

**Clarence City Council**

# **Bushfire Management Plan**

Rosny Foreshore Reserve  
Rosny

Revised  
January 2017  
Clarence City Council

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# 1. Introduction

This bushfire management plan (BMP) is a revision and expansion of the previous BMP for the Rosny Foreshore Reserve prepared by AVK Environmental Management 2011, and will operate for a period of 5 years after which another review is recommended.

It should be noted that this BMP is not an operations plan and does not deal directly with response to bushfires. Operational procedures are dealt with in various documents prepared by the Tasmania Fire Service (TFS) and other emergency services.

## 1.1 Aim

The aim of this BMP is to provide a framework for bushfire management that meets Clarence City Council's land management objectives for the site, as set out in Council's *Bushfire Management Strategy for Council Owned and Controlled Land*, *Bushfire Management Strategy - Best Management Practice Guidelines* and Strategic Plan.

It must be noted that it will not be possible to prevent bushfires occurring in the reserve. Unless these fires are suppressed quickly, there is a risk that large destructive fires may develop. Depending on weather conditions, such fires may burn a substantial portion of the bushland in and adjoining the reserve causing damage to assets and environmental values, and even loss of life. This BMP aims to lessen these risks by minimising the risk of fires starting in the reserve, and minimising the risk of injury or damage to assets in and surrounding the reserve.

This plan also provides for the use of fire as a management tool to:

- Target area for maximum risk reduction
- reduce bushfire hazard to protect assets from bushfires
- maintain the long-term viability of the native vegetation in the reserve
- Assist in the removal of weeds and the regeneration of degraded bushland.

## 1.2 Location and Description

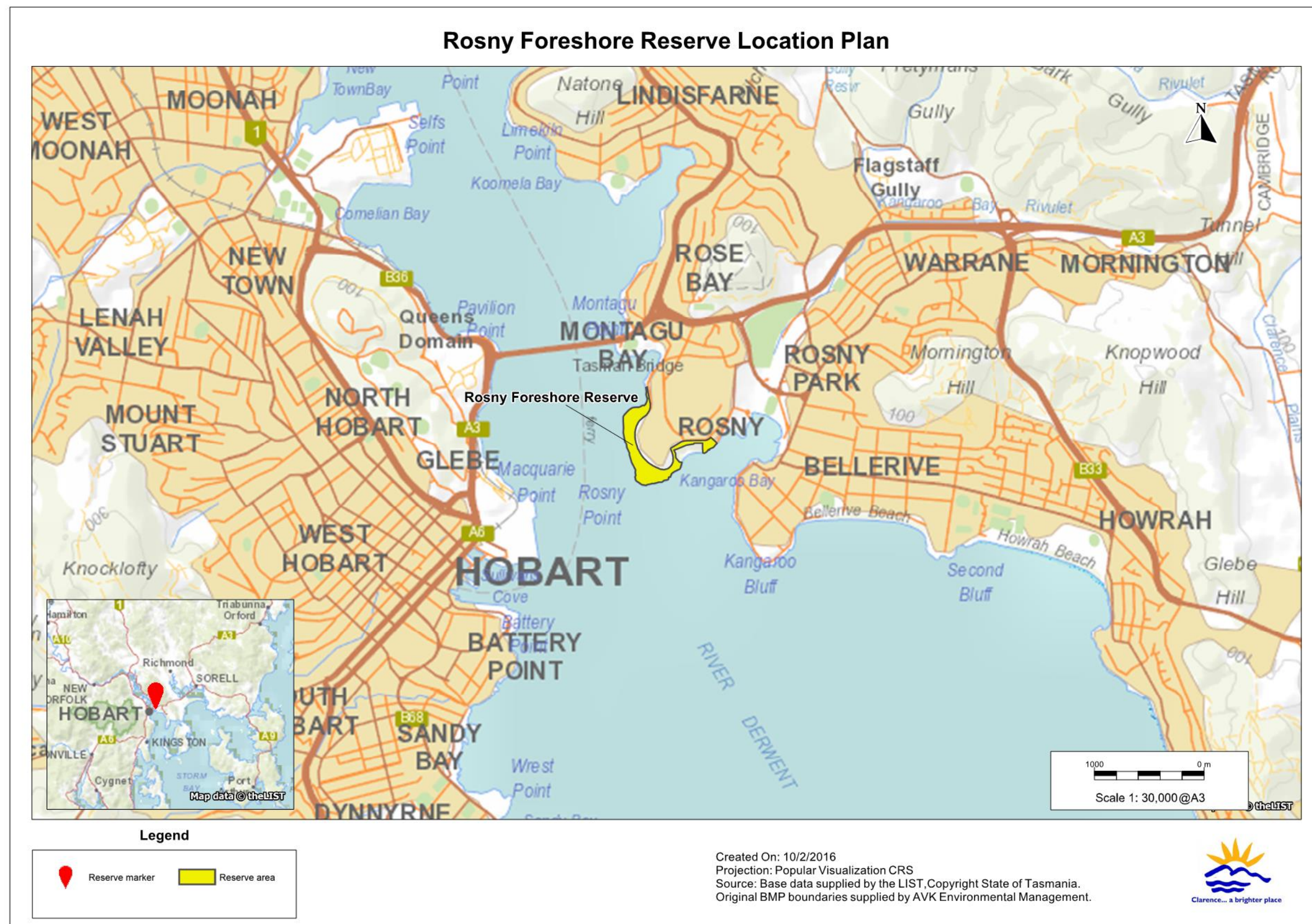
The Rosny Foreshore Reserve stretches for approximately 1.8 kilometres along the foreshores of Rosny Point between Montague Bay and Kangaroo Bay (see figure 1). The reserve covers an area of approximately 15<sup>ha</sup> and ranges from 10m to 130m wide. It includes land under TasWater ownership, Crown land licensed to TasWater, Clarence City Council ownership and Crown land licensed to Clarence City Council.

The reserve is separated from adjoining residences by Rosny Esplanade, and includes both bushland and managed parkland. The reserve encircles the Rosny Sewage Treatment Plant managed by TasWater.

The reserve is a prominent feature visible from the western shore of the Derwent, and experiences a high level of recreational use, particularly along the foreshore cycleway/walking track through the reserve.

The reserve has not been mapped as a bushfire-prone area under the *Clarence Interim Planning Scheme 2015*.

Figure 1 – Location of the Reserve



### **1.2.1 Geology and Soils**

The geology of the reserve consists of Jurassic dolerite overlain by dark-brown to black friable loam and clay loam soils with a brown clay sub-soil.

### **1.2.2 Vegetation**

The major vegetation communities in the reserve are shown in figure 2. Vegetation types and community boundaries within the reserve are based on TASVEG 3.0 mapping, checked and modified where required following a survey of the reserve. Vegetation community boundaries outside the reserve (Rosny Hill Reserve) have been checked for accuracy and are shown to give an indication of the surrounding vegetation. The majority of the vegetation in the reserve has a grassy woodland structure with *Allocasuarina verticillata* forest (NAV) being the dominant plant community. The eastern end of the reserve encircling the treatment plant is *Eucalyptus viminalis* forest and woodland (DVG). The understorey is mainly a mixture of introduced and indigenous grasses, and various weeds.

No vegetation types within the reserve are listed as threatened native vegetation communities under the *Nature Conservation Act 2002*.

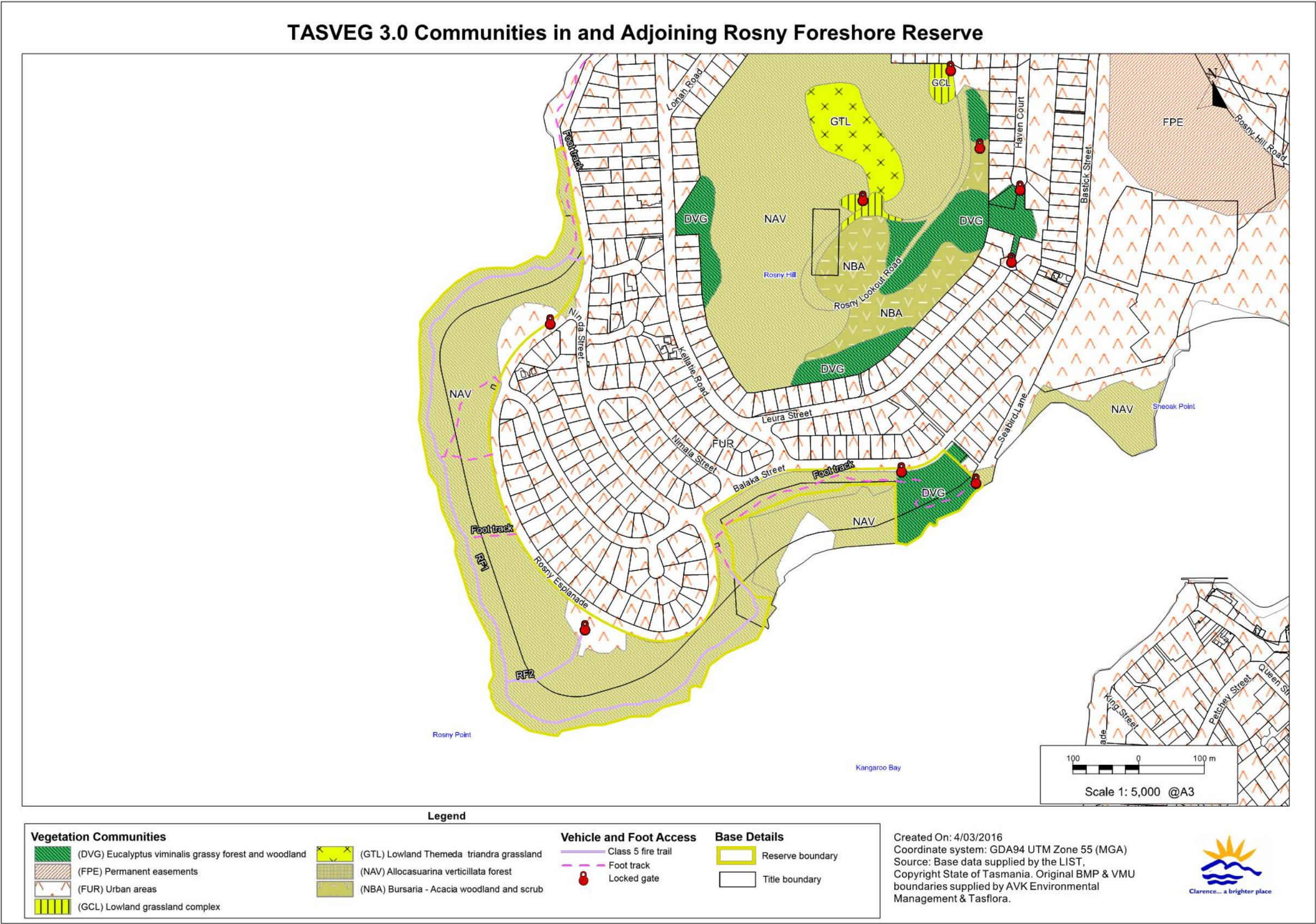
Council fire and bushland crew have been heap burning dead vegetation throughout the reserve periodically since 2008.

### **1.2.3 Reserve Usage**

Reserve usage is locally important for recreational activities such as; walking, bike riding, dog exercising and jogging. Usage is concentrated on the sealed cycleway/walking track along the foreshore and the managed areas along Rosny Esplanade which include a children's playground and a picnic shelter. The Rosny Montagu Bay Coastcare Group Inc. has been actively working within the reserve since 1996.



Figure 2 – Vegetation Types in the Reserve



### **1.3 Bushfire Management Objectives**

Bushfire management within the Rosny Foreshore Reserve will meet the following broad management objectives:

1. Protection of life, assets and adjoining property from bushfire
2. Minimise the risk of fires starting and spreading in the reserve
3. Protection and enhancement of the ecological and visual values provided by the reserve
4. Protection of infrastructure and cultural heritage values within the reserve
5. Recovery, maintenance and enhancement of vegetation communities and fauna habitat within the reserve
6. Minimisation of soil loss resulting from bushfire, or bushfire management activities.

The actions recommended to attain each of these objectives are listed in section 5.1.

### **1.4 Reserve Management Responsibilities**

Management of the reserve is the responsibility of Clarence City Council. Clarence City Council has a responsibility under the *Fire Service Act (1979)* to take all reasonable precautions to prevent any fire lit on their property from spreading onto neighbouring property. This BMP will help to fulfil that “duty of care”. The TFS is responsible for suppressing bushfires within the reserve.

#### **1.4.1 Reserve Management Plan**

Clarence City Council engaged Tasflora to review and update the previous Reserve Activity Plan (RAP) for the Rosny-Montagu Bay Coastal Reserve in December 2011. This plan is due for revision in 2016 and is intended to provide guidance for on-ground activities that can be implemented by council and/or volunteers (Tasflora, 2011).

## 2. Bushfire Risks

Extreme bushfire conditions can occur in southern Tasmania when dry winters and springs are followed by summers where fuels are very dry. Under these conditions, fires can be expected to move quickly under the influence of strong, dry, north-westerly winds, and then move more or less at right angles on a broad front when the subsequent south-westerly wind change arrives. Fires that start under these conditions can reach a very high intensity, even in areas with relatively low fuel loads, and are very difficult to control until the weather conditions abate.

### 2.1 Bushfire History and Causes

The bushfire history of the Rosny Foreshore Reserve is shown on figure 3.

#### 2.1.1 Bushfires

The long-term fire history of the reserve is not known. Records show the 1967 Black Tuesday fires did not impact the reserve.

There are two recorded bushfires within the reserve, one in December 1998 and one in October 2010. Both were <1ha and the causes unknown.

Data supplied by the TFS show that during the previous BMP the TFS attended three incidents within the reserve. All grassfires, two determined to be malicious and one cause was unknown.

#### 2.1.2 Planned Fires

Heap burning (thinning of standing vegetation/gathering of accumulated ground fuels and burning in piles) has been occurring throughout the reserve by Councils Fire and Bushland Management since 2008. This has been primarily to allow for recruitment of canopy species and manually reduce fuel loads.

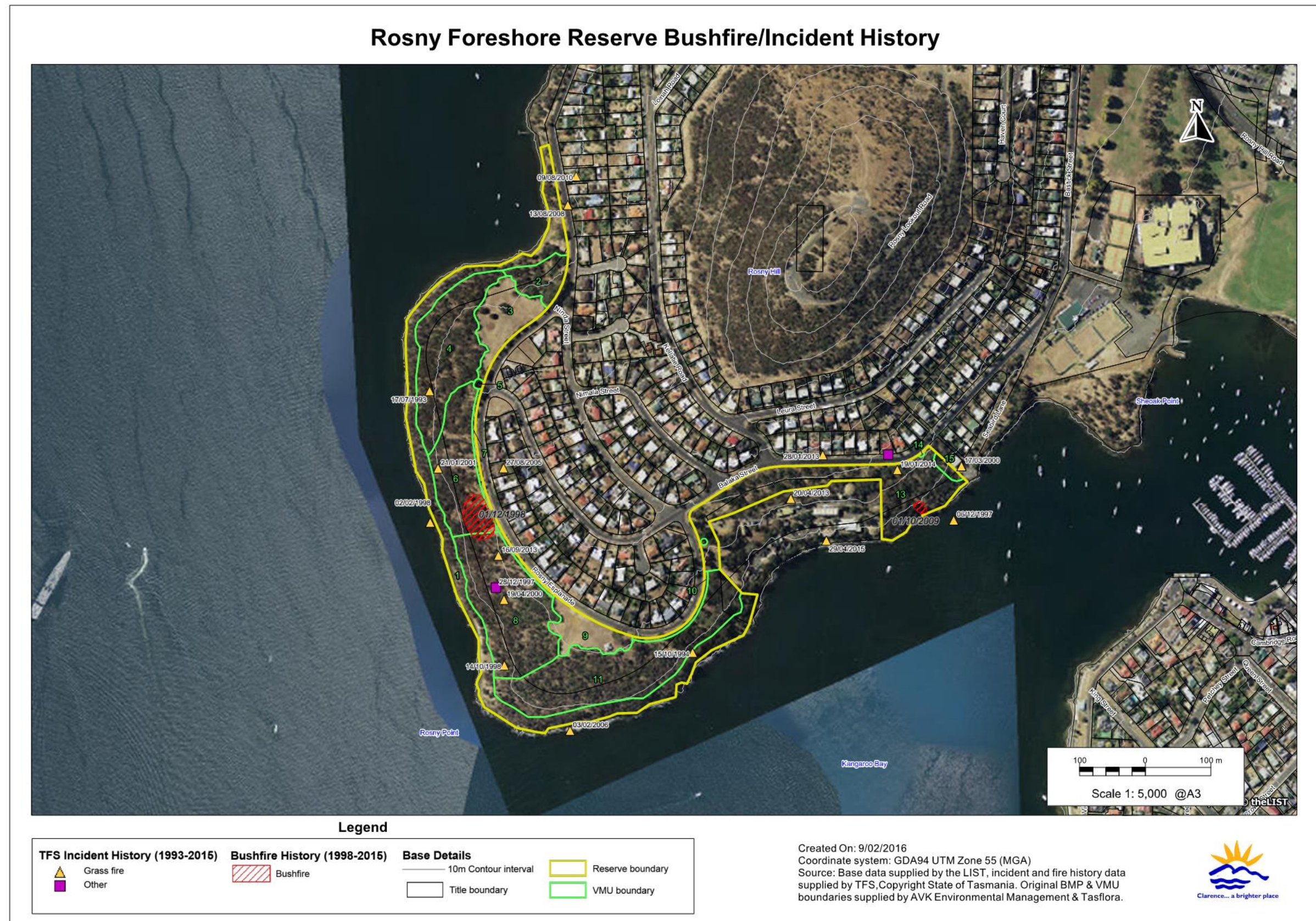
### 2.2 Fuel Types and Hazard Levels

The higher the intensity of a bushfire the greater its destructiveness and the more difficult it is to control. As the intensity of a bushfire increases it becomes progressively more difficult to contain and suppress the bushfire. Very high intensity (> 4000 kW/m heat output at the fire front) fires with flame heights greater than 10 m are generally uncontrollable (NSW Rural Fire Service, 1997). Although grass fires rarely attain a very high intensity, they can move much faster than forest fires, thereby making them difficult to contain.

Bushfire intensity is a function of the heat content of the fuel, the quantity (load) of fuel, and the rate of spread of the fire. The heat content of vegetation fuels is roughly constant, and rate of spread is largely a function of slope and weather conditions (wind speed and relative humidity). It has been found that the quantity and distribution of fine fuels are the main factor influencing bushfire behaviour. Larger fuels burn during a bushfire but do not contribute significantly to the spread of a bushfire (NSW Rural Fire Service, 1997).



Figure 3 – Bushfire History (1998-2015)





Fine fuels consist of dead plant matter less than 6mm in diameter and live plant matter less than 2mm in diameter (including grasses, bracken, leaves, bark, and twigs and branches) (Marsden-Smedley, 2009). Fine fuel load (measured in tonnes per hectare) has therefore been used as a convenient measure of the underlying bushfire hazard in areas dominated by woody vegetation. The fine fuel load at any given time is a balance between the rate of fuel build-up, and factors that remove fuel, such as litter decomposition and fire. In the absence of fire, fuel loads in forests and woodlands with a shrubby or heathy understorey build up to a quasi-equilibrium state where the rate of fuel production equals the rate of decomposition. The maximum levels vary for different vegetation types and also for the same vegetation types in different locations (Conroy, 1988). The time taken to reach equilibrium fuel loads also varies, ranging from about 2 years in some native grasslands to about 20 to 40 years in dry eucalypt forests (Marsden-Smedley, 2009).

However, it has been found that fuel structure is possibly more important than the total fine fuel load in determining bushfire behaviour (Marsden-Smedley, 2009). Fuel in forests, woodlands and shrublands can be categorised into four layers with differing effects on bushfire behaviour (Hines et al., 2010). These layers are:

- **Surface fine fuel;** leaves, bark, small twigs and other fine fuel lying on the ground. These fuels provide the horizontal continuity that allows a bushfire to spread.
- **Near surface fine fuel;** grasses, low shrubs, bracken etc. up to about 0.5m above the ground surface. Fuels in this layer will burn when the surface fuel layer burns and will increase bushfire intensity.
- **Elevated fuels;** larger shrubs and small saplings with most of the fuel closer to the top of this layer and a clear gap between them and the surface fuels. These interact with the two lower fuel layers to further increase bushfire intensity. They also contribute to the vertical continuity of fuel that allows fire to 'climb' into the tree canopy.
- **Bark fuels;** flammable bark on trees, saplings and large bushes from ground level to the canopy. Loose fibrous bark on stringy-bark eucalypts, and candle bark on some gums can generate large amounts of burning embers which can start spot fires ahead of the main fire front.

Canopy fuels are not usually included in fuel hazard assessments in forests and woodlands, but are included in shrubland and heath fuel types where they are equivalent to elevated fuels. If there is sufficient fuel in the lower fuel layers to start the canopy fuel burning (called a crown fire) bushfire intensity can increase considerably. Crown fires in forests are generally considered uncontrollable (Luke and McArthur, 1986).

The main fuel factor that influences the rate of spread of a bushfire is the quantity of near surface fuel whereas total fine fuel load is the main factor influencing bushfire intensity (Gould et al 2007).

In grasslands and grassy woodlands the degree of curing (dryness) of the fuel is considered at least as important as the actual fuel load (Cheney and Sullivan, 2008). Grass goes through an annual

cycle with new growth in spring drying out over summer. The bushfire hazard in grassland areas is greatest when the grass is fully cured which usually occurs during the period from December to April depending on seasonal breaks and significant summer rainfall events. However, grasslands that are not grazed or slashed over winter can burn in spring if cured grass from the previous growing season is still present.

Unlike bushland dominated by woody plants, grasslands can accumulate fuel very rapidly, and therefore burning is not a very effective method of hazard reduction. As grass fuel decomposes faster than eucalypt leaves and twigs, and is more likely to be eaten by herbivores, fuel loads in grasslands and grassy woodlands can fluctuate from year to year (Cheney and Sullivan, 2008).

Fuel loads can be roughly categorised in terms of the potential threat they pose as follows:

Low - < 5 tonnes per hectare

Moderate - 5 to 15 tonnes per hectare

High - >15 tonnes per hectare.

The characteristics of each fuel type in the Rosny Foreshore Reserve are given in table 1. The TASVEG 3.0 codes of the vegetation types in figure 2 corresponding to each fuel type are listed under the fuel type.

**Table 1 – Characteristics of the different fuel types in the reserve**

FUEL TYPE	FUEL HAZARD CHARACTERISTICS	BUSHFIRE BEHAVIOUR AND CONTROL
Grassy forest / woodland DVG	<p>Moderate fuel loadings.</p> <p>Surface fuels present in the form of leaves, sticks/branches. Bark present at base of trees.</p> <p>Near surface fuels present and dominant fuel type. Grasses up to 1m, fallen dead branches. Grass component of fuel load can build up fuel rapidly after a bushfire.</p> <p>Elevated fuels present, mainly shrub species and saplings up to 4m.</p>	<p>Can burn with moderate to high intensity depending on the degree of fuel build-up. Significant ember attack on structures and spotting across containment lines can be expected. Capable of carrying a bushfire at any time of year if there is a sufficient amount of litter and cured grass on the ground. Sheoak component can withstand crown fire, although mature eucalypts to sparse to withstand crown fire. Eucalypts, particularly mature with hollows and/or rough bark, will be a source of burning embers which can carry a bushfire over nearby fire control lines (Bastick Street and outer zones) which could threaten nearby buildings. Hazard reduction burning is effective in removing accumulated litter and the bark fuels largely responsible for spotting, but grass fuels can be replenished within a year after a burn.</p>

FUEL TYPE	FUEL HAZARD CHARACTERISTICS	BUSHFIRE BEHAVIOUR AND CONTROL
Shrubland NAV	<p>Moderate fuel loading.</p> <p>Surface fuels present, average 10-30mm duff layer, mainly small sticks, leaves and bark.</p> <p>Near surface fuels present, predominantly grasses up to 1m, some dense patches. Grasses can build up rapidly after fire. Dense patches of dead she oak also present on ground.</p> <p>Elevated fuels present in the form of sheoak canopy up to 6m. Some bark fuels present.</p>	<p>Where shrub canopies touch it can sustain a running crown fire of high intensity on days of very high fire danger index (FDI) that would be difficult to control. Dense thickets are difficult to access. Significant ember attack on nearby structures and spotting across containment lines can be expected. Difficult to prescribe burn in cool weather due to low surface and near surface fuel loads. Grass component can carry fire length of reserve.</p>
Managed vegetation (mown grassland and woodland)	<p>Surface, near surface and some bark fuel present. Generally low overall fuel loads. Grass generally less than 200 mm in height due to periodic slashing. Scattered trees and shrubs contribute to a gradual build up of fuel, particularly around the base of trees.</p>	<p>Will burn with low intensity unless there has been a lot of fuel accumulation or the near surface fuels have not been mown or slashed for periods. Capable of carrying a bushfire at any time of year if there is a sufficient amount of litter on the ground, and/or cured grass. Tree cover, if present, is generally too sparse and fuel loads too low to sustain a crown fire. Fires in this fuel type are unlikely to spot over control lines and will be relatively easy to control.</p>

Fuel loading in the reserve is in the range of 5-12t/ha. Dominant fuel component is grassy near surface layer combined with aggregates of dead she oak on ground. The grassy component means that in relatively wet years fuel loads can build up rapidly. It also means that fuel loads will build up quickly following a fire, limiting the effectiveness of any hazard reduction burning. Most effective way of reducing fuel loads is heap burning dead she oak on ground and thinning some ladder fuels.

## 2.3 Bushfire Threat and Risk to Persons

The main bushfire threat to the reserve is considered to come from fires that start at the northern end of the reserve on days with northerly to north-westerly winds and very high or greater fire dangers. Such bushfires could move quickly through the reserve and could be difficult to control.

As most usage of the reserve is confined to the walking track around the foreshore, the bushfire risk to persons is considered to be low as anybody in the reserve during a bushfire could easily reach a safe area on the foreshore or on surrounding streets.

## 2.4 Assets at Risk from Bushfire

Assets potentially at risk from bushfire include; dwellings, infrastructure, and other items (such as ornamental and regeneration plantings) which would cost money to replace; as well as items of scenic, cultural and natural heritage value which could be damaged or destroyed by bushfire, or bushfire suppression activities. Each landowner has an obligation to reduce a bushfire hazard where it is a threat to neighbouring properties. However, even with extensive hazard reduction burning, the risk of high intensity bushfires occurring in the reserve cannot be eliminated. Therefore consideration must be given to protection measures that will reduce the risk of bushfire damage to assets in and surrounding the reserve. Assets within and surrounding the reserve that are considered at risk from bushfires are shown in Figure 4.

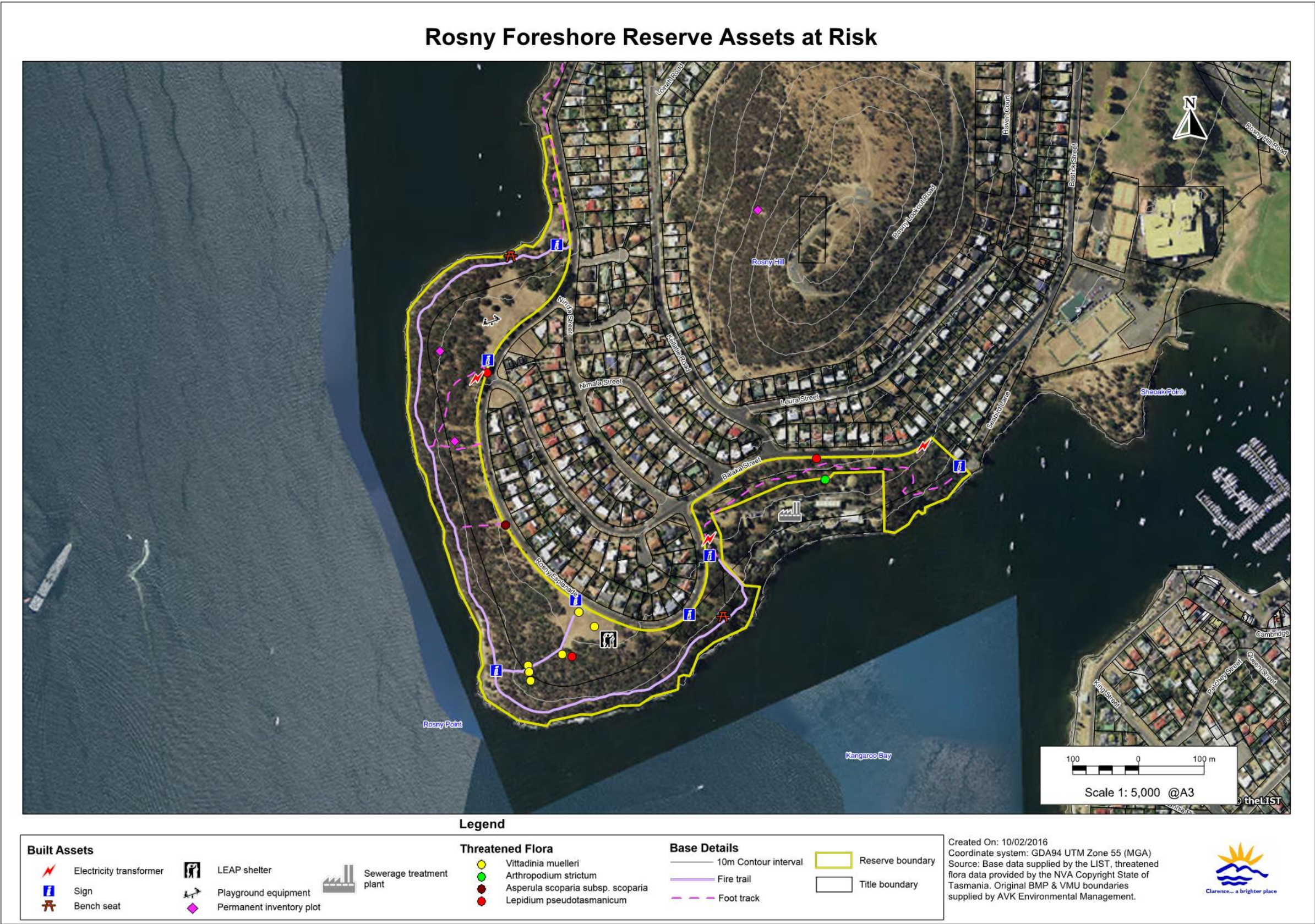
### 2.4.1 Bushfire Risk to Natural Heritage Assets

The conservation value of the plant communities in Rosny Foreshore Reserve is given in table 2. Four plant species of conservation value occur within the reserve (see figure 4). These are listed in table 3 along with their response to fire if known.

The *Natural Values Atlas* identifies no verified records of fauna species of conservation significance occurring in the reserve. It does identify potential habitat present within the reserve for the following species: spotted-tail quoll (*Dasyurus maculatus*), green and gold frog (*Litoria raniformis*), chaostola skipper (*Antipoda chaostola*), tussock skink (*Pseudemoiapagenstecheri*), swift parrot (*Lathamus discolor*), Tasmanian devil (*Sarcophilus harrisii*), masked owl (*Tyto novaehollandiae*), forty-spotted pardalote (*Pardalotus quadragintus*) and grey goshawk (*Accipiter novaehollandiae*).



Figure 4 - Assets at risk from Bushfire





**Table 2 – Conservation values of native plant communities**

TASVEG 3.0 CODE	EQUIVALENT FLORISTIC COMMUNITY <sup>1</sup>	Conservation Status <sup>2</sup>
DVG	DRY-gVIM Grassy <i>E. viminalis</i> woodland	Not threatened
NAV	DRY-in VERT Inland <i>A. verticillata</i> low forest	Not threatened

1. Forest Practices Authority (2005)

2. Nature Conservation Act 2002

**Table 3 - Plant species of conservation value and preferred bushfire management**

SPECIES	CONSERVATION STATUS <sup>1</sup>	OCCURRENCE	RESPONSE TO BUSHFIRE AND MANAGEMENT	ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999 (EPBC Act) STATUS
<i>Arthropodium strictum</i> chocolate lily	RARE	Previously recorded observation adjacent to Sewerage Treatment Plant	Noticeable flush of regeneration from seed following bushfire. Plants also regenerate from tuberous rootstock.	Not threatened
<i>Asperula scoparia</i> subsp. <i>Scoparia</i> Prickly woodruff	RARE	Single previously recorded observation in disturbed road verge along Rosny Esplanade	As at January 2016, there is currently no information available regarding the ecology and management of this species.	Not threatened
<i>Lepidium pseudotasmanicum</i> shade peppergrass	RARE	Previously recorded near Rosny Bluff. 50 plants in localised patch close to Bastick Street and 10 plants at base of she oak near Rosny Esplanade opposite Balaka Street.	Regenerates, sometimes prolifically, from seed after bushfire.	Not threatened

<b>SPECIES</b>	<b>CONSERVATION STATUS<sup>1</sup></b>	<b>OCCURRENCE</b>	<b>RESPONSE TO BUSHFIRE AND MANAGEMENT</b>	<b>ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999 (EPBC Act) STATUS</b>
<i>Vittadinia muelleri</i> Narrow leaf New Holland daisy	RARE	Previously recorded from Rosny Bluff. Plants observed throughout mown area and in the adjacent she-oak forest/woodland.	Regenerates from seed following bushfires.	Not threatened

1. Tasmanian Threatened Species Protection Act 1995

The fire sensitivity and flammability ratings of the vegetation types in the reserve according to Pyrke and Marsden-Smedley (2005), is given in table 4.

**Table 4 – Fire attributes of the native vegetation**

<b>TASVEG 3.0 CODE</b>	<b>FIRE SENSITIVITY</b>	<b>FLAMMABILITY</b>
DVG	Low	High
NAV	Low	Moderate

Flammability classification of Tasmanian vegetation (Pyrke & Marsden-Smedley, 2005)

<b>FLAMMABILITY</b>	<b>CRITERIA FOR FLAMMABILITY</b>
Very high	Will burn readily throughout the year even under mild weather conditions, except after recent rain (i.e. less than 2-7 days ago).
High	Will burn readily when fuels are dry enough but will be too moist to burn for lengthy periods, particularly in winter. Fuels will be dry enough to burn on most days from late spring to early autumn.
Moderate	Extended periods without rain (i.e. two weeks at least) and/or moderate or stronger winds are required for these communities to burn.
Low	These communities will burn only after extended drought (i.e. four weeks without rain) and/or under severe fire weather conditions (i.e. forest fire danger index > 40).

*Note:* recently burnt stands of low or moderate flammability classes may have a higher flammability rating.

Fire sensitivity classification of Tasmanian vegetation (Pyrke & Marsden-Smedley, 2005)

<b>FIRE SENSITIVITY</b>	<b>ECOLOGICAL IMPACT OF BUSHFIRE</b>	<b>MANAGEMENT RECOMMENDATIONS</b>
Extreme	Any bushfire will cause either irreversible or very long-term (> 500 years) damage.	Suppress all bushfire. Highest priority for bushfire suppression.
Very high	A single bushfire will cause significant change to the community for 50-100 years and will increase the probability of subsequent fires changing the community permanently.	Suppress all bushfire. High priority for bushfire suppression.
High	A bushfire-adapted community requiring at least 30 years between fires to maintain the defining species. Bushfire intervals greater than 80 years are required to reach mature stand structure.	Suppress all bushfire, but give higher priority to stands burnt less than 80 years ago.
Moderate	A bushfire-adapted community requiring at least 15 years between fires to maintain the defining species.	Suppress fires in stands burnt less than 20 years ago.
Low	Highly bushfire-adapted or non-native vegetation. A single bushfire will generally not affect biodiversity, although repeated short intervals (i.e. < 10 years) may cause long-term changes.	Suppression usually not an ecological priority except in specific situations (e.g. a recently burnt stand of a threatened species).

The low fire sensitivity of the native vegetation in the reserve indicates that it is highly bushfire adapted and a single bushfire will generally not adversely affect biodiversity, though repeated fires at intervals of less than 10 years may cause long-term changes in floristics and vegetation structure (Pyrke & Marsden-Smedley 2005).



The moderate to high flammability rating of the native bushland in the reserve in Pyrke & Marsden-Smedley (2005) indicates that the bushland in the reserve will burn readily when fuels are dry but may be too moist to burn for long periods during winter. Fuels will generally be dry enough to burn on most days from late spring to early autumn.

Both the original bushfire management plan (Rob Friend & Associates and Phoenix Fire Management, 1987), and the plan of management for the reserve (de Gryse, 1998), make note of the scenic value of the vegetation in the reserve, and its prominence on the Derwent River foreshores. The treed appearance of the foreshore is an essential part of its scenic significance. Bushfire is a threat to the scenic values of the reserve as a high intensity fire is likely to kill, or severely scorch, the canopy trees in the reserve. On the other hand fire may be useful in stimulating regeneration of canopy species.

#### **2.4.2 Bushfire and Habitat Management**

The main bushfire risk to natural heritage assets in the reserve is from bushfires that burn the whole of the reserve as well as fire regimes (planned or unplanned) that are outside the thresholds within which a particular plant community, or habitat for flora and fauna species, has viability in the long-term.

High intensity bushfires that burn the whole of the reserve can damage or destroy valuable fauna habitat including:

- tree hollows used as nests and dens by many birds and arboreal mammals
- mature, senescing or dead trees that can be important invertebrate, bird and reptile habitat, and take a long time to replace.
- understorey species that provide nest and shelter sites as well as a food source for many bird and mammal species.
- Fallen logs, bark and leaf litter that provide shelter and a food source for invertebrates, frogs, reptiles, birds and mammals.

Species may be lost from the reserve if they cannot recolonise from nearby areas, or survive in unburnt patches.

Fire regimes within the thresholds of a particular plant community will help maintain its long-term viability, whereas fire regimes outside the thresholds are likely to lead to progressive changes in the structure and floristics of the plant community, and loss of habitat for the fauna favouring that plant community.

Bushfires often stimulate the spread of environmental and other weeds. However, some weed species provide significant protection and food sources for fauna (for example, gorse and blackberry) and removal of these species should be carefully managed to ensure they are progressively replaced by equivalent native species habitat.

The bushfire management requirements of the different plant communities/habitats in the reserve are given in table 5.

**Table 5 - Bushfire management requirements of the plant communities in the reserve**

TASVEG 3.0 MAPPING UNITS	BUSHFIRE IMPACTS AND BUSHFIRE MANAGEMENT AIMS
<b>Grassy dry sclerophyll forests and woodlands</b>	
DVG – <i>Eucalyptus viminalis</i> grassy forest and woodland	<p>Infrequently burnt sites develop a dense shrubby understorey. Kangaroo grass (<i>Themeda triandra</i>) can die out after an extended absence of fire, or other method of biomass reduction (Lunt &amp; Morgan, 1998).</p> <p>Frequent fires (&lt; 5 years) can inhibit tree regeneration and eliminate the shrubby component</p> <p>Sites overlying dolerite and other more fertile soils have markedly more rapid rates of regeneration than low fertility soils derived from mudstone and sandstone.</p> <p>Overfrequent burning regimes in the past within forests overlying mudstone has contributed to the loss of topsoil and erosion.</p> <p>Extended absence from bushfire can result in build up of fuel causing hot and damaging burns.</p> <p>A temporal and spatial mosaic-burning pattern would assist with tempering the effects of a devastating bushfire.</p> <p><b>Optimal bushfire frequency is 5-20 years on fertile sites.</b></p>
<b>Non eucalypt forests/woodlands</b>	
NAV – <i>Allocasuarina verticillata</i> Forest	<p>Extended absence of fires leads to a closed canopy and a dense litter layer that has a low density and diversity of ground layer species, although it may be important for invertebrate species.</p> <p>Frequent low intensity fires benefit <i>Allocasuarina verticillata</i> over the adjacent eucalypt dominated communities (Kirkpatrick 1985).</p> <p>Tendency to exclude bushfire for visual impact reasons in foreshore environments risks the long-term loss of regenerative age classes and the ultimate decline of this community in favour of grassland. Alternate methods of facilitating natural regeneration through localised clearance may be a more suitable method.</p> <p><b>Where eucalypts are being suppressed clear vegetation around base and heap burn.</b></p> <p><b>Mosaic heap burn dense aggregates of mature she oak to encourage germination.</b></p>

### 2.4.3 Bushfire Risk to Built and Cultural Assets

During the BMP review process Aboriginal Heritage Tasmania (AHT) completed a requested search of the Aboriginal Heritage Register (AHR) regarding the area inside the BMP boundary. This search identified 23 known locations of either shell middens or scattered artefacts within Rosny Foreshore Reserve. Proposed management strategies to preserve these sites are mentioned in Table 6 under “Other Bushfire Risks”.

The only sites of European cultural heritage value known in the reserve are a number of old wharves and jetties, of which little remains apart from some footings and fill (de Gryse, 1998).

Infrastructure and built assets in the reserve include three electricity transformers, a “LEAP” shelter, playground equipment, one timber and one plastic park bench, two vegetation monitoring plots, and timber barriers along Rosny Esplanade. The main built assets surrounding the reserve at risk from fire are the Rosny Sewage Treatment Plant and the buildings and infrastructure in the residential areas that surround the reserve.

The degree of bushfire danger at any particular time is a combination of fine fuel quantity, slope, and the prevailing weather conditions. The actual risk of a bushfire causing damage to an asset is a function the degree of danger, the probability of a bushfire igniting, and any measures taken to prevent the bushfire causing damage.

The four major modes of attack by bushfires that can cause damage to assets are:

1. wind-blown burning debris
2. radiant heat which can ignite flammable materials ahead of the fire front and shatter glass
3. flame contact
4. Strong winds generated or intensified by the bushfire.

The potential for damage to buildings in the path of large fires burning out of the reserve will depend largely on:

- whether the bushfire will approach upslope or downslope
- the quantity and distribution of fuel surrounding the building
- whether they are defended during the bushfire
- their design
- if the building was constructed to Australian Standard 3959-2009, *Construction of Buildings in Bushfire-prone Areas*
- How well they have been maintained.

The Australian Standard for Construction of buildings in bushfire-prone areas (AS:3959 – 2009) uses a Fire Danger Index (FDI) of 50 to determine the Bushfire Attack Level (BAL) for buildings that need to comply with the standard. An FDI of 50 is the boundary between Very High and Severe Fire Danger Rating.

There is insufficient data available to assess the likelihood of a high intensity bushfire starting in the park; however there is sufficient fine fuel within the park to sustain a high intensity bushfire on days of extreme fire danger. The bushfire risk to the built and cultural heritage assets within and surrounding the park has been assessed using a procedure adapted from the National Emergency Risk Assessment Guidelines (NEMC, 2010). The assessment process is explained in section 5.4 of *Clarence City Council Bushfire Management Strategy for Council Owned and Controlled Land*, and the results and proposed management strategies are shown in table 6. This assessment process has been analysed and meets compliance with AS/NZS IOS:31000-2009. Note that the assessment in table 6 only considers the risk from fires starting in, or passing through the park. Some assets may face a greater bushfire risk from nearby bushfire hazards that are not under the control of Clarence City Council.

Some assets, such as Aboriginal heritage sites, may not be directly damaged by bushfire but may be damaged by bushfire management and bushfire suppression activities, such as constructing fire control lines. These risks are noted under “Other Bushfire Risks” in table 6 if these assets are found in the reserve.

NOTE: It was not possible to inspect assets on properties adjoining the reserve. The risk assessment therefore makes the following assumptions about these assets:

- Landowners/residents have established and are maintaining a defensible space to TFS specifications around vulnerable assets, either wholly within the lot, or up to the boundary with the reserve where there is insufficient space within the lot. Where this is not the case the asset may face a much higher bushfire risk than indicated in the risk assessment.
- All dwellings adjoining the reserve are well maintained to resist attack by wind-blown burning embers. Where this is not the case the asset may face a much higher bushfire risk than indicated in the risk assessment.

The management strategies recommended in table 6 will reduce the existing bushfire risk to built and cultural assets but in most cases will not eliminate it. Active protection of an asset during a bushfire can greatly reduce the bushfire risk. Assets at medium and high risk of damage from bushfire will need to be protected if planned burns occur in the reserve.

**Table 6 - Bushfire risk assessment for built and cultural assets**

RISK CATEGORIES

LOW – asset of low value or considered to have a low risk of damage from bushfires in the reserve due to its construction, location, or protection measures already in place.

MODERATE – asset is vulnerable to damage by bushfires and could face attack by a moderate to high intensity bushfire, but has features that will reduce the intensity of the fire attack, or provide some protection from fires. Further bushfire protection measures are required.

HIGH – asset is of high value, is vulnerable to damage by bushfires and could face attack by a high intensity bushfire with few, if any, features that would reduce the intensity of fire attack. Further bushfire protection measures are required.

ASSET AT RISK	RISK ANALYSIS (See section 5.4 of the Bushfire Management Strategy)								OTHER BUSHFIRE RISKS	PROPOSED MANAGEMENT STRATEGIES
	A	B	C	D	E <sup>1</sup>	F	G	Level of Risk		
“LEAP” shelter	4	3	3	3	2	1	2	432 Moderate		Remove trees and shrubs within 5m of the structure, and keep grass less than 100mm in height.
Dwellings bordering the eastern side of the reserve at 72 Bastick Street and 6 Seabird Lane	3	2	3	2	2	1	6	432 Moderate		Establish and maintain a minimum 15m wide outer zone along the reserve boundary with 6 Seabird Lane.  Issue hazard abatement notices as required to the owner of 6 Seabird Lane to ensure that a minimum 15m wide outer zone is maintained along the boundary with 72 Bastick Street.  Advise residents of the need to maintain an adequate defendable space around their dwellings.
Rosny Sewage Treatment Plant	4	2	3	2	2	1	4	384 Moderate		Recommend TasWater maintain grounds as outer zone.
Transformer on the side of Rosny Esplanade at the Junction with Balaka Street	4	3	3	2	2	1	2	288 Moderate		Clear all trees, shrubs and bushes within 5m of the structure.
Green electricity transformer on the side of Bastick Street	3	3	3	2	2	1	2	216 Low		Clear all trees, shrubs and bushes within 5m of the structure.

ASSET AT RISK	RISK ANALYSIS (See section 5.4 of the Bushfire Management Strategy)								OTHER BUSHFIRE RISKS	PROPOSED MANAGEMENT STRATEGIES
	A	B	C	D	E <sup>1</sup>	F	G	Level of Risk		
Dwellings bordering the reserve along Rosny Esplanade	4	3	3	2	0.2	1	6	86 Low		Maintain a 5m wide outer zone along the edge of Rosny Esplanade. Advise residents of the need to maintain an adequate defendable space around their dwellings.
Dwellings bordering the reserve along the upslope side of Balaka and Bastick Street	3	3	3	2	0.2	1	6	65 Low		No protection measures required in the reserve. Advise residents of the need to maintain an adequate defendable space around their dwellings.
Plastic playground equipment	4	2	3	3	0.2	1	2	29 Low		Maintain existing mown area around the playground.
Transformer on the side of Rosny Esplanade near the Rosny Treatment Plant	2	3	3	2	0.2	1	2	14 Low		Maintain a 5m wide cleared area around the transformer.
Aboriginal middens/artefacts	4	2	3	0	3	2	0	0 Minimal	May be damaged by vehicle movements during fire management or suppression, and establishment of fire control lines.	Ensure that the TFS is aware that the reserve has known sites and their importance. Do not take vehicles off existing trails, except if there is a threat to crew safety. Only use existing trails and tracks for fire control lines, or use wet lines.

1 – Note that the risk analysis score in column E only indicates that there is enough space to provide a defendable space between bushland in the reserve and an adjoining asset. It does not indicate that a defendable space has been established on the adjoining property, or if established is being adequately managed.

## 3. Bushfire Management Issues

### 3.1 Existing Bushfire Management

#### 3.1.1 Implementation of the Previous Bushfire Management Plan

As part of this revision of the BMP for Rosny Foreshore Reserve, a review of the success of the implementation of the recommendations of the previous BMP was carried out. The review found that of 16 recommendations 9 have been fully implemented, 3 have been partly implemented, 3 have not been implemented because they have not been required (ie they are actions in response to other incidents) and 1 has not been implemented. The recommendation that was not implemented was ensuring that authorities planning bushfire control operations in the reserve are aware of the location of cultural heritage assets, and ensure they are not damaged by machinery movement or other activities. However no bushfire control operations occurred within the reserve during the previous BMP, a risk adverse approach needs to be implemented sharing this information prior to bushfire events. The full findings of the review are in Appendix A.

#### 3.1.2 Planned Burning

Planned burning for asset protection is not required within the reserve given two-way sealed roads separating most of the bushland vegetation from residential areas. It should also be noted that the grassy understorey in the reserve would regrow quickly after a fire, resulting in a rapid build-up of fuel loads and reducing the effectiveness of any hazard reduction burning.

Heap burning has been utilised during the previous BMP in areas for removing weeds, and thinned vegetation that has been suppressing eucalypt regrowth. It has also been utilised for removing windblown trees and fallen limbs. It is recommended that this regime should continue as required. Heap burning should also be utilised as required in table 8.

There is currently no need for planned burning for ecosystem management.

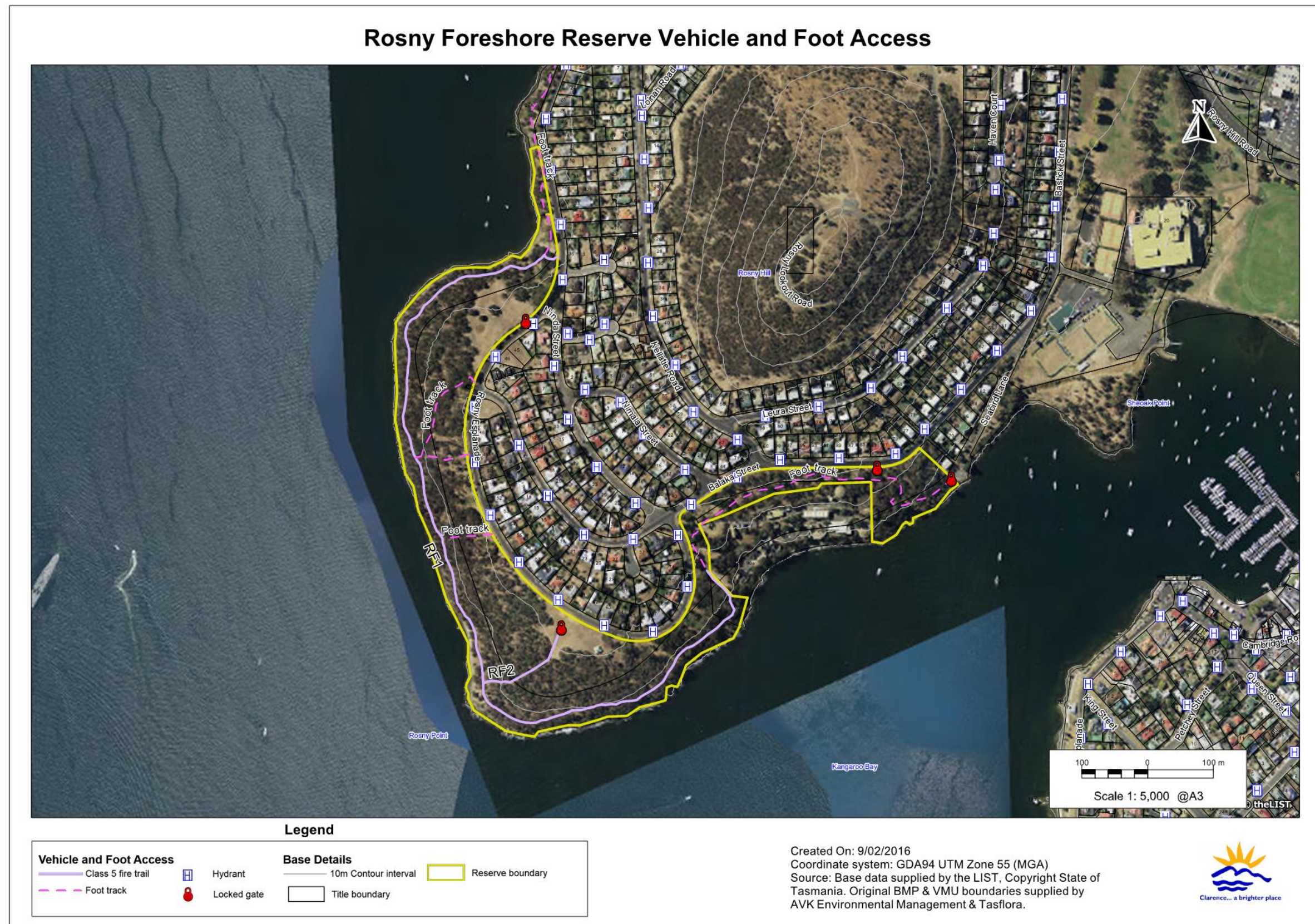
#### 3.1.3 Vehicle Access Routes and Foot Tracks

There is a sealed cycleway/foot track that runs along the foreshore of the reserve from the entrance to the sewage treatment plant to Montagu Bay. This trail is accessible by light tankers but would not be suitable for heavy tankers. The trail has limited passing bays and is narrow in sections. The remainder of the reserve is easily accessible from adjoining public roads. The cycleway, and the link trail from the car park opposite 61 Rosny Esplanade, (see figure 5) are considered to provide adequate access for bushfire management and suppression in the reserve. Although there are no locked gates at either end of the cycleway, there are no reports of unauthorised use.

Each fire trail has been assigned a usage class (see table 7) and its current condition assessed against the standard for their assigned usage class in MP 1 in the *Clarence City Council Bushfire Management Strategy – Best Management Practice Guidelines*.



Figure 5 – Vehicle and Foot Access





**Table 7 - Condition and maintenance of fire trails**

Assigned usage class (see Management Procedure 1): <b>Class 1</b> – all 2WD and 4WD vehicles <b>Class 3</b> – all weather 4WD, light and heavy 4WD vehicles (category 3, 4 & 5 tankers) <b>Class 5</b> – dry weather and/or high clearance 4WD, light 4WD (category 5 tankers), also includes trails with sharp bends and dead end trails with small turning areas.	Maintenance priority: <b>High</b> priority - major through routes and fire control lines <b>Medium</b> priority - important access and escape routes and minor fire control lines <b>Low</b> priority - minor access routes and boundaries of vegetation management units.
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The trail usage class describes the suitability of the fire trail if properly maintained, not necessarily its condition at the time of inspection.

FIRE TRAIL ID	USAGE CLASS	STRATEGIC FIRE TRAIL UNDER HOBART FIRE PROTECTION PLAN <sup>1</sup>	MAINTENANCE PRIORITY	LOCATION AND CONDITION AT JANUARY 2016	ACTION REQUIRED	MANAGEMENT CONSTRAINT
RF1	5	NO	High	Cycleway/walking track along the foreshore from the entrance to the Rosny Sewage Treatment Plant to Montague Bay.  Trail is sealed, in good condition and meets class 5 usage specifications except for passing bays and cleared vegetation height.	Periodic inspection and maintenance as required. In particular after strong winds.  Clear vegetation to class 5 clearance heights.	Main usage is public walkway. Consult with Council Tracks Planner prior to any major work.

FIRE TRAIL ID	USAGE CLASS	STRATEGIC FIRE TRAIL UNDER HOBART FIRE PROTECTION PLAN <sup>1</sup>	MAINTENANCE PRIORITY	LOCATION AND CONDITION AT JANUARY 2016	ACTION REQUIRED	MANAGEMENT CONSTRAINT
RF2	5	NO	Medium	<p>Link from Rosny Esplanade to RF1.</p> <p>Trail is in good condition and meets class 5 usage specifications except for cleared vegetation height.</p>	<p>Periodic inspection and maintenance as required. In particular after strong winds.</p> <p>Clear vegetation to class 5 clearance heights.</p>	<p>Rare flora <i>Lepidium pseudotasmanicum</i><sup>2</sup> and <i>Vittadinia muelleri</i><sup>2</sup> within proximity. Avoid ground disturbance. Preferably undertake maintenance in Autumn when not in seed setting period.</p> <p>May require permit from DPIPWE Threatened Species Section.</p>

1 - Strategic fire trails have been identified in the Hobart Fire Protection Plan. Strategic fire trails will be signposted.

2 - Tasmanian *Threatened Species Protection Act* 1995.

### 3.1.4 Water Supply

There are no water sources within the reserve. However, water for fire fighting and bushfire management can be easily obtained from fire hydrants in the streets surrounding the reserve (figure 5).

### 3.1.5 Fuel Breaks and Defendable Spaces

A fuel break (sometimes called a “firebreak”) is a strip of cleared, or partly cleared, bushland constructed and maintained to slow, or stop, the progress of a bushfire to assist in its control. They are not the same as defendable spaces which are maintained around vulnerable assets to protect them from bushfires. Fuel breaks in grassland can be effective in stopping fires if cleared down to mineral earth, but where trees and shrubs are present wind-blown burning embers will usually carry a bushfire across a fuel break. Therefore, in bushland with shrubs and trees the only benefit of a fuel break is to provide access for firefighters and a boundary for backburning operations. Currently there are no standards or guidelines for fuel breaks in Tasmania. There are currently no areas maintained primarily as fuel breaks in the reserve although most of the mown areas in the reserve would function as a fuel break in the event of a bushfire.

A defendable space is an area of managed vegetation around an asset likely to be at risk from bushfire that protects it from direct flame contact and intense radiant heat, as well providing an area where fire fighters can defend the asset. The Tasmania Fire Service document *Bushfire Survival Plan 2015-2016* recommends that a defendable space includes two 'zones':

- An inner zone (formerly Bushfire Protection Zone) where flammable materials are minimised.
- An outer zone (formerly Fuel Modified Zone) where a low level of flammable material is permitted.

In the inner zone, flammable materials on, under and around your home should be moved away from the house.

In the inner zone:

- Include non-flammable areas such as paths, driveways, and mowed lawns.
- Use non-flammable mulch, do not use woodchips or bark.
- Locate any dams, orchards, vegetable gardens and any effluent disposal areas on the fire-prone side of the home.
- Use radiation shields and windbreaks such as stone or metal fences and hedges using low-flammability plants.
- Remove fire hazards such as wood piles, rubbish heaps and stored fuels.
- Replace all highly-flammable plants with low-flammability plants.

- Prune lower branches on trees and remove flammable shrubs from under and between trees.
- Rake up bark and leaves and keep roofs and gutters clear of flammable debris.

The TFS notes that it is not necessary to remove all vegetation from the inner zone. Individual trees rarely cause houses to burn in bushfires.

Trees can screen a building from windblown embers while protecting it from radiant heat. Smooth barked trees are less likely to catch fire than those with rough bark. No tree should be able to fall on the home.

In the outer zone, small-sized natural fuels (such as leaf litter, bark, sticks, tussocks and some shrubs) should be removed and larger fuels (trees and shrubs) should be cut back to reduce the intensity of an approaching bushfire.

Natural fuels, both on the ground and between the ground and any larger trees, should be reduced by selective removal of vegetation, both horizontally and vertically, followed by ongoing maintenance.

In the outer zone:

- Retain established trees to trap embers and reduce wind speeds.
- Selectively remove small trees and shrubs to create clumps (rather than a continuous wall of trees) separated by open areas.
- Remove the vegetation between the ground and the bottom of the tree canopy, to a height of at least two metres.
- Minimise fine fuels at ground level, such as grasses and leaf litter.

The existence and adequacy of defensible spaces on individual lots adjoining the reserve was not surveyed as part of this BMP. However, except for one house at the end of Seabird Lane, residential areas bordering the reserve are separated from bushland by roads or areas of mown grass that provide adequate protection from bushfires. Some hazard reduction in the bushland adjoining the dwelling at the end of Seabird Lane and along the edge of Rosny Esplanade is needed to reduce the bushfire risk (see table 6 & 8). Clarence City Council and individual landowners must co-operate to provide and maintain adequate fire protection.

### **3.1.6 Bushfire Detection and Suppression**

Rosny Foreshore Reserve is highly visible from surrounding suburbs and it is likely that any fires would be promptly reported. The easy access to the reserve from surrounding roads should allow the TFS to rapidly reach and contain fires within the reserve. As most of the reserve is narrow, hoses can be laid from fire hydrants in adjoining streets for most firefighting in the reserve. Bushfires close to the foreshore can be accessed by light tankers along the cycleway.

## 3.2 Weeds

Environmental weeds are present throughout the reserve (see figure 6) and are a key management issue affecting its natural values. While much primary weed control work has been undertaken by Councils Fire and Bushland Crew and The Rosny Montagu Bay Coastcare Group Inc. to control the rate of spread, follow-up maintenance activities will be required for many years.

Several weed species found in the reserve are classified as declared weeds under the Tasmanian *Weed Management Act 1999* and/or Weeds of National Significance (WONS). Where possible these weeds will be targeted as a priority to prevent their further spread (Tasflora 2011).

African boxthorn (*Lycium ferocissimum*), blackberry (*Rubus fruticosus*), boneseed (*Chrysanthemoides monilifera*), Chilean needle grass (*Nassella neesiana*), gorse (*Ulex europaeus*) and Montpellier broom (*Genista monspessulana*) are present declared weeds and WONS.

Fennel (*Foeniculum vulgare*) is a declared weed in the reserve that is not listed as a WONS.

Other environmental weeds present within the park are: agapanthus (*Agapanthus praecox subsp. Orientalis*), banana passionfruit (*Passiflora tarminiana*), cotoneaster (*Cotoneaster* Sp.), cumbungi (*Typha latifolia*), grevillea (*Grevillea rosmarinifolia*), hawthorn (*Crataegus monogyna*), Himalayan firethorn (*Pyracantha* sp.), mirror bush (*Coprosma repens*), radiata pine (*Pinus radiata*), Spanish broom (*Spartium junceum*), sweet briar (*Rosa rubiginosa*), sweet pittosporum (*Pittosporum undulatum*) and valerian (*Valerian officinalis*). A detailed weed survey was not undertaken as part of this BMP, merely field observations. The last detailed weed survey was conducted by Tasflora in 2011 during the review of the Reserve Activity Plan.

## 3.3 Biodiversity Conservation

During 2013 two Vegetation Monitoring Plots with photo points were established by Councils Fire and Bushland Management in VMU 4 and 6. These are re-measured annually in Councils Fire and Bushland Management Vegetation Monitoring Program. The plots have been installed to gather long term data on the effectiveness of current regimes within the reserve.

Some of the she-oaks in the reserve are showing signs of die-back, probably due to old age, and there is an accumulation of fallen trees and branches on the ground.

She-oak seedlings are present throughout most of the reserve. Although a relatively hot fire would stimulate regeneration of she-oak, this does not seem to be essential to the long-term maintenance of the she-oak forest in the reserve. On the other hand a broad-area burn is likely to scorch the canopy and kill some mature she oaks. It would also encourage the spread of many of the weeds in the reserve. For this reason it is considered that broad-area burning should not be carried out in the reserve for the duration of this plan.

Although broad-area burning has been excluded from previous BMPs, fire has been utilised to assist in weed control and reducing fuel loads throughout the previous BMP in the form of heap burning. Attention has been made particularly near trails and walking tracks and in outer zones. Heap burning has been limited to piles of cleared weeds and vegetation, fallen timber, or small patches of weeds that have been previously poisoned. These small burns have not affected the scenic value of the reserve and an increase in *Eucalypt* sp. regeneration has been observed since the removal of suppressing vegetation. She-oak germination has been observed in burnt patches where heap burning has occurred. It should be noted that fallen trees and branches are valuable fauna habitat and some of it should be left for this purpose.

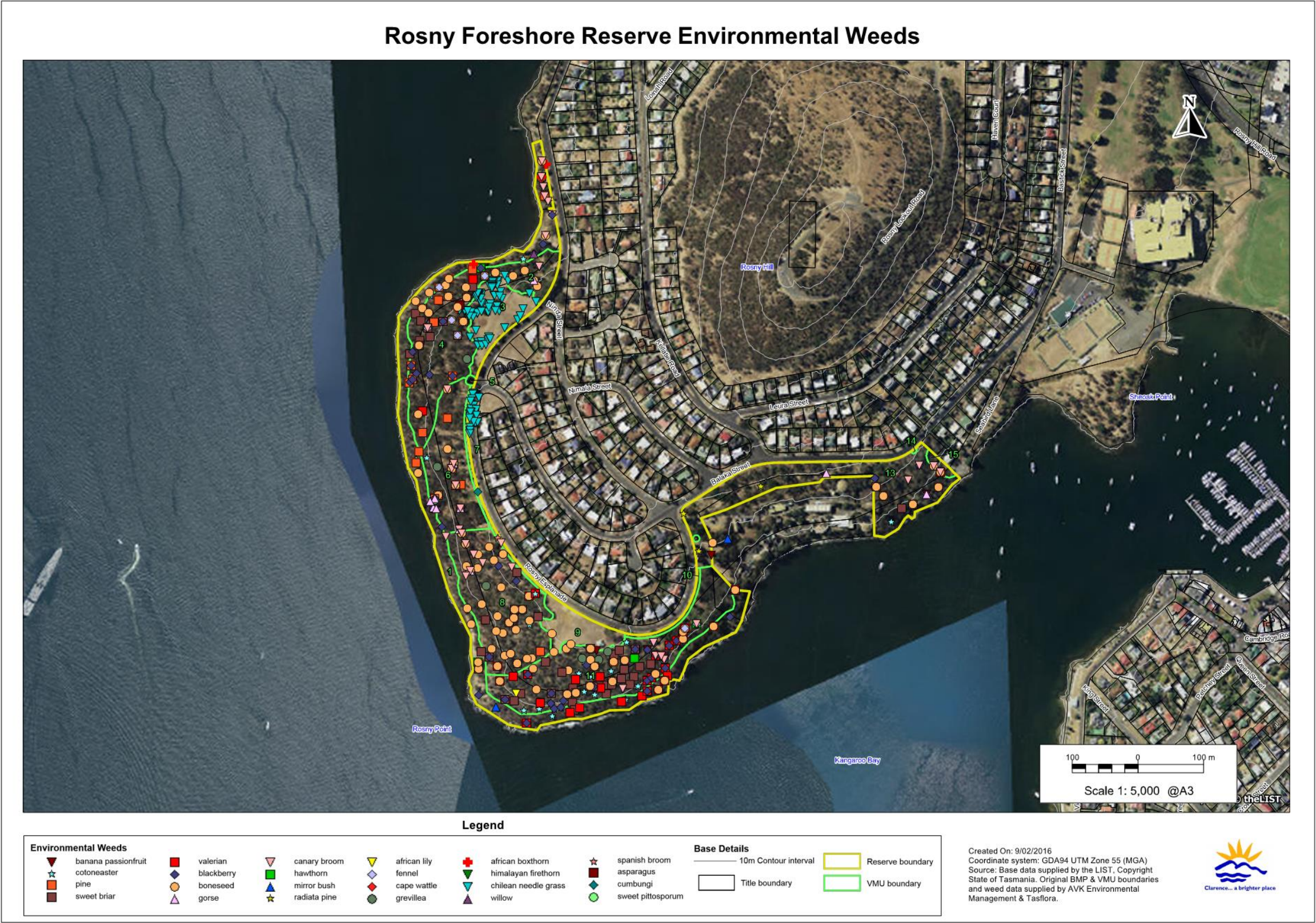
The exclusion of broad-area burning should be reviewed at each BMP revision.

### **3.4 Stakeholder and Community Concerns**

At the commencement of the project Clarence City Council sent a letter to all landowners adjoining the reserve and to other stakeholder groups informing them that the Bushfire Management Strategy was being revised and inviting them to have input into the revised BMP for the reserve by sending in a written submission, attending a community “walk and talk” at the reserve, or by contacting the reviewer directly. The community “walk and talk” was held in the reserve on 14<sup>th</sup> November 2015 and was attended by eight community members (including members of The Rosny Montagu Bay Coastcare Group Inc.) and a Council representative. Four written comments were received. The community concerns about bushfire management in the reserve expressed during the walk and talk are summarised in Appendix B along with the Council’s response. The main issue of concern in the reserve was lack of communication from Council regarding the delay in mowing VMU 9 in summer 2015 due to threatened flora flowering, the general untidiness of sections of the reserve and bonfires being left unburnt within the reserve for summer 2015. Positive feedback was received regarding recent heap burning and general tidy up of land adjacent to the sewerage treatment plant. Residents would like this to continue throughout the reserve.



Figure 6 – Environmental Weeds in Reserve





## 4. Plan Implementation

To ensure that the recommendations in this plan are fully implemented, Clarence City Council will ensure that TFS brigades likely to attend bushfires within the reserve are familiar with the plan, and its contents are issued to the TFS.

### 4.1 Bushfire Risk Reduction Strategy

The overall bushfire risk reduction strategy recommended for the Rosny Foreshore Reserve can be summarised as follows:

- Reduce ignitions through prosecution of arsonists, and prompt reporting of fires.
- Maintain access points and fire trails to enable the TFS to rapidly contain fires that start in the reserve.
- Maintain defensible spaces in the reserve to protect assets within and adjoining the reserve.
- Encourage neighbouring residents to maintain defensible spaces around their homes.

### 4.2 Community Education, Awareness and Involvement

To ensure successful implementation of this BMP it will be necessary to inform key sectors of the community about bushfire management issues in the reserve. This should include surrounding residents and those with special interests in the reserve, or whose activities can affect assets within the reserve. The community education process is detailed in section 5.7 of *Clarence City Council Bushfire Management Strategy for Council Owned and Controlled Land*. This was not implemented during the previous BMP, and has a heavy influence in the effectiveness of this BMP.

In particular, adjoining residents should be advised that dumping garden waste and other rubbish in reserves increases the bushfire hazard and makes firefighting along the bushland/urban interface more difficult and dangerous for fire fighters. It also contributes to the spread of weeds. Residents should also be advised that they are not authorised to remove vegetation in a Council reserve, even if it is recommended in the BMP. If residents have any concerns about the bushfire hazard in the reserve near their home, they are encouraged to contact Council's Fire and Bushland Vegetation Management Co-ordinator.

### 4.3 Planned Burning

As most of the native plant communities in the reserve are located on relatively steep slopes which are prone to erosion if the vegetation cover is removed, and the reserve has important scenic qualities, broad-area planned burning is not considered a suitable tool for managing the vegetation

in the reserve. However, small patch or pile burns may be useful for disposing of weeds and preparing small areas for regeneration planting. As set out in section 3.1.2

#### **4.3.1 Vegetation Management Units (VMU)**

The bushfire management program in this plan is based on the division of the vegetation types in the reserve into a number of vegetation management units (VMUs) (see figure 7). VMUs can be managed to achieve specific bushfire and other management objectives as detailed in table 8. The bushfire management requirements of the vegetation communities within the reserve are given in table 5. The previous BMP divided the reserve into 15 VMUs. This has been reduced to 14 during the review process to reflect TasWater obtaining management of the land at the Rosny Sewerage Treatment Plant site. VMU 12 has now been amalgamated into VMU 13 to allow for the most appropriate methods for managing bushfire hazard whilst promoting biodiversity.

### **4.4 Bushland Management**

Bushfire can provide the disturbance that many introduced species need to spread to new areas, as well as to expand existing populations. Other bushfire management activities, such as construction and maintenance of fire trails, and bulldozing of fuel breaks during fire suppression, can also provide opportunities for weeds to colonise native bushland. Fire can also be used as a tool to manage weed infestations. Some species are best controlled by herbicide application to regrowth following a bushfire. Other species can sometimes be controlled by the application of a fire regime that stimulates germination of seed but kills the regrowth before it has been able to flower. Management Procedure (MP) 8 in the *Clarence City Council Bushfire Management Strategy – Best Management Practice Guidelines* includes guidelines for integrating weed management with management burning, and for minimising the risk of weed invasion following bushfires. These guidelines should ensure that fires in the reserve do not worsen existing weed problems, or cause weeds to spread. Where patch burning of weeds is required, pre-treatment with herbicide should be carried out at least 3 months in advance of the burn to allow treated weeds to desiccate.

Successful implementation of patch and pile burns requires trained personnel and special equipment. All persons engaged in planned burning or firefighting in the reserve must have completed the Forestry Tasmania “Forest Fire Fighting” course or equivalent.

The Rosny Montagu Bay Coastcare Group Inc. has been working with Clarence City Council since 1996 on regeneration and weed control projects in the reserve. It should be noted that bush regeneration plantings in previously cleared areas might increase the bushfire hazard. Any proposals for bush regeneration in the reserve should be considered in the context of this BMP to ensure that they do not compromise bushfire protection measures proposed in this plan.

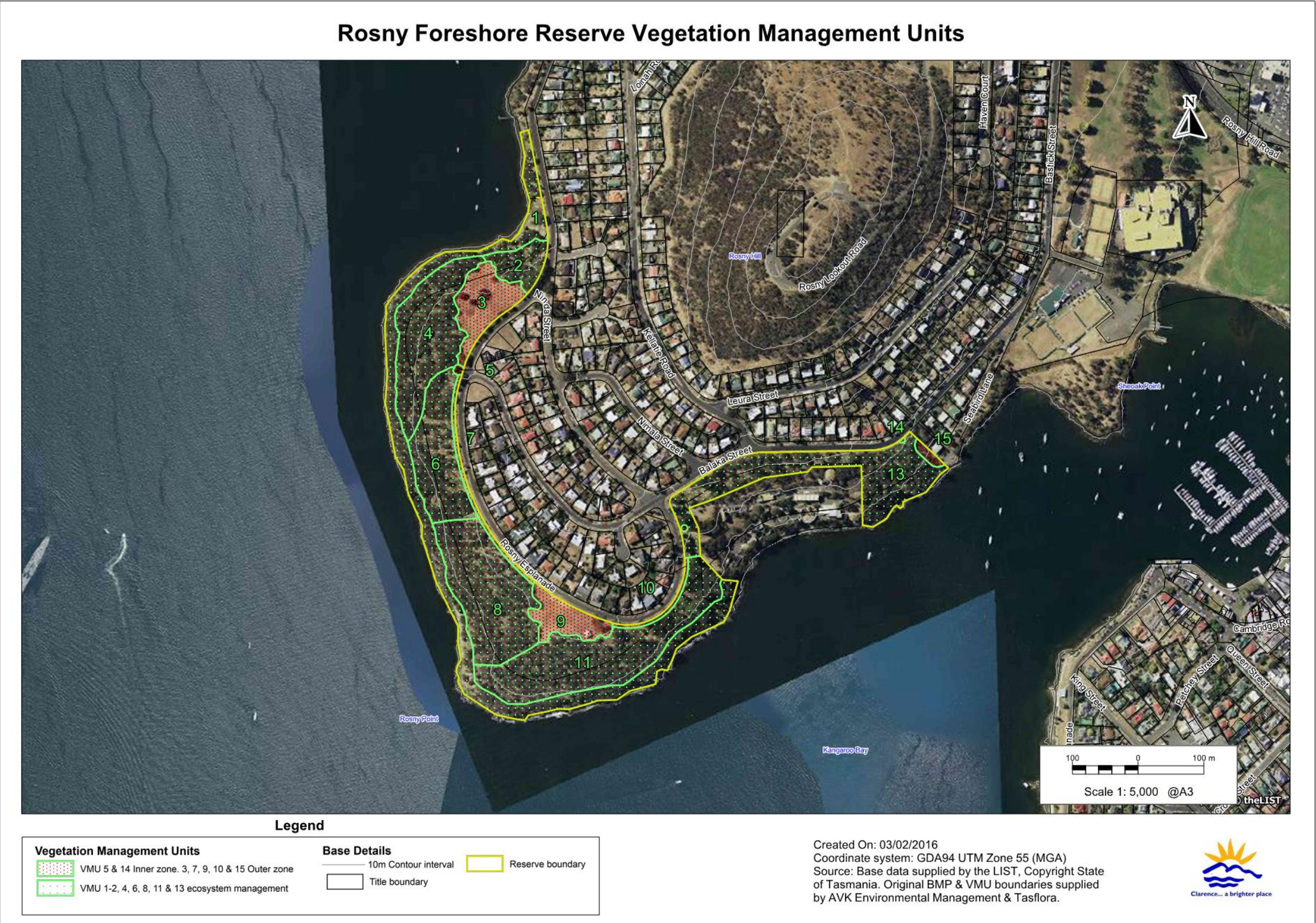
In general, plantings should not be allowed:

- on inner zones and outer zones established around assets at risk
- on fuel breaks
- Within 2m of the edge of fire trails.

If required, defensible spaces can be landscaped to reduce their visual impact. Guidelines for landscaping defensible spaces are given in MP 5 of the *Clarence City Council Bushfire Management Strategy – Best Management Practice Guidelines*.



Figure 7 – Vegetation Management Units in the Reserve





**Table 8 – Bushfire management in the reserve**

\*MP refers to Management Procedures in *Clarence City Council Bushfire Management Strategy – Best Management Practice Guidelines*

VMU <sup>1</sup>	AREA (ha)	BUSHFIRE MANAGEMENT OBJECTIVES and PRESCRIPTIONS	NOTES and PRECAUTIONS <sup>2</sup>	LAST BURNT	NEXT BURN
1 NAV	2.6	<p>OBJECTIVES:</p> <p>Maintain the structure and floristics of the vegetation communities.</p> <p>Maintain groundcover to minimise erosion.</p> <p>Allow recruitment of canopy species.</p> <p>Reduce the extent and density of weeds.</p> <p>Remove dead vegetation from along the sides of the fire trail.</p> <p>PRESCRIPTION:</p> <p>No planned burning for the duration of this plan.</p>	Fallen trees and branches should pile burnt in an adjoining VMU.	Not known	No burning
2 NAV	0.45	<p>OBJECTIVES:</p> <p>Maintain the structure and floristics of the vegetation communities.</p> <p>Maintain groundcover to minimise erosion.</p> <p>Allow recruitment of canopy species.</p> <p>Reduce the extent and density of weeds.</p> <p>Remove dead vegetation from along the sides of the fire trail.</p> <p>PRESCRIPTION:</p> <p>Exclude from planned burning for the duration of this plan.</p>	Pile or patch burns only, if required for management.	Not known	Pile or patch burns only
3	0.83	<p>OBJECTIVES:</p> <p>Maintain as managed vegetation.</p> <p>Reduce the extent and density of weeds.</p> <p>PRESCRIPTION:</p> <p>Regularly mow/slash grassed areas to reduce bushfire hazard.</p>	<p>Contains rare plant species <i>Lepidium pseudotasmanicum</i><sup>2</sup>.</p> <p>Obtain a permit from DPIPWE Threatened Species Section before burning or other management activities that may adversely affect this species.</p>	Not known	Pile burns only

VMU <sup>1</sup>	AREA (ha)	BUSHFIRE MANAGEMENT OBJECTIVES and PRESCRIPTIONS	NOTES and PRECAUTIONS <sup>2</sup>	LAST BURNT	NEXT BURN
4 NAV	1.80	<p><b>OBJECTIVES:</b></p> <p>Maintain the structure and floristics of the vegetation communities.</p> <p>Maintain groundcover to minimise erosion.</p> <p>Allow recruitment of canopy species.</p> <p>Reduce the extent and density of weeds.</p> <p>Remove dead vegetation from along the sides of the fire trail.</p> <p><b>PRESCRIPTION:</b></p> <p>Exclude from planned burning for the duration of this plan.</p>	<p>Pile or patch burns only, if required for management.</p> <p><b>Vegetation Monitoring:</b></p> <p>Permanent Inventory Plot (PIP) PIP003 to be measured pre and post burn.</p>	Not known	Pile or patch burns only
5 NAV	0.02	<p><b>OBJECTIVE:</b></p> <p>Protect electricity transformer from fire</p> <p><b>PRESCRIPTION:</b></p> <p>Clear all trees, shrubs and bushes within 5m of the transformer.</p>		Not known	No burning
6 NAV	1.38	<p><b>OBJECTIVES:</b></p> <p>Maintain the structure and floristics of the vegetation communities.</p> <p>Maintain groundcover to minimise erosion.</p> <p>Allow recruitment of canopy species.</p> <p>Reduce the extent and density of weeds.</p> <p>Remove dead vegetation from along the sides of the fire trail.</p> <p><b>PRESCRIPTION:</b></p> <p>Exclude from planned burning for the duration of this plan.</p>	<p>Pile or patch burns only, if required for management.</p> <p><b>Vegetation Monitoring:</b></p> <p>Permanent Inventory Plot (PIP) PIP004 to be measured pre and post burn.</p>	1998 (part)	Pile or patch burns only
7 NAV	0.18	<p><b>OBJECTIVES:</b></p> <p>Maintain as outer zone to protect nearby dwellings.</p> <p>Reduce the extent and density of weeds.</p> <p><b>PRESCRIPTION:</b></p> <p>See table 6 for widths and MP 5 for outer zone specifications.</p>	<p>Pile burns only if required.</p> <p>Contains rare plant species <i>Asperula scoparia</i> subsp. <i>Scoparia</i><sup>2</sup> and <i>Vittadinia muelleri</i><sup>2</sup>.</p> <p>Obtain a permit from DPI/PWE Threatened Species Section before burning or other management activities that may adversely affect this species.</p>	Not known	Pile burns only

VMU <sup>1</sup>	AREA (ha)	BUSHFIRE MANAGEMENT OBJECTIVES and PRESCRIPTIONS	NOTES and PRECAUTIONS <sup>2</sup>	LAST BURNT	NEXT BURN
8 NAV	2.14	<p>OBJECTIVES:</p> <p>Maintain the structure and floristics of the vegetation communities.</p> <p>Maintain groundcover to minimise erosion.</p> <p>Allow recruitment of canopy species.</p> <p>Reduce the extent and density of weeds.</p> <p>Remove dead vegetation from along the sides of the fire trails.</p> <p>PRESCRIPTION:</p> <p>Exclude from planned burning for the duration of this plan.</p>	<p>Pile or patch burns only, if required for management.</p> <p>Contains rare plant species <i>Vittadinia muelleri</i><sup>2</sup>.</p> <p>Obtain a permit from DPIPWE Threatened Species Section before burning or other management activities that may adversely affect this species.</p>	Not known	Pile or patch burns only
9	0.54	<p>OBJECTIVES:</p> <p>Maintain as managed vegetation/car park.</p> <p>Reduce the extent and density of weeds.</p> <p>PRESCRIPTION:</p> <p>Regularly mow/slash grassed areas to reduce bushfire hazard.</p> <p>Maintain a 5m wide inner zone around the LEAP shelter.</p>	<p>Contains rare plant species <i>Vittadinia muelleri</i><sup>2</sup>.</p> <p>Prior to annual mowing/slashing consult with Councils Natural Resource Management Officer to identify locations of <i>Vittadinia muelleri</i><sup>2</sup>. Identified locations to be fenced and signed to be excluded from mowing until flowering/seed setting period finished. Remaining areas to be mowed.</p>	Not known	Pile burns only
10 NAV	0.09	<p>OBJECTIVES:</p> <p>Maintain as outer zone to protect nearby dwellings.</p> <p>Reduce the extent and density of weeds.</p> <p>PRESCRIPTION:</p> <p>See table 6 for widths and MP 5 for specifications.</p>	Pile burns only if required.	Not known	Pile burns only
11 NAV	2.60	<p>OBJECTIVES:</p> <p>Maintain the structure and floristics of the vegetation communities.</p> <p>Maintain groundcover to minimise erosion.</p> <p>Allow recruitment of canopy species.</p> <p>Reduce the extent and density of weeds.</p> <p>Remove dead vegetation from along the sides of the fire trails.</p> <p>PRESCRIPTION:</p> <p>Exclude from planned burning for the duration of this plan.</p>	<p>Pile or patch burns only, if required for management.</p> <p>Contains rare plant species <i>Vittadinia muelleri</i><sup>2</sup> and <i>Lepidium pseudotasmanicum</i><sup>2</sup>.</p> <p>Obtain a permit from DPIPWE Threatened Species Section before burning or other management activities that may adversely affect this species.</p>	Not known	Pile or patch burns only

VMU <sup>1</sup>	AREA (ha)	BUSHFIRE MANAGEMENT OBJECTIVES and PRESCRIPTIONS	NOTES and PRECAUTIONS <sup>2</sup>	LAST BURN	NEXT BURN
13 DVG	1.95	<p><b>OBJECTIVES:</b></p> <p>Maintain the structure and floristics of the vegetation communities.</p> <p>Maintain groundcover to minimise erosion.</p> <p>Allow recruitment of canopy species.</p> <p>Reduce the extent and density of weeds.</p> <p>Remove dead vegetation from along the sides of the cycleway</p> <p><b>PRESCRIPTION:</b></p> <p>Maintain a 5m wide inner zone around the electricity transformer.</p> <p>Autumn burn every 5 to 15 years in conjunction with the weed removal.</p>	<p>Broad-area, pile, and/or patch burns in conjunction with weed control to assist with regeneration.</p> <p>No broad-area burning during the nesting/seed setting period.</p> <p>Protect electricity transformer, adjoining houses and infrastructure in the sewage treatment works during burns.</p> <p>Contains rare plant species <i>Lepidium pseudotasmanicum</i><sup>2</sup>.</p> <p>Obtain a permit from DPI/PWE Threatened Species Section before burning or other management activities that may adversely affect this species.</p>	2009 (Part)	When fuel loadings exceed 10t/ha
14	0.01	<p><b>OBJECTIVE:</b></p> <p>Protect electricity transformer from fire</p> <p><b>PRESCRIPTION:</b></p> <p>Clear all trees, shrubs and bushes within 5m of the transformer.</p>		Not known	No burning
15 DVG	0.07	<p><b>OBJECTIVES:</b></p> <p>Maintain as outer zone to protect adjoining dwelling.</p> <p>Reduce the extent and density of weeds.</p> <p><b>PRESCRIPTION:</b></p> <p>See table 6 for widths and MP 5 for outer zone specifications.</p>	Pile burns only if required.	Not known	Pile burns only

1 - TASVEG 3.0 codes of vegetation types in the unit.

2 - Tasmanian *Threatened Species Protection Act* 1995



## 5. Bushfire Management Recommendations

The management actions recommended to meet the objectives of the plan in section 1.3 have been summarised and classified using the following criteria:

- URGENT** - Actions required to reduce a very high risk to life or property.
- ESSENTIAL** - Actions required to improve safety, or inadequate bushfire protection measures in high risk areas.
- Actions that are essential for control & suppression of bushfires, and/or conservation of threatened species.
- RECOMMENDED** - Actions required to improve inadequate bushfire protection measures in moderate risk areas.
- Actions required to ensure on-going effective bushfire management, or conservation of biodiversity.
- ROUTINE** - Maintenance of bushfire control resources and protection measures.

Urgent actions need to be undertaken as soon as possible.

Where applicable the desirable timing of other actions has been coded as follows:

- A - Inspect and maintain annually, or as specified in the relevant MP
- A/S - Timing as specified in the bushfire management plan
- 1, 2, etc - Carry out action within the time period specified (years)
- 1A, 2A etc - Construct within the next 1, 2 etc years and then inspect and maintain annually, or as specified in the relevant MP.

Management actions have been linked to generic MP's in *Clarence City Council Bushfire Management Strategy – Best Management Practice Guidelines*. Performance indicators have also been provided for each management action. These should be used to determine if the specific objectives of this BMP have been achieved. They should be monitored when the plan is revised every 5 years. Where performance targets are not being achieved, a review of the relevant portion of the plan should be undertaken.

## 5.1 Management Action Summary

RECOMMENDED ACTION	OBJECTIVE (section 1.3)	PRIORITY	RESPONSIBILITY	PERFORMANCE INDICATORS
1) Develop a community education program, including an information sheet as outlined in section 5.7 of the Bushfire Management Strategy, to inform the community of bushfire management issues in the reserve and to ask them to report any smoke, or suspicious activity, on days of total fire bans to the police.	1, 2	REC - 1	Clarence City Council Fire and Bushland Management  Tasmania Fire Service	Educational material distributed to adjoining residents, reserve users and other interest groups.  Reduction in the incidence of illegal fires on and around the reserve.
2) Implement the bushfire protection measures in section 2.4 for protection of built assets in and around the reserve.	1, 4	E	Clarence City Council Fire and Bushland Management  Private landowners  TasWater	Bushfire protection measures in the reserve implemented and maintained.  No assets lost to fires originating in, or moving through, the reserve.
3) Erect appropriate signs on tracks and roads to warn reserve users of planned burns.	1	E	Clarence City Council Fire and Bushland Management	No users of the reserve injured by planned burns.
4) Ensure that authorities planning bushfire control operations in the reserve are aware of the location of cultural heritage assets, and ensure they are not damaged by machinery movement or other activities.	4	REC	Clarence City Council Fire and Bushland Management  Tasmania Fire Service	No cultural heritage assets damaged during bushfire management or control operations in the reserve.
5) Implement the recovery procedures in MP 12 following planned burns and bushfires.	1, 5, 6	E	Clarence City Council Fire and Bushland Management	Post-fire recovery carried out after planned burns and bushfires.  No users of the reserve injured by fires or the effects of fires.

RECOMMENDED ACTION	OBJECTIVE (section 1.3)	PRIORITY	RESPONSIBILITY	PERFORMANCE INDICATORS
6) Ensure all fire trails shown on figure 5 are inspected and maintained in a trafficable condition at all times according to MP 2.	2, 4	ROU - A	Clarence City Council Fire and Bushland Management	Vehicle access routes inspected as required in MP 2, and maintained in a trafficable condition for fire service vehicles.
7) Inspect gates regularly to ensure that locks are in place and functioning. Ensure that the local TFS brigade and other emergency services have keys to the gates/bollards giving access to the reserve.	2	ROU - A	Clarence City Council Fire and Bushland Management	No unauthorised use of fire trails in the reserve.  Security lock system implemented, keys distributed to TFS brigades and other emergency services.
8) Carry out bushfire management according to the schedule in table 8.	2, 3, 4, 5	E - A/S	Clarence City Council Fire and Bushland Management	No decline in the populations or distribution of threatened species.  Structure and floristics of native plant communities maintained.
9) Integrate planned burning into the weed management and bush regeneration program for the reserve according to MP 8. Ensure follow-up weeding is carried out after bushfires.	3, 5	REC - A/S	Clarence City Council Fire and Bushland Management  The Rosny Montagu Bay Coastcare Group Inc.	All declared noxious weeds removed reduction in extent of other weeds.
10) Consult with the DPIPWE Threatened Species Section when carrying out bushfire management activities that may affect populations of threatened flora or fauna.	3	E	Clarence City Council DPIPWE Threatened Species Section	All planned burns carried out according to the requirements of threatened flora and fauna.  All required permits obtained before burns or other management activities likely to affect threatened species.

RECOMMENDED ACTION	OBJECTIVE (section 1.3)	PRIORITY	RESPONSIBILITY	PERFORMANCE INDICATORS
11) Avoid burning the whole of any population of a threatened or rare plant species in a single bushfire.	3	E	Clarence City Council Fire and Bushland Management  Tasmania Fire Service	All planned burns carried out according to the requirements of threatened flora and fauna.  No decline in the populations of threatened or rare flora and fauna due to bushfire.
12) Carry out vegetation monitoring as detailed in section 5.10 of the Bushfire Management Strategy including the recovery of any populations of threatened or rare flora and fauna burnt by bushfires or planned burns.	3, 5	E	Clarence City Council Fire and Bushland Management  DPIPWE Threatened Species Section	Vegetation monitoring plots set up and surveyed and data on the population size and extent of threatened species recorded before planned burns.  Regular follow-up surveys undertaken.
13) Regularly revise burning schedules and prescriptions to ensure they incorporate the most recent information on the fire ecology of flora, fauna and plant communities of conservation value in the reserve.	3, 5	REC - A/S	Clarence City Council Fire and Bushland Management	BMP revised every 5 years.
14) Coordinate bushfire management, weed management and other management activities using the procedure in MP 9.	3, 5	REC - A	Clarence City Council  The Rosny Montagu Bay Coastcare Group Inc.	Meetings held as recommended in MP 9 and the outcomes recorded.
15) Ensure all personnel engaged in planned burning activities in the reserve have the appropriate level of training and equipment as outlined in the Bushfire Management Strategy, and the minimum equipment listed in MP 7.	1, 2	E	Clarence City Council Fire and Bushland Management  Tasmania Fire Service	All personnel are able to demonstrate the required level of training and minimum levels of equipment.

RECOMMENDED ACTION	OBJECTIVE (section 1.3)	PRIORITY	RESPONSIBILITY	PERFORMANCE INDICATORS
16) Record bushfire management activities and bushfires using the procedures in MPs 10 and 11.	3, 4,5	REC - A/S	Clarence City Council Fire and Bushland Management	Records maintained of all bushfire management activities.
17) Give induction of revised BMP to The Rosny Montagu Bay Coastcare Group Inc.	1,2,3,4	REC - A	Clarence City Council Fire and Bushland  Clarence City Council Natural Areas Volunteer Coordinator  The Rosny Montagu Bay Coastcare Group Inc.	No heaped vegetation left unburnt during fire permit period.  Heaped vegetation to be placed in safe position i.e.: not beneath or directly adjacent to trees/road verge.  No planting in inner zones and outer zones.

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# Appendix A

**Implementation of the previous bushfire management plan**



The following codes have been used in assessing implementation of the previous Bushfire Management Plan for Rosny Foreshore Reserve:

IS – Implemented successfully

PI – Partly implemented

NI – Not implemented

NA – Not applicable (to be implemented at a later time, or dependent on another incident or action).

RECOMMENDED ACTION	CODE	COMMENT
1) Develop a community education program, including an information sheet as outlined in section 5.7 of the Bushfire Management Strategy, to inform the community of bushfire management issues in the reserve and to ask them to report any smoke, or suspicious activity, on days of total fire bans to the police.	PI	A formalised community education program has not been designed. Public exhibition of Councils <i>Bushfire Management Strategy for Council Owned and Controlled Land</i> , <i>Bushfire Management Strategy Best Management Practice Guidelines</i> and the previous BMP for the park has taken place.  Various TFS community bushfire preparation events have been attended and represented by Council Fire and Bushland Management throughout municipality.
2) Implement the bushfire protection measures in section 2.4 for protection of built assets in and around the reserve.	PI	Some of the proposed management strategies in table 6 have not been implemented. In particular recently planted trees around “LEAP” shelter by Landcare group.
3) Erect appropriate signs on tracks and roads to warn reserve users of planned burns.	IS	Appropriate signage erected during heap burning operations.
4) Ensure that authorities planning bushfire control operations in the reserve are aware of the location of cultural heritage assets, and ensure they are not damaged by machinery movement or other activities.	NI	Previous BMP not issued to TFS. Public display has been on Clarence City Council website.  No cultural heritage sites damaged during previous BMP.  Future reviews/Geographic Information System (GIS) data to be given to TFS upon completion of review process.
5) Implement the recovery procedures in MP 12 following planned burns and bushfires.	NA	No broadscale planned burning or bushfires occurred within the reserve throughout the duration of the previous BMP.

RECOMMENDED ACTION	CODE	COMMENT
6) Ensure all fire trails shown on figure 5 are inspected and maintained in a trafficable condition at all times according to MP 2.	IS	All fire trails inspected periodically and maintained to relevant standards.
7) Inspect gates regularly to ensure that locks are in place and functioning. Ensure that the local TFS brigade and other emergency services have keys to the gates on trails giving access to the reserve.	IS	All locks maintained and inspected regularly. Keys issued as required to emergency services.
8) Carry out bushfire management according to the schedule in table 9.	IS	All operations scheduled in table 8 carried out. Some are ongoing eg: removing dead vegetation/fallen limbs from sides of fire trail.
9) Integrate planned burning into the weed management and bush regeneration program for the reserve according to MP 8. Ensure follow-up weeding is carried out after bushfires.	IS	Heap burning has been used to remove weed residue throughout the previous BMP. Follow up monitoring and treatment has occurred.
10) Consult with the DPIPWE Threatened Species Section when carrying out bushfire management activities that may affect populations of threatened flora or fauna.	NA	No bushfire management activities required DPIPWE consultation throughout duration of previous BMP.
11) Avoid burning the whole of any population of a threatened or rare plant species in a single bushfire.	NA	No broadscale planned burning or bushfires occurred throughout duration of previous BMP.
12) Carry out vegetation monitoring as detailed in section 5.10 of the Bushfire Management Strategy including the recovery of any populations of threatened or rare flora and fauna burnt by bushfires or planned burns.	IS	Two permanent vegetation monitoring plots were established in 2013 in VMU 4 & 6 by Councils Fire and Bushland Management. These are reassessed annually in Councils Fire and Bushland Managements Vegetation Monitoring Program.
13) Regularly revise burning schedules and prescriptions to ensure they incorporate the most recent information on the fire ecology of flora, fauna and plant communities of conservation value in the reserve.	IS	Regimes and prescriptions have been analysed throughout life of previous BMP. During 2015 review process all VMUs regimes, prescriptions and conservation values have been evaluated to suit best outcomes for asset protection and ecological burning.

RECOMMENDED ACTION	CODE	COMMENT
14) Coordinate bushfire management, weed management and other management activities using the procedure in MP 9.	PI	<p>Coordination of most activities has been occurring. Some vegetation has been heaped by Landcare group without informing Councils Fire and Bushland Management, resulting in unburnt heaps within reserve during summer 2015.</p> <p>Meetings as recommended in MP9 not carried out.</p>
15) Ensure all personnel engaged in planned burning activities in the reserve have the appropriate level of training and equipment as outlined in the bushfire management strategy, and the minimum equipment listed in MP 7.	IS	Extensive training has been delivered to Councils Fire and Bushland Crew during duration of previous BMP. Ongoing training will be recommended on a needs basis.
16) Record bushfire management activities and bushfires using the procedures in MPs 10 and 11.	IS	Since 2013 Councils Fire and Bushland Management has developed an extensive GIS Fire Management context. All available historical fire management information has been input and updated annually.

# Appendix B

**Summary of community concerns and comments  
in the initial round of community consultation**

<b>COMMUNITY CONCERNS and COMMENTS</b>	<b>COUNCIL'S COMMENT</b>
Comment on large accumulation of dead wood along sealed track.	Councils Fire and Bushland Crew will conduct further heap burning in areas identified with high fuel loadings.
Comment on thick vegetation in reserve makes an unsafe feeling when walking along sealed track. Resident also commented does not allow children to play in reserve as cannot see them.	This is not a bushfire management issue.
Comment on unburnt bonfires left in reserve during summer 2015.	Councils Fire and Bushland Crew need to be notified when bonfires are made by third parties so they can be burnt. In this instance bonfires were created by Landcare Group and TAFE students. Explained importance of strengthening communication between parties.
Comments on grassed area within reserve opposite 62 Rosny Esplanade not being mowed, left untidy and not being able to use as grass to high. No communication from Council as why not being maintained.	Explained that there has been a communication issue between stakeholders regarding threatened flora present in grassed area and restrictions on when can and cannot be mowed. Explained that I will relay this back to appropriate Council staff and include in table 8 of reviewed BMP.
Comment that Landcare Group has priority over all other users within reserve regarding use and maintenance.	This is not a bushfire management issue. Commented this is untrue, it is a multi-user reserve many stakeholders and comprises need to be made.
Comment that Council make many management plans but they are never implemented.	Noted.
Query on threat of bushfire within reserve.	Commented on dominant north-west fire conditions in Tasmania and days with very high Fire Danger Index rating fires may travel fast through the extent of the reserve. Rosny Esplanade acts as an outer zone. Since 2012 Council has fulltime Fire and Bushland Crew conducting regular fuel reduction operations with Council reserves.
Comment for Council to plant vegetation within reserve that does not obstruct views from homes.	This is not a bushfire management issue.
Request for continued thinning of vegetation and heap burning.	Councils Fire and Bushland Crew will continue thinning and heap burning throughout duration of next BMP.
Comment that Landcare group is small but very passionate and play important role towards caring for the reserve.	Agree with comments.
Comment on recent clearing and heap burning adjacent to sewerage treatment plant has been good, however the remainder of the reserve needs similar.	Council Fire and Bushland Management targets areas for maximum risk reduction for each year's works program using a relative risk ranking. Further work will commence as resources allow.



COMMUNITY CONCERNS and COMMENTS	COUNCIL'S COMMENT
Written comment on using a wood chipper to remove fallen branches as opposed to burning onsite, or remove from site and burn elsewhere.	Council will continue to heap burn onsite. It is uneconomical to transport and burn elsewhere, in addition to implications with transporting weeds and seeds to other locations with municipality.
Written comment that the Landcare group is in general agreement with Councils BMP for reserve.	Acknowledged and stress importance of continuing relationship between Councils Fire and Bushland Management and Landcare group.
Written comment from Landcare group on recommendation for plant species to use for revegetation work within reserve.	Noted.
Written comment on limited maintenance of bushland adjacent resident's home in Bastick Street.	Council has and will continue to maintain this area. Recommend resident contact Councils Fire and Bushland Vegetation Management Co-ordinator with any fire related concerns. BMP review process will assist in identifying areas currently requiring maintenance.