



# YALLINGUP FORESHORE MANAGEMENT PLAN



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for the Yallingup LCD  
and the City of Busselton  
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## 1. EXECUTIVE SUMMARY

The Yallingup Foreshore Management Plan (YFMP) has been developed in order to guide onground management of the iconic Yallingup coastline. It documents the current state and values of the area and provides generic principles and specific recommendations to address recreational and conservation issues between Slippery Rocks and Rabbits carparks.

The preparation of the YFMP involved significant community consultation including:

- Promotion through a number of articles and notices in local newspapers;
- On-site meetings with key stakeholders or residents who were identified as having a specific interest in the area;
- The receipt and consideration of written submissions by the local community during the preparation of a draft plan; and
- Advertisement of the draft plan and consideration of submissions prior to finalising the plan.

The YFMP identifies significant conservation, recreational and social values associated with the foreshore. Attributes of the foreshore include:

- Patches of good condition coastal vegetation;
- Vulnerable Western Ringtail Possum habitat;
- Access to renowned surf breaks and beautiful coastline and beach areas;
- Protected marine reserve and lagoon area;
- Open space parkland that is of high recreational value;
- Foreshore buffer: protecting and minimising the impacts of storm events and coastal erosion;
- Water quality buffer: improving water quality by filtration through Yallingup brook and coastal vegetation. and
- A high level of visual amenity with the majority of Yallingup overlooking the foreshore.

It was identified that a number of opportunities exist to improve the existing management of the area for the benefit of local residents, visitors and the environment. Management recommendations developed following the consideration of submissions and the community consultation phase are summarised in Section 4.3.

Some of the more significant recommendations include:

- Managing isolated outbreaks of a number of priority environmental weed species (including Madeira vine, Geraldton carnation weed, Veldt daisy and Norfolk Island hibiscus);
- Undertaking revegetation and brushing of a number of areas to provide habitat connectivity, foreshore protection and improved visual amenity;
- Recognition and acknowledgement of the indigenous values and history of the foreshore;
- Supporting and recognising the significant contribution that the local LCDC group makes to the management of the foreshore reserve;
- Developing a series of interpretive signage covering natural, Aboriginal and European history for subtle, unobtrusive placement at the viewing decks;
- A number of minor recommendations covering access and infrastructure provision (e.g. bins, signage etc.);
- The installation of a viewing tower north of the Dawson Drive beach access track to facilitate improved surf life saving services;
- Formalisation, demarcation, hardening and vegetation protection at the Dawson Drive and Reserve 4906 carparks;
- Installation of a new waterless toilet at Rabbits carpark;
- Investigating alternative layouts/ design of the main and Rabbits carparking areas including one way through-flow to better utilise the existing space;
- Changing the vested purpose of Reserves 557, 4120, 4904 and 4381 to “Public recreation and

- foreshore protection”;
- Changing the vested purpose of Reserve 4906 to “Parking and conservation” to more accurately reflect its current values;
  - The City of Busselton investigate seeking vesting of the western portion of Slippery Rocks carpark as a ‘C’ Class reserve for the purposes of “Parking”; and
  - The City of Busselton investigate seeking vesting of the area south of Rabbits carpark through to Reserve 4120 as ‘A’ Class Reserve for the purposes of “Conservation and foreshore protection”.

## **2. INTRODUCTION**

### **2.1 BACKGROUND**

Following significant community interest in the Yallingup foreshore and a long history of on- ground management projects, the Yallingup Land Care District Committee (YLCDC) applied to Coastwest for funding to prepare an overarching management plan to guide future work and improvements to the foreshore. This funding application was successful and a consultant was engaged in February 2012 to prepare the Yallingup Foreshore Management Plan (YFMP).

The planning process for the development of the YFMP involved the following steps:

1. Preparation of the draft YFMP including informal community and stakeholder consultation by an external consultant.
2. Draft YFMP reviewed and approved for advertisement by City of Busselton.
3. Public advertising of the draft documents and formal community consultation process.
4. Final YFMP prepared after consideration of submissions received.
5. Management Plan adopted by Council and implemented by City of Busselton and community.

### **2.2 PURPOSE AND SCOPE OF THE MANAGEMENT PLAN**

Litoria Ecoservices prepared the plan over a twelve week period between February and April 2012, following consultation with local residents, community and agency stakeholders and relevant City staff. The YFMP provides detailed site information and management strategies for the area to guide onground works by the City and community groups.

The purpose of this management plan is to identify management recommendations to maintain and improve the key qualities of the foreshore site, namely:

- recreation values;
- social values; and
- conservation values.

The objectives are to:

1. facilitate sustainable recreation;
2. maintain and enhance conservation values of the site; and
3. foster community ownership of and responsibility for the foreshore.

Key elements of the development of the YFMP involved:

- an assessment of the current physical and ecological state of the site including native vegetation, weed burden, erosion-prone areas, pedestrian and vehicular access and recreational usage;
- community consultation including input from local residents, community and agency stakeholders; and
- development of detailed, prioritised management recommendations for improving and preserving the values of the site.

The scope of the works did not include a detailed flora and fauna survey of the site and the season within which the work was undertaken (outside of the winter growing and spring flowering season) would mean some species were unlikely to be recorded during the site assessment.

### **2.3 THE STUDY AREA**

The study area is the foreshore area, north of the Slippery Rocks carpark on Yallingup Beach Road and the Rabbits carpark. It is approximately 1km in length. It contains Reserves 557, 4120, 4904 and 4381 managed by the City of Busselton as 'C' class reserves for Recreation and Reserves 4905 and 4906, vested with the City of Busselton as 'C' class reserve for parking.

A portion of the Slippery Rocks carpark and the area west of Dawson Drive through to the Rabbits carpark represents part of the Leeuwin Naturaliste National Park under the management of the Department of Environment and Conservation (DEC). The area also includes City of Busselton-managed road reserves from Slippery Rocks carpark to the main Yallingup roundabout and the western side of Dawson Drive.

These areas are shown on Figure 1.

## **2.4 LEGISLATIVE AND POLICY FRAMEWORK**

A broad range of legislation, as well as local and state government policy and guidelines applies to foreshore areas. Additionally, a number of planning documents exist that are specifically relevant to portions of the Yallingup foreshore.

The following have been considered in the preparation of this plan:

- The Coastal Planning and Management Manual (2003);
- Yallingup Special Character Area Policy (2007);
- City of Busselton Reserves and Foreshores Local Law;
- City of Busselton Community Infrastructure Division Technical Standards and Specifications;
- Busselton District Town Planning Scheme No. 20 (1999);
- State Coastal Planning Policy 2.6;
- City of Busselton Reserves and Foreshores Local Law;
- Land Administration Act (1997)
- Conservation and Land Management Act (1984)
- Wildlife Conservation Act (1950);
- Leeuwin-Naturaliste Capes Areas Parks and Reserves, Draft Management Plan (2010);
- Leeuwin Naturalist Ridge Statement of Planning Policy 6.1; and
- Environment Protection and Biodiversity Conservation Act (1999).

## **2.5 STAKEHOLDER CONSULTATION**

The development of the YFMP builds upon a strong history of community involvement in management of the foreshore. The process incorporated a range of opportunities for community input and consultation in relation to the development of the plan.

Consultation undertaken during the preparation of the plan included:

- ‘one-on-one’ conversations with key stakeholders or residents who were identified as having a specific interest in the area;
- discussions with locals and visitors encountered during site work;
- community submissions received during the preparation of the plan; and
- submissions received during formal advertising of the draft plan.

Two notices were placed in the City of Busselton page of the Busselton-Dunsborough Mail and the Busselton–Dunsborough Times. Additional promotion occurred through a number of published media articles.

Indigenous representatives from both the Webb and Harris families were contacted for input into the plan and discussion, along with representatives from the following groups/ organisations:

- Department of Environment and Conservation;
- Yallingup Residents Association;
- Yallingup Boardriders;
- Indian Ocean Longboard Club;
- Surf Life Saving Australia;
- Yallingup LCDC;
- Yallingup Beach Caravan Park;

- City of Busselton;
- Yallingup Coastal Bush Fire Brigade;
- South West Catchments Council; and
- Busselton Dunsborough Environment Centre.

### 3. CURRENT STATE AND RECOMMENDATIONS: BIOPHYSICAL FEATURES

#### 3.1 SITE DESCRIPTION

The Yallingup foreshore encompasses approximately 6ha of dunal and near coastal vegetation and associated infrastructure. It is bordered to the south and north by the Leeuwin Naturaliste National Park, to the north west by the Indian Ocean, Yallingup Beach and Lagoon and to the south east by residential properties and the Yallingup Beach Caravan Park. The site lies in the northern half of the Cape Naturaliste to Cape Leeuwin region (the Capes).

Yallingup Brook crosses through the site, under Yallingup Beach Road and enters the Yallingup Lagoon.

#### 3.2 LAND TENURE

The area covers a number of reserves and areas with various tenures including:

- Portions of Leeuwin-Naturaliste National Park;
- Reserve 557, 4120, 4904 and 4381 vested with the City of Busselton as 'C' class reserves for Recreation;
- Reserves 4905 and 4906 vested with the City of Busselton as 'C' class reserves for
- Parking; and
- Portions of a number of road reserves including Yallingup Beach Road, Valley Road and Dawson Drive.

The following changes to vesting are recommended:

- the purpose of Reserves 557, 4120, 4904 and 4381 be changed to "Public recreation and conservation" to more accurately reflect their current roles and values;
- the purpose of Reserve 4906 be changed to "Parking and conservation" to more accurately reflect its current values;
- the City seek management of the western portion of Slippery Rocks carpark as a 'C' Class reserve for the purposes of "Parking"; and
- the City seek management of the National Park area south of Rabbits carpark through to Reserve 4120 as an 'A' Class Reserve for the purposes of "Conservation and foreshore protection".

Transferring management to the City of Busselton, the portion of National Park from the Rabbits carpark south to Reserve 4120, is a concept that has been explored through many years of negotiation between the then Shire and DEC. It is considered the most appropriate way of managing these areas into the future given that their current and projected usage is better aligned with that of the townscape and thus the City of Busselton. This change was widely supported by the community during the stakeholder consultation. It is recognised that this change in management is a process that is likely to take many years and has potential cost implications for both DEC and the City of Busselton.

In view that this process may take many years, it is strongly recommended that the implementation of the elements of this plan relevant to these areas is progressed. It is recommended that in the interim period both organisations in conjunction with community groups like the Yallingup LCDC, seek funding and work towards the necessary improvements to these areas.

It is also recognised that there are numerous potential funding sources available to help implement the recommended actions including:

- Annual Coastwest funding for projects involving on-ground action; site or local area planning; identification and monitoring; project support; and capacity building;
- Annual Coastal Protection Program grants administered by the Department of Transport for coastal monitoring, planning, investigations, condition inspections, design, construction or maintenance.



- Caring for Our Country sustainable environment stream: Target Area Grants,
- State Government's Environmental Community Grants,
- Australian Government's Biodiversity Fund;
- South West Catchments Council 'Groundworks' funding for on-ground coastal projects;
- Royalties for Region - it is identified that a combined application with DEC, COB, City of Augusta Margaret River, Friends of the Cape to Cape Track and Surfrider Foundation and focusing of the provision of facilities at iconic, high profile tourist destinations along the Capes' coast, may represent an opportunity for funding some of these works. This would align well with the tourism push for the area and the recent Ngari – Capes Marine Park announcement.

### 3.3 CLIMATE

Located in Western Australia's south-west, Yallingup experiences a Mediterranean climate with hot dry summers and cool wet winters. The nearby Cape Naturaliste Bureau of Meteorological site records an average annual rainfall of 809mm (*Bureau of Meteorology (2012)*) with approximately 85% of this rain falling between May and October.

### 3.4 COASTAL PROCESSES

The Capes' coast generally experiences one tidal exchange per day with tidal movements averaging 0.5m. The west facing coastline is a very high energy coastline bearing the brunt of predominantly winter swells generated from intense southern ocean low pressure systems.

The particularly high energy winter environment with big seas and strong predominant onshore winds can erode large amounts of sand from the coast with accretion occurring during the calmer summer months.

The granite headland at Slippery Rocks and dominance of granite along the foreshore through the southern portion of the site shelter and help protect this part of the site. The limestone wave-cut platform immediately offshore from the site helps to create the lagoon, to create ideal surfing conditions and to shelter the majority of the beach from the most extreme erosive forces.

### 3.5 GEOLOGY AND GEOMORPHOLOGY

The geology of the study area is dominated by the 'Leeuwin Complex' which runs the full length of the Capes' coast (*Lane, P (2004)*) and extends up to 32km inland.

The Leeuwin Complex through the site is dominated by two very different formations (*Department of Environment and Conservation (2010)*):

1. The older underlying basement rocks which consist of granitic and granitic gneisses from the proterozoic period (variously dated between 500 and 770 million years old); and
2. The younger overlying Tamal Limestone which is aeolian (windblown) calcareous (limestone) less than 2 million years old.

### 3.6 SITE VEGETATION

#### 3.6.1 Existing Vegetation

Vegetation is an important factor in coastal planning and management due to its role in buffering against coastal erosion, enhancing the appeal of the area, creating a 'sense of place' and the inherent conservation values of native flora. Dune and foreshore vegetation is easily damaged by pedestrian and other traffic, and protection and careful management is necessary where potential for vegetation damage exists. Residents and stakeholders repeatedly stressed the importance of the Moonah or Rottneet Island teatree (*Melaleuca lanceolata*) present across the site, as being iconic and contributing to the visual appeal of the area. The *Mel. lanceolata* is listed as a priority 2 ecological community. Any rehabilitation of this vegetation community should consult with DEC and use only seed sourced from the trees on the site.

Figures 2A-C show vegetation aspects of the study area.

Across the study area, the vegetation grades from an open or closed herbland at the incipient foredune, to sections of low shrubland, through to low Rottnest Island teatree forest in the backdune.

The open or closed herbland contains many introduced species such as rose pelargonium\* (*Pelargonium capitatum*), sea spurge\* (*Euphorbia paralias*), but native species such as pigface (*Carpobrotus virescens*), hairy Spinifex (*Spinifex hirsutus*) and beach spinifex (*Spinifex longifolius*) also exist. (note: \* denotes weed species)

The low shrubland areas contain the weed species from the foredune herbland along with rose pelargonium\* (*Pelargonium capitatum*) and dune onion weed\* (*Trachyandra divaricata*). It contains a mixture of native species such as rigid wattle (*Acacia cochlearis*), prickly lilly (*Acanthocarpus preissii*), shark's tooth wattle (*Acacia littorea*), coastal sword-sedge (*Lepidosperma gladiatum*), knotted club rush (*Ficinia nodosa*) and berry saltbush (*Rhagodia baccata* subsp. *baccata*).

The low Rottnest Island teatree forest unit is characterised by a canopy of Rottnest Island teatree with a herb layer dominated by ruby saltbush (*Enclylaena tomentosa*), berry saltbush (*Rhagodia baccata* subsp. *baccata*) and rigid wattle (*Acacia cochlearis*). Other common species include coastal sword-sedge (*Lepidosperma gladiatum*), shark's tooth wattle (*Acacia littorea*) and prickly lilly (*Acanthocarpus preissii*). Common weed species of this unit include couch\* (*Cynodon dactylon*), kikuyu\* (*Pennisetum clandestinum*), other lawn grasses, rose pelargonium\* (*Pelargonium capitatum*), dune onion weed\* (*Trachyandra divaricata*), hare's tail grass\* (*Lagurus ovatus*), statice (*Limonium sinuatum*) and Veldt daisy (*Dimorphotheca ecklonis*).

A parkland cleared area of open space consists almost exclusively of Rottnest Island teatree with mixed lawn species.

### 3.6.2 Tree Health and Plant Pathogens

Given the calcareous soils making up the majority of the site (and the limited vegetation within the non-calcareous soils), *Phytophthora* dieback is highly unlikely to impact on the vegetation of the site or represent a significant management consideration.

### 3.6.3 Weed Burden

Environmental weeds are a common element within coastal bushland and reserves and aggressive species have the potential to seriously undermine the conservation values of the area. Weed management in any situation needs to be strategic in order to ensure limited resources have the maximum benefit and to ensure weed control does not have detrimental impacts on other site values. This is particularly so with respect to coastal situations where healthy native vegetation is lacking and weed species dominate. In this case they serve a valuable role stabilising and colonising dunes.

While the site contains patches of very good quality vegetation, in places introduced and weed species form a significant component of site vegetation. A number of species represent a significant threat to the conservation values of the foreshore and as such, several species or areas represent a moderate to high priority for control or close monitoring, namely:

- Geraldton carnation weed (*Euphorbia terracina*) to be eradicated from around the Rabbits carpark.
- Veldt daisy (*Dimorphotheca ecklonis*) to be controlled along Dawson Drive from the beach access track through to Rabbits carpark.
- An isolated patch of Madeira vine (*Anredera cordifolia*) along Dawson Drive south of the beach access point. This represents a priority due to its potential invasiveness and the fact

that it is not commonly found as a weed in the region (*Florabase (1998)*). This species has recently been recognised as a Weed of National Significance (WONS)<sup>5</sup> and it is a high priority that it not be allowed to establish.

- Statice (*Limonium sinuatum*): whilst common throughout the site, this is particularly dominant immediately north-east of the Slippery Rocks carpark. Staged control and replacement with revegetation species is recommended in this area over several years.
- Castor oil plant (*Ricinus communis*): isolated individuals were identified around the Yallingup Brook. Although not a highly invasive environmental weed, this is a highly toxic plant and as such represents a priority for control.
- Norfolk Island hibiscus (*Lagunaria omentosa*): isolated individuals were identified west of Dawson Drive. This species is a moderately aggressive weed of coastal bushland in the southwest and also has seeds covered in hairs that can be a severe skin irritant.

In addition to these specific weed priorities, the incursion of weedy grass species into good quality coastal vegetation has the potential to seriously and progressively degrade the conservation and amenity values of the vegetation and should also be addressed. The incursion of perennial grasses such as buffalo grass\* (*Stenotaphrum secundatum*), couch\* (*Cynodon dactylon*) and kikuyu\* (*Pennisetum clandestinum*) and annual grasses such as bearded oats\* (*Avena barbata*), into the edge of areas of otherwise good native vegetation is common through much of the site, especially near the mouth of the Yallingup Brook and should be monitored and controlled where necessary. Other grasses such as hare's tail grass\* (*Lagurus ovatus*) are common throughout much of the site but are considered less of a priority for control.

#### 3.6.4 Revegetation

While the focus of restoration actions within this plan is the protection of existing vegetation, and the promotion of natural regeneration through reducing disturbance and judicious weed control, a few small stretches have been identified for revegetation based on the degraded nature of the areas in question, the need to link existing vegetation, the amenity value and the stabilisation value provided by native vegetation.

In some instances due to the need to maintain sightlines and views from key open space facilities, only native understorey (low growing) species are recommended.

#### Foreshore Planting

Figure 2 identifies the priority areas for foreshore revegetation/ amenity planting over the next few years. These areas generally have relatively bare ground available for planting into or may require minor weed control in spots prior to planting. In general, widespread weed control is not considered appropriate until native species are well established. These areas include:

- North of Slippery Rocks carpark;
- In front of and around the entrance statement area;
- At the entry to the southern open space beach access track; and
- Around the main beach access track and viewing platforms.

Species to make up the core of these plantings would include<sup>\*\*</sup>:

- |   |   |
|---|---|
| • Berry saltbush ( <i>Rhagodia baccata</i> )      | • Coastal sword-sedge ( <i>Lepidosperma gladiatum</i> )   |
| • Rigid wattle ( <i>Acacia cochlearis</i> )       | • Thick-leaved fan-flower ( <i>Scaevola crassifolia</i> ) |
| • Knotted club rush ( <i>Ficinia nodosa</i> )     | • Coastal daisybush ( <i>Olearia axillaris</i> )          |
| • Shark's tooth wattle ( <i>Acacia littorea</i> ) | • Ruby saltbush ( <i>Enchylaena tomentosa</i> )           |

<sup>\*\*</sup>*Appendix 1 identifies a broad range of species appropriate for use in revegetation plantings.*

Old blowout areas north of the Salmon Track also require additional infill planting using the full range of species and brushing in order to help stabilise the area.

Any plantings undertaken in the dunes should utilise the 'deep dune planting technique' which involves planting the seedlings to a depth where up to two thirds of the stem is buried. This technique allows the root mass to stay deeper within the profile and as such experience cooler, moister conditions.

Given the significance of the Rottnest Island teatree to the conservation, recreational and aesthetic values of the site, the management of this species is particularly important. Two key points in relation to this were repeatedly identified during the site assessment and raised in discussions with stakeholders:

1. Planning for succession and providing protection for young plants within the open space areas is critical and without dramatically reducing the open space area, younger plants should be incorporated into some areas to ensure succession is ensured of these iconic plants. Given the open nature of this area protection of young plants from salt laden winds is critical in their establishment and the use of shade sail structures as currently being used on-site is recommended.
2. It is identified that the Rottnest Island teatree is often thin or dying back on the windward side as a response to the salt laden winds experienced in this open coastal position. These thin or dead branches in turn provide some protection for the leeward side of the tree which bares the bulk of the foliage. It is strongly recommended that unless the branches represent a hazard to park users then they be maintained as long as possible.

### **3.7 NATIVE FAUNA AND FERAL ANIMALS**

It was beyond the scope of this report to conduct a detailed assessment of the fauna inhabiting the site. However, opportunistic records and sightings of mammals, reptiles and birds were made during the site assessment.

Locals reported occasional sightings of the Western Ringtail Possum (*Pseudocheirus occidentalis*) (WRP), or Nguara. The WRP, once widely distributed throughout the south- western forests of Western Australia is now almost exclusively restricted to coastal areas of peppermint woodlands and peppermint/ tuart associations between Bunbury and Albany. Whilst Busselton, Dunsborough and East Augusta now represent strongholds for the species, populations along the Capes' coast and waterways are also considered significant.

The species is now recognised and protected under the Commonwealth Environment Protection and Biodiversity Conservation Act and the Western Australian Wildlife Conservation Act as Vulnerable (to extinction) and Threatened (Schedule 1 – fauna that is rare or likely to become extinct) respectively. The fact that this listed species is found within the study area is of conservation significance and reinforces the importance of maintaining or improving the condition of vegetated areas and where possible, managing the parkland cleared areas to maintain and enhance their habitat value for WRP without compromising the amenity and recreational values of these areas.

Given the recognition of the WRP under both Commonwealth and State threatened species legislation, there is good justification for enhancing the habitat value of the site for this species where possible.

Specific recommendations to help achieve these objectives include:

- Implementing the revegetation elements identified in section 2.5.4;
- On-going awareness raising conveying the significance of the species, its threats and management measures.

Quenda or Southern Brown Bandicoots (*Isoodon obesulus*) are likely to utilise the site. Despite suffering a reduced range since the introduction of the fox, this species is still common along the Capes' coast where dense native understorey supports a diversity of plant species. The species is listed under the Western Australian Wildlife Conservation Act as a Priority 5: Taxa in need of monitoring (conservation dependant) and represents an important conservation value for the site.

Southern Carpet Pythons (*Morelia spilota imbricata*) were reported by locals to occur within the site. This species is recognised as Schedule 4 taxa under the Western Australian Wildlife Conservation Act as 'specially protected'.

Hooded Plovers are reported by locals to be present on the beach near Rabbits Hill. As numbers are currently low but stable they have a conservation status of 'Near Threatened'. They nest on the upper levels of the beach, in adjacent sand dunes and forage at the water's edge for small invertebrates.

In addition to these species, common brushtail possums, a range of forest and coastal birds, frogs, lizard and snake species utilise the site.

Rabbits were identified on site during the site assessment. Although they do not currently appear to be significantly impacting on native vegetation in the area, revegetation through this area will need to consider the impact of the rabbit population and utilise tree bags and stakes. The heavy use of the area by young children and domestic animals limits the use of traditional control methods such as 1080 baiting or Pindone baiting.

Given the minimal current impact of rabbits on the foreshore itself and the inability to undertake traditional baiting, control is not currently recommended. Alternatively, monitoring of the current population and its impact is recommended and in the event that the population becomes a significant management issue in the future, potential control options include:

- The introduction of a myxomatosis-infected rabbit (or flea) into the colony;
- Baiting with RCD (Calicivirus); and
- Capture of rabbits, injection with RCD (Calicivirus) and re-release.

It should be noted that these methods really need to be considered within the broader context of the rabbit problem within the local area and should be planned with a much broader area in mind than just this site.

Foxes are identified to be present throughout adjoining areas of the Leeuwin Naturaliste National Park and are regularly sighted/ experienced within the Yallingup townsite and foreshore. Local residents reported sightings and impacts on poultry. It is understood that the foxes in general reside in the National Park and move into the town and foreshore. Neighbouring areas of the National Park are not currently baited and DEC is encouraged to increase baiting where this can be undertaken in a safe manner. Residents should be encouraged to report fox sightings in the area in order to ascertain if specific management within the foreshore is warranted.

It is noted that feral and/or wandering domestic cats are highly likely to utilise the site and pose a threat to WRP. Domestic dogs are known to impact WRPs on private land adjacent to the reserve and are likely to impact on WRP within the reserve. Trapping is considered the most appropriate way of addressing any cat or fox issues that may arise within this coastal, urban setting. Increased education and public awareness of the threat to WRP posed by domestic cats and dogs is required.

The southern corner of the lagoon acts as a sheltered resting place for a range of shorebirds and the Slippery Rocks carpark seat and the bridge over the Yallingup Brook represent good locations for observing these. The opportunity exists for interpretive signage to assist in the appreciation of this location.

### **3.8 MANAGEMENT**

In accordance with City policy adopted elsewhere along the coast, prescribed burns in the Yallingup foreshore are not supported. Open fires are not permitted anywhere in the foreshore area. The risk of fire emerging or spreading through the foreshore area and threatening other sites is recognised and the installation of additional hydrants adjacent the main carpark and the Dawson Drive carpark is recommended. The presence and continued support of the Yallingup Coastal Bush Fire Brigade is critical in addressing this threat.

The installation of a hydrant within close proximity of the main toilet block is strongly recommended in order to quickly and effectively respond to any fire issues resulting in this high use area.

The continued support of the Yallingup Bushfire Ready Action Group is important in helping adjacent landholders manage fire risk on adjoining properties.

It is noted that fire management on the surrounding national park area is guided by the Leeuwin-Naturaliste Capes Area Parks & Reserves Management Plan (currently in draft).

### **3.9 EROSION**

It was beyond the scope of this report to investigate long-term erosion risks or threats, or to address the need for major coastal works in relation to sand capture or retention. It was noted that the northern portion of the beachfront at the time of assessment was quite narrow at high tide and that as with many beaches on the Capes' coastline the preceding 2011 winter had heavily eroded some areas. This may have been associated with the strong La Nina weather pattern and elevated sea levels resulting from a strong Leeuwin current operating during this time. At this stage there is no indication that this is likely to be a prolonged or permanent pattern of events.

In May 2010, a Position Statement containing modifications to the methodology set out in Schedule One of State Planning Policy 2.6 State Coastal Planning Policy (SPP2.6) was adopted by the Western Australian Planning Commission. These modifications included amending the sea level rise figure from a.38m to 0.9m as the previous figure of 0.38m was no longer considered appropriate to satisfy policy guidance. Assessments along the coast will be required to use a figure of 0.9m when accounting for sea level rise. These modifications have been incorporated into the draft revised SPP2.6.

Predicted sea level rise in the coming decades has the potential to seriously impact on the existing shoreline and while this prospect requires consideration, it is beyond the scope and time horizon of this report.

Vegetation is identified as essential to the long-term stability of the coastline and implementation of the revegetation recommendations detailed in Section 2.6.2 will aid in the long term stabilisation of the foreshore area.

### **3.10 WATER QUALITY**

Concerns were raised during the consultation about the potential contamination of Yallingup Brook and the lagoon area from stormwater or townsite septic discharge. A number of stormwater outlets from the townsite discharge directly into Yallingup Brook or straight onto the beach adjoining the lagoon.

Very limited water quality data appears to be available to determine whether the concern over potential contamination of Yallingup Brook is justified. Some very limited data from two autumn 1998 sampling rounds in Yallingup Brook undertaken by the Dunsborough Primary School suggest elevated Total Nitrogen levels in some sites in one round.

No monitoring records post 1998 were available and it is strongly recommended that some baseline records be established over all seasons at various points through the town site particularly during peak

summer period when base flows in the Brook are reduced and occupancy in residential dwellings and accommodation facilities are at peak levels.

Some monitoring of stormwater quality was undertaken in April 2007 prior to the installation of a gross pollutant trap below the main carpark. Although limited, this data suggested some concern with respect to the nitrogen and phosphorous levels within the stormwater.

Monitoring of the nutrient and pollutant load of stormwater leaving the site is recommended and where issues are identified management should be adjusted accordingly. It is noted that in order to gain valuable data while monitoring the Brook and stormwater, the time of sampling will be very important due to the need to respond to the short catchment response times and to capture the 'first flush' of pollutants within stormwater.

## 4. CURRENT STATE AND RECOMMENDATIONS: HUMAN USE ATTRIBUTES

### 4.1 INDIGENOUS HERITAGE

The Busselton region has been used extensively by Nyungar people with their occupation of the region dating back at least 50 000 years (*Department of Environment and Conservation (2010), CoastWise (2001)*). As such, protection and enhancement of Indigenous values associated with the foreshore area is considered critical.

As part of the preparation of this report, a search of the Department of Indigenous Affairs Register of Aboriginal Sites was conducted. This highlighted two registered sites of Aboriginal Heritage which lie partially within the study area:

- Site 18498 – ‘Yallingup Brook’ – a Mythological site including plant features, natural features, water source and a Dreaming legend.
- Site 5286 – ‘Yallingup’ – Artefacts/ Scatter site.

It is recognised, however, that many significant sites are not yet formally registered and found on the system.

While it was beyond the scope of this report to undertake a detailed Aboriginal Heritage survey, representatives of the local Webb family were consulted individually and in-person in order to try to identify areas of significance that may require specific management under the YFMP.

A site visit with Bill Webb from the South West Boojarah claim identified a number of management requests and concerns which have largely been incorporated into the body of this plan.

While no major earthworks are proposed for the study area, if any significant earthworks are to be undertaken as part of future management, Indigenous representatives should be informed (as per the State and Commonwealth Heritage Acts and the Native Title Act 1993).

Significant potential exists for raising awareness of aboriginal values and use of the foreshore areas of Yallingup (strictly with the permission and guidance of local elders) in interpretive signage for the site (see recommendations below).

### 4.2 RECREATIONAL USE

The Yallingup foreshore reserves are highly valued and appreciated by the community and are a key aspect to the area’s tourist appeal. The study area is readily and frequently accessed by local residents and visitors, and is utilised for:

- |   |  |
|---|--|
| • Walking, cycling and exercising                   | • Sea kayaking                                       |
| • Promenading                                       | • Dog exercise                                       |
| • Fishing   | • Beach activities                                   |
| • Surfing, wind surfing and kite surfing            | • Bird, whale and wildlife watching/<br>appreciation |
| • Swimming, snorkelling and other<br>water pursuits | • BBQ gatherings                                     |
| • Events, weddings, markets etc                     | • Lookout/ scenic appreciation                       |
| • Children’s play                                   |  |



While these uses are generally well catered for, the recreational values of the site are important and form a key consideration in the management of the area.

#### **4.3 FACILITIES AND INFRASTRUCTURE**

##### **4.3.1 Pedestrian Access**

Pedestrian access through the site is facilitated by a number of tracks and pathways:

- Footpath along Yallingup Beach Road from the Slippery Rocks carpark to the main carpark;
- Footpath along Dawson Drive;
- Beach access track from Slippery Rocks car park;
- Beach access track opposite the Caravan Park;
- Southern beach access track from open space area
- Northern beach access track and steps/ramp from the open space area;
- 'Salmon tracks' pedestrian/ vehicle access;
- Dawson Drive pedestrian/ vehicle access; and
- Rabbits beach access track.

These paths provide adequate movement through and along the foreshore and no concerns with this existing service were raised during the consultation.

It is noted that the iconic Cape to Cape Track runs through the full length of the site utilising a mix of beach, footpath and beach access tracks.

Figures 3A-C show the major beach access paths.

Additional fencing is not currently justified along the beach access tracks – the existing fencing coupled with native vegetation is keeping the majority of users to the tracks provided.

Maintenance, rewiring and replacement of a lost section of the fence along the dune front is recommended between the Valley Road beach access track and the Dawson Drive beach access track.

It was noted that portions of the fencing near the main viewing platform are very low and should be raised to deter pedestrian access and aid regeneration of the dunes in this area.

##### Bicycles

A lack of bike racks along the foreshore exists. It is recommended that the City provide bike racks near the main carpark/ toilet.

##### **4.3.2 Vehicle Access and Parking**

Parking during summer and peak holiday periods was raised as an issue by many of the stakeholders. The foreshore attracts vehicle traffic from a wide area including Dunsborough, Busselton and a large number of Perth visitors creating parking congestion at peak times. Whilst this is an issue at peak times, it is noted that for the vast majority of the year the existing parking facilities are more than adequate to handle the demand.

Issues raised in relation to parking during peak periods included:

- Parking pushing onto the grassed area around the toilet block and Valley Road beach access;
- Parking over the Dawson Drive emergency access;
- Parking into and over vegetation adjoining the Dawson Drive carpark; and
- Congestion and blocking of caravan park access within Reserve 4906.

Current use and future management of Reserve 4906 was raised repeatedly during the consultation period. It is currently largely vegetated with the cleared open areas used either as informal overflow parking for the general public or as visitor/ trailer parking for the caravan park.

The Slippery Rocks carpark is currently under two tenures with the western portion part of the Leeuwin Naturaliste National Park and the eastern portion vested to the City of Busselton as road reserve. It is recommended that to facilitate management of this area it should come under the one tenure and the western portion be vested to the City of Busselton for the purposes of parking.

To facilitate optimal use of the Slippery Rocks carpark, the southern portion should be hardened and the parking layout formalised.

The Rabbits carpark is struggling to accommodate the demand for parking places with the surrounding vegetation being impacted by informal parking around the carpark and the adjacent verge areas of Dawson Drive. It is recommended that the layout and design of the carpark be investigated to ensure optimum use of the existing space. The parking layout should be formalised to guide efficient usage. Vegetation surrounding the carpark should be protected with bollards. Verge parking along Dawson Drive is considered appropriate at some locations where sufficient room exists. In these areas, the verge should be hardened and vegetation protected with bollards or fencing.

The existing Dawson Drive carpark is well utilised by the public but vegetation is being damaged around this area with cars pushing further off the established areas. Open areas north of the existing carparks should be hardened and formalised and delineated with bollards to protect vegetation.

There was strong community agreement that new carparks should be minimised and that there would never be the capacity to cater to peak parking demands without compromising the aesthetic and conservation values of the area. It was also agreed that there could be better, more efficient use of existing areas.

Based on this, the following recommendations have been developed:

- Protect the remaining vegetation within Reserve 4906 through bollarding and fencing;
- Formalise and harden the cleared portions of Reserve 4906 to facilitate better, more efficient use of this space;
- Relocate the Caravan Park signage suggesting exclusive use of the portions of Reserve 4906;
- Investigate a redesign of the main carpark including the consideration of one way flow through carpark to facilitate better more efficient use of the existing area without impacting established native vegetation;
- Clear demarcation of the emergency access way at the Dawson Drive beach access;

- Bollarding of carpark boundaries at the Dawson Drive carpark;
- Bollarding of carpark boundaries at the main carpark to prevent parking on the grassed open space;
- Formalisation of the gravel/ sand area immediately north of the existing formal Dawson Drive carpark;
- Hardening of parts of the Slippery Rocks carpark;
- Formalisation of the Slippery Rocks carpark; and
- Consideration of the potential use of Yallingup oval as overflow parking during peak periods.

Informal verge parking during the day is also possible during peak periods along Valley Road, Elsegood Avenue and Dawson Drive. No new carparks are recommended. Vehicle access to the beach is for emergency, management and surf life saving vehicles only. It was identified that in order to facilitate this emergency access, the Dawson Drive access track needs to be widened and the lower portion of the Salmon Tracks access hardened.

#### 4.3.3 Facilities

The study area contains only the one public amenity block servicing the main carpark/ open space area.

It was raised in the community consultation that the Rabbits carpark and associated viewing platforms represent a major recreational node particularly with surfers and that ideally a waterless toilet should be located in this vicinity.

The Yallingup foreshore is fortunate in having significant grassed areas with good shade provided by parkland cleared Rottnest Island teatrees. The main viewing platform is provided with a shade sail during the summer months. There was strong interest in the lower viewing area to the left of the main lagoon beach access track to also receive summer shading. Shade structures on the beach are considered inappropriate due to the potential for damage during storm events.

A viewing deck is proposed under the Rottnest Island teatree off the Salmon Track.

Beach showers are provided at the main beach access and additional shower services are recommended for the Dawson Drive beach access point. It is recommended that water conservation be promoted and water saving devices be installed at these locations. There is the opportunity to capture water from the main carpark toilet block and utilise this for toilet flushing.

Surf Life Saving Australia has proposed<sup>8</sup> the installation of a seasonal viewing tower behind the foredune immediately north of the Dawson Drive beach access. This tower (installed annually during the period of patrols) would provide the surf lifesavers with improved facilities and ensure that the quality of this critical service is maintained and improved. This proposal was widely supported by the community.

#### 4.3.4 Rubbish

Litter is generally not a significant issue within the Yallingup foreshore, it is evident that the local community takes pride in the area and help clean up the area when litter is observed. Some members of the community take an active, formal role in maintaining its cleanliness by stocking dog bag dispensers or placing and collecting rubbish bins from the beach.

It was noted that a higher level of rubbish exists between the Dawson Drive carpark and the Rabbits carpark and a one-off clean up of this area should be considered.

Rubbish bins are currently provided through much of the site. However, it is recommended that these existing bins be supplemented with new bins at:

- Slippery Rocks carpark; and
- Rabbits carpark.

Also, some locals suggested maintaining the bins at the beach end of the Dawson Drive access track throughout the year to cater to dog walkers.

Dog waste bags are located intermittently along the site and correspond well with the designated dog exercise areas. Used bags can be disposed of in rubbish bins which are located in the vicinity.

The dumping of green waste (grass clippings and general garden prunings as opposed to brushing with purpose cut, species specific material) was evident at a number of sites along the foreshore side of Dawson Drive.

Green waste dumping, has the potential to degrade bushland by introducing new weed species into the area, increasing nutrient status of soils (which promotes weed growth over natives) and directly impacts on the visual amenity of the area. It is likely that this practice has contributed to the introduction of weeds within the bushland component of the foreshore. The message needs to be reinforced to the community that the dumping of green waste in bushland and foreshore reserves is inappropriate and prohibited. In order to try to avoid the need for additional regulatory signage in the foreshore area, it is recommended that the City advise (by letter) households along Dawson Drive of this issue.

#### 4.3.5 Signage

Currently signs are scattered throughout the study area, ranging from regulations and prohibited activities to liability advices and a range of interpretive signs. Multiple signs are located around key access nodes such as the main carpark. Many of the signs are old, faded or fallen over and as such are ineffective and an eyesore. Many stakeholders felt that the current level of signage detracts from the area and is in serious need of review. It is recommended to undertake a complete review of signage through the area and remove and replace superseded or worn signs.

A range of interpretive signage exists throughout the site largely focusing on increasing understanding of the lagoon. While recognising the excessive signage generally through the site, an opportunity exists to provide interesting attractive interpretive signage at the viewing platforms provided they don't detract from the views. Potential topics for these include:

- Indigenous values and culture;
- European history of Yallingup and
- Surfing history and surf culture; and
- Geology, geomorphology and sea level changes.

Any new signage should not interfere or interrupt views or the skyline. They should be placed in locations with vegetation as the background or placed side on to the east to west ocean view.

Surf Life Saving Australia have offered to undertake an audit of the water safety related signage at the site to ensure that it conforms to current guidelines and standards – this is highly recommended. Any future changes in signage should incorporate a numbering system or similar in order to clearly define the different access points along the foreshore to avoid confusion in the event of emergency response.

The current entry statement to the township is aged, in need of repair and very basic. There was a strong desire from the stakeholders consulted to see an entry statement much more in keeping with the coastal setting of Yallingup and that would more accurately represent the community itself. Possible options for the entry statement include laser cut metal with themes of waves, fish, Melaleucas or artistic white limestone stonework construction.

At present, lighting in the open space area in front of the main carpark area is considered sufficient, however, consistent with other areas on the Busselton coastline it is recommended to replace the existing lighting with solar and wind powered equivalents.

#### 4.3.6 Dog Use and Exercise

Currently the foreshore area from the Rabbits carpark southwards to the steps of the Dawson Drive beach access steps represents a designated dog exercise (off leash) area. The remaining portions of the site are not considered appropriate for off leash dog exercise and there is no recommendation to change the current dog exercise restrictions.

## 5. MANAGEMENT ACTIONS

### 5.1 INTRODUCTION

Management actions have been developed based on the stated objectives, site assessment, literature reviews and stakeholder consultation. These actions were then grouped according to the four key qualities of the foreshore: recreational, social, conservation and erosion. They have been identified as high, medium or low priority and many of the recommendations meet more than one of the three stated objectives. Guiding principles provide the overarching framework and rationale behind the selection and prioritisation of the specific management actions.

### 5.2 GUIDING PRINCIPLES

#### 5.2.1 Recreation

- Recognise 'recreation' as a designated purpose and a priority value of the study area.
- Residential development in the broader locality means the use of the study area will increase over time and management must consider these increasing pressures.
- There are sufficient beach access tracks in place, negating the need to create any new paths.
- Public vehicle access (outside of designated car parks) is not considered appropriate in the study area.
- Signs and maps should be utilised at strategic points to direct movement through the foreshore and to enhance the recreational experience. They should enhance the landscape rather than detract from it.
- Safe access should be facilitated along and to the foreshore including where possible, for disabled users.

#### 5.2.2 Social/Community

- Recognise the importance of local ownership of the area, and the associated sense of place and pride, which contribute to a stronger sense of community and a sense of responsibility for the area.
- Recognise the concern for, and interest in, the area expressed by local residents and provide ongoing opportunities for involvement in foreshore management.
- Recognise the long-term significance of the Capes' coast and Yallingup area to the Nyungar people.
- Recognise the opportunity and value for people to recreate in and experience the natural coastal environment.
- Recognise the constraints on financial and other resources available to the City of Busselton to manage the foreshore, and encourage collaborative actions, community involvement and seeking of external funding.
- Recognise the significant contribution that the existing Coastcare group (Yallingup LCDC) makes to the management of, community ownership of and involvement in the area.

#### 5.2.3 Conservation

##### Weed Management

- Weed management should as a general rule start in areas of good condition and work outwards towards heavily infested/ degraded areas.
- Site and soil disturbance should be minimised as it promotes further weed growth.
- The rate of native plant regeneration/ revegetation should determine the rate of weed removal.

- Weed management should focus primarily on priority weeds not yet extensively established within the site and with the greatest potential to degrade the site.
- Recognise that preventing weeds entering the site is one of the most effective and efficient methods of weed control.
- Recognise that weed species can have positive benefits on the site (eg foredune stabilisation) and as such removal or control is not always prioritised.
- Recognise that a number of coastal weeds are virtually naturalised within the Yallingup Foreshore and as such are considered a low priority for control.

#### Revegetation

- Natural regeneration is favoured over revegetation. However, replanting and revegetation is appropriate in degraded areas in order to re-establish native vegetation.
- Revegetation should only utilise locally native species and stock of local provenance.
- Species appropriate for revegetating the relevant zones are identified in Appendix 2. It is noted that the Geographe Community Landcare Nursery can supply native species of local provenance if pre-arranged and ordered.
- Revegetation in the foreshore should utilise the deep dune planting method.
- Planting should be scheduled to coincide with early winter rainfall (i.e. May – July) in order to increase survival rates and minimise on-going maintenance.
- Planting activities should be coordinated and guided by someone with appropriate coastal bush regeneration skills in order to ensure appropriate placement and density for each species at each site.

#### Fauna

- The area provides habitat for a range of fauna species including the Western Ringtail Possum and Quenda. Management of the area should consider the potential impacts on and requirements for fauna.
- Recognise the potential of feral fauna, namely foxes and rabbits, to impact on the conservation and recreation values of the site.

#### Fire

- In accordance with general City of Busselton practice within foreshore areas, prescribed burning is not recommended within the study area.
- Open fires are inappropriate for the site and are prohibited under City Local Laws.
- Hydrants should be available at key locations to facilitate prompt response to escaped fires.

#### 5.2.4 Coastal Erosion

- While erosion is not a widespread concern for the area it is considered appropriate to stabilise dunes as much as possible in order to protect against wind erosion, large storm events and changing coastal conditions including predicted sea level rise.

## 6. RECOMMENDED ACTIONS

At the time this plan was adopted by Council the following recommendations were considered appropriate within the overall context of management of the Yallingup Foreshore. However, it was resolved that actions relating to land ownership and development of infrastructure on lands currently managed by DEC will not be implemented unless appropriate funding and resources, required to develop, repair and upgrade the infrastructure to a suitable standard, are provided by the State. Actions affected by this resolution are shaded in the table below.

		MANAGEMENT ACTIONS	Priority	Time-frame	Cost Est. \$	Responsible Organisation	Possible Funding
CONSERVATION	C1	Eradicate Madeira vine from along Dawson Drive.	H	S	500	COB (YLCDC)	CW, SWCC, SNRM
	C2	Undertake staged control of statice and replacement with local native species north of the Slippery Rocks car park.	M	M	400	COB (YLCDC)	CW, SWCC, SNRM
	C3	Eradicate Geraldton carnation weed from around the Rabbits carpark	H	S - M	200	COB (YLCDC)	CW, SWCC, SNRM
	C4	Control Veldt daisy along Dawson Drive and around Rabbits carpark	M	S	200	COB (YLCDC)	CW, SWCC, SNRM
	C5	Eradicate Norfolk Island hibiscus west of Dawson Drive.	H	M	200	COB (YLCDC)	CW, SWCC, SNRM
	C6	Continue monitoring for and removing castor oil plant from around road verges and Yallingup Brook.	M	M	50	COB (YLCDC)	CW, SWCC, SNRM
	C7	Undertake winter infill planting and brushing into the old blowout north of the 'Salmon Track'.	M	M	500	COB (YLCDC)	CW, SWCC, SNRM
	C8	Undertake 'understorey' planting and brushing in front of the southern open space beach access track.	M	M	50	COB (YLCDC)	CW, SWCC, SNRM
	C9	Undertake low level ongoing successional planting of Rottnest Island teatree in parkland cleared areas.	H	L	500	COB (YLCDC)	CW, SWCC, SNRM
	C10	Encourage reporting of sightings of feral cats and foxes and undertake trapping as required. Encourage increased DEC baiting of adjoining National Park areas where this can be undertaken safely.	M	L	-	COB (YLCDC)	-



	C11	Undertake water quality monitoring at stormwater outlets and Yallingup Brook and initiate an appropriate response to the results.	H	L	\$1500 Ann.	COB (YLCDC, GC)	-
	C12	Review current approach to trimming of Rottnest Island teatree within the grassed open space area.	H	M	-	COB	-
	C13	Contact landholders along Dawson Drive reminding them of the issues associated with Green Waste Dumping in bushland areas.	M	S	-	COB	-

		MANAGEMENT ACTIONS	Priority	Time-frame	Cost Est. \$	Responsible Organisation	Possible Funding
RECREATION / FACILITIES	R1	Investigate design and funding options for more revamped entry statement.	H	M	-	YRA	-
	R2	Harden remaining portions of Slippery Rocks carpark.	M	M	\$10,000	DEC, COB	-
	R3	Formalise Slippery Rocks carpark.	M	M	\$2,000	DEC, COB	-
	R4	Address the erosion and access problems at the bottom of 'Salmon Track' – install timber platform at the bottom section of the access way.	H	S	\$2,000	COB	CW
	R5	Undertake a full review of the site's directional and regulatory signage. worn or duplicated.	M	S- M	-	COB	-
	R6	Demarcate the pedestrian crossover to the lagoon from the caravan park.	M	S-M	\$1,000	COB	-
	R7	Consider installation of bike racks at the main carpark.	L	M	-	COB	-
	R8	Widen the Dawson Drive beach access to facilitate emergency vehicle and 'mule' access.	H	M	\$4,000	COB	CW
	R9	Formalise and bitumenise cleared portions of Reserve 4906 to facilitate easier and more efficient parking.	H	M	\$7,000	COB	-
	R10	Install bollards or fencing to protect existing vegetation in Reserve 4906.	H	S	300	COB	CW, SWCC
	R11	Install waterwise shower at Dawson Drive beach access.	M	S	200	COB	WC
	R12	Install bollards to delineate Dawson Drive carpark area.	H	S	300	COB	-
	R13	Formalise and bitumenise Dawson Drive carpark area.	H	S-M	\$3,000	COB	-
	R14	Ensure clear demarcation of Dawson Drive emergency accessway.	M	S	100	COB	-
	R15	Provide additional rubbish bins at Slippery Rocks and Rabbits carparks.	H	S	\$400	COB, DEC	-
	R16	Investigate alternative layout of main carpark to maximise parking while retaining native vegetation.	H	S-M	-	COB	-
		Investigate the layout and design of Rabbits Hill carpark be to ensure optimum use of the existing space. The parking layout should be formalised to guide efficient usage. Vegetation surrounding the carpark should be protected with bollards. Verge parking along Dawson Drive is considered appropriate at some locations where sufficient room exists. In these areas, the verge should be hardened and vegetation protected with bollards or fencing.	M	S-M	\$10,000	DEC (COB)	
	R17	Install bollards to prevent vehicle parking on grassed open space areas.	M	S	200	COB	-
	R18	Consider utilising the Yallingup oval as overflow parking during peak periods.	M	M-L	-	COB	-
	R19	Install timber viewing platform under Rottnest Island teatree off the Salmon Track.	M	S-M	\$5,000	COB (YLCDC)	-
	R20	Install shade sails at the lower viewing platforms to the left of the main beach access track.	M	S-M	\$2000	COB	-

	R21	Install waterless toilet at Rabbits carpark.	H	M	\$70,000	DEC (COB) (YLCDC)	CW, RFR
	R22	Investigate alternative layout of Rabbits carpark to facilitate efficient use of the existing area.	H	M	-	DEC	-
	R23	Protect vegetation around Rabbits carpark with bollards.	M	M	500	DEC	CW, SWCC
	R24	Repair and replace missing dune fencing between the main beach access point and the Dawson Drive	M	S-M	Calc.	COB (YLCDC)	CW, SWCC
	R25	Install seasonal surf life saving tower north of the Dawson Drive beach access entry.	M	M	SLSA	SLSA	SLSA
	R26	Install fire hydrant to facilitate fire response near the main toilet block/ open space area.	H	S	\$500	COB	-
	R27	Replace existing POS lighting with solar/wind driven equivalents.	L	M	\$1000	COB	-

		MANAGEMENT ACTIONS	Priority	Time-frame	Cost Est. \$	Responsible Organisation	Possible Funding
EROSION	E1	Monitor seasonal beach erosion/ accretion.	H	OG	-	YLCDC	-
	E2	Stabilise and continue revegetation and brushing of blow out area north of the 'Salmon Track'.	M	S-M	1000	YLCDC	CW, SWCC
SOCIAL	S1	Support and assist the 'Yallingup Land Conservation District Committee (YLCDC) in their important role of involving the community in coastal issues and in the implementation of a range of aspects of this management plan.	H	OG	-	SWCC, CB, DEC, GC	-
	S2	Develop a series of interpretive signs to be placed at key viewing platforms covering topics such as indigenous heritage, geology, marine processes, local flora and fauna and shorebirds (for placement at the Yallingup Brook bridge).	H	S	2000	COB (YLCDC)	SWCC, DEC, CW, DIA, SNRM
GENERAL	G1	Change the purpose of Reserves 557, 4120, 4904 and 4381 to Public recreation and conservation" to more accurately reflect their current values and desired management intent of the area.	M	M	-	COB	-
	G2	Change the purpose of Reserve 4906 to "Parking and conservation" to more accurately reflect current values and desired management intent of the area	M	M	-	COB	-
	G3	Investigate City of Busselton management of the western portion of Slippery Rocks carpark as 'C' class reserve for the purpose of "Parking".	M	M	-	COB, DEC	-

G4	Investigate City of Busselton management of the area south of Rabbits carpark through to Reserve 4120 as 'A' class reserve for the purpose of "foreshore protection".	M	M	-	COB, DEC	-
G5	Acknowledge and note the significant Aboriginal sites located within the area and incorporate into any future management considerations.	H	OG	-	All	-

**Notes on abbreviations:**

Priorities: L = low, M= medium, H = high

Timeframe: S= Short (1-2 years), M= Medium (3-4 years), L= Long (5 years +), OG = Ongoing

Cost Estimates: - = Negligible additional costs or something covered within existing staff time and responsibilities,

Responsible Organisation: COB = City of Busselton, DEC = Department of Environment and Conservation, SWCC = South West Catchments

Council, GC = Geocatch, YLCDC = Yallingup LCDC, SLA=Surf Life Saving Australia

Possible external funding sources: CW- Coastwest regular coastal grants scheme, SWCC – Various mechanisms of support currently focused on monthly assessed Groundworks funding,

DEC – Annual Community Environment Grants, DIA-Department of Indigenous Affairs annual

'reconciliation' grants, SLA – Surf Life Saving Australia, SNRM = State NRM Community Grants

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## 8. APPENDICES

### APPENDIX 1: SPECIES LIST

Species	Common Name
<i>Acacia cochlearis</i>	Rigid wattle*
<i>Acacia cyclops</i>	Coastal wattle*
<i>Acacia littorea</i>	Shark's tooth wattle*
<i>Acanthocarpus preissii</i>	Prickle lilly
<i>Agonis flexuosa</i>	Peppermint*
<i>Carpobrotus virescens</i>	Coastal pigface*
<i>Dianella revoluta</i>	Blueberry lilly
<i>Diplolaena dampieri</i>	Southern diplolaena
<i>Enchyleana tomentosa</i>	Ruby saltbush
<i>Exocarpus sparteus</i>	Native cherry/ broom ballart
<i>Ficinia nodosa</i> (formerly <i>Isolepis</i> )	Knotted club rush*
<i>Hibbertia cuneiformis</i>	Cutleaf hibbertia
<i>Jacksonia horrida</i>	*
<i>Anthocercis littorea</i>	Prickle lily
<i>Hardenbergia comptoniana</i>	Native wisteria
<i>Lepidosperma gladiatum</i>	Coastal sword-sedge*
<i>Leucopogon parviflorus</i>	Coastal beardheath
<i>Lobelia alata</i>	Angled lobelia
<i>Melaleuca lanceolata</i>	Rottnest Island teatree*
<i>Meleleuca huegelii</i>	Chenille honeymyrtle
<i>Olearia axillaris</i>	Coastal daisybush*
<i>Rhagodia baccata</i> subsp. <i>Baccata</i>	Berry saltbush*
<i>Scaevola crassifolia</i>	Thick-leaved fan-flower*
<i>Spinifex hirsutus</i>	Hairy spinifex
<i>Spinifex longifolius</i>	Beach spinifex
<i>Sporobolus virginicus</i>	Marine couch
<i>Spyridium globulosum</i>	Basket bush
<i>Threlkeldia diffusa</i>	Coast bonefruit

\* Recommended revegetation species for this zone.

Note: This list is not intended to be comprehensive but rather indicative and useful for planning and implementing revegetation and weed control efforts.

APPENDIX 1 continued: SPECIES LIST

Species	Common Name
INTRODUCED/WEED SPECIES	
Anredera cordifolia	Madiera vine
Arctotheca populifolia	Dune cabbage
Avena barbata	Wild oats
Cakile maritima	Sea rocket
Cynodon dactylon	Couch
Dimorphotheca ecklonis	Veldt daisy
Euphorbia paralias	Sea spurge
Euphorbia terracina	Geraldton carnation weed
Gazania linearis	Gazania
Lagunaria patersonia	Norfolk Island hibiscus
Lagurus ovatus	Hare's tail grass
Limonium sinuatum	Statice
Pelargonium capitatum	Rose pelargonium
Pennisetum clandestinum	Kikuyu
Ricinus communis	Castor oil plant
Tetragonia decumbens	Sea spinach
Trachyandra divaricata	Dune onion weed
Stenotaphrum secundatum	Buffalo grass

D - Dominant    C - Common    I - Isolated patches    R - Rare

Note: This list is not intended to be comprehensive but rather indicative and useful for planning and implementing revegetation and weed control efforts.

## APPENDIX 2: METHODS OF WEED CONTROL

Species	Some suggested methods of management and control*
Buffalo grass <i>Stenotaphrum secundatum</i>	Spray with 1% Glyphosate or Fusilade 8ml/L plus wetting agent; repeat 2-3 times over the growing season.
Castor oil plant <i>Ricinus communis</i>	Hand pull young plants.
Couch <i>Cynodon dactylon</i>	Spray with 1% Glyphosate or Fusilade 5ml/L plus wetting agent, in late spring/summer; repeat in autumn.
Dune Onion Weed <i>Trachyandra divaricata</i>	Wipe with 50% Glyphosate solution before flowering.
Gazania spp.	Spray with 1% Glyphosate.
Geraldton carnation weed <i>Euphorbia terracina</i>	Annual manual control prior to seedset in winter.
Kikuyu <i>Pennisetum clandestinum</i>	Spray with 1% Glyphosate or Fusilade 10ml/L plus wetting agent; repeat 2-3 times over the growing season.
Madiera Vine <i>Anredera cordifolia</i>	Cut and paint cut stems with 50% glyphosate. Manually mange tubers and follow up regularly.
Norfolk Island hibiscus <i>Lagunaria patersonia</i>	Hand pull seedlings cut and paint mature plants with 50% glyphosate.
Rose Pelargonium <i>Pelargonium capitatum</i>	Hand-pull isolated plants removing the entire stem, spot spraying with Metsulfuron methyl 5g/ha + Pulse.
Statice <i>Limonium sinuatum</i>	Manually control or spray with 1% Glyphosate.
Veldt Daisy <i>Dimorphanthea ecklonis</i>	Spray with 1% Glyphosate.

- \*Notes: 1. Management methods are adapted from those suggested within Bushland Weeds: A practical guide to their management.  
2. Before commencing, check that the suggested methods are still currently recommended and that the chemical is registered for the intended purpose.  
3. Only appropriately trained, qualified and equipped people should undertake chemical control and it is recommended that chemical use within the study area only occur under the supervision of or by appropriately trained City of Busselton staff or by a qualified contractor.

## APPENDIX 3: SITE PHOTOS



Photo 1: View from proposed viewing platform and seat off Salmon Track.

Photo 2: Current 'entry statement'.

Photo 3: Shorebird rest area under Yallingup Beach Road bridge.

Photo 4: Current toileting waste evident near Rabbits carpark.

Photo 5: Lower viewing platform recommended for summer shade sail.

Photo 6: Degraded area north of Slippery Rocks carpark – continued replacement of weeds with native species recommended.



























