



PO Box 420  
Sandy Bay 7006  
Mobile: 0438 391 121  
Email: [tasflora@bigpond.com](mailto:tasflora@bigpond.com)

*DRAFT (revision 3)*

## **RESERVE ACTIVITY PLAN 2012-2016**



### **Clifton Beach Coastal Reserve**

Advice prepared by Tasflora  
for Clarence City Council  
July 2012

**CONTENTS**

<b>1</b>	<b>BACKGROUND</b> .....	<b>4</b>
<b>2</b>	<b>OBJECTIVES</b> .....	<b>4</b>
<b>3</b>	<b>SITE DESCRIPTION</b> .....	<b>4</b>
<b>4</b>	<b>SITE VALUES</b> .....	<b>6</b>
4.1	Native flora and fauna .....	6
4.2	Geoconservation sites .....	6
4.3	Cultural heritage .....	8
4.4	Recreational values.....	9
<b>5</b>	<b>STAKEHOLDER CONSULTATION</b> .....	<b>9</b>
<b>6</b>	<b>WEED MANAGEMENT</b> .....	<b>9</b>
6.1	Overview .....	9
6.2	Weed species present.....	9
6.3	Recommendations for primary weed control work .....	10
6.4	Non-priority weed species .....	10
6.5	Maintenance of weed control work.....	10
<b>7</b>	<b>REGENERATION AND REVEGETATION</b> .....	<b>11</b>
7.1	Regeneration.....	11
7.2	Revegetation activities.....	12
<b>8</b>	<b>RESERVE ENTRANCES</b> .....	<b>13</b>
<b>9</b>	<b>WALKING TRACKS</b> .....	<b>14</b>
<b>10</b>	<b>INFRASTRUCTURE</b> .....	<b>14</b>
<b>11</b>	<b>COMMUNITY PARTICIPATION AND AWARENESS</b> .....	<b>16</b>
<b>12</b>	<b>IMPLEMENTATION PLAN</b> .....	<b>17</b>

<b>13</b>	<b>FUTURE PRIORITIES.....</b>	<b>22</b>
<b>14</b>	<b>REFERENCES.....</b>	<b>22</b>
	<b>APPENDIX 1: WEED SPECIES PRESENT AND RECOMMENDED CONTROL TECHNIQUES.....</b>	<b>24</b>
	<b>APPENDIX 2: LOCATION OF WEEDS IN THE RESERVE .....</b>	<b>26</b>
	<b>APPENDIX 3: LOCAL NATIVE SPECIES SUITABLE FOR REVEGETATION AND LANDSCAPING WORK.....</b>	<b>27</b>
	<b>APPENDIX 4: SUMMARY OF ON GROUND MANAGEMENT RECOMMENDATIONS.....</b>	<b>31</b>

© Tasflora 2012.

*This work is copyright. Apart from any use permitted under the Commonwealth Copyright Act 1968, no part (including the format, structure and style) may be reproduced by any process, nor may any other exclusive right be exercised, without prior written permission from Tasflora.*

## 1 BACKGROUND

The Clifton Beach Coastal Reserve (the Reserve) is located approximately 25 km south east of Hobart, and encompasses an area of coastal reserve adjacent to the Clifton Beach Conservation Area and Clifton Beach. The Reserve is valued by locals for its coastal environment and recreational values. It is currently managed by Clarence City Council (Council).

A *Clifton Beach Reserve Management Plan* was developed by Tasflora for Wildcare Deslacs in 2011, and included recommendations for beach access management, weed control and revegetation/landscaping activities (Tasflora 2011). Tasflora has been engaged by Council to further develop this plan into a Reserve Activity Plan, including the development of an implementation plan identifying immediate and ongoing management priorities for the Reserve to be undertaken during the period 2012-2016.

The recommendations contained within this *Clifton Beach Coastal Reserve Activity Plan 2012-2016* are intended to provide guidance for on-ground activities that can be implemented by Council and/or volunteers (eg Wildcare Deslacs, Clifton Beach Surf Life Saving Club, local residents). It is acknowledged that it may not be possible to undertake all recommended activities due to resource constraints; rather the intent of this plan is to provide a guide to management concepts and outcomes that could be implemented if sufficient funding can be obtained.

## 2 OBJECTIVES

The objectives of the *Clifton Beach Coastal Reserve Activity Plan 2012-2016* are to:

- ensure the Reserve is sustainably managed to preserve and enhance its natural, cultural and social values;
- identify priority management activities to be undertaken within the Reserve by Council and/or volunteer groups as resources become available during the period 2012-2016; and
- encourage community engagement through raising awareness of the Reserve's values and encourage participation in activities to minimise threats to these values.

## 3 SITE DESCRIPTION

The area covered by this management plan includes the Clifton Beach Reserve and the four formalised access tracks (T1-4) leading through the dunes from the Reserve to Clifton Beach, as illustrated in Figure 1.<sup>1</sup> Council owns and manages the Reserve, and is also responsible for the management of the beach access tracks under a Crown licence.

---

<sup>1</sup> The area of dunes between the Reserve boundary and high water mark forms part of the Clifton Beach Conservation Area managed by Parks and Wildlife Service, and is outside the scope of this plan.



**Figure 1:** Area covered by the *Clifton Beach Coastal Reserve Activity Plan 2012-2016*, including beach access tracks (T1-4) and main entrances (E1-2).<sup>2</sup>

<sup>2</sup> Base map provided by Clarence City Council.

Infrastructure within the Reserve includes two car parks, a toilet block, a playground and picnic area. Facilities for the Clifton Beach Surf Lifesaving Club (CBSLSC), including a clubhouse building and car park, are also located within the Reserve. There are two main entrances to the Reserve from Clifton Beach Road (E1) and Dysart Street (E2) as illustrated in Figure 1.

## 4 SITE VALUES

### 4.1 Native flora and fauna

The area of vegetation in the dunes between the car park and Clifton Beach, and to the east of the CBSLSC, is classified as regenerating *Acacia longifolia* coastal scrub (TASVEG code SAC). This is not listed as a threatened vegetation community under Schedule 3A of the Tasmanian *Nature Conservation Act 2002*. A description of this community is provided at in Table 1. Typical vegetation in this area is illustrated in Figure 2.

**Table 1:** Native vegetation communities occurring within the Clifton Beach Coastal Reserve.

Community name	TASVEG code	Description
<i>Acacia longifolia</i> coastal scrub	SAC	The tall shrub layer is dominated by <i>Acacia longifolia</i> subsp. <i>sophorae</i> (coast wattle) trees of varying density. Scattered low shrubs occur, including <i>Atriplex cinerea</i> (grey saltbush), <i>Rhagodia candolleana</i> (coastal saltbush) and <i>Tetragonia implexicoma</i> (bower spinach). The grassy ground layer is dominated by the introduced species <i>Ammophila arenaria</i> (marram grass), as well as native species such as <i>Austrostipa stipoides</i> (coast speargrass) and <i>Pteridium esculentum</i> (bracken).

The remaining native vegetation in the Reserve has been highly modified and comprises a mixture of remnant native plants and plants that have been planted through landscaping and/or revegetation activities.

Numerous plants of the threatened species *Cynoglossum australe* (coast houndstongue) occur in the vegetation between the car park and the beach. This species is listed as rare under the Tasmanian *Threatened Species Protection Act 1995* (the TSP Act), and is illustrated in Figure 3. According to the Natural Values Atlas maintained by the Department of Primary Industries, Parks, Water and Environment (DPIPWE), no other threatened flora species have been previously recorded within 500m of the subject area (DPIPWE 2010).

The native vegetation in the Reserve is likely to provide habitat for animal and bird species. No threatened fauna species have been previously recorded within 500m of the study area (DPIPWE 2010).

### 4.2 Geoconservation sites

Two sites listed on the Tasmanian Geoconservation Database are located within 1km of the study area:



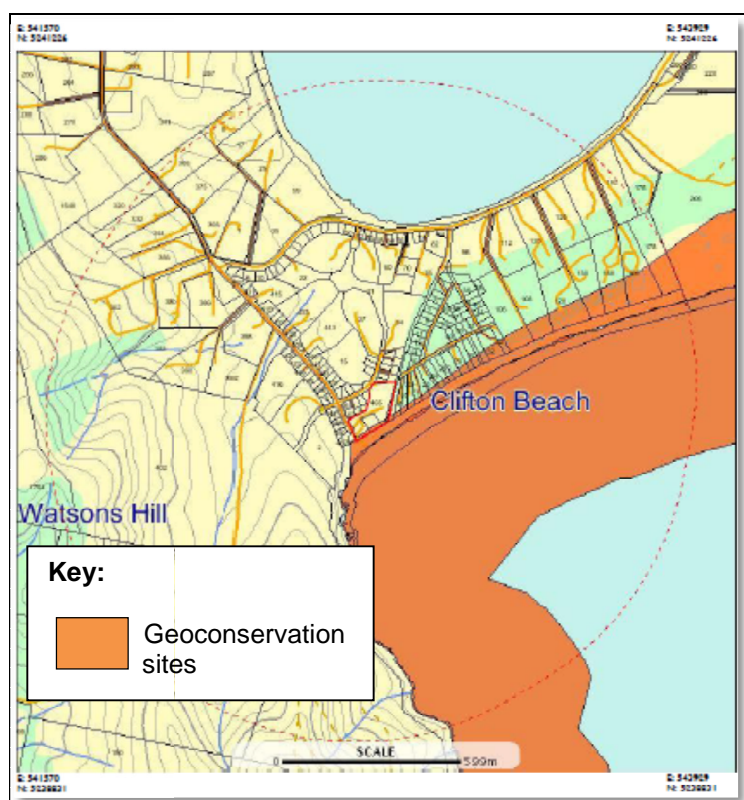
**Figure 2:** Typical vegetation occurring between the car park and Clifton Beach.



**Figure 3:** Typical habit of the threatened species *Cynoglossum australe*.

- Cape Deslacs/Clifton Beach dunefields – of State significance with a sensitivity of 5 (ie values sensitive to higher intensity shallow linear impacts, depending upon their precise position); and
- Frederick Henry Bay Beach Alignment – of national significance with a sensitivity of 9 (ie values sensitive only to very large scale contour change).

The proximity of these geoconservation sites to the study area is illustrated in Figure 4.



**Figure 4:** Location of geoconservation sites within 1km of the study area.<sup>3</sup>

### 4.3 Cultural heritage

The CBSLSC was founded on 2 April 1963 and operates today from the clubhouse building located within the Reserve. The CBSLSC has hosted a range of national, State and interstate titles, and in 2000 opened the first surf patrol tower in Tasmania.

According to the Tasmanian Aboriginal Site Index (TASI), there are no Aboriginal heritage sites recorded within or close to the Reserve. Due to the area being highly disturbed, it is believed that the area has a low probability of Aboriginal heritage being present (Emily Smith, pers. comm. 2011).

There is always the potential for Aboriginal heritage artefacts to occur within coastal areas. Under the Tasmanian *Aboriginal Relics Act 1975* (the Aboriginal

<sup>3</sup> Adapted from DPIPWE (2010).



Relics Act), it is an offence to 'destroy, damage, disfigure, conceal, uncover, expose, excavate or otherwise interfere with a relic' unless a permit has been granted. It is therefore important to ensure that no artefacts or other cultural material are exposed or disturbed without a permit during Reserve management activities. Any artefacts that are inadvertently uncovered should be immediately reported to Aboriginal Heritage Tasmania and an Aboriginal Heritage Officer engaged to assess the area prior to any further on ground work being undertaken.

#### **4.4 Recreational values**

The Reserve is currently used as an access point to Clifton Beach for a range of recreational activities by local residents and visitors, including surfing, swimming, jogging, walking and dog exercise. The CBSLSC is a major user of the beach access tracks between November and March each year.

### **5 STAKEHOLDER CONSULTATION**

Key stakeholders associated with the Reserve include Council, Wildcare Deslacs, Parks and Wildlife Service (PWS) and the CBSLSC. Consultation has been undertaken with each of these parties in the development of this plan, including a combined site visit in February 2011. Ongoing collaboration and partnership opportunities between these stakeholders should be encouraged to ensure coordinated and effective implementation of management activities.

### **6 WEED MANAGEMENT**

#### **6.1 Overview**

There is currently very limited penetration of the Reserve by woody weeds, and those that are present are not posing a significant threat to the natural values of the Reserve. No Weeds of National Significance (WONS) or species listed as declared weeds under the Tasmanian *Weed Management Act 1999* (the Weed Management Act) are present.

All woody weeds could be eradicated from the Reserve with minimum resources. However, ongoing follow-up will be required to ensure their re-establishment does not occur. Recommended control methods for individual weed species occurring within the Reserve are provided at Appendix 1.<sup>4</sup>

#### **6.2 Weed species present**

A list of woody weed species present in the Reserve and their status is provided in Appendix 1. To assist with identification, a picture of each weed species is also provided. The distribution of each weed species is illustrated in Appendix 2. Broadleaf weeds and exotic grasses are prevalent throughout the Reserve.

---

<sup>4</sup> A general overview of weed control techniques is available at:  
[http://www.nrmsouth.org.au/uploaded/287/15130842\\_66weedsbookletfinalweb.pdf](http://www.nrmsouth.org.au/uploaded/287/15130842_66weedsbookletfinalweb.pdf)

### 6.3 Recommendations for primary weed control work

Due to their presently limited distribution, all woody weeds should be controlled as soon as possible to prevent their further spread and render the area weed free.

***Recommendation: All woody weeds occurring within the Reserve should be controlled as a priority due to their presently limited distribution.***

There are three mature radiata pine trees adjacent to the CBSLSC. Replacement of these trees should be considered due to the ready ability of this species to germinate from seed (as evidenced by seedlings already occurring in the area). Staged replacement with blue or white gums should be undertaken to maintain the existing amenity and shade that these trees are currently providing. A heritage assessment of the pines should be undertaken prior to commencing any replacement activities.

***Recommendation: Mature radiata pines near the CBSLSC should be replaced with blue or white gums.***

### 6.4 Non-priority weed species

Marram grass is not considered a priority target for removal and should not be hand pulled or dug out due to the role this species is currently playing in dune stabilisation. If long term control of marram grass is desired, revegetation with native species is the only means of control required due to the fact that marram grass will eventually 'shut down' when soil conditions become more stable and allow native species to grow amongst it (Cordingley and Petherick 2005). Suitable species for revegetation are discussed in Section 7.

***Recommendation: Marram grass should not be removed due to its role in dune stabilisation.***

Broadleaf weeds and exotic grasses are not considered a priority for control except in revegetation areas and where their removal is desirable as part of an ongoing general Reserve maintenance program (eg along track edges, playground areas etc).

***Recommendation: Control of exotic grasses and broadleaf weeds is only required in revegetation areas and where necessary as part of a general Reserve maintenance program.***

### 6.5 Maintenance of weed control work

Regeneration of woody weeds in the Reserve is likely to continue due to the existing seed bank in the soil and the fact that some weed species have an inherent ability to resprout following primary control. Weed control activities will therefore not be successful unless a commitment is made to undertaking ongoing follow-up maintenance activities.

Maintenance of primary weed control work should be undertaken annually, preferably in spring and summer when plants are least likely to be dormant. This

can be achieved by performing an annual sweep to remove all new germinants of previously targeted weeds and undertake follow-up control on any plants that may have resprouted. Ongoing annual follow-up will be required until the soil seed bank is exhausted.

***Recommendation: An annual sweep and follow-up control of woody weeds should be undertaken.***

GPS weed mapping of all environmental weeds occurring within the Reserve has been undertaken during the development of this plan. In order to monitor the success of the weed control program, follow-up GPS weed mapping should be undertaken after five years to assess progress and facilitate planning of future weed control activities.

***Recommendation: Follow-up GPS mapping of all weeds in the Reserve should be undertaken after five years to monitor progress and inform future weed control priorities.***

## 7 REGENERATION AND REVEGETATION

### 7.1 Regeneration

Where possible, natural regeneration should be encouraged as the most cost effective and natural means of restoring areas of native vegetation in the Reserve.

Regeneration of indigenous species from the soil seed bank can already be observed in the dunes and in the vegetated area to the east of the CBSLSC. These areas should be designated as regeneration areas (as indicated in Appendix 4) and no further native planting or other management activities (apart from weed control and maintenance of existing revegetation plants) should be undertaken in these areas. This will also protect the existing populations of coast houndstongue plants that occur in these areas. It is recommended that photo points be established to facilitate monitoring of annual regeneration growth.

***Recommendation: The dunes and the vegetated area adjacent to the CBSLSC should be designated as native regeneration areas and photo points established.***

Some revegetation activities have been previously undertaken in the dunes. Bags and stakes should be removed from around these plants as the plants are now established.

***Recommendation: Bags and stakes should be removed from existing revegetation plants in the dunes as they become established.***

If resources permit, a small educational sign with information about the natural values of the Reserve and the importance of allowing natural regeneration to occur should be erected near a regeneration area to facilitate community awareness and appreciation of its importance.

**Recommendation: A small educational sign should be erected near a regeneration area to facilitate community awareness of the importance of natural regeneration.**

## 7.2 Revegetation activities

Outside of the regeneration areas, the primary purpose of undertaking new revegetation and landscaping activities in the Reserve is to improve the visual amenity of the area. Revegetation and landscaping activities recommended for the Reserve are summarised in Table 3, and are suitable to be undertaken by members of the Wildcare Deslacs if desired.

**Table 3:** Recommended revegetation activities to be undertaken within the Reserve.

Activity	Purpose	Recommended locations
Formal garden beds with native plants	To be undertaken in areas of high visual amenity that are currently unattractive or devoid of native vegetation	The two main entrances to the Reserve
Demonstration native cottage gardens <sup>5</sup>	To demonstrate how local native plants can be used to create an attractive garden	Grassy area north of the main car park (existing revegetation plants to be incorporated into the design)
Strategic planting of eucalypts <sup>6</sup>	To improve visual amenity for users of the Reserve and create habitat for native birds and animals	To replace mature radiata pines near CBSLSC (refer Section 6.3)

**Recommendation: Small scale revegetation activities are recommended at several locations to enhance the Reserve's visual amenity.**

Suitable local species for revegetation and landscaping activities within the Reserve are identified at Appendix 3.<sup>7</sup> Where possible, revegetation plants should be grown from the seed or cuttings of plants local to the area to ensure local variants of plants are planted.

Several revegetation sites have already been established within the Reserve. It is important to ensure that sufficient resources are available for ongoing maintenance (eg weeding, watering) of these existing sites before undertaking new revegetation activities. Regular weeding and maintenance of bags and stakes is required.

<sup>5</sup> The Adelaide and Mount Lofty Ranges Natural Resource Management Board (2010) has produced a brochure that provides advice on landscaping with native plants in coastal areas. The concepts from this can be adopted within the Reserve using suitable local species. Refer: [http://www.amlnrm.sa.gov.au/Portals/2/Coast/coastal\\_gardensJun2010\\_web.pdf](http://www.amlnrm.sa.gov.au/Portals/2/Coast/coastal_gardensJun2010_web.pdf)

<sup>6</sup> Planting and maintenance of any gum trees should be undertaken in accordance with Council's *Management of Trees on Council Land* policy, including regularly inspecting trees for dead limbs as part of Council's ongoing tree maintenance program.

<sup>7</sup> An overview of best practice revegetation and regeneration techniques has been produced by Greening Australia Victoria (2003) and is available at [http://live.greeningaustralia.org.au/nativevegetation/pages/pdf/Authors%20C/13\\_Corr.pdf](http://live.greeningaustralia.org.au/nativevegetation/pages/pdf/Authors%20C/13_Corr.pdf)

Bags and stakes should be removed once plants are established. Specific management issues associated with existing revegetation sites are summarised in Table 4.

**Recommendation: New revegetation activities should not be committed to unless sufficient resources are available to undertake ongoing regular maintenance of newly planted areas.**

**Table 4:** Management recommendations for existing revegetation areas.

Issue	Description	Recommendation
Maintenance of existing revegetation sites	Regular maintenance is required to ensure plant survival and maintain visual amenity	Minimum twice yearly maintenance of revegetation sites, including replacement of dead plants, maintenance and/or removal of bags and stakes (eg in dune areas) and watering when necessary
Species selection	Some revegetation plants are dying as they are unsuited to the salty, coastal environment	Replace dead plants with species listed in Appendix 3
	Coastal wattle plants in the garden bed in the main car park will require regular pruning	Replace with alternative low shrub species from Appendix 3
Pedestrian access	Pedestrians cut through the garden bed in the main car park	Install stepping stones at strategic intervals (low cost option for encouraging all pedestrians to cross at the same points) and/or create gaps between existing plants (by pruning and/or removing plants) and plant new larger shrubs on either side to encourage pedestrians to use preferred routes

## 8 RESERVE ENTRANCES

There are two main entrances to the Reserve from Clifton Beach Road and Dysart Street. Key management issues identified for these entrances are summarised in Table 5.

**Table 5:** Recommended management activities to be undertaken at Reserve entrances.

Issue	Description	Recommendation
Signage	Currently no sign identifying the Dysart Street entrance	Install a sign at the Dysart Street Entrance
Visual amenity	Both entrances require native landscaping activities to improve their visual amenity	Refer Section 7 for native landscaping recommendations A thematic entrance design across both entrances should be developed

***Recommendation: Reserve entrances should be improved by installing signs and undertaking native landscaping activities.***

## 9 WALKING TRACKS

Key management issues identified with the Reserve's walking tracks and proposed mechanisms for addressing these are summarised in Table 6.

***Recommendation: A range of measures is recommended for minimising pedestrian encroachment into the dunes, reducing erosion potential and improving public safety.***

## 10 INFRASTRUCTURE

Installation of new infrastructure in the Reserve would be desirable to further enhance its recreational value to users.

New play equipment has been recently installed in the Reserve near the Dysart Street entrance. Enhancement of the existing picnic facilities in this area would be desirable to enhance the usability of this area for locals and visitors. Replacement of the existing picnic table with three new picnic tables with shade structures and installation of a barbeque and rubbish bin is recommended.

***Recommendation: New picnic tables with shade structures, a barbeque and a rubbish bin should be installed near the playground.***

The Reserve is a popular destination for dog walkers. While there is a dog waste bag dispenser and bin located at the car park end of beach access T2, its location is inconvenient for users who access the beach or Reserve via other entrances. If resources permit, additional dog waste bag dispensers and bags should be installed at Reserve entrance E2, as well as at the car park end of beach access T4 to serve users who gain access to the Reserve through the small right of way along the eastern edge of the Reserve.

***Recommendation: Dog waste bag dispensers and bins should be installed at Reserve entrance E2 and at the car park end of beach access T4.***

While it is desirable to limit the number of signs in the Reserve, the following additional signage would be beneficial to assist users of the area:

- a sign in each car park pointing to the location of the playground, picnic area and toilet facilities;
- small signs near each beach access reminding users that dogs must be on a lead at all times; and
- an interpretation sign in the main car park with information about the values of the area and volunteer work that is being undertaken.

A Herman Tyson memorial plaque is also proposed to be installed along beach access T3 under the auspices of Talking Surfing History in Tasmania, CBSLSC,

**Table 6:** Track management issues identified within the Clifton Beach Coastal Reserve.

Track	Issue	Recommendation
All beach accesses (T1-4)	Wire has become detached from fences	Review and upgrade all fences (as per the Bellerive-Howrah Coastal Reserve)
	Potential for erosion to occur at the beach end where there is currently no formal structure to facilitate beach access	Trial an above-dune staircase (similar to that installed at the Bellerive-Howrah Coastal Reserve; refer Figure 5) at T2 If successful, similar stepped systems should be considered at T3 <sup>8</sup> and T4
	Some track surfaces are unsafe (eg steps leading to viewing platform off T1, beach end of T2)	Review and upgrade all beach access tracks (as per the Bellerive-Howrah Coastal Reserve)
Beach access T1	Erosion at beach end is causing gravel, rocks and other debris from the track to wash on to the beach during periods of high rainfall and/or high tides	Seek engineering advice on the best options for managing erosion issues and stabilising access onto the beach
	Potential for further encroachment of the track into the adjacent dunes	Erect fence on southern side of track Maximum track width should be sufficient to allow a car and a pedestrian to pass Reroute existing northern fence if required to create desired track width
Beach access T2	The car park end of the track is very wide and divides into two separate tracks	Use strategic fencing to create a single streamlined access at the car park end
Beach access T4	Informal passing/viewing area at the top of the stairs is causing encroachment into the adjacent dunes	Extend the northern fence towards the steps, with a small passing area to be retained at the top of the stairs
Informal walking track between main car park and the playground	Access from the main car park currently involves walking along the road and then cutting through to the playground on an informal grass and dirt track	Construct a compacted gravel track along the existing informal track

<sup>8</sup> T3 is predominantly a pedestrian access but is also used as an emergency access for vehicles. However, the CBSLSC has indicated that it would be desirable to move towards a pedestrian only walkway in the longer term in conjunction with any future development of beach access T1.



**Figure 5:** Example of an above-dune staircase installed at the Bellerive-Howrah Coastal Reserve.

South Arm Boardriders and Council.

***Recommendation: Limited additional signage should be installed to facilitate visitor access and interpretation.***

Any installation of new infrastructure will be subject to funding. With this in mind, no additional infrastructure is recommended within the next five years unless significant funding becomes available. A further review of the infrastructure requirements of the Reserve should be undertaken in 2016.

***Recommendation: A review of the infrastructure requirements of the Reserve should be undertaken in 2016.***

## 11 COMMUNITY PARTICIPATION AND AWARENESS

Community participation and awareness has an important role to play in protecting the natural and recreational values of the Reserve. In particular, education of visitors to the Reserve is desirable to foster behavioural change and encourage community ownership and appreciation of the Reserve's values.

***Recommendation: Community education should be undertaken to encourage ownership and appreciation of the values of the Reserve.***

Much of the maintenance of the Reserve has to date been undertaken on a



voluntary basis by members of the community through the Wildcare Deslacs<sup>9</sup> and CBSLSC.<sup>10</sup> The installation of an interpretation sign in the main car park (as discussed in Section 10) would provide an opportunity to promote the activities of this group.<sup>11</sup> As well, individuals wanting to become involved in management activities outside of these groups should be encouraged to contact Council directly.

Prior to undertaking any infrastructure works in the coastal zone, the following documents should be consulted:

- *Tasmanian Coastal Works Manual* (Page and Thorp 2010);
- *Coastal Management Specification Manual* (Green Skills Inc. 2010); and
- *Tasmanian Reserve Management Code of Practice* (Parks and Wildlife Service, Forestry Tasmania and Department of Primary Industries, Water and Environment 2003).

## 12 IMPLEMENTATION PLAN

A map illustrating the location of on ground management activities recommended within the Reserve is provided at Figure 6. This is based on the key recommendations contained within this plan, which are summarised in detail at Appendix 4.

Based on these recommendations, an Implementation Plan with associated performance measures has been developed and is provided at Table 7. It identifies three stages of management activities to be undertaken within the Reserve:

- Priority 1 - immediate (6-12 months) management activities.
- Priority 2 – medium term (1-3 years) management priorities.
- Priority 3 – long term (5 years) management priorities.

The intent of the Implementation Plan is to provide a guide to outcomes that could be achieved within the Reserve by Clarence City Council, contractors and/or volunteer groups within the period 2012-2016 if sufficient resources are available. While it would be desirable to undertake all the recommended activities, it is acknowledged that this may not be possible due to resource constraints, and implementation will ultimately be guided by what is achievable with resources as they become available. Federal, State and Local Government grants programs may provide an opportunity to obtain resources to implement many of the recommendations contained within this report.

A review of progress against all performance measures should be undertaken annually during the period 2012-2016 to help prioritise available resources.

---

<sup>9</sup>Details about Wildcare Deslacs are available at

[http://www.wildcaredeslacs.org.au/pages/groups\\_details.php?group\\_id=82&group\\_type\\_id=1](http://www.wildcaredeslacs.org.au/pages/groups_details.php?group_id=82&group_type_id=1)

<sup>10</sup> Details about the CBSLSC are available at <http://cliftonbeachslsc.com/>

<sup>11</sup> An example of a successful interpretation sign may be viewed at the main entrance to Cremorne Beach, where the Pipe Clay Lagoon Coastcare Group has displayed information about their current and planned activities.

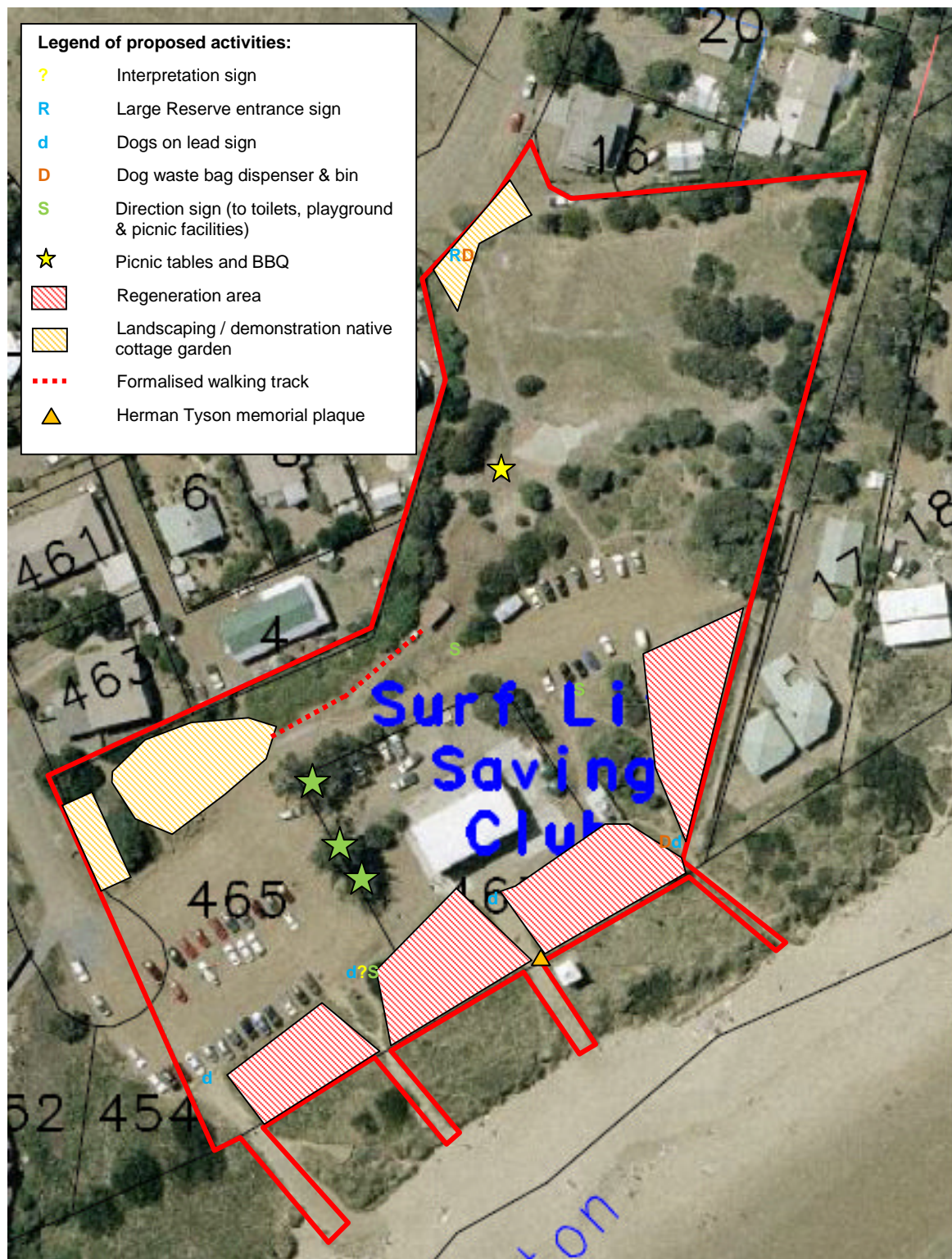


Figure 6: Overview of key proposed on ground management activities.<sup>12</sup>

<sup>12</sup> Aerial photo provided by Clarence City Council.

**Table 7:** Implementation Plan for undertaking recommended management activities within the Reserve.

Priority	Action	Seasonal timing	Performance measure	Responsibility	Estimated funding <sup>13</sup>
<b>Weed control</b>					
1	Undertake primary control of all environmental weeds	Spring – summer for spot spraying; all year round for other techniques	All environmental weeds are eradicated from the Reserve	Council, contractor and/or volunteer groups	\$300
2&3	Undertake annual sweep and follow-up control of all targeted weeds	Ongoing on an annual basis	All environmental weeds are eradicated from the Reserve	Council, contractor and/or volunteer groups	\$300 per annum
3	Remove mature radiata pines	All year round	Mature radiata pines replaced with blue or white gums	Council or contractor	\$8,000
3	Undertake follow-up GPS mapping of all weeds	Spring - summer	Weed maps and Council database are updated within five years	Council and/or contractor	\$300
<b>Regeneration and revegetation</b>					
1	Establish a photo point at the proposed regeneration areas in the dunes and to the east of the CBSLSC	All year round	Photo point established at the regeneration areas and photos taken on an annual basis	Council or volunteer groups	\$300
1	Remove bags and stakes from revegetation plants in dunes	All year round	No bags and stakes in dune area	Council or volunteer groups	\$300
1	Install an interpretation sign at a regeneration area	All year round	Interpretation sign erected near a regeneration area	Council or volunteer groups	\$300
2	Undertake landscaping at Reserve entrances	Autumn - winter	Landscaping completed at Reserve entrances	Council and/or contractor	\$1,000
2	Plant demonstration native cottage garden in grassy area north of the bitumen car park	Autumn - winter	Demonstration native cottage gardens established	Council, contractor or volunteers	\$1,500

<sup>13</sup> Funding estimate is based on total costs required to undertake all recommended activities over the period 2011-12 to 2015-16.

Priority	Action	Seasonal timing	Performance measure	Responsibility	Estimated funding <sup>13</sup>
1,2&3	Undertake regular maintenance of all revegetation and landscaping sites	Ongoing	Maintenance of all existing revegetation and landscaping sites undertaken within the last six months	Council, contractor and/or volunteers	\$1,200 per annum
<b>Access management</b>					
1	Install sign at Dyson Street Entrance	All year round	Signs erected at all main entrances to the Reserve	Council	\$200
<b>Walking tracks</b>					
1	Seek engineering advice on the best options for managing erosion issues and stabilising access onto the beach at T1	All year round	Engineering report completed	Council and PWS	N/A
2	Formalise track between bitumen car park and playground	All year round	Compacted gravel path installed between main car park and playground	Council or contractor	\$3,000
1,2&3	Review and upgrade all beach access tracks and fences (as per Bellerive-Howrah Coastal Reserve)	All year round	All beach access tracks and fences upgraded to standard adopted at Bellerive-Howrah Coastal Reserve	Council or contractor	\$5,000 per annum
<b>Infrastructure</b>					
1	Install dog waste bag dispensers and bins at E2 and at the car park end of beach access T4	All year round	Dog waste bag dispensers and bins installed at E2 and T4	Council and/or contractor	\$2,200
1	Install signs pointing to location of playground, picnic area and toilet facilities	All year round	Directional signs installed in each car park	Council	\$300
1	Install small signs near each beach access reminding users that dogs must be on lead	All year round	Signs installed at each beach access	Council	\$400

Priority	Action	Seasonal timing	Performance measure	Responsibility	Estimated funding <sup>13</sup>
2	Install an interpretation sign about the Reserve's values and volunteer groups	All year round	Interpretation sign installed	Council and/or volunteer group	\$2,000
2	Install Herman Tyson memorial plaque	All year round	Memorial plaque installed	Council and/or volunteer group	\$500
2	Install new picnic facilities	All year round	Picnic facilities upgraded	Council and/or contractor	\$15,000
<b>Implementation plan</b>					
3	Undertake a full review of the <i>Clifton Beach Coastal Reserve Activity Plan 2012-2016</i>	All year round	<i>Clifton Beach Coastal Reserve Activity Plan 2012-2016</i> reviewed within five years	Council and/or contractor	\$5,000

**Recommendation: Progress against all performance measures identified in the Implementation Plan should be reviewed annually.**

### 13 FUTURE PRIORITIES

A review of the *Clifton Beach Coastal Reserve Activity Plan 2012-2016* should be undertaken in 2016. The purpose of this review should be to:

- assess progress towards achieving the objectives of the *Clifton Beach Coastal Reserve Activity Plan 2012-2016*;
- assess progress against all performance measures; and
- determine ongoing management priorities for the Reserve for the next five years.

**Recommendation: The Clifton Beach Coastal Reserve Activity Plan 2012-2016 should be reviewed in 2016 to assess progress and determine ongoing management priorities for the Reserve.**

### 14 REFERENCES

Adelaide and Mount Lofty Ranges Natural Resource Management Board (2010). *Coastal gardens: a planting guide*. Adelaide and Mount Lofty Ranges Natural Resource Management Board, South Australia.

Clarence City Council (2011). *Clarence Planning Scheme 2007*. Clarence City Council, Tasmania.

Cordingley, S. P. and Petherick, C. E., 2005, *Vegetation Management Plan for the Henley South and West Beach Dune Reserve*. City of Charles Sturt, Adelaide.

Department of Primary Industries, Parks, Water and Environment (2010). *Natural values report 40554*. Unpublished report for Tasflora.

Green Skills Inc. (2010). *Coastal Management Specification Manual*. Unpublished report for South Coast Management Group.

Greening Australia Victoria (2003). *Revegetation techniques*. Greening Australia Victoria, Horsham.




NRM South and the Southern Tasmanian Councils Authority (2010). *Weeds of southern Tasmania: a guide to environmental and agricultural weeds of southern Tasmania*. NRM South and the Southern Tasmanian Councils Authority, Tasmania.

Page, L. and Thorp, V. (2010). *Tasmanian Coastal Works Manual: A best practice management guide for changing coastlines*. Department of Primary Industries, Parks, Water and Environment, Tasmania.



Parks and Wildlife Service, Forestry Tasmania and Department of Primary Industries, Water and Environment (2003). *Tasmanian Reserve Management Code of Practice*. Department of Tourism, Parks, Heritage and the Arts, Hobart.

Tasflora (2011). *Clifton Beach Reserve Management Plan*. Unpublished report for Wildcare Deslacs.

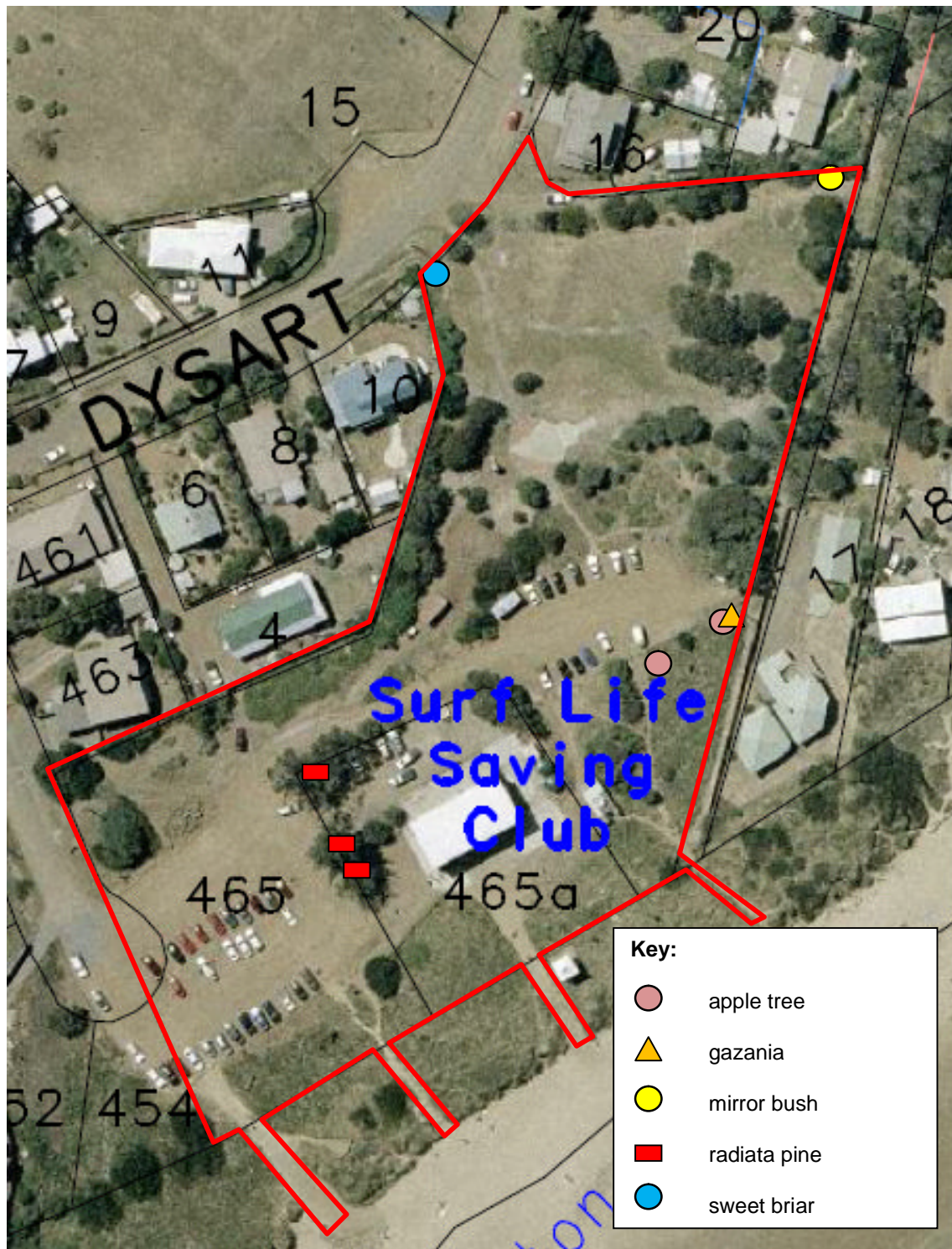
## APPENDIX 1: WEED SPECIES PRESENT AND RECOMMENDED CONTROL TECHNIQUES

Common name	Species	Status	Picture	Recommended control technique
Apple tree	<i>Malus</i> sp.	-		Cut and paste
Gazania	<i>Gazania</i> sp.	-		Hand pull, dig or spot spray
Mirror bush	<i>Coprosma repens</i>	-		Hand pull seedlings. Cut and paste larger plants.







Common name	Species	Status	Picture	Recommended control technique
Radiata pine	<i>Pinus radiata</i>	-		Hand pull small plants. Cut and paste larger plants. Mature trees should be removed by a qualified arborist.
Sweet briar	<i>Rosa rubiginosa</i>	-		Cut and paste or spot spray.






**APPENDIX 2: LOCATION OF WEEDS IN THE RESERVE<sup>14</sup>**












<sup>14</sup> Aerial photo provided by Clarence City Council.

**APPENDIX 3: LOCAL NATIVE SPECIES SUITABLE FOR REVEGETATION AND LANDSCAPING WORK**

Species	Common name	Picture	Minimum spacing
<u>Trees</u>			
<i>Eucalyptus globulus</i>	blue gum		10-15 m
<i>Eucalyptus viminalis</i>	white gum		10-15m
<i>Banksia marginata</i>	silver banksia		2m
<i>Acacia verticillata</i>	she-oak		2m

Species	Common name	Picture	Minimum spacing
<u>Tall shrubs</u>			
<i>Acacia longifolia</i> ssp. <i>sophorae</i>	coastal wattle		5m Not recommended close to access tracks or fences as its rapid growth will require regular pruning
<i>Bursaria spinosa</i>	prickly box		2m
<i>Dodonaea viscosa</i>	native hop		2m
<u>Low shrubs</u>			
<i>Atriplex cinerea</i>	grey saltbush		1.5m
<i>Carpobrotus rossii</i>	native pigface		0.5 m

Species	Common name	Picture	Minimum spacing
<i>Correa alba</i>	white correa		1.5m
<i>Goodenia ovata</i>	hop native-primrose		1m
<i>Myoporum insulare</i>	common boobialla		2m
<i>Rhagodia candolleana</i>	coastal saltbush		1m
<i>Tetragonia implexicoma</i>	bower spinach		1m

Species	Common name	Picture	Minimum spacing
<u>Grasses and sedges</u>			
<i>Austrostipa stipoides</i>	coast speargrass		0.5 m
<i>Ficinia nodosa</i>	knobby clubsedge		0.5m
<i>Lomandra longifolia</i>	sagg		0.5m
<i>Poa poiformis</i>	coast tussockgrass		0.5m Requires regular maintenance

## APPENDIX 4: SUMMARY OF ON GROUND MANAGEMENT RECOMMENDATIONS

<p><b>Weed management</b></p> <ul style="list-style-type: none"> <li>• All woody weeds occurring within the Reserve should be controlled as a priority due to their presently limited distribution.</li> <li>• Mature radiata pines near the CBSLSC should be replaced with blue or white gums.</li> <li>• Marram grass should not be removed due to its role in dune stabilisation.</li> <li>• Control of exotic grasses and broadleaf weeds is only required in revegetation areas and where necessary as part of a general Reserve maintenance program.</li> <li>• An annual sweep and follow-up control of woody weeds should be undertaken.</li> <li>• Follow-up GPS mapping of all weeds in the Reserve should be undertaken after five years to monitor progress and inform future weed control priorities.</li> </ul>
<p><b>Regeneration and revegetation</b></p> <ul style="list-style-type: none"> <li>• The dunes and the vegetated area adjacent to the CBSLSC should be designated as native regeneration areas and photo points established.</li> <li>• Bags and stakes should be removed from existing revegetation plants in the dunes as they become established.</li> <li>• A small educational sign should be erected near a regeneration area to facilitate community awareness of the importance of natural regeneration.</li> <li>• Small scale revegetation activities are recommended at several locations to enhance the Reserve's visual amenity.</li> <li>• New revegetation activities should not be committed to unless sufficient resources are available to undertake ongoing regular maintenance of newly planted areas.</li> </ul>
<p><b>Access Management</b></p> <ul style="list-style-type: none"> <li>• Reserve entrances should be improved by installing signs and undertaking native landscaping activities.</li> </ul>
<p><b>Walking tracks</b></p> <ul style="list-style-type: none"> <li>• A range of measures is recommended for minimising pedestrian encroachment into the dunes, reducing erosion potential and improving public safety.</li> </ul>
<p><b>Infrastructure</b></p> <ul style="list-style-type: none"> <li>• New picnic tables with shade structures, a barbeque and a rubbish bin should be installed near the playground.</li> <li>• Dog waste bag dispensers and bins should be installed at Reserve entrance E2 and at the car park end of beach access T4.</li> <li>• Limited additional signage should be installed to facilitate visitor access and interpretation.</li> <li>• A review of the infrastructure requirements of the Reserve should be undertaken in 2016.</li> </ul>
<p><b>Community participation and awareness</b></p> <ul style="list-style-type: none"> <li>• Community education should be undertaken to facilitate behavioural change and encourage ownership and appreciation of the values of the Reserve.</li> </ul>

<b>Implementation Plan</b>
----------------------------

- |  |
|--|
| <ul style="list-style-type: none"><li>• Progress against all performance measures identified in the Implementation Plan should be reviewed annually.</li><li>• The <i>Clifton Beach Coastal Reserve Activity Plan 2012-2016</i> should be reviewed in 2016 to assess progress and determine ongoing management priorities for the Reserve.</li></ul> |
|--|