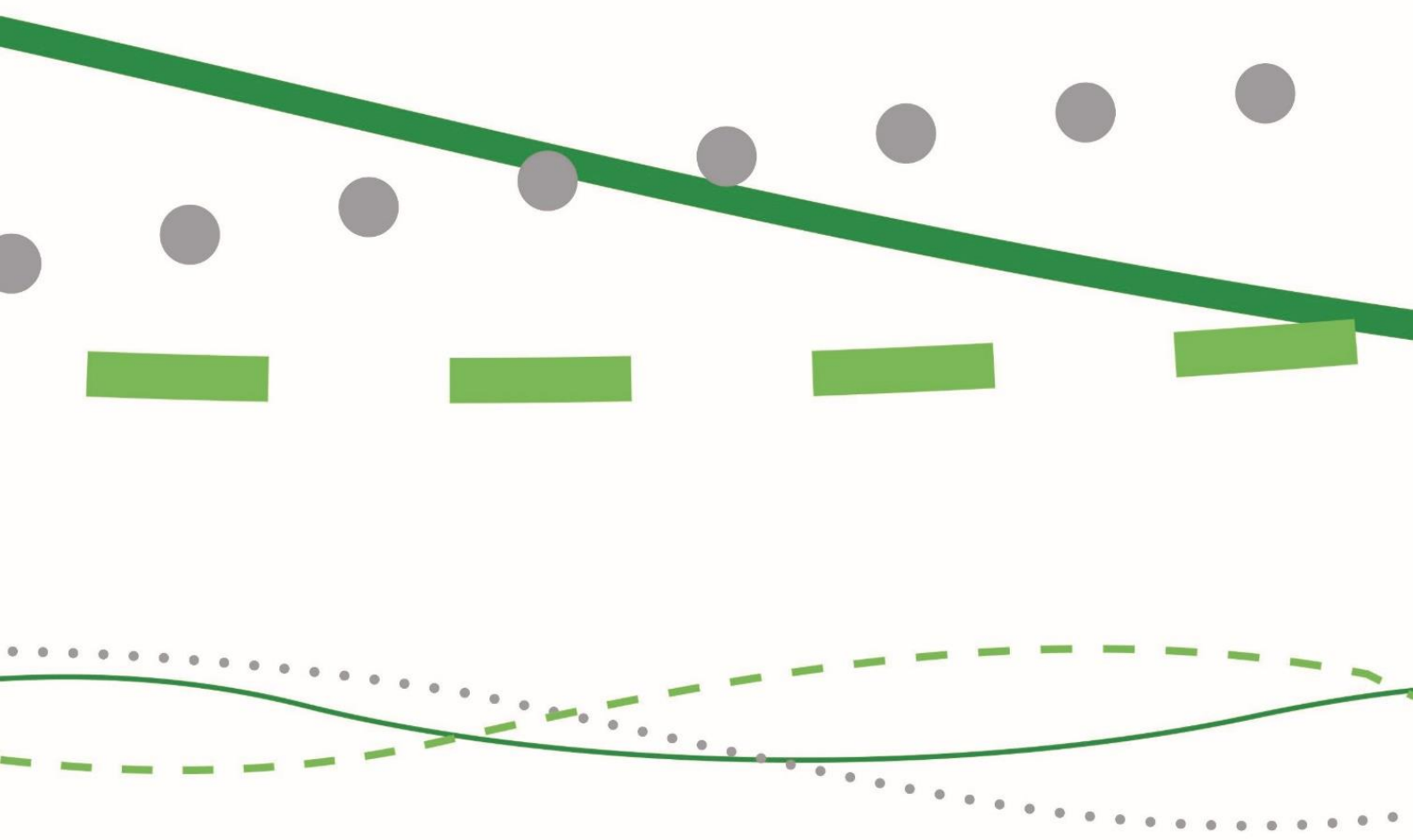




# **Bushfire Management Plan**

## Hydeaway Bay and Dingo Beach

Scott Hardy  
Coordinator Natural Resource Management  
22<sup>nd</sup> December 2016



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# 1. Introduction

The Whitsunday Regional Council is trustee for land which is adjacent to the townships of Dingo Beach and Hideaway Bay. The main parcel of land which the Council is trustee for is lot 1 on AP13184 which covers approximately 571ha. The lot was allocated to the Council by the Queensland government for management when the Dingo Beach area was developed.

The Council has an obligation under the Queensland Land Act 1994 to appropriately manage land under its trusteeship. Council has over 810 lots under its ownership, management or trusteeship covering some 36,000ha. Council has limited human and financial resources which reduces its capacity to undertake a full suite of land management practises on all of its lots. Consequently, often Council relies on the good will of volunteers, community groups, and landholders to assist with some land management and maintenance practises, particularly on council land in rural areas.

Bushfires are a natural part of the Australian landscape and have the potential to cause serious social, economic and environmental damage (National Forest Fire Management Group, 2014). Poorly planned bushfire management can put lives and infrastructure at risk. Bushfire hazard can be measured and responses planned. The Whitsunday Regional Council has access to bushfire management and planning tools to assist with determining bushfire hazard. Fortunately, the Whitsunday Council have rural fire brigades which have dedicated and passionate people to assist with bushfire mitigation and responses for their local communities. The rural fire brigades operate primarily on a volunteer basis with minor financial assistance emanating from Queensland Fire and Rescue Service. In many situations in the Whitsunday region, the rural fire brigades are called upon to assist council in managing the bushfire hazard in public land which occurs near residential areas. In many cases the rural fire brigade have trained and experienced volunteers which manage the back-burning operations or hazard reduction burns for the community.

The purpose of this report is to document the bushfire management and planning for the Dingo Beach and Hideaway Bay area in the Whitsunday Regional Council area. The Cape Gloucester Rural Fire Brigade have played an important role in bushfire management in the Dingo Beach area for more than 30 years. It is hoped that this plan provides a common plan to steer bushfire operations in the Dingo Beach area forward for the next 10 years. The objectives of this report are to:

1. Document the bushfire hazard of the Dingo Beach and Hideaway Bay area.
2. Document the procedures for hazard reduction burns.
3. Define the roles and responsibilities for fire management in the Dingo Beach area.
4. Determine the resources required to effectively manage bushfire hazard and risk in the Dingo Beach area.

This report is intended for all stakeholders with an interest in bushfire management in the Dingo Beach and Hideaway Bay area, including all residents.



**Figure 1.** Location of the Dingo Beach area and public land.

## 2. Background

### 2.1 Legislation and policy

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 as owners and occupiers of land to prevent fires escaping from their land and damaging property (Tran and Peacock, 2002). Councils have an obligation to manage their land responsibly to prevent the loss of life or property and reduce the 'human' impacts of bushfires. Council is 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.



According to Tran and Peacock (2002), the challenge for Council is to deliver management actions which will protect and conserve simultaneously.

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 Whitsunday Regional Council has developed a local law which includes the regulation of fires. Whitsunday Regional Council Local law number 3, Community and Environment states that:

### **15 Regulation of lighting and maintaining fires in the open**

- 1) *This section does not apply to the lighting or maintaining of a fire that is authorised under the Fire and Rescue Service Act 1990.11*
- 2) *The local government may, by subordinate local law, prohibit or restrict the lighting or maintaining of fires in the open in the whole, or designated parts, of the local government's area.*

*Example:*

  - *The subordinate local law might prohibit the lighting of fires, or a particular type of fire, in the open, unless 1 or more of the following conditions is met.*
  - *The fire is contained in an approved incinerator;*
  - *The fire is established in a specified way and specified precautions are taken to prevent the spread of fire;*
  - *The fire is lit and extinguished within a specified time.*
- 3) *A person must comply with a prohibition or restriction imposed under this section. Maximum penalty for subsection (3) 50 penalty units.*
- 4) *A person must not light or maintain a fire if the fire exposes property to the risk of damage or destruction by fire.*

*Maximum penalty for subsection (4) 50 penalty units.*

## **2.2 Whitsunday Regional Council Corporate Plan**

The Whitsunday Regional Council released its current Corporate Plan in 2014. The Council Corporate Plan sets the strategic direction of Council. The Council strategies which are relevant to bushfire planning include:

- 3.2 Our Natural environment is valued and sustainable.
  - 3.2.1 Develop and implement policies and strategies that protect and enhance the Whitsunday Region's natural environment.
  - 3.2.3 Support and facilitate a variety of community awareness initiatives and programs that promote the Whitsunday Region's natural environment.
  - 3.2.4 Partner with landholders to mitigate the effects of pests on the Whitsunday Region's natural environment.

## **2.3 Factors influencing bushfire**

The main factors which affect fire behaviour are vegetation type, fuel loads, topography, aspect and climate. Some Australian vegetation communities have adapted to fire to reproduce, and therefore have characteristics that may promote fire and spread. Certain vegetation communities such as those dominated by gum trees (*Eucalyptus* species) have oil in their leaves assist with combustion and spread of fire. Other characteristics include leaf and branch loss which contribute to litter and fuel load accumulation (Ramsay and Rudolph, 2003).

Large fuel loads can increase bushfire hazard. In vegetation communities dominated by Eucalypt trees, fire has a valuable role in preserving native grasses and habitat for specific animals.

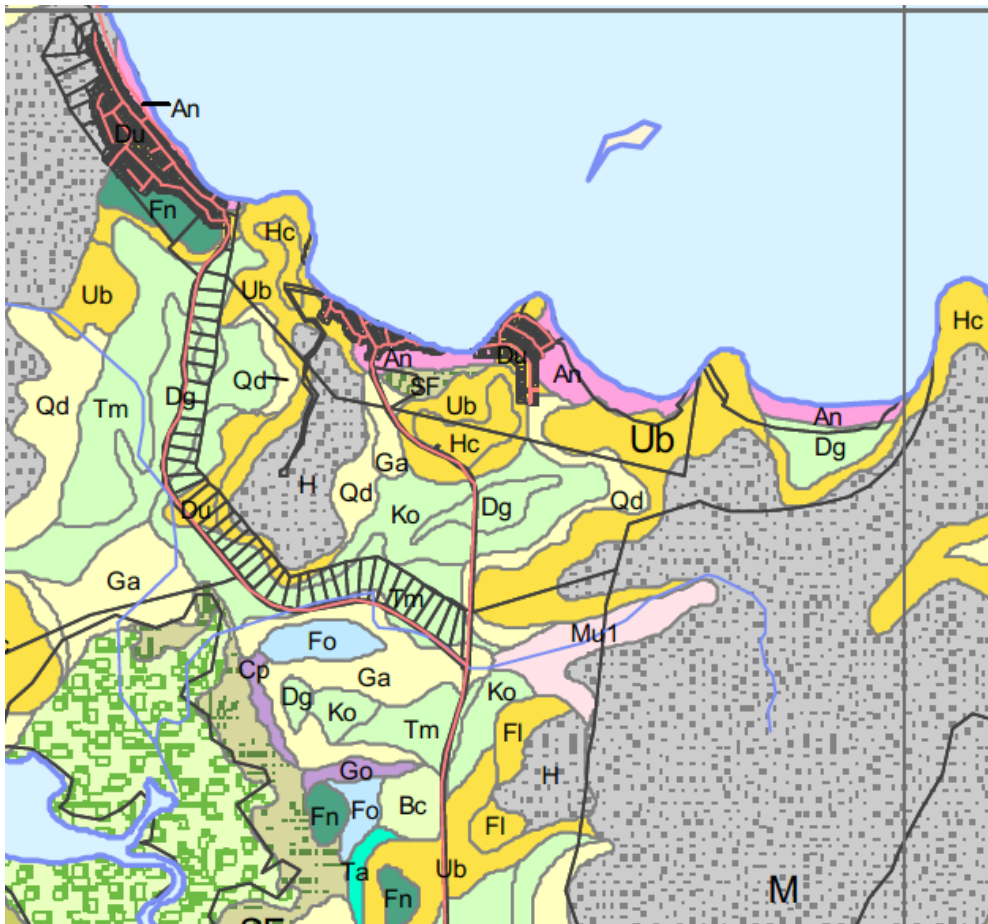
Other factors that influence fire frequency include aspect, slope, rainfall and general climate such as temperature and humidity. North facing slopes receive more sun and are drier than south facing slopes. Proximity to land uses that use fire such as sugarcane and some grazing areas can also increase the risk of fire. Dry and warm climates create favourable conditions for fires to start and move. High winds can increase the spread of fires. Low levels of humidity can dry leaf litter and other forms of fuel and create more favourable conditions for fires (Middelmann, 2007).

## 2.4 Site description

### 2.4.1 Terrain

The soils and geology of the Dingo Beach area were mapped by Hardy (1999) (Figure 2). The geology influences the terrain of the Dingo Beach area, while the soils influence the vegetation. The combination of terrain and vegetation have a strong influence on bushfire hazard in the Dingo Beach area.

The hills surrounding Dingo Beach are formed from intrusive granite which produces relatively shallow sandy soils which largely support Eucalyptus woodland vegetation communities. The soil material which has accumulated in the foot slopes of the hill areas are also sandy and support mostly Eucalyptus dominated vegetation communities. The large flat extensive land areas have soils formed on Tertiary sandstone which are similarly very sandy and nutrient poor soils. The vegetation formed on the sandy sandstone landscape support a range of vegetation, including bloodwoods, pandanus and wattles.



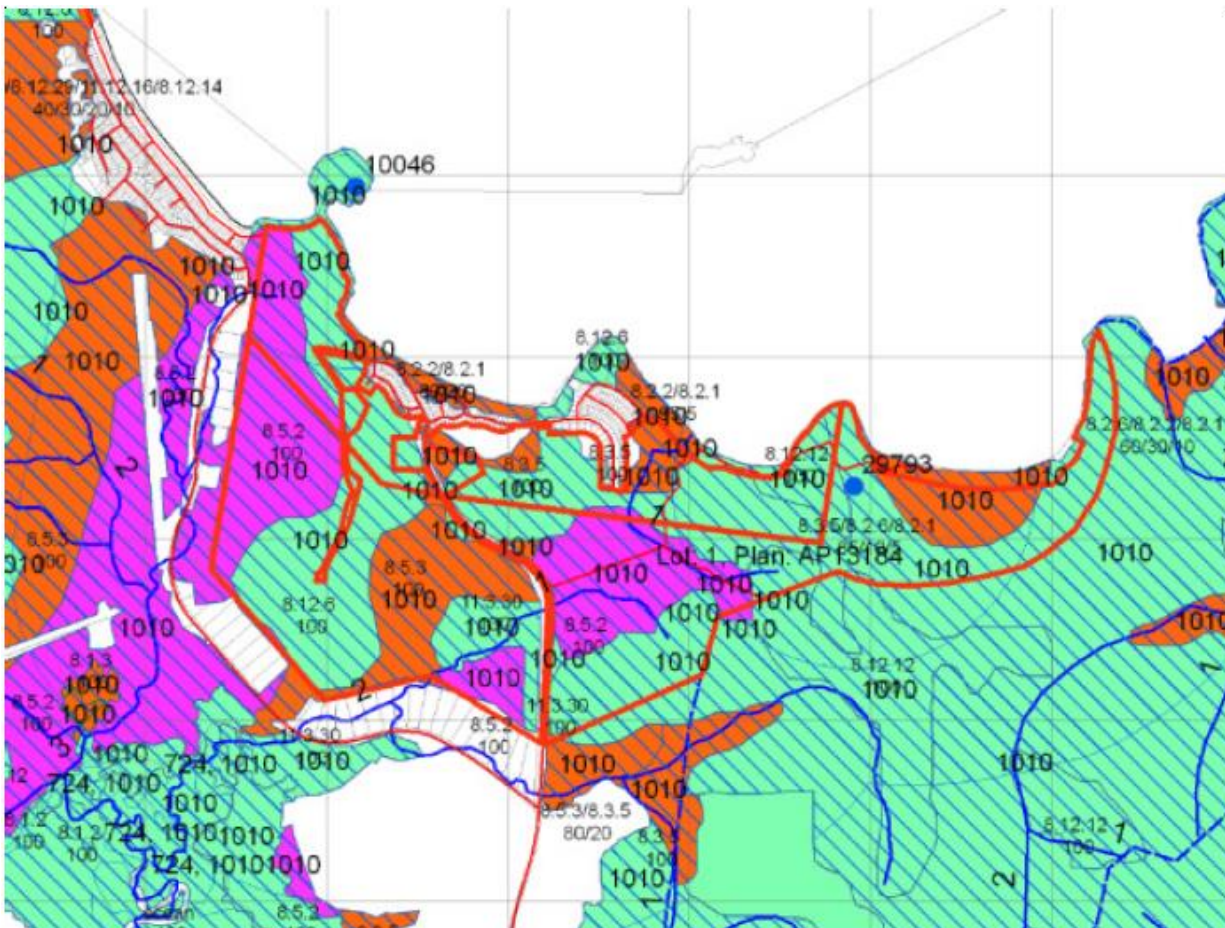
**Figure 2.** Showing the soil (soil type codes) and geology mapping units of the Dingo Beach area. (The yellow and pale green areas represent flat to undulating sandy landscapes. The gold coloured areas are soils on granite in upland areas).

## 2.4.2 Vegetation

The vegetation of the Dingo Beach area has been mapped by the Queensland State government. The vegetation has been described using the relationship between climate, geology, landform, soils and vegetation species known as regional ecosystems. The ecological importance of a regional ecosystem community is reflected in their conservation status and biodiversity status classifications. The main regional ecosystems mapped in the Dingo Beach area are:

- Regional Ecosystem - 8.12.6 (Conservation status of Least Concern and Biodiversity status of No Concern at Present)
- Regional ecosystem - 8.12.12 (Conservation status of Least Concern and Biodiversity status of No Concern at Present)
- Regional ecosystem - 8.5.3 (Conservation status of Concern and Biodiversity status of Endangered)
- Regional ecosystem - 8.5.2. (Conservation status of Endangered and Biodiversity status of Endangered)
- Regional ecosystem - 8.2.2. (Conservation status of Concern and Biodiversity status of Endangered)

The regional ecosystem map for the Dingo Beach area is shown in Figure 3.



**Figure 3.** The regional ecosystem mapping for the Dingo Beach area.



## 2.5 Risk management

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, 2007).

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 4). The NSW Rural Fire Service risk matrix requires the determination of the likelihood of a bushfire occurring and the likely consequences. The risk matrix is used to assess the bushfire conditions and allocate a bushfire risk rating. Bushfire risk conditions can be used to place fire lighting restrictions on a community. In addition, the bushfire risk rating can be used to decide whether hazard reduction burns are appropriate.

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 4.** The determination of bushfire risk (NSW Rural Fire Service 2008).

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

The actions required to mitigate risk need to be applied to each risk activity. The possible risks associated with bushfire hazard and their consequence are summarised in table 1.

**Table 1.** Risk assessment matrix.

Risk	Likelihood	Consequence	Impact	Mitigation
Bushfire damage to residential areas	Possible	Major	High	<ul style="list-style-type: none"> <li>Undertake planned hazard reduction burns</li> <li>Develop an agreed bushfire management plan</li> <li>Ensure clarity of bushfire management roles</li> <li>Ensure resources are available for bushfire mitigation</li> </ul>
Bushfire escape fire control area	Possible	Moderate	Medium	<ul style="list-style-type: none"> <li>Ensure conditions are acceptable for hazard reduction burns</li> </ul>
Bushfire causing death	Unlikely	Major	Medium	<ul style="list-style-type: none"> <li>Ensure bushfire hazard is managed to reduce hazards and risks</li> </ul>
Risk of wildfire due to unmanaged fuel loads	Likely	Catastrophic	Extreme	<ul style="list-style-type: none"> <li>Undertake planned hazard reduction burns</li> <li>Develop an agreed bushfire management plan</li> <li>Ensure clarity of bushfire management roles</li> <li>Ensure resources are available for bushfire mitigation</li> </ul>

Smoke affecting people	Likely	Minor	Medium	<ul style="list-style-type: none"> <li>Ensure hazard reduction burns are undertaken under climatic conditions which will not cause smoke to pass over residential areas – if possible</li> </ul>
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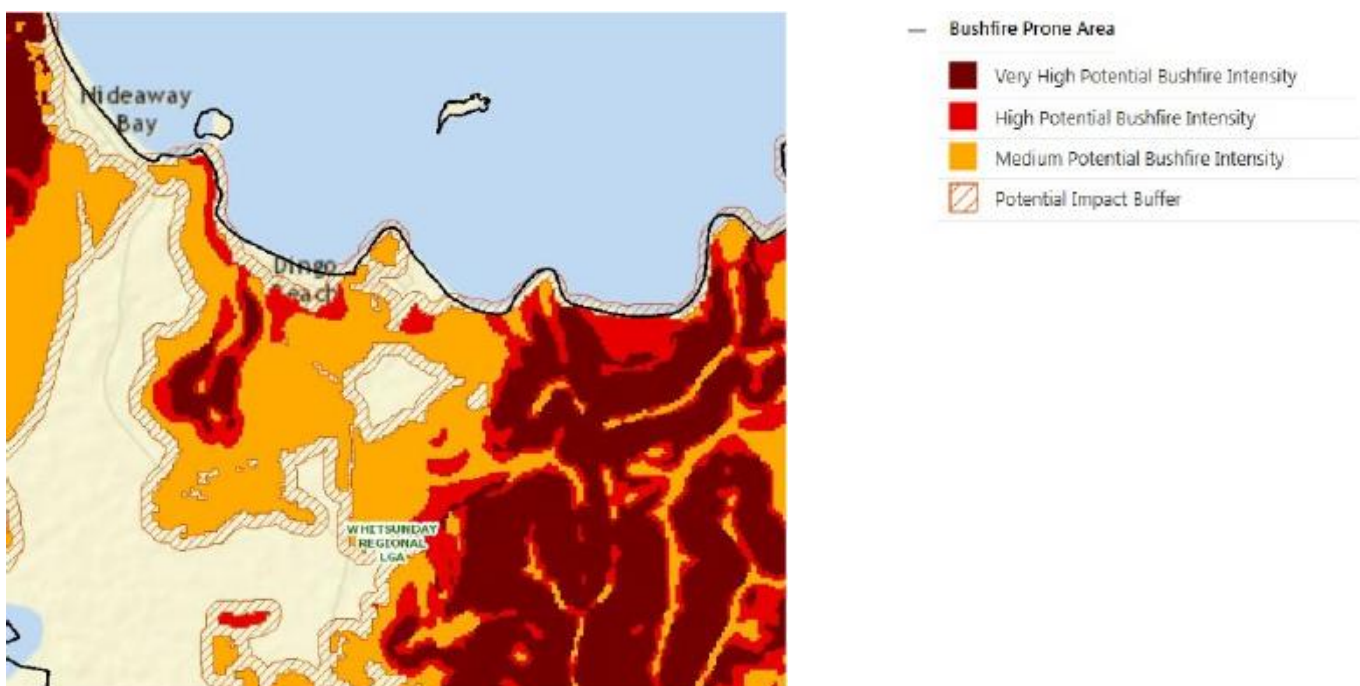
## 2.6 Bushfire hazard assessment

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 adapted 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 meet flammable vegetation (Risk Frontiers, 2011).

There is a need to undertake bushfire mitigation measures which seek to protect people and assets and maintain ecological outcomes from forests. The first step in achieving this balance between protection and conservation is to assess the bushfire hazard at a site and threat potential. This threat potential is based on the overall site specific bushfire hazard rating which is assessed based on the cumulative calculation of each of the five (5) main landscape characters. The bushfire hazard rating is determined using the scheme in the Queensland State Planning Policy 1/03 for bushfire hazard. The main landscape characters used in the assessment are:

- Vegetation
- Land use
- Slope
- Aspect
- Fire History

The bushfire hazard for most of Queensland has been modelled and mapped by the Queensland government and information published at a scale of 1:100,000. The bushfire hazard for the Dingo Beach and Hydeaway Bay areas is shown in figure 5. The bushfire hazard map can be used to guide bushfire mitigation measures.



**Figure 5.** Bushfire hazard for Dingo Beach area.

## 2.7 Fire management guidelines

### 2.7.1 Bushfire guidelines for regional ecosystems

The regional ecosystem characteristics can provide information which can guide bushfire management and planning. The type of vegetation community, its fire requirements and hazard can be used for bushfire planning. The bushfire management advice provided by the Queensland State government for each regional ecosystem is shown in table 2.

**Table 2.** Showing the bushfire management advice for each regional ecosystem.

81206	CQC	8.12.6	Eucalyptus drepanophylla +/- E. platyphylla +/- Corymbia clarksoniana woodland on low to medium hills, on Mesozoic to Proterozoic igneous rocks	SEASON: Any time providing sufficient soil moisture is available. INTENSITY: Moderate. INTERVAL: 4-6 years. STRATEGY: Retain at least 20% unburnt in any given year. ISSUES: The location of this ecosystem within the landscape makes it susceptible to widespread fire (both planned and wild). Emphasis should be placed on the general principles of mosaic burning, and diversity of fire types. Progressive burning may be a useful tool in some circumstances.
81213	CQC	8.12.13	Tussock grassland, or Xanthorrhoea latifolia shrubland, including areas recently colonised by Timonius timon shrubland, on slopes of islands and headlands, on Mesozoic to Proterozoic igneous rocks and Tertiary acid to intermediate volcanics	SEASON: 8.12.13a: Any time providing sufficient soil moisture is available. 8.12.13b: Storm burning season. INTENSITY: 8.12.13a: Low to moderate. 8.12.13b: High. INTERVAL: 8.12.13a: 2 - 4 years. 8.12.13b: 5 to 10 years. Allow to burn if fires carry from adjacent communities. STRATEGY: Aim to retain at least 50 % during any given year. ISSUES: 8.12.13a: In some areas threatened by encroachment of Timonius timon and other rainforest emergents, although the dynamics of this process are poorly understood. Need for monitoring of the geographical extent of these areas (re/- encroachment of woodland). It is likely that the extent of this system is maintained more by geology, and levels of exposure than fire. 8.12.13b: There is evidence to suggest that this ecosystem is a successional stage of ecosystem 8.12.13a. However, it should also be noted that in many areas, the later appears stable even in absence of any significant fire events (i.e. some of the Mackay coast islands). Timonius timon flowers during the period July to November, when fire is most likely to be applied.
80503	CQC	8.5.3	Eucalyptus drepanophylla +/- Corymbia clarksoniana, +/- E. platyphylla +/- C. dallachiana +/- Melaleuca viridiflora woodland on broad low rises and gently sloping Tertiary sand plains	ISSUES: Generally, drier climate and low fertility precludes large fuel accumulations. Any fire applied should be considered experimental.
80502	CQC	8.5.2	Melaleuca viridiflora +/- Allocasuarina luehmannii, or M. viridiflora and M. nervosa woodland on Tertiary sand plains	ISSUES: Generally, drier climate and low fertility precludes large fuel accumulations. Any fire applied should be considered experimental. Probably not able to be burnt.
80202	CQC	8.2.2	Semi-evergreen microphyll vine thicket to vine forest, on coastal dunes.	ISSUES: Although many plants found within this ecosystem will return after fire (i.e. rainforest pioneers), interim disturbance by fire promotes weed infestation including that by guinea grass (Megathyrsus maximus). These weeds alter the structure of the ecosystem, create higher fuel loads and a greater risk of additional fire and higher fire intensities.

### 2.7.2 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. The landscape types and the recommended guidelines are shown in table 3.

**Table 3.** 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%

## 2.8 Bushfire mitigation strategies

### 2.8.1 Fuel reduction

Fuel, oxygen and heat are the three main ingredients of fire. The type and amount of fuel can influence the character of a fire. If the accumulation of organic flammable material is not present on the ground or in the shrub and tree layer, a fire will be difficult to start.

The intentional lighting of a fire to reduce fuel loads is known as a hazard reduction burn. The hazard reduction burns are usually lit under favourable climatic conditions and aim for a low intensity fire. The method of burning to reduce fuel loads is usually a low intensity fire lit against the wind, so the fire burns back into the wind is called back burning. If fuel loads are not present in sufficient quantities, a back burning operation will fail. The back burning operations will require an estimate of fuel loads prior to burning operation and a determination of whether a cool low intensity burn or a hot burn is desired or expected under the climatic conditions. Most back burning operations aim for low intensity (cool) fire to reduce the risk of out-of-control fires, risk to property and too much damage to vegetation (Middlemann, 2007).

### 2.8.2 Protection of property

Fire lines or fire breaks are dozed and maintained tracks which can be used to access the bush land reserve to fight fires, but also used to stop the spread of fires or reduce fire impacts on property. The placement of fire lines are located between property which needs to be protected and the likely direction of the advancing fire. Fire lines are constructed well in advance of bushfire seasons and their maintenance is vital to protecting property (Figure 6). The fire lines range in width but are commonly 3-6m wide.





**Figure 6.** One of the fire control lines through the sandy tertiary sandstone flats.

### **2.8.3 Building construction standards**

The design of a house can minimise the risk of fire starting from air borne embers. Ramsay and Rudolf (2003) describe house design options that can reduce the risk of embers catching on the house and starting a fire. Some potential ignition points include vertical surfaces, timber surfaces and places where combustible materials accumulate such as gutters. Gullies and hills can be used to offer some protection to houses and should be considered prior to the allocation of a building site. The construction of earth embankments and retaining walls can be useful in reducing the radiation from fires and therefore damage to property (Ramsay and Rudolf, 2003). The Australian Standard AS 3959 (Construction of buildings in bushfire – prone areas), can be used to assist with designing a house to minimise the risk of fire starting in and around the house. Future residential buildings adjacent to Dingo Beach reserve should be constructed in accordance with the Australian Standards.

### **2.8.4 Communication and community preparedness**

The community have an important role in minimising fuel loads in the reserve and need to prepare themselves for bushfire season. Residents can reduce fuel loads by not dumping green waste in the reserve. In addition, residents should clear out gutters, mow their property and where they back onto bushland ensure there is no accumulation of green waste. Prior to the back burning operations the likely affected residents should be informed about the proposed back burning operations at least one week prior to the fires.

## **2.9 Bushfire management arrangements**

### **2.9.1 Stakeholders**

There are a number of organisations which have an interest in bushfire management in the Dingo Beach and Hydeaway Bay area. The general interest of the various stakeholders in bushfire management and planning in the Dingo Beach and Hydeaway Bay area is summarised in table 5.

**Table 5.** General stakeholder interest in bushfire management in the Dingo Beach and Hydeaway Bay area.

Bushfire Task	Council	Rural Fire Brigade	QFRS	Progress Association	Community/ Residents	WRC Disaster Committee
Planning and Management	High	High	High	High	Low	Low
Prevention	Medium	High	Medium	Medium	Medium	Low
Preparedness	Low	High	High	High	Medium	Low
Response	Low	High	Medium	Medium	Low	Low
Recovery	Medium	Medium	Low	Low	Low	Low
Monitoring and Evaluation	Medium	Medium	Medium	Medium	Low	Medium

## 2.9.2 Bushfire management procedures

To light a fire a landholder should submit an application for a 'Permit to Light Fire' through the local fire warden. The contact details for fire wardens are available through the Fire Warden Finder. Following receipt of the application, the fire warden may impose conditions on a permit to reduce unwanted risk or nuisance to other people, property or to the environment. The fire warden may refuse to issue a permit if they believe that appropriate safety measures cannot be reasonably achieved.

A Notification issued under the *Fire and Emergency Services Act 1990*, does allow certain fires to be lit without the need to obtain a permit, except if the fires are not permitted under a local law or other legislation. If there is a local law in your local government area prohibiting the lighting of fires, a permit will not be issued by the fire warden unless you have obtained the written permission of the local government.

The Queensland Fire and Rescue Service state that the process of applying for a permit is:

1. Download the appropriate application form from the rural fire website.
2. Contact your local council to see if you can have a fire and if so, do you require written permission from the council.
3. Contact the owners/occupiers of the land adjoining the property where you wish to light a fire and advise them of your intention to apply for a permit. 72 hours notification may be seen as a reasonable amount of time in populated areas, however this timeframe may not be appropriate in rural primary production areas. The timeframe is at the discretion of the Fire Warden. Record the time you contact them on the Application form and also note if they have or have not objected. If the neighbors do have an objection, they should contact the local Fire Warden. If you cannot contact the owners/ occupiers, note this in the application form.
4. Complete both sides of the application form. This brochure includes Explanatory Notes for the Completion of an Application for Permit to Light Fire.
5. Contact your local Fire Warden to submit your Application.
6. [https://ruralfire.qld.gov.au/Using\\_Fire\\_Outdoors/Pages/Obtaining-a-Permit-to-Light-Fire.aspx](https://ruralfire.qld.gov.au/Using_Fire_Outdoors/Pages/Obtaining-a-Permit-to-Light-Fire.aspx)

To light a hazard reduction burn on public land, the Whitsunday Regional Council will need to apply for a fire permit. Once the Council has received the permit, then it can issue the permit to the appropriate and suitably experienced person (organisation) to conduct the hazard reduction burn.

### 2.9.3 Bushfire management planning framework

The bushfire management and planning structure and workflow between organisations is shown in figure 7.

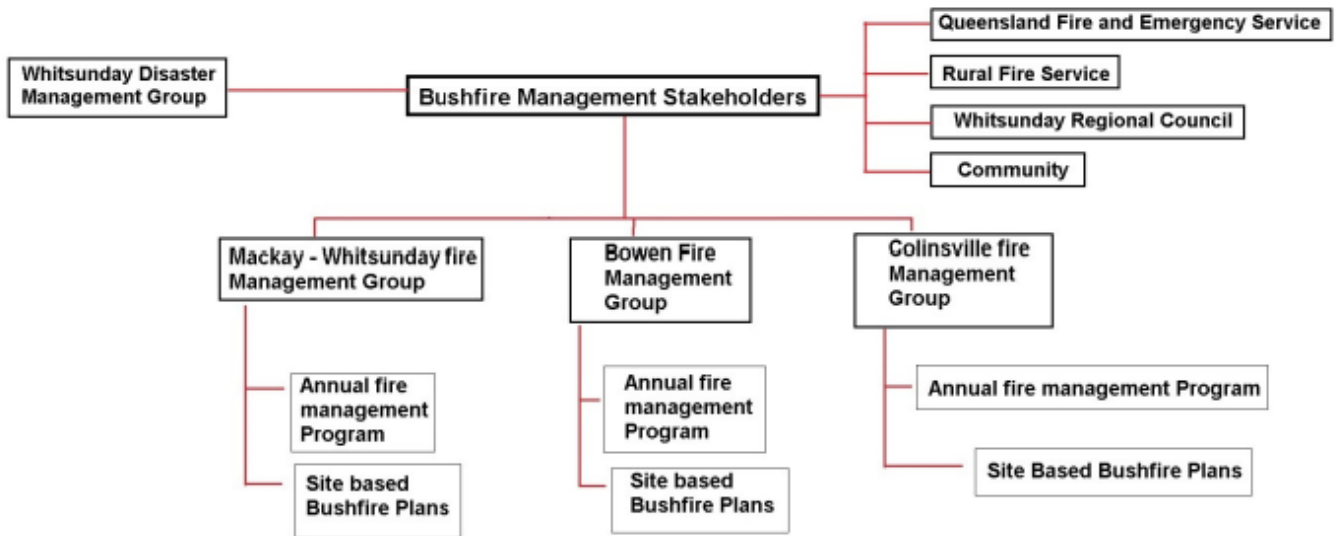


Figure 7. The bushfire management and planning framework

## 3. Bushfire 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 build and maintain capacity within the Cape Gloucester Rural Fire Brigade.
- To develop and maintain good relationships between the stakeholders.

### 3.2 General roles and responsibilities

The general roles and responsibilities for bushfire management, planning and mitigation are summarised in table 6.

Table 6. The main tasks for each stakeholder.

Task	Council	Rural Fire	QFRS	Progress Association	Community
Legal control of the fire	(landowner)		✓		(Landowner)
Conduct hazard reduction burns		✓			
Training new rural fire members			✓		
Applying for permits	✓				
Supervising the hazard reduction burn		✓			
Informing the community	✓	✓		✓	
Monitoring fuel loads		✓			
Operating the fire hazard		✓			
Developing and updating the bushfire plan	✓	✓	✓		
Reporting hazard reduction burns		✓			
Regulating and control of illegal dumping	✓				✓



### 3.3 Bushfire management areas

The landscape of the Dingo Beach and Hydeaway bay 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.

The application of fire management zones is based on proximity to residential areas and infrastructure and is influenced by vegetation community attributes. The proposed fire management zones for Dingo Beach area are shown in figure 8.



**Figure 8.** Proposed fire management zones for the Dingo Beach area.

### 3.4 Hazard reduction burning frequencies and methods

The prescribed burn program for Dingo Beach area will be designed 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 zones will also be used to determine hazard reduction burn frequencies. The proposed back burning frequencies for each fire management area is shown in table 7. The frequency of hazard reduction burns for the Dingo Beach area are shown in figure 8.

**Table 7.** Vegetation communities and hazard reduction burn frequencies.

Vegetation Community	RE	Fire Management Zone	Hazard Reduction Burn Frequency
Eucalyptus woodland on hills	8.12.6	APZ	SEASON: Any time providing sufficient soil moisture is available. INTENSITY: Moderate. INTERVAL: 3-4 years. STRATEGY: Retain at least 20% unburnt in any given year
		BMZ	SEASON: Any time providing sufficient soil moisture is available. INTENSITY: Moderate. INTERVAL: 4-6 years. STRATEGY: Retain at least 20% unburnt in any given year
		LMZ	SEASON: Any time providing sufficient soil moisture is available. INTENSITY: Moderate. INTERVAL: 6-8 years. STRATEGY: Retain at least 20% unburnt in any given year
Tussock grassland, on slopes of headlands	8.12.13	APZ	SEASON: Any time providing sufficient soil moisture is available. Storm burning season. INTENSITY: Low to moderate. INTERVAL: 2 - 4 years.
		BMA	SEASON: Any time providing sufficient soil moisture is available. Storm burning season. INTENSITY: Low to moderate. INTERVAL: 4-6 years.
		LMZ	SEASON: Any time providing sufficient soil moisture is available. Storm burning season. INTENSITY: Low to moderate. INTERVAL: 4-6 years.
Melaleuca woodland on Tertiary sand plains	8.5.2	APZ	SEASON: Any time providing sufficient soil moisture is available INTENSITY: Low. INTERVAL: 4-6 years. STRATEGY: Retain at least 20% unburnt in any given year
		BMZ	SEASON: Any time providing sufficient soil moisture is available INTENSITY: Low. INTERVAL: 6-10 years. STRATEGY: Retain at least 20% unburnt in any given year
		LMZ	SEASON: Any time providing sufficient soil moisture is available INTENSITY: Low. INTERVAL: 6-10 years. STRATEGY: Retain at least 20% unburnt in any given year
Semi-evergreen microphyll vine thicket to vine forest on coastal dunes	8.2.2	APZ	No burning
		BMZ	No burning
		LPZ	No burning



**Figure 9.** Hazard reduction burn frequency map for Dingo Beach and Hydeaway Bay.

It is anticipated that the land behind the 5 acre blocks along Hydeaway Bay Drive will be back burnt with cool low intensity fires. The bushfire management areas labelled for hazard reduction burns every 4-6 years will be burnt in different years to reduce large continuous areas being burnt to reduce impacts on the environment.

The fire management areas have been labelled for reference purposes. Hazard reduction burn planning will make reference to the fire management areas shown in figure 10. Fire permits will be applied for making reference to these fire management areas. It may be possible that a fire permit is sought for more than one fire management areas.



**Figure 10.** Fire management areas.



Fire control lines are tracks which are used by vehicles during bushfire management activities such as hazard reduction burns, back burning and fire fighting. The existing fire control lines have been mapped. The tracks which are used by the rural fire brigade during hazard reduction burns are shown in figure 11.



**Figure 11.** Fire control lines.

### 3.5 Schedule of tasks

The schedule of bushfire management and maintenance tasks is summarised in table 8.

**Table 8.** Schedule of bushfire management actions.

No.	Task	Who is Responsible	Timing
1	Assess fuel loads	Rural Fire	May
2	Develop an annual fire plan	Rural Fire and Council	June
3	Approve the annual fire plan	QFRS and Council	June
4	Slash fire lines	WRC	May and December
5	Inspect conditions of fire lines	WRC and Rural Fire	May
6	Earthworks for fire lines	WRC	As required
7	Coordinate back burning	Rural Fire	As per approved plan
8	Community awareness	Progress Association and Council	June – via newsletter
9	Seeking fire permit	WRC	As per approved plan

### 3.6 Contacts

The bushfire management stakeholders and their representatives are listed in table 9 with their contact details.

**Table 9.** Contacts / Stakeholders.

Contact Name	Title	Organisation	Responsibility	Phone
Dan Burned	Operations Fire Management	DERM	Controlled land burns on State Land	49670815
Whitsunday Regional Council	Environment Officer	WRC	<ul style="list-style-type: none"> <li>Establishment and maintenance of fire lines and access tracks</li> <li>Signage</li> <li>Monitoring</li> </ul>	49450237
Tony Brosens		Gloucester Rural Fire	<ul style="list-style-type: none"> <li>Oversee hazard reduction burns</li> </ul>	
Andrew Houley		QFES	<ul style="list-style-type: none"> <li>Oversee hazard reduction burn programs.</li> <li>Assist with Rural fire brigade training</li> </ul>	49656643
Wayne Ripper/ Andre Dinnie		Dingo Beach Progress Association	<ul style="list-style-type: none"> <li>Represent the views of some of the Dingo Beach community</li> </ul>	
Theresa O'Regan		Hydeaway Bay Progress Association	<ul style="list-style-type: none"> <li>Represent the views of some of the Hydeaway Bay community</li> </ul>	
Ross Perry		QPWS	<ul style="list-style-type: none"> <li>QPWS is a neighbouring land owner</li> </ul>	0438185490
		Ergon Energy	Power lines	47864497
Mr and Mrs Diecke		Own grazing property	<ul style="list-style-type: none"> <li>Neighbouring land owner</li> </ul>	

### 3.7. Review and evaluation

This Plan will be reviewed every three years at a meeting of the Cape Gloucester Rural Fire Brigade, Queensland Fire and Emergency Services (QFES) and Council. Any changes will be approved by the Whitsunday Regional Council in consultation with QFES.

## 4. Community consultation

The bushfire management stakeholders and the general community have been consulted in the preparation of this Bushfire Management Plan. The development of the Draft Dingo Beach-Hydeaway Bay Bushfire Management Plan involved input from the following stakeholders:

- Queensland Fire and Emergency Services in Mackay
- Dingo Beach Progress Association
- Gloucester Rural Fire Brigade
- Queensland Parks and Wildlife Service
- Reef Catchments and
- Whitsunday Catchment Landcare

The Draft Dingo Beach – Hydeaway Bushfire Management Plan was advertised for public comment and feedback from the 23rd of November 2016 to the 16th of December 2016. The following activities occurred during the community consultation phase:



- Notice placed in newspapers.
- Media release advertising the Draft Plan and consultation period.
- Notices placed on Whitsunday Regional Council Facebook page.
- Coordination of a community feedback survey on the Have Your Say website.
- Information stall held at the Dingo Beach hotel on Saturday the 3rd and 10th of December.
- Information sheets advertising the plan were hand delivered to 50 residential properties which back onto bushland areas in the Dingo Beach area on Friday the 2nd of December.
- A small sign advertising the community information stalls was placed under the notice board of the Dingo Beach Community Centre sign board.

The results from the community consultation are summarised in table 10. The level of general community engagement on the Draft Plan was overall quite low. However, the level of engagement with the bushfire management stakeholders was considered good through the Plan development and consultation process.

The main issues raised through the consultation process were:

- Some people thought there was too much burning while others thought there was not enough
- Some residents felt threatened by the close proximity of past fires.
- There is a preference for more frequent hazard reduction burns due to:
  - The risk of bushfires starting due to arson.
  - The small number of suitable weekends for the volunteers to light and manage the fires.
  - The number of volunteers available to manage the fires.

**Table 10.** Summary of community feedback on Draft Bushfire Plan.

Activity	Details
Website views	45 people viewed the website
Number of draft plans downloaded	10
Your Say responses	6
Your Say survey – Support for the plan	Yes = 5, No = 1
Comments written on Your Say guest book	1
Number of visitors to information stall – Saturday 3 <sup>rd</sup> of December	3
Number of visitors to information stall – Saturday 10 <sup>th</sup> of December	1

## 5. Conclusion

The Bushfire Management Plan for Dingo Beach and Hydeaway Bay has been developed to document stakeholder responsibilities, guide mitigation measures and communicate the main bushfire priorities for the Cape Gloucester area. The intension of the Bushfire Plan is to enable bushfire management mitigation to occur under agreed conditions and ensure the community are involved in fire management and planning. The Plan aims to prioritise the protection of life, asset and ecological services in the Cape Gloucester area.

## 6. References

Forest Fire Management Group, 2014. National Bushfire Management Policy Statement for Forest and Rangelands. COAG, Canberra.

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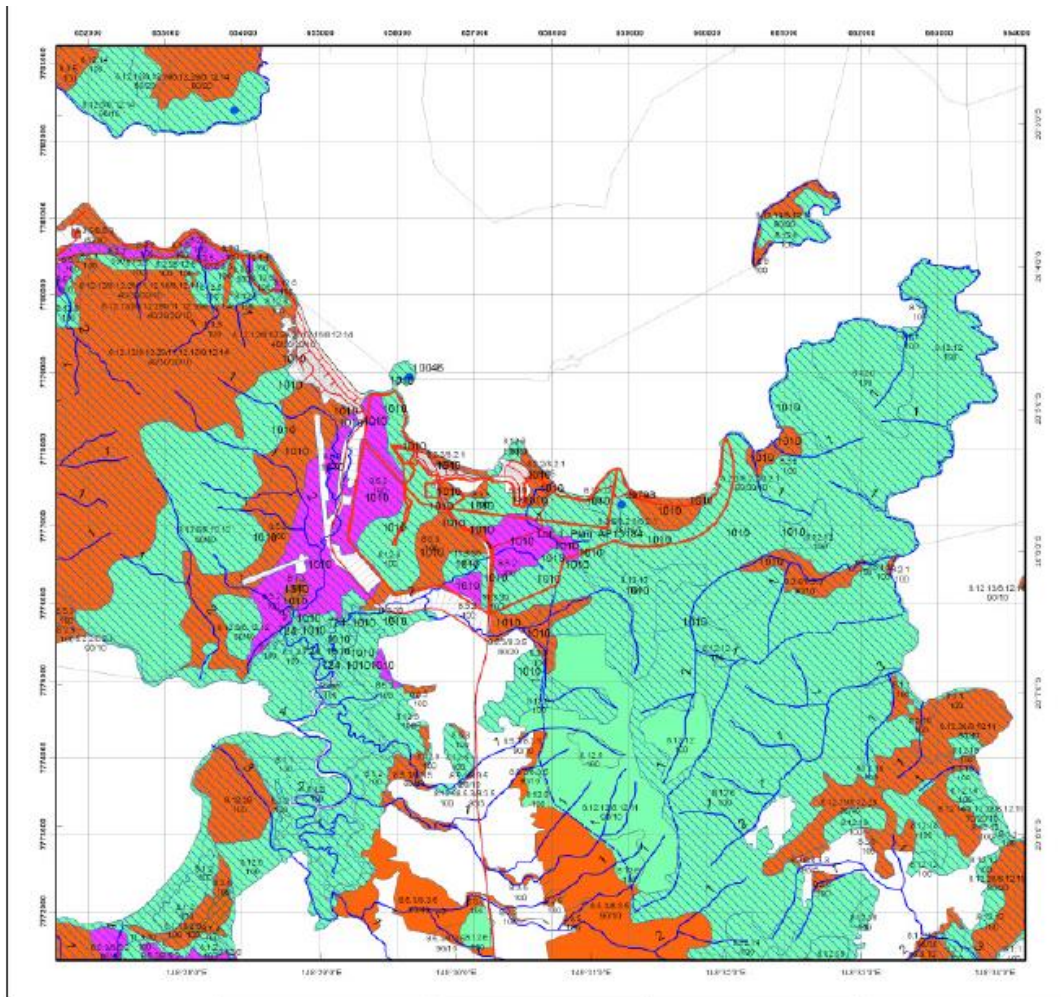
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Tran, C & Peacock, C (2002) Fire Management Strategic Manual; Guidelines for planning and implementing a council or shire wide fire management strategy. SEQ Fire and Biodiversity Consortium Queensland Australia.

# 7. Appendix

## 7.1 Regional Ecosystem map



### Vegetation Management Supporting Map

#### Legend

- Lot and Plan
- Category A or B area containing endangered regional ecosystems
- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem
- Category A or B area containing remnant vegetation
- Category A or B area under Section 20A-I  
These areas are edged in yellow and filled with the remnant R/E Status
- Category C area containing endangered regional ecosystems
- Category C area containing of concern regional ecosystems
- Category C area that is a least concern regional ecosystem
- Category C area containing high value regrowth vegetation
- Category C area under Section 20A-I  
These areas are edged in purple and filled with the remnant RE Status
- Non Remnant
- Water
- Wetland on the vegetation management wetlands map
- Essential habitat on the essential habitat map
- Essential habitat species records
- Watercourse on the vegetation management watercourse and drainage feature map  
(Stream order shown as black number against stream where available)
- Roads
- National Parks, State Forest and other reserves
- Cartedred line
- Property boundaries shown are provided as a locational aid only



0 450 900 1,800 3,600 7,200 m

This product is projected into:  
GDA 1994 MGA, Zone 55

Labels for Essential Habitat are centred on the area of enquiry

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of the data mapped at a scale of 1:100 000 is +/- 100 metres.

#### Disclaimer:

While every care is taken to ensure the accuracy of this product, the Department of Natural Resources and Mines 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 may be required for the purposes of land clearing or assessment of a regional ecosystem map or PRAV applications. For further information go to the web site [www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au) or contact the Department of Natural Resources and Mines.

Digital data for the vegetation management watercourse and drainage feature map, vegetation management wetlands map, essential habitat map and the vegetation management remnant and regional ecosystem map are available from the Queensland Spatial Portal at <http://www.information.qld.gov.au/>

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Map 1. Regional Ecosystem map.

## 7.2 Objectives for bushfire hazard reduction burning

Source: NSW Rural Fire Service

[www.rfs.nsw.gov.au](http://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

## 7.3 Check list for hazard reduction burns

The following is a checklist of tasks and activities that should be followed prior to 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 adequate trained personnel are on hand for planned burn	
6	Fire permit gained for proposed burn plan	
7	Proposed hazard reduction burn is approved by QFES and Council	
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	