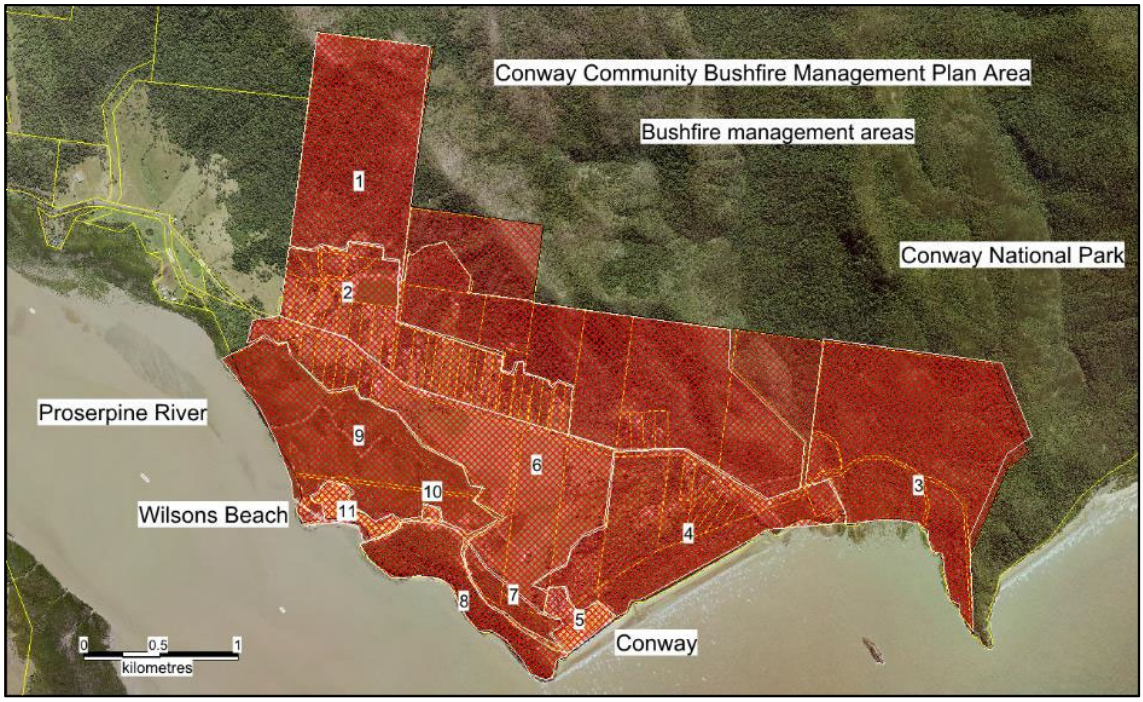

Figure 13: *Showing Fire management areas.*

6.4 Previous Bushfire Maps

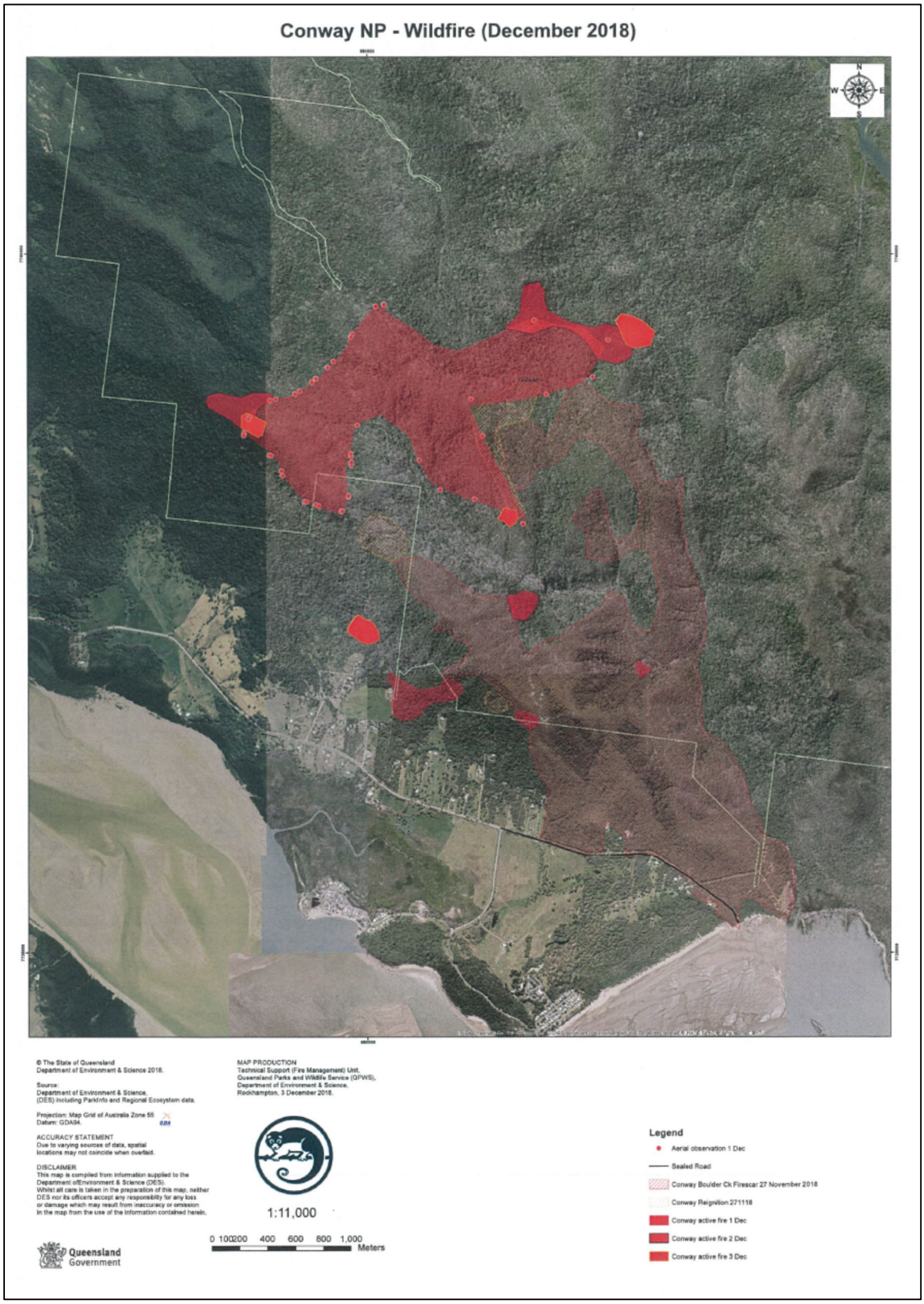

Figure 14: *Wildfire December 2018.*

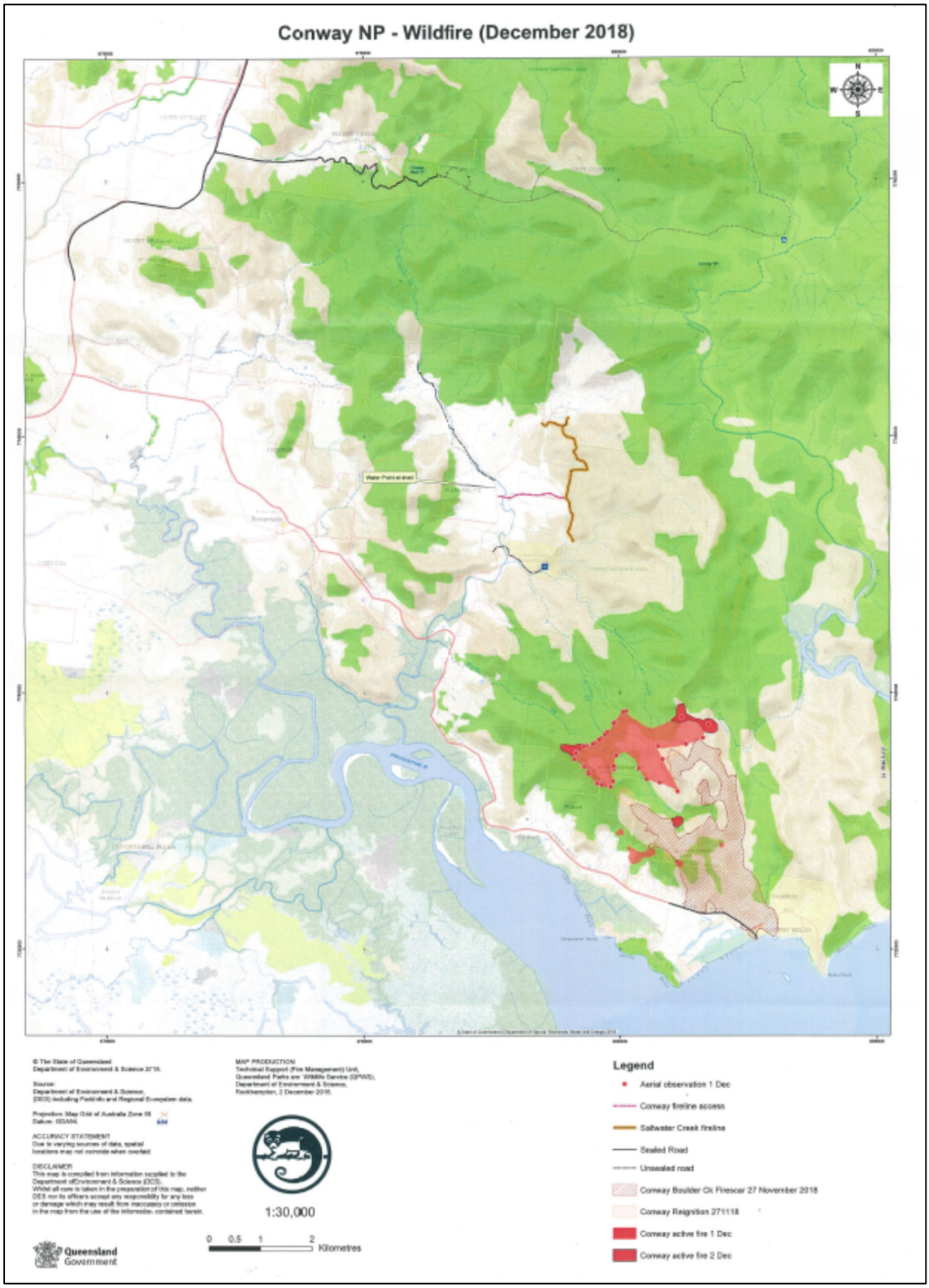

Figure 15: *Wildfire December 2018*

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 13: *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 Conway 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 – Dan Burndred – 0472 847 894, Tim Koch – 0418 970 097
- QPWS – Ross Perry – (07) 4962 5206
- Conway Rural Fire Brigade – (07) 4947 3056

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

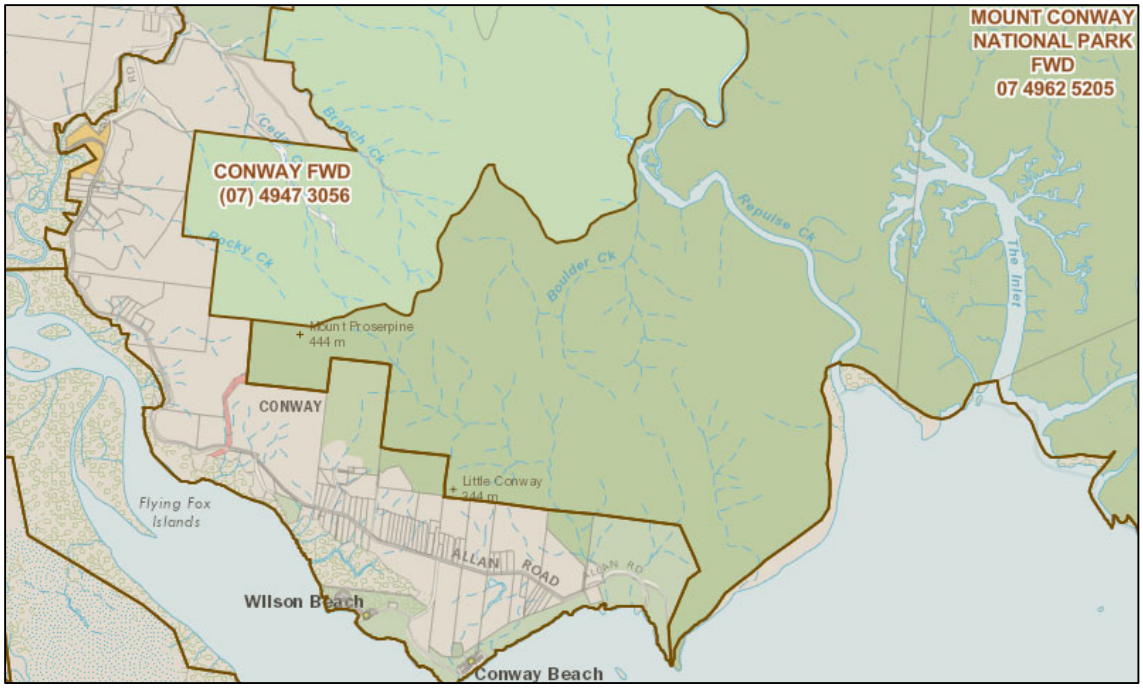

Figure 16: *Showing the rural fire areas and warden contact numbers.*

6.9 Landholder Bushfire Planning Checklist

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

Table 14: *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 15: *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