

Glamorgan Spring Bay Council  
Swanwick Reserve



**NATIVE FLORA AND FAUNA  
MANAGEMENT PLAN  
2014 - 2019**



## SUMMARY

Glamorgan Spring Bay Council (GSBC) has developed this five year Native Flora and Fauna Management Plan for the Swanwick Coastal Reserve under their management. The intent of the Plan is to provide Council with a strategic approach to the sustainable management of the vegetation and other natural values within the Reserve.

The condition of the remnant native vegetation in the Reserve is excellent and includes the following communities:

- Coastal scrub (SSC)
- *Acacia longifolia* coastal scrub (SAL)

None of these are listed as threatened communities under the *Nature Conservation Act 2002*.

Other TASVEG mapping units present are:

- Regenerating cleared land (FRG).

No threatened plant or fauna species, listed under either the Tasmanian *Threatened Species Protection Act 1995* (TSPA) or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA), are present in the Reserve.

Notable weeds are mapped and described. These include 2 species of ‘declared weeds’ under the *Weed Management Act 1999* and 1 other species considered to be an environmental weed.

Management issues identified include:

- Native vegetation, flora and fauna
- Weeds
- Illegal clearing of vegetation
- Reserve boundaries
- Fire

Recommendations and actions plans are provided to deal with these issues and guide management of the Reserve for all of its natural values whilst not compromising its associated cultural and social values.

## **ACKNOWLEDGMENTS**

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# **1. INTRODUCTION**

## **1.1 BACKGROUND AND OBJECTIVES**

Glamorgan Spring Bay Council has developed this five year Native Flora and Fauna Management Plan for the Swanwick Coastal Reserve under their management. The intent of the Plan is to provide Council with a strategic approach to the management of the Reserve's natural values whilst recognising and considering the Reserves' significant cultural and social values.

Therefore the main objectives of the Plan are to:

- Identify the natural, and associated cultural and social, values of the Reserve,
- Identify threats to the natural values,
- Provide action plans to ensure that the Reserve is sustainably managed to preserve and enhance all of its natural values, in accordance with the Tasmanian Reserve Management Code of Practice 2003<sup>1</sup>, whilst not compromising its cultural and social values, and
- Raise community awareness of the values of the Reserve and thereby encourage participation in activities that minimise threats to these values.

## **1.2 GENERAL DESCRIPTION OF THE RESERVE**

Swanwick is situated on the central east coast, in the Glamorgan Spring Bay municipality and in the Tasmanian South East bioregion<sup>2</sup>. It occurs in the dry subhumid warm climatic zone where the annual average rainfall is in the region of 600 mm. The altitude across the Reserve ranges from approximately 10 m to 15 m above sea level.

The location of the Reserve is depicted in Figure 1. It is a long and relatively narrow reserve that extends along a south-west to north-east axis from the landward side of the beach dunes to the edge of Hazards View Drive. A deep drainage line runs through the middle of the Reserve down towards the beach (Plate 1).

The Reserve also includes a footpath easement that connects Hazards View Drive to the end of Swanwick Drive (Plate 2). A beach access track runs from Hazards View Drive along the south-eastern edge of the Reserve (Plate 3). There is also another recently illegally cleared track from Hazards View Drive into the centre of the Reserve (Plate 4).

The vegetation of the Reserve is dominated by native coastal communities. One small mown area with some remnant native trees and shrubs is present adjacent to Hazards View Drive.

Details of the land tenure and management responsibilities of the Reserve are provided in the table below. Section 2 provides a more detailed description of the natural values and other biological characteristics of the Reserve. Section 3 provides details of other values of the Reserve.

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<sup>1</sup> Parks and Wildlife Service, Forestry Tasmania and Department of Primary Industries, Water and Environment 2003.

<sup>2</sup> IBRA5 – Peters & Thackway 1998. A bioregion is an area of land with similar environmental, physical and climatic conditions and containing characteristic ecosystems.

### Land tenure and management responsibilities:

P.I.D.	Location	Extent (ha)	Land tenure	Management responsibility
7288545	Footway joining the Reserve to Swanwick Drive	0.1	Owner: Glamorgan Spring Bay Council Parcel type: Casement Parcel description: Footway	Glamorgan Spring Bay Council
7288545	Reserve between dunes and Hazards View Drive	0.5	Owner: Glamorgan Spring Bay Council Parcel type: Authority Land Parcel description: Local Government Authority	Glamorgan Spring Bay Council
3114628	Reserve between dunes and Hazards View Drive	0.6	Owner: Glamorgan Spring Bay Council Parcel type: Authority Land Parcel description: Local Government Authority	Glamorgan Spring Bay Council

**Figure 1 – Location of Swanwick Reserve.**







Plate 1: Swanwick Reserve.



Plate 2: Footpath connecting Hazards View Drive with Swanwick Drive.



Plate 3: Beach access track.



Plate 4: Section of illegally cleared track.



## 2. BIOLOGICAL CHARACTERISTICS

The following details the natural values (vegetation, flora and fauna habitat) and other biological characteristics (weeds and plant pathogens) of the Reserve.

The information provided below is based on the results of a recent survey. The methods adopted for the survey and for assessment of conservation significance are provided in Appendix 1.

A list of vascular plants that occur within the Reserve is provided in Appendix 2. A review of the potential of the Reserve to support threatened species known to occur in the vicinity is provided in Appendices 3A and 3B.

The Council's legislative obligations in relation to the management of threatened species and communities as well as weeds occurring in the Reserve are provided in Appendix 4A. Other legislation and policies relevant to reserve management are provided in Appendix 4B.

### 2.1 VEGETATION

The vegetation has been classified according to the TASVEG<sup>3</sup>. Figure 2 depicts the vegetation communities that were mapped during the survey. In summary, across the Reserve there are two native vegetation communities present, both of which are coastal scrub communities. The small mown section is classified as cleared land.

Despite the recent illegal clearing of a track, the condition of the native vegetation is excellent with weeds occurring mainly on the periphery of the Reserve. Detailed descriptions of the significant (declared and environmental) weeds present are provided in section 2.6.

Table 1 provides a list of all mapping units together with the conservation status of the native vegetation. Detailed descriptions of each mapping unit are provided following table 1.

**Table 1. Native vegetation communities and other TASVEG mapping units in the Reserve.**

TASVEG code	TASVEG community name	Listed under the Tasmanian <i>Nature Conservation Act 2002</i>
<b>NATIVE VEGETATION COMMUNITIES</b>		
SSC	Coastal scrub	No
SAL	<i>Acacia longifolia</i> (coast wattle) coastal scrub	No
<b>NON-NATIVE VEGETATION</b>		
FRG	Regenerating cleared land	

<sup>3</sup> TASVEG is the abbreviation for the Tasmanian Vegetation Mapping Program (the vegetation map of the entire State)

### **Coastal scrub (SSC)**

This community covers the north-eastern section of the Reserve. The dense canopy of trees and tall shrubs is dominated by black wattle (*Acacia mearnsii*), silver banksia (*Banksia marginata*) and white kunzea (*Kunzea ambigua*). Other smaller shrubs include common teatree (*Leptospermum scoparium*) and coast beardheath (*Leucopogon parviflorus*). Common ground layer species include sagg (*Lomandra longifolia*), silver tussock grass (*Poa labillardierei*), coastal saltbush (*Rhagodia candolleana*), bower spinach (*Tetragonia implexicoma*) and common buzzy (*Acaena novae-zelandiae*).

### **Acacia longifolia (coast wattle) coastal scrub (SAL)**

This community occurs in the south-west section of the Reserve, between the beach and the SSC community. Species diversity in this community is typically low. Coast wattle (*Acacia longifolia* subsp. *sophorae*) is dominant but other shrubs present are coast beardheath and common boobialla (*Myoporum insulare*). Common ground layer species include coastal saltbush, bower spinach and coast swordspike (*Lepidosperma gladiatum*). Closer to the beach the introduced marram grass (*Ammophila arenaria*) is common.

### **Regenerating clear land (FRG)**

This is the small mown section adjacent to Hazards View Drive. Prior to the clearance of native vegetation it was obviously part of the SSC community as remnant black wattles and silver banksias are still present. The ground layer is dominated by native grasses and sagg although some gorse and weedy herbs are also present.

## **2.2 FLORA OF CONSERVATION SIGNIFICANCE**

A total of 48 vascular plant species were recorded during the survey including 9 introduced species. A full species list is given in Appendix 2.

No threatened species, listed under either the Tasmanian *Threatened Species Protection Act 1995* (TSPA) or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA), were recorded.

Appendix 3A lists a total of 45 species of conservation significance previously recorded within the vicinity together with a description of their preferred habitat and an assessment of their likely occurrence within the Reserve.

In summary, the Reserve potentially provides habitat for only a very few of these species. For example, the herb coast houndstongue may have been missed during the survey. Further targeted surveys during the appropriate flowering time would be required to determine if it is present.

It is worth noting here that coastal vegetation communities, typical of those found in the Reserve, generally do not support many threatened species. Most of the species listed in Appendix 3A are known from the heathland communities near Coles Bay that are 'hotspots' for threatened species.

## **2.3 FAUNA HABITAT**

The dense nature of vegetation across the Reserve, together with the interface with the marine environment and the drainage line, equates to a diverse range of habitat opportunities for native fauna, most notably for terrestrial birds, mammals, reptiles and a variety of invertebrates.

## **2.4 FAUNA OF CONSERVATION SIGNIFICANCE**

Appendix 3B lists threatened fauna species that have been recorded within the vicinity of the Reserve or that are considered to have the potential to occur. A brief discussion is given to indicate the reasons why habitat is suitable or unsuitable.

In summary, habitat present in the Reserve does not provide core breeding habitat for any threatened fauna. However, the dense nature of the vegetation may provide some shelter habitat for threatened mammal species.

## 2.5 WEEDS

Introduced species recorded during the survey numbered nine. Two of these are ‘declared weeds’ under the Tasmanian *Weed Management Act 1999*, both of which are also Weeds of National Significance (WONS). Other significant environmental weeds recorded were introduced wattles. All of these species are listed in Tables 2A and 2B, a photograph of each is provided in Appendix 5, and their locations are depicted in Figure 2.

**Table 2A. Declared weeds recorded in the Reserve.**

Common name	Scientific name	WONS	Number of locations	Total number of plants
african boxthorn	<i>Lycium ferocissimum</i>	WONS	1	1
gorse	<i>Ulex europaeus</i>	WONS	1	Several mown plants

**Table 2B. Other environmental weeds recorded in the Reserve.**

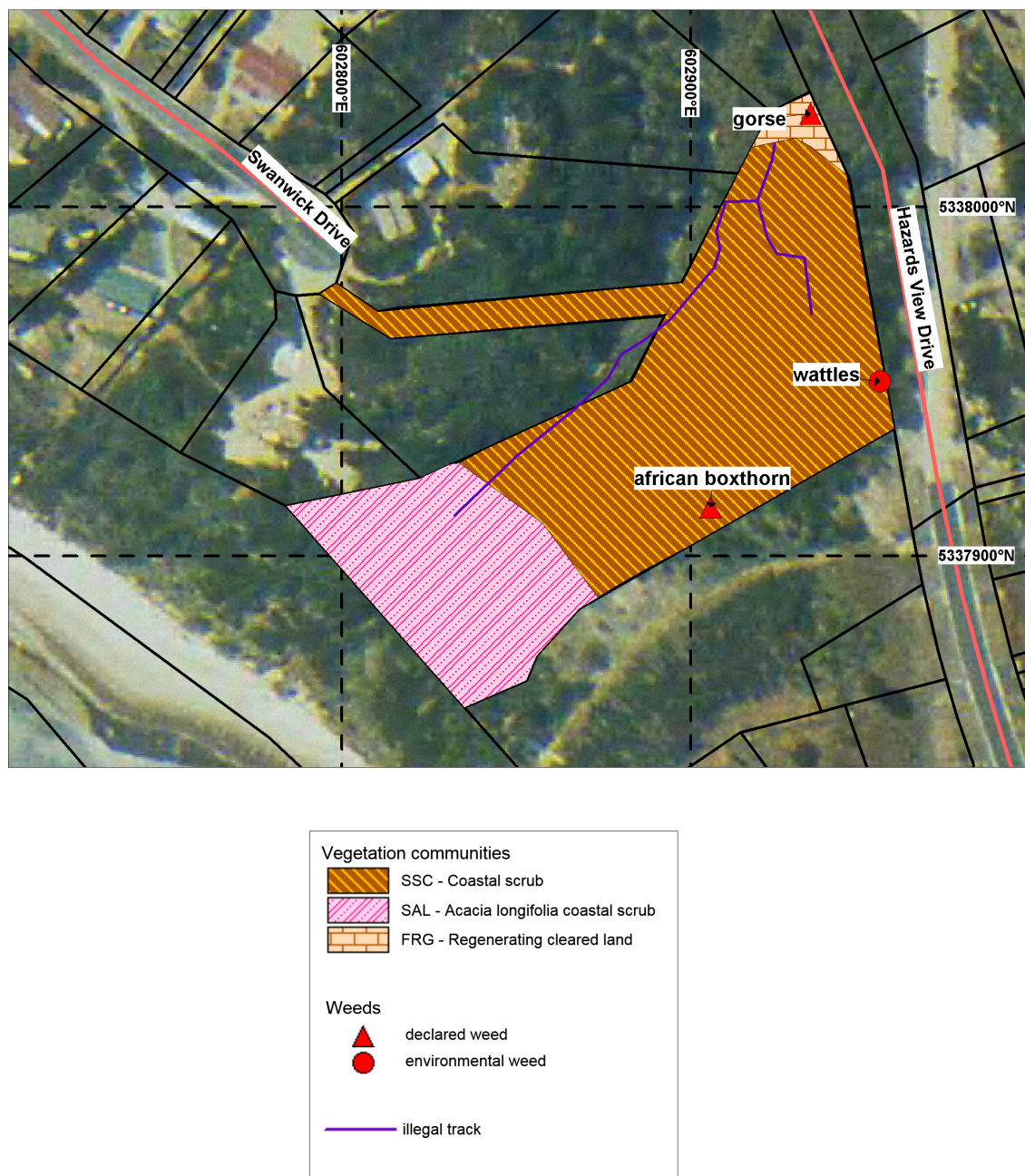
Common name	Scientific name	Number of locations	Total number of plants
wattle	<i>Acacia</i> sp.	1	3

## 2.6 *PHYTOPHTHORA CINNAMOMI*

Commonly known as dieback or root rot fungus, *P. cinnamomi* is a soil borne fungal pathogen that invades the roots of plants and starves them of nutrients and water. Heath communities are the most susceptible to infection with a consequent serious loss of species diversity. It is generally spread by the transportation of soil on vehicles, construction machinery and walking boots. The establishment and spread of *P. cinnamomi* is favoured in areas that receive above 600 mm of rainfall per annum, are below 800 m altitude and have a predominantly heathy shrub layer.

Swanwick falls within the known distribution area of *P. cinnamomi* and within its favoured climatic zone. However, no vegetation communities that are highly susceptible to the fungus are present in the Reserve and no obvious evidence of its presence was observed.

**Figure 2 – Swanwick Reserve: vegetation, significant weeds and illegal tracks.**



### **3. OTHER RESERVE VALUES**

#### **3.1 CULTURAL HERITAGE**

- **Aboriginal heritage**

The Reserve holds cultural significance for the contemporary Aboriginal community. Cultural heritage values connect contemporary Aboriginal Tasmania with the people and events of the past. The Toorernomairremener band from the Oyster Bay nation occupied the area at the time of European arrival.

- **Post European settlement heritage**

The Post European settlement heritage values of the Reserve are closely linked with the histories of the town and the municipality. These have been documented in various publications, including Davenport & Amos (1988) and Guiler (1998).

Many other publications and historical documents and photographs on both Aboriginal and Post European Settlement heritage are housed at the Glamorgan Spring Bay Historical Society Inc, which is located at 22 Franklin Street, Swansea.

#### **3.2 RECREATIONAL VALUES**

The Reserve provides limited opportunities for recreation except for access to the beach and to Swanwick Drive. The access tracks are utilised by both residents and visitors.

#### **3.3 EDUCATIONAL VALUES**

All the reserves in the Glamorgan Spring Bay area have educational value, whether it be as an outdoor classroom for our local schoolchildren or for visitors to the area interested in our natural and cultural history. There are many opportunities to communicate the many values of our reserves to the locals and visitors alike, whether that be through interpretation signage, walk and talks over the summer months or information brochures and articles in the local newsletters. In the future other technology could be utilised such as smart phones to provide interaction educational experiences.

#### **3.4 SUMMARY OF OTHER VALUES**

Although there are many other values in our reserves this plan focuses on the management of the native vegetation and associated biodiversity values. Other values particularly recreational values are addressed through other processes and resourcing avenues such as Council's capital works and renewal programs for walking tracks, recreational facilities, parks and gardens.

## **4. MANAGEMENT ISSUES**

### **4.1 NATIVE VEGETATION, FLORA AND FAUNA**

Maintaining the natural values of reserves is a primary objective of management. Protecting native vegetation communities is the most effective way of conserving flora and fauna values. A high priority should be given to managing threatening processes or activities that are likely to have an impact on species and communities of high conservation significance.

The Swanwick Reserve does not support threatened vegetation communities or threatened flora and does not provide core breeding habitat for any threatened fauna species. However, the vegetation is in excellent condition despite the recent illegal clearing. Maintaining the condition of the vegetation should be the main objective of management. (The illegal clearing issue is dealt with below in section 4.3.)

**Recommendation 1 – Train Council staff who are involved with day-to-day management of the Reserve to recognise the natural values present and provide them with strategies to protect these values during management activities.**

### **4.2 WEEDS**

The Glamorgan Spring Bay Weed Management Plan (GSBWMP)<sup>4</sup> recognise that weeds are one of the most serious threats to the natural environment. Any plant growing outside its natural range is a potential weed that may have a detrimental effect on the natural values of reserves. Management objectives include eradicating weeds or preventing or minimising their spread to native vegetation communities. The survey conducted for this Plan provides a detailed inventory of weeds and the basis for a strategic approach to their management.

Firstly, it is important in weed management planning in an urban context such as this to recognise the futility of eliminating all non-native species. Hence, in the area classified as Regenerating cleared land (FRG) adjacent to Hazards View Drive, which contains introduced herbs, the focus of weed management should be containment. Maintaining the mowing regime here should help minimise seed set and spread of these weeds.

Priorities for weed control should focus on declared and other environmental weeds that are having, or have the potential to have, a negative impact upon the native flora and which are also manageable. The three significant weeds, (gorse, African boxthorn and wattles) are currently in very low numbers and hence relatively little effort is currently required to eradicate them.

**Recommendation 2 – Control the gorse, African boxthorn and wattles.**

**Recommendation 3 – Regularly monitor for re-growth of gorse, African boxthorn and wattles, and take follow-up control action as necessary.**

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<sup>4</sup> Glamorgan Spring Bay Natural Resource Management Committee 2008



**Recommendation 4 – Maintain the mowing regime in the area of FRG.**

It is also important to acknowledge that the presence of many weeds in urban areas is often a consequence of the proximity of the reserves to gardens. Gardens can provide a source of weed infestation as well as ongoing infestation of current weeds. Therefore, in conjunction with direct on-ground weed control actions, a campaign to educate residents about the consequences associated with garden escapes and garden waste dumping should be ongoing.

**Recommendation 5 – Continue to raise community awareness of the values present in their local environment focusing on the threats posed to these values most notably by garden escape plants and dumping of garden cuttings. Such a campaign could include:**

- making this Plan publicly available through the GSBC website,
- a public presentation/workshop,
- brochures/posters/articles in local news letter, and
- field days and working bees.

#### **4.3 ILLEGAL CLEARING OF VEGETATION**

As noted above, there is a recently illegally cleared track from Hazards View Drive into the centre of the Reserve. (In Figure 2, which depicts the location of this track, it appears that the clearing has extended onto the adjacent private property. It should be noted that the track was mapped using a hand-held GPS which may have an error factor of up to 10 m. Consequently, the location of the track should be interpreted with caution.)

Exposure of bare ground along sections of this track leaves the Reserve susceptible to weed invasion. Therefore the track should be monitored regularly for weeds and rehabilitation undertaken as soon as possible.

**Recommendation 6 – Monitor illegally cleared track for weed invasion and undertake weed control measures as necessary.**

**Recommendation 7 – Rehabilitation of illegally cleared track:**

- Place boulders at the start of the track to prevent vehicles entering.
- Plant areas of bare ground with native species that occur in the Reserve. (See Appendix 2 for a list of appropriate species.)
- Monitor the success of plantings and undertake follow-up plantings as necessary

Illegal clearing of vegetation or individual trees is an issue that Council deals with on a fairly regularly basis. Usually it is difficult for Council to apprehend or prosecute offenders. Therefore, alternative strategies are required to deal with this issue. This could include the erection of Bush Watch signs. Bush Watch is a Tasmania Police initiative that encourages the public to report unusual, suspicious or criminal activity and vandalism to the Police. The signs provide a phone number (131 444) which is a direct link to the

police. The GSBC Natural Resource Management (NRM) Committee is a member of Bush Watch.

**Recommendation 8 – Raise community awareness of the problem illegal clearing, outlining the legislative implications and encouraging people to report offenders to the police. This should be combined with Recommendation 5, but also involve the erection of signage, such as ‘Bush Watch’ signs. Investigate the development of a ‘by-law’ that addresses the illegal clearing of vegetation on Council managed public land.**

#### **4.4 RESERVE BOUNDARIES**

In managing any reserve it is obviously important that reserve boundaries are known to both reserve managers and adjacent landowners. There are issues of undefined boundaries in the Reserve.

On-ground marking of undefined boundaries may be necessary in some instances in order to clarify the council’s authority in implementing some of the actions required to protect the reserve values. Such on-ground markers could include fencing or alternatively it may merely require a verbal recognition by other land owners.

**Recommendation 9 - Clarify Reserve boundaries. Liaise with landowners regarding the most appropriate way to more clearly define these boundaries and, where deemed necessary, install on-ground boundary markers.**

#### **4.5 FIRE**

The primary objective of fire management in reserves is to protect human life and property from fire. Other objectives include the maintenance of biodiversity through appropriate fire regimes and the of protection conservation values from the adverse impacts of fire in so far as these are consistent with the primary objective.

Developing a fire management plan is complex. Many native vegetation communities and plant species require fire to trigger regeneration. Conversely, some communities and species are killed by fire depending on factors such as their growth stage, fire frequency and fire intensity. Therefore the maintenance of a mosaic of fire age classes is preferable. Total exclusion of fire may result in periodic and devastating hot summer wildfires. Conversely, over frequent and comprehensive fuel reduction burning will also modify the structure and composition of vegetation.

However, in a coastal setting it is generally recommended to exclude fire as fire can lead to the destabilisation of coastal landforms. The use of fire as a tool to reduce fuel loads in urban reserves can also be controversial as well as hazardous to people and property. Furthermore, maintaining biodiversity values whilst minimising wildfire hazard may not always necessarily require the use of fire. Therefore alternative approaches, such as raking litter and removing dead wood by hand is preferable<sup>5</sup>.

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<sup>5</sup> Wood & Knee 1999

**Recommendation 10 – Conduct regular assessments of fuel loads and remove litter and dead wood as necessary but retain at least some large habitat logs if they are present.**

Notwithstanding the above, small patch burns may be periodically necessary if, for example, localised fuel loads become unmanageable by other removal methods, or, as a management tool for particular weed infestations. In such cases a fire management plan should be developed with the advice of the Tasmania Fire Service.

**Recommendation 11 – Patch burn as the need arises in accordance with a fire management plan developed in consultation with the Tasmania Fire Service.**

#### **4.6 PLAN REVIEW**

This Native Flora and Fauna Management Plan covers the 5 year period from 2014 to 2019. A review of the Plan, including the success in achieving its objectives, is due to be conducted in 2019 and an updated Plan will be developed. This process will be ongoing for each consecutive 5 year period.

**Recommendation 12 – Review the current Native Flora and Fauna Management Plan near the end of the current 5 year period, including the success in achieving its objectives, and develop a Plan for the period 2020 to 2024.**

## **5. ACTION PLANS**

The following tables provide action plans that are based on the above recommendations. Table 5.1 is a weed management action plan and Table 5.2 includes all other actions. Each action has been assigned a time frame and a performance measure.

With regard to weeds, the distribution of the declared and other environmental weeds recorded during the survey is provided in Figure 2 and a photo of each weed is provided in Appendices 5A and 5B. The maps and photos should be used as a resource to guide and direct weed control actions. However, the maps should be used with caution as the point locations of weeds were recorded with a hand-held gps with a potential error of several metres. Furthermore, the maps should not be considered as a comprehensive guide as some weeds may have emerged since surveys were undertaken and others may have been missed. Additionally, as weed control is an ongoing task performed by Council Officers, some weeds may have already been treated.

## 5.1 WEED ACTION PLAN

Recommendation No.	Recommendation / Specific Action	Timing	Performance Measure
2	Control gorse, African boxthorn and wattles. (See Tables 2A & 2B and Appendix 5.)	2014	Eradication of weeds.
3	Regularly monitor for re-growth of gorse, African boxthorn and wattles, and take follow-up control action as necessary.	At least once a year in Spring and opportunistically	Eradication of weeds
4	Maintain the mowing regime in the area of FRG to minimise seed set and spread of herbaceous weeds.	Ongoing	No further spread of weeds
6	Monitor illegally cleared track for weed invasion and undertake weed control action as necessary.	Ongoing	No new weeds in the Reserve
12	Review the success of weed control actions through further weed mapping and develop a new weed action plan.	July-December 2019	New weed action plan in place for 2020-2024.

## 5.2 GENERAL ACTION PLAN

Recommendation No.	Recommendation / Action	Timing	Performance Measure
1	Train Council staff who are involved with day-to-day management of the Reserve to recognise the natural values present and provide them with strategies to protect these values during management activities.	2015	Education of Council staff and added protection of Reserve natural values.
5	Continue to raise community awareness of the values present in their local environment focusing on the threats posed to these values most notably by garden escape plants and dumping of garden cuttings. Such a campaign should include: - making this Plan publicly available through the GSBC website, - a public presentation/workshop, - brochures/posters/articles in local news letter, and - field days and working bees.	Ongoing	Education of community and reduction of risk of new weed infestations.
7	Rehabilitation of illegally cleared track: - Place boulders at the start of the track to prevent vehicles entering. - Plant areas of bare ground with native species that occur in the Reserve. (See Appendix 2 for a list of appropriate species.) - Monitor the success of plantings and undertake follow-up plantings as necessary.	2014  Autumn 2015  ongoing	Vehicles excluded  Rehabilitation of bare ground  Rehabilitation of bare ground
8	Raise community awareness of the problem illegal clearing, outlining the legislative implications and encouraging people to report offenders to the police. This should be combined with Recommendation 5, but also involve the erection of signage, such as 'Bushwatch' signs. These signs provide a phone number (131 444) which is a direct link to the police.	Ongoing	Education of community and reduction of risk and reports of illegal clearing.
	Investigate the development of a 'by-law' that addresses the illegal clearing of vegetation on Council managed public land.	2015	Investigation complete.



Recommendation No.	Recommendation / Action	Timing	Performance Measure
9	Clarify Reserve boundaries. Liaise with landowners regarding the most appropriate way to more clearly define these boundaries and, where deemed necessary, install on-ground boundary markers.  Survey boundary line and liaise with landowners  Install boundary markers as necessary	2015  2016	Clarification of reserve boundary locations.
10	Conduct regular assessments of fuel loads and remove litter and dead wood as necessary but retain at least some large habitat logs if they are present.	Late winter each year	Assessment of and reduction in wild fire hazard.
11	Patch burn as the need arises in accordance with a fire management plan developed in consultation with the Tasmania Fire Service.	As required	Reduced hazard (depending on reason for burn).
12	Review the current Native Flora and Fauna Management Plan near the end of the current 5 year period, including the success in achieving its objectives, and develop a Plan for the period 2020 to 2024.	2019	Publication of Plan for 2020-2024.

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## **APPENDIX 1 – SURVEY METHODS**

### **Background Research**

The following source was used for biological records from the region:

- Natural Values Atlas<sup>6</sup> - all threatened plant and animal records within 5 km of the study area plus potential suitability for other threatened fauna.

### **Botanical and Vegetation Survey**

The reserve was surveyed in late March 2014. The vegetation was mapped and all vascular plant species were recorded. The locations of significant features, including weeds, were recorded by a hand-held GPS. Botanical nomenclature follows the current census of Tasmanian plants<sup>7</sup>.

### **Fauna Habitat Assessment**

The study area was assessed for fauna habitat with respect to threatened fauna species known from the area, or considered to potentially occur there. This assessment was based on the overall structure of the vegetation including identification of factors such as the presence of old growth trees with hollows and logs. Evidence of native animal presence, such as scats and burrows, were also noted.

### **Assessment of Conservation Significance**

Vegetation types have been classified according to TASVEG 3.0<sup>8</sup>. The conservation status of a vegetation type relates to its current extent compared with the modelled extent prior to European settlement. This has allowed an estimate of the extent of loss to land clearing to be calculated. A 2007 amendment to the *Nature Conservation Act 2002* included the listing of threatened native vegetation communities in accordance with their conservation status.

The conservation significance of species is determined at a state and federal level by legislation (Tasmanian *Threatened Species Protection Act 1995* and Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*), the implications of which are considered in the light of relevant legislation (Appendix 4).

### **Limitations/Disclaimer**

The survey was undertaken in early autumn. However, no botanical survey can guarantee that all vascular plants will be recorded due to the limitations of the sampling technique, seasonal and annual variation in abundance and the possible absence of fertile material for identification. Additional species are likely to occur that may be recorded by repeated visits over several years and at different seasons.

Fauna assessment is limited to the identification of habitat of significant fauna species known from the area.

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<sup>6</sup> Natural Values Report # 60198 (26 March 2014), Threatened Species Section, DPIPWE

<sup>7</sup> Baker & de Salas 2013

<sup>8</sup> Kitchener & Harris 2013

## APPENDIX 2 – VASCULAR PLANT SPECIES LIST

### Status codes:

STATE SCHEDULE – TSP Act 1995

e – endangered

v – vulnerable

r – rare

NATIONAL SCHEDULE – EPBC Act 1999

CR – critically endangered

EN – endangered

VU – vulnerable

ORIGIN

i - introduced

d - declared weed WM Act 1999

en - endemic to Tasmania

TSPA / EPBCA	origin	Group / FAMILY / Scientific name	common name	Vegetation community		
				SAL	SSC	FRG
		<b>Dicotyledonae</b>				
		<b>AIZOACEAE</b>				
		<i>Carpobrotus rossii</i>	native pigface	+		+
		<i>Tetragonia implexicoma</i>	bower spinach	+	+	
		<b>ASTERACEAE</b>				
	i	<i>Hypochoeris</i> sp.	catsear			+
		<i>Olearia lirata</i>	forest daisybush		+	
		<b>CASUARINACEAE</b>				
		<i>Allocasuarina verticillata</i>	drooping sheoak		+	
		<b>CHENOPODIACEAE</b>				
		<i>Rhagodia candolleana</i> subsp. <i>candolleana</i>	coastal saltbush	+	+	
		<b>CONVOLVULACEAE</b>				
		<i>Dichondra repens</i>	kidneyweed	+	+	
		<b>EPACRIDACEAE</b>				
		<i>Acrotriche serrulata</i>	ants delight			+
		<i>Astroloma humifusum</i>	native cranberry		+	
		<i>Leucopogon parviflorus</i>	coast beardheath	+	+	
		<b>FABACEAE</b>				
		<i>Bossiaea prostrata</i>	creeping bossia			+
	d	<i>Ulex europaeus</i>	gorse			+
		<b>GENTIANACEAE</b>				
	i	<i>Centaurium erythraea</i>	common centaury			+
		<b>MIMOSACEAE</b>				
		<i>Acacia longifolia</i> subsp. <i>sophorae</i>	coast wattle	+	+	
		<i>Acacia mearnsii</i>	black wattle		+	+
	i	<i>Acacia</i> sp.	wattle		+	
		<b>MYOPORACEAE</b>				
		<i>Myoporum insulare</i>	common boobialla	+		
		<b>MYRTACEAE</b>				
		<i>Kunzea ambigua</i>	white kunzea		+	
		<i>Leptospermum scoparium</i>	common teatree		+	
		<b>OXALIDACEAE</b>				
		<i>Oxalis perennans</i>	grassland woodsorrel	+	+	
		<b>PITTOSPORACEAE</b>				
		<i>Bursaria spinosa</i> subsp. <i>spinosa</i>	prickly box		+	
		<b>PLANTAGINACEAE</b>				
	i	<i>Plantago lanceolata</i>	ribwort plantain			+
		<b>POLYGONACEAE</b>				
		<i>Muehlenbeckia adpressa</i>	climbing lignum	+	+	
		<b>PROTEACEAE</b>				
		<i>Banksia marginata</i>	silver banksia	+	+	+
		<i>Persoonia juniperina</i>	geebung		+	
		<b>ROSACEAE</b>				
		<i>Acaena novae-zelandiae</i>	common buzzy	+	+	
		<i>Rubus parvifolius</i>	native raspberry		+	
		<b>SANTALACEAE</b>				
		<i>Exocarpos cupressiformis</i>	common native-cherry		+	
		<b>SAPINDACEAE</b>				
		<i>Dodonaea viscosa</i> subsp. <i>spatulata</i>	broadleaf hopbush	+		

TSPA / EPBCA	origin	Group / FAMILY / Scientific name	common name	Vegetation community		
				SAL	SSC	FRG
		<b>SOLANACEAE</b>				
	d	<i>Lycium ferocissimum</i>	african boxthorn		+	
		<i>Solanum laciniatum</i>	kangaroo apple		+	
		<b>THYMELAEACEAE</b>				
		<i>Pimelea glauca</i>	smooth riceflower	+		
		<b>Monocotyledonae</b>				
		<b>CYPERACEAE</b>				
		<i>Lepidosperma concavum</i>	sand swordsedg		+	
		<i>Lepidosperma gladiatum</i>	coast swordsedg	+		
		<i>Lepidosperma</i> sp.	swordsedg		+	
		<b>JUNCACEAE</b>				
		<i>Juncus</i> sp.	rush			+
		<b>POACEAE</b>				
	i	<i>Ammophila arenaria</i>	marram grass	+		
		<i>Rytidosperma</i> sp. (formerly <i>Austrodanthonia</i> )	wallabygrass			+
		<i>Austrostipa</i> sp.	speargrass	+	+	
	i	<i>Dactylis glomerata</i>	cocksfoot		+	
		<i>Distichlis distichophylla</i>	australian saltgrass	+	+	
	i	<i>Phalaris</i> sp.	canarygrass		+	
		<i>Poa labillardierei</i>	tussockgrass	+	+	
		<i>Poa rodwayi</i>	velvet tussockgrass			+
		<i>Themeda triandra</i>	kangaroo grass		+	+
		<b>RESTIONACEAE</b>				
		<i>Leptocarpus tenax</i>	slender twinerush		+	
		<b>XANTHORRHOEACEAE</b>				
		<i>Lomandra longifolia</i>	sagg	+	+	+
		<b>Pteridophyta</b>				
		<b>DENNSTAEDTIACEAE</b>				
		<i>Pteridium esculentum</i>	bracken	+	+	+

## APPENDIX 3A – REVIEW OF THREATENED FLORA

The following details threatened flora species, from the Natural Values Report, that have previously been recorded with a 5 km radius. It also provides an assessment of the likely occurrence of each within the study area.

Species	Status TSPA/ EPBCA	Potential to Occur	Observations and Preferred Habitat <sup>9</sup>
<b>Known from within 500 m</b>			
<i>Bertya tasmanica</i> subsp. <i>tasmanica</i> tasmanian bertya	Endangered / ENDANGERED	LOW	Two previous observations are from 2004. Usually occurs along rivers and streams but also at an atypical coastal location between Swanwick and Hepburn Point in drooping sheoak ( <i>Allocasuarina verticillata</i> ) forest. Although some marginal habitat may be present in the Reserve, it is unlikely to have been overlooked.
<i>Cynoglossum australe</i> coast houndstongue	Rare / -	MODERATE	Several previous observations including recent ones. Occurs in grasslands, open forest, coastal dunes and other dry places. This small herb may have possibly been overlooked if it occurs in very low numbers.
<i>Pimelea curviflora</i> curved rice-flower	Pending listing	LOW	One previous observation from 2004. Occurs in moist habitats on stream banks and wet sclerophyll forest. Some very marginal habitat may be present along the drainage line.
<b>Known from within 500 m</b>			
<i>Acacia ulicifolia</i> juniper wattle	Rare / -	VERY LOW	Many previous observations include recent ones. Occurs in sandy coastal heaths and open forests and woodlands. No suitable habitat is present.
<i>Baumea articulata</i> jointed twigsedge	Rare / -	VERY LOW	One previous observation is from 1980. A perennial rush that occurs along rivers. No suitable habitat is present.
<i>Brachyloma depressum</i> spreading heath	Rare / -	VERY LOW	Many previous observations in the vicinity. Occurs in shrubby heathland amongst granite boulder/sheets or on granite soils. No suitable habitat is present.
<i>Caladenia caudata</i> tailed spider-orchid	Vulnerable / VULNERABLE	VERY LOW	Several previous observations are from the 1970s and 1990s. Widespread but localised in distribution. It occurs mainly in coastal sites in heathy and grassy open eucalypt woodlands often with she-oaks and in heathland on sandy and loamy soil. It is most often found on sunny north-facing slopes. No suitable habitat is present.
<i>Caladenia filamentosa</i> daddy-long legs	Rare / -	VERY LOW	Four previous observations are from the 1970s and 1980s. Uncommon and very localised in distribution. It is known from heathy and sedgy open eucalypt forest and woodland on sandy soils. No suitable habitat is present.
<i>Caustis pentandra</i> thick twistsedge	Rare / -	VERY LOW	Many previous observations in the vicinity. Known from sandy soils in coastal heathland and heathy woodland. No suitable habitat is present.

<sup>9</sup> Lazarus *et al.* 2003; Jones *et al.* 1999; Wapstra *et al.* 2008



Species	Status TSPA/ EPBCA	Potential to Occur	Observations and Preferred Habitat <sup>9</sup>
<i>Conospermum hookeri</i> tasmanian smokebush	Vulnerable / VULNERABLE	VERY LOW	Many previous observations in the vicinity including recent ones. Occurs in open coastal heathland and heathy woodland on granite or sandy acid, low nutrient soils. No suitable habitat is present.
<i>Corunastylis morrisii</i> bearded midge-orchid	Endangered / -	VERY LOW	Many previous observations in the vicinity including recent ones. Occurs in near-coastal lowland areas on moderately drained sites including heathland and sedgy open eucalypt woodland, grassland and buttongrass moorland. No suitable habitat is present.
<i>Corunastylis nuda</i> tiny midge-orchid	Rare / -	VERY LOW	Two previous observations are from 1980 and 1993. Uncommon and localised in coastal and near-coastal areas. It occurs in moorland, sedgeland and heathland on moderately drained peaty soils and in damp mossy skeletal soils on granite slabs. No suitable habitat is present.
<i>Cotula vulgaris</i> var. <i>australasica</i> slender buttons	Rare / -	VERY LOW	Two previous observations are from 2003 and 2004. Occurs in scrub, herbfields, rocky outcrops and wet or brackish swamps. No suitable habitat is present.
<i>Desmodium gunnii</i> southern ticktrefoil	Vulnerable / -	VERY LOW	Six previous observations are all recent. Occurs in very small isolated populations in dry sclerophyll forest and woodland and forms dense mats in moist soil. No suitable habitat is present.
<i>Epacris barbata</i> bearded heath	Endangered / ENDANGERED	VERY LOW	Several previous observations are mostly from the 2000s. Occurs only in the vicinity of the Freycinet Peninsula and Schouten Island in open heathland and sandy heaths on granite soils. No suitable habitat is present.
<i>Euphrasia collina</i> subsp. <i>deflexifolia</i> eastern eyebright	Rare / -	VERY LOW	Many previous observations are mostly from the 2000s. This short-lived perennial herb occurs in open woodland or heath. It generally requires open patches of ground created by fire or other disturbance but with high soil moisture. It is often found along road edges, tracks and depressions near the headwaters of creeks. No suitable habitat is present.
<i>Glycine microphylla</i> small-leaf glycine	Vulnerable / -	VERY LOW	Several previous observations are from 2011. Occurs in dry sclerophyll forest and woodland. No suitable habitat is present.
<i>Lachnagrostis billardierei</i> subsp. <i>tenuiseta</i> small-awn blowgrass	Rare / -	MODERATE	Two previous observations are from 1981 and 1999. Occurs in coastal scrub on sand dunes. Suitable habitat is present and may have been overlooked particularly if it occurs in low numbers.
<i>Lepidosperma forsythii</i> stout rapier sedge	Rare / -	LOW	Three previous observations are from 2003 and 2004. Occurs in wet heath, sedgeland and near coastal areas. Habitat is very marginal and unlikely to have been overlooked unless it occurs in low numbers.
<i>Lepidosperma tortuosum</i> twisting rapiersedge	Rare / -	VERY LOW	The most recent of seven previous observations is from 2007. Usually found in open heathland and eucalypt woodland from sea level to approximately 460 m. No suitable habitat is present.

Species	Status TSPA/ EPBCA	Potential to Occur	Observations and Preferred Habitat <sup>9</sup>
<i>Melaleuca pustulata</i> warty paperbark	Rare / -	VERY LOW	Three previous observations are from between 1998 and 2007. Occurs in dry open woodland, grassland and scrub, riparian zones and stable dunes in sparse coastal shrubbery. Habitat is marginal and unlikely to have been overlooked.
<i>Orthoceras strictum</i> horned orchid	Rare / -	VERY LOW	Two previous observations the most recent of which is from 1980. Uncommon and localised in coastal and near-coastal areas. It occurs in moorland, sedgy and scrubby heathland, sedgy eucalypt shrubland and open forest on poorly to moderately drained peaty, sandy and clay soils that are at least seasonally moist. Sometimes it occurs in thin mossy soils at soaks on rock faces. No suitable habitat is present.
<i>Philotheca freyciana</i> freycinet waxflower	Endangered / ENDANGERED	VERY LOW	One previous observation from 1960. Currently known only from The Hazards and Cape Tourville on the Freycinet Peninsula where it occurs on skeletal granite soils usually in cracks and crevices on granite slabs and boulders. No suitable habitat is present.
<i>Pimelea flava</i> subsp. <i>flava</i> yellow riceflower	Rare / -	VERY LOW	Many previous observations are mostly recent. Prefers moderately fertile sites including shrubby <i>E. amygdalina</i> damp forest with co-dominants of <i>E. obliqua</i> , <i>E. ovata</i> and <i>E. pulchella</i> , or scrubby <i>E. amygdalina</i> forest on dolerite in sub-coastal area. No suitable habitat is present.
<i>Poa poiformis</i> var. <i>ramifera</i> island purple grass	Rare / -	LOW to MODERATE	One previous observation from 1981. Occurs along the coast on rocky shores and sand dunes. Some suitable habitat is present but unlikely to have been overlooked unless it occurs in low numbers.
<i>Polyscias</i> sp. Douglas- Denison ferny panax	Endangered / -	VERY LOW	Three previous observations are from 2007. Known only from dolerite and granite slopes on the central east coast. No suitable habitat is present.
<i>Pterostylis grandiflora</i> superb greenhood	Rare / -	VERY LOW	Several previous observations include ones from the 2000s. Uncommon and localised especially in coastal areas. It occurs in heathy and shrubby open eucalypt forest and in grassy she-oak woodland on moderately to well drained sandy and loamy soils. No suitable habitat is present.
<i>Pterostylis squamata</i> ruddy greenhood	Rare / -	VERY LOW	Several previous observations include some from the 2000s. Uncommon and localised in lowland heathy and grassy open eucalypt forest and heathland on well-drained sandy and loamy soils. No suitable habitat is present.
<i>Pterosytis ziegeleri</i> grassland greenhood	Vulnerable / VULNERABLE	LOW	Five previous observations include one from 2011. In coastal areas it occurs on the slopes of low stabilised sand dunes and in grassy dune swales. Some marginal habitat is present.
<i>Rytidosperma indutum</i> tall wallabygrass	Rare / -	VERY LOW	One previous observation is from 2003. Occurs in dry grassy habitat, typically on mudstone or dolerite. No suitable habitat is present.

Species	Status TSPA/ EPBCA	Potential to Occur	Observations and Preferred Habitat <sup>9</sup>
<i>Schoenus brevifolius</i> zigzag bogsedge	Rare / -	VERY LOW	Six previous observations are from between 1987 and 2012. Grows in shallow water around the fringes of lagoons. No suitable habitat is present.
<i>Sporobolus virginicus</i> salt couch	Rare / -	LOW	The most recent of two observations is 1979. Occurs in salt marshes and on sand hills. Little suitable habitat is present and unlikely to have been overlooked.
<i>Spyridium vexilliferum</i> var. <i>vexilliferum</i> helicopter bush	Rare / -	VERY LOW	Many previous observations including recent ones. Known from sandy heaths and on rocky outcrops. No suitable habitat is present.
<i>Stenanthemum pimeleoides</i> propeller plant	Vulnerable / VULNERABLE	VERY LOW	The most recent of four observations is from 2004. Occurs on dry, stony soils on siliceous, sandy gravels usually in heathy <i>E. amygdalina</i> or <i>E. pulchella</i> forest and usually where grasses and herbs are absent. No suitable habitat is present.
<i>Thelymitra atronitida</i> blackhood sun-orchid	Endangered / -	VERY LOW	Many previous observations are mostly from 2012. Occurs in coastal and lowland heathland and sedgeland, and heathy open eucalypt woodland on well drained sandy loams. No suitable habitat is present.
<i>Thelymitra holmseii</i> bluestar sun-orchid	Rare / -	VERY LOW	Three previous observations is from the early 2000s. Known from heathland and heathy open forest on clay soils with poor to moderate drainage, often in swamp margins. No suitable habitat is present.
<i>Thelymitra malvina</i> mauve tuft sun-orchid	Endangered / -	VERY LOW	Many previous observations include recent ones. Known from coastal heath and sedgelands on sandy loams or clay loams. No suitable habitat is present.
<i>Thryptomene micrantha</i> ribbed heathmyrtle	Vulnerable / -	VERY LOW	Eight previous observations include ones from the 2000s. Occurs in dry sclerophyll forest mainly on the central east coast. No suitable habitat is present.
<i>Tricostularia pauciflora</i> needle bogsedge	Rare / -	LOW	Eight previous observations the most recent of which is from 2012. Occurs in sandy heaths, dunes and heath on clay soils around coastal areas. Habitat is very marginal.
<i>Utricularia australis</i> yellow bladderwort	Rare / -	VERY LOW	One previous observation is from 2007. Grows in marshy habitats in still or slow flowing water up to several meters deep. No suitable habitat is present.
<i>Viminaria juncea</i> golden spray	Endangered / -	VERY LOW	Many previous observations include recent ones. In Tasmania it is known from a single location on the margins of Moulting Lagoon in soils prone to periodic waterlogging and drying out in the summer. No suitable habitat is present.
<i>Xanthorrhoea</i> aff. <i>arenaria</i>	Pending Vulnerable / PENDING VULNERABLE	VERY LOW	Ten previous observations are all from the 2000s. Occurs in coastal sandy heath. No suitable habitat is present.
<i>Xanthorrhoea arenaria</i> sand grasstree	Vulnerable / VULNERABLE	VERY LOW	Many previous observations are mostly from the 2000s. Occurs in coastal sandy heath. No suitable habitat is present.

Species	Status TSPA/ EPBCA	Potential to Occur	Observations and Preferred Habitat <sup>9</sup>
<i>Xerochrysum palustre</i> swamp everlasting	Vulnerable / VULNERABLE	VERY LOW	Two previous observations are from 2005. Grows in swamps or winter-wet grasslands and swampy riparian vegetation. No suitable habitat is present.
<i>Zieria littoralis</i> downy zieria	Rare / -	VERY LOW	Several previous observations are mostly from the 2000s. Occurs in rocky habitats on, or close to, the coast. No suitable habitat is present.

## APPENDIX 3B – REVIEW OF THREATENED FAUNA

The following details threatened fauna species, from the Natural Values Report, that have previously been recorded, or could potentially occur, with a 5 km radius. It also provides an assessment of the likely occurrence of each within the study area.

Species	Status TSPA/EPBCA	Potential to occur	Observations and Preferred Habitat <sup>10</sup>
<b>MAMMALS</b>			
Tasmanian devil <i>Sarcophilus harrisii</i>	Endangered / ENDANGERED	Nesting: LOW Foraging: MODERATE	Inhabits forest, woodland and agricultural areas. They are nocturnal hunters and scavengers. During the day they shelter in caves, old burrows and thick scrub. Devil facial tumour disease is the main threat to this species. However, the protection of maternal dens to ensure successful breeding is important to assist recovery. There have been some recent sightings of devils in the area but while it may forage and seek shelter in the Reserve, no potential dens sites were observed during the survey.
New holland mouse <i>Pseudomys novaehollandiae</i>	Endangered / VULNERABLE	LOW	Previous survey effort has been low and habitat may be broader than described. Core habitat is coastal dry heath on a sandy substrate with a dense and floristically diverse understorey. Habitat in the Reserve is likely to be unsuitable.
Spotted-tailed quoll <i>Dasyurus maculatus maculatus</i>	Rare / VULNERABLE	LOW	This naturally rare forest-dweller most commonly inhabits wet forest but also occurs in dry forest. It forages and hunts on farmland and pasture, travelling up to 20 km at night, and shelters in logs, rocks or thick vegetation. There have been three sightings of the quoll in the vicinity. Whilst the Reserve is unlikely to provide core habitat for this species it may provide some foraging and shelter habitat.
Eastern barred bandicoot <i>Perameles gunnii</i>	- / VULNERABLE	VERY LOW	This species favours a mosaic of open grassy areas for foraging with thick vegetation cover for shelter and nesting. However there have been no previous sightings in the vicinity.
<b>BIRDS</b>			
Wedge-tailed eagle <i>Aquila audax fleayi</i>	Endangered / ENDANGERED	Nesting: NONE Foraging: LOW	Requires large old growth trees in sheltered areas for nesting and is highly sensitive to disturbance during the breeding season. There are no known nests within 5 km and no suitable nesting habitat is present in the Reserve although it may forage in the vicinity.
White-bellied sea-eagle <i>Haliaeetus leucogaster</i>	Vulnerable / -	Nesting: NONE Foraging: LOW	Similar habitat requirement to the wedge-tailed eagle but this is primarily a coastal species whose main foraging habitat is around open water. Known nests are present within 5 km and the waters along the coast provide suitable foraging habitat. However, the Reserve does not provide any perching habitat in the form of large trees.
Grey goshawk <i>Accipiter novaehollandiae</i>	Endangered / -	Nesting: NONE Foraging: LOW	Inhabits large tracts of wet forest. No suitable habitat is present in the Reserve or immediate vicinity. Juveniles or non-breeding adults may visit the area on occasion.

<sup>10</sup> Bryant & Jackson 1999

Species	Status TSPA/EPBCA	Potential to occur	Observations and Preferred Habitat <sup>10</sup>
Swift parrot <i>Lathamus discolor</i>	Endangered / ENDANGERED	Nesting: NONE Foraging: NONE	Requires tree hollows for nesting and feeds on the nectar of blue gum ( <i>E. globulus</i> ) and black gum ( <i>E. ovata</i> ) flowers. There is no suitable nesting or foraging habitat in the Reserve.
Forty-spotted pardalote <i>Pardalotus quadragintus</i>	Endangered / ENDANGERED	Nesting: NONE Foraging: NONE	Occurs in coastal white gum ( <i>Eucalyptus viminalis</i> ) forest and woodland. The nearest known colonies in this part of the State are on Maria Island. Outside the breeding season birds may disperse from the breeding colonies but there are no white gums in the Reserve to provide foraging habitat.
<b>REPTILES</b>			
Glossy grass skink <i>Pseudomys novaehollandiae</i>	Rare / -	VERY LOW	A secretive and poorly known species that inhabits low dense vegetation in moist areas such as swamps and margins of watercourses. It is threatened by habitat destruction especially from sheep and cattle during drought. In Tasmania it has been found most commonly around Launceston although one recent sighting is from Picnic Island in Great Oyster Bay. No suitable habitat is present in the Reserve.
Tussock skink <i>Pseudemoia pagenstecheri</i>	Vulnerable / -	NONE	Requires medium to tall native <i>Poa</i> tussock grasses with few or no trees. No suitable habitat is present in the Reserve.
<b>AMPHIBIANS</b>			
Green and gold frog <i>Litoria raniformis</i>	Vulnerable / VULNERABLE	NONE	Occurs in heavily vegetated wetlands and require permanent freshwater for breeding. No suitable habitat is present in the Reserve.
<b>INVERTEBRATES</b>			
Chaostola skipper <i>Antipodia chaostola</i>	Endangered / ENDANGERED	EXTREMELY LOW	This species appears to be very uncommon and localised in its distribution. It is thought to prefer dry open eucalypt forest containing <i>Gahnia radula</i> or <i>G. microstachya</i> which are the larval food plants within which they construct shelters. No suitable habitat is present.

Species	Status TSPA/EPBCA	Potential to occur	Observations and Preferred Habitat <sup>10</sup>
<b>COASTAL, ESTUARINE AND MARINE SPECIES (for which no habitat is present)</b>			
Fairy tern <i>Sterna nereis nereis</i>	Pending Vulnerable / PENDING VULNERABLE	NONE	No habitat is present.
Great crested grebe <i>Poliiocephalus cristatus</i> subsp. <i>australis</i>	Pending Vulnerable / -		
Australasian bittern <i>Botaurus poiciloptilus</i>	- / ENDANGERED		
Fairy prion (southern subspecies) <i>Pachyptila turtur subantarctica</i>	Endangered / VULNERABLE		
Shy albatross <i>Diomedea cauta</i> subsp. <i>cauta</i>	Pending Vulnerable / PENDING VULNERABLE		
Wandering albatross <i>Diomedea exulans</i> subsp. <i>chionoptera</i>	Pending Endangered / PENDING VULNERABLE		
Australian grayling <i>Prototroctes maraena</i>	Vulnerable / VULNERABLE		
Swan galaxias <i>Galaxias fontanus</i>	Endangered / ENDANGERED		
Southern right whale <i>Eubalaena australis</i>	Endangered / ENDANGERED		
Humpback whale <i>Megaptera novaeangliae</i>	Endangered / VULNERABLE		

## **APPENDIX 4A – LEGISLATIVE OBLIGATIONS RELEVANT TO NATURAL VALUES OF RESERVES**

### **Tasmanian Weed Management Act 1999 (WMA)**

The following table summarises the status within the Glamorgan Spring Bay municipality of ‘declared weeds’ present in the Reserve according to relevant Weed Management Plans prepared under the Act.

<b>Common name</b>	<b>Scientific name</b>	<b>Status in the GSB municipality</b>	<b>Municipal classification</b>
african boxthorn	<i>Lycium ferocissimum</i>	Localised infestation	B
gorse	<i>Ulex europaeus</i>	Widespread	B

According to the provisions of the WMA, Zone B municipalities are those that host infestations of the ‘declared weed’ that are not deemed eradicable because the feasibility of effective management is low at this time. Therefore, the objective is containment of infestations. The objective includes preventing spread of the ‘declared weed’ from the municipality and preventing spread to properties currently free of them. There is a requirement to prevent spread of the ‘declared weeds’ to properties containing sites for significant flora, fauna and vegetation communities.

### **OTHER LEGISLATION**

No threatened species or threatened vegetation communities are present in the Reserve. Consequently, the following details regarding other legislation relevant to reserve management are provided for information only.

### **Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBCA)**

Referral under the EPBC Act is necessary if any management activity within the reserves are likely to have a significant impact on listed threatened species. In this regard the Act states:

‘An action has, will have, or is likely to have a significant impact on a critically endangered, endangered or vulnerable species if it does, will or is likely to (amongst other things):

- modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline, or
- adversely affect habitat critical to the survival of a species.’

### **Tasmanian Threatened Species Protection Act 1995 (TSPA)**

Any management activities in the Reserve that will impact upon species listed under this Act would require a permit application to be submitted to the Development and Conservation Assessment Branch (DCAB) of DPIPW with regard to the populations affected.

### **Tasmanian Forest Practices Regulations 2005**

The Forest Practices Regulations<sup>11</sup> require a Forest Practices Plan (FPP) where clearing of forest is in excess of 1 hectare or 100 tonnes of timber or involves ‘vulnerable land’ where the thresholds become less.

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<sup>11</sup> Tasmanian State Government 2005.



Under the terms of the Forest Practices Regulations, any native vegetation which has the potential to develop to a height exceeding 5 m is considered 'forest'. 'Vulnerable' land includes land supporting threatened vegetation communities or species listed as threatened under the TSPA and/or the EPBCA.

Any clearing activities on 'vulnerable land' will require an FPP, irrespective of the volume of timber or area of vegetation involved (unless the clearing or harvesting is necessary to protect public safety or to maintain existing infrastructure and it involves less than 1 ha or 5 tonnes of timber).

## **APPENDIX 4B – OTHER LEGISLATION AND POLICIES RELEVANT TO RESERVE MANAGEMENT**

### Strategic policies

Glamorgan Spring Bay Planning Scheme

State Coastal Policy

Tasmanian Reserve Management Code of Practice 2003

### Legislation

*Aboriginal Relics Act 1975*

*Cat Management Act 2009*

*Crown Lands Acts 1976*

*Environmental Management and Pollution Control Act 1994*

*Historical Cultural Heritage Act 1995*

*Land Use Planning and Approvals Act 1993*

*Local Government Act 1993*

*National Parks and Reserves Management Act 2002*

*Nature Conservation Act 2002*

## APPENDIX 5 – DECLARED AND ENVIRONMENTAL WEED PHOTOS



african boxthorn *Lycium ferocissimum*



gorse *Ulex europaeus*



wattle *Acacia* sp.