# **BIODIVERSITY ACTION PLAN**

## **Biodiversity Park, Outer Harbor**

Report to Green Adelaide, March 2025





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## EXECUTIVE SUMMARY

Biodiversity Park is considered a high priority conservation area, currently under care of Renewal SA. The area was designated open space, as part of a previous 2010 Northern Lefevre Peninsula Master Plan, to be managed primarily for conservation and enhancement of biodiversity. Green Adelaide coordinate conservation work in the park currently. Proposed to be a Conservation Park in the near future, under the care and control of National Parks and Wildlife SA.

The purpose of this plan is to document the current state of Biodiversity Park and list management strategies to increase biodiversity.

The 5-year biodiversity management objectives for Biodiversity Park are to:

- Increase native plant diversity by 20%.
- Increase the number of habitat plants for butterflies by 20%.
- Reduce high-threat weed cover by 10%.
- Revegetate the park: Increase native tree and shrub canopy cover to 50% by looking at aerial photography with at least 5m in between the canopy edge of large bushes and trees.
- Maintain a healthy population of Painted Dragons.
- Reinvigorate the Friends group.
- Develop revegetation plans connected through the Port Adelaide Environment Centre to engage the community.
- Conduct a bird, butterfly and reptile survey in 2025 and at the 5-year mark.
- Formally protect the area as a Conservation Park<sup>1</sup>.
- Maintain existing infrastructure, seats and walking paths.

The biodiversity management targets and action priorities are listed in Section 6.2.

## 1. INTRODUCTION

#### 1.1 Purpose

To document and set 5-year goals for the revegetation and management of Biodiversity Park: a critical remnant of native vegetation on the Outer Harbour Peninsula. Extensive clearance in the region for infrastructure and housing, including the loss of the adjoining Lot 302 on the northern boundary of Biodiversity Park to development, has made this remnant particularly significant. Its proximity to coastal vegetation, Mutton Cove, and RB Connolly Reserve in North Haven enhances its ecological value. RB Connolly Reserve is a good example of the target vegetation community for Area 2 in Biodiversity Park.

There are several key species of conservation significance that rely on the habitat in this park, specifically:

- Bitter-bush Blue Butterfly
- Painted Dragon
- Mottled Grass Skipper Butterfly
- Sandhill Greenhood

<sup>&</sup>lt;sup>1</sup> Under the *National Parks and Wildlife Act 1972* 

Revegetation efforts aim to focus on establishing a Coastal Shrubland through the majority of the park by incorporating subtle topographical modifications to enhance floristic diversity. The target structure consists of approximately 50% shrub cover and 50% bare ground inter-dispersed with small shrubs, ground covers, grasses, herbs and lilies.

## 1.2 Background

Based on pre-European vegetation and species records, the Outer Harbour peninsula would have had a mixture of mangroves along the Port River channel as well as areas of low-lying Samphire Flats, possibly with *Melaleuca halmaturorum* (Swamp Paper-bark) around the edges leading into low dunes of Coastal Shrublands. The Biodiversity Park allotment is likely to have been a mixture of Samphire and Coastal Shrubland. Due to previous infilling of the area with other soil and particularly shell grit (EBS, 2004) it is considered that both Coastal Shrubland and Low Woodland areas should be the Vegetation Communities targeted for revegetation. Recent revegetation works have already focused on these communities in the northeast corner of the Allotment.

Pre-European vegetation mapping by (Kraehenbuehl, 1996) suggests coastal heath areas would have been dominated by a mixture of *Olearia axillaris* (Coast Daisy-bush), *Acacia ligulata* (Umbrella Wattle) and *Acacia longifolia* var. *sophorae* (Coastal Wattle).

The Pelican Point area is described by (Turner, 2001), as supporting a degraded *Myoporum insulare* (Common Boobialla), *Lawrencia squamata* (Thorny Lawrencia), *Adriana klotzschii* (Coast Bitter-bush), *Olearia axillaris* (Coast Daisy-bush) shrubland. This was probably the vegetation association that dominated the original recurved dune areas of the Point, prior to the intensive filling activity of the 1960's to 1990's.

### 1.3 How the Plan was Developed

The plan was developed by:

- 1. Reviewing the existing management plans.
- 2. Collating background data from publicly available databases (NatureMaps, Atlas of Living Australia, iNaturalist) and data supplied by Green Adelaide
- 3. Site survey using the Bushland Assessment Methodology<sup>2</sup> and mapping.
- 4. Discussions with staff, contractors and volunteers involved in managing the site.
- 5. Discussion with Pete Hemmings from Provenance Indigenous Plants, regarding historic vegetation composition in the surrounding areas.
- 6. Searching nearby areas for remnant native vegetation.

## 1.4 Links to Regional Strategies

The relevant strategies to Biodiversity Park are:

- The State Government Metropolitan Adelaide Northern Coastal Action Plan (under revision)
- City of Port Adelaide Enfield Coastal Dunes Action Plan 2022-2027<sup>3</sup>
- Biodiversity Park Management Plan and Monitoring Program 2004 (EBS, 2004)
- Biodiversity Park Management Plan (EBS, 2011)

<sup>&</sup>lt;sup>2</sup> Native Vegetation Council (2024). Bushland Assessment Manual. Government of South Australia, Department for Environment and Water, Adelaide.

<sup>&</sup>lt;sup>3</sup> City of Port Adelaide Enfield August 2022. Coastal Dunes Action Plan 2022-2027 available on the Councils website at: https://www.cityofpae.sa.gov.au/\_\_data/assets/pdf\_file/0024/1623093/PAE-coastal-dunes-action-plan.pdf

## 1.5 Friends Group of Biodiversity Park

The Friends of Biodiversity Park (Port Adelaide Residents Environment Protection Group) have been actively working in the area since the mid to late 1990s, making significant contributions to conservation efforts. Their work, including extensive revegetation projects, has been instrumental in preserving the park—an area that might otherwise have been lost to infrastructure development. Since 2016, the group has also contributed to the broader Lefevre Peninsula Biodiversity Biolink <sup>4</sup> through ongoing revegetation projects.

Their efforts have resulted in high-quality habitat areas with diverse flora and fauna. Additionally, they have strategically left fallen timber, including dead Boxthorn, to provide habitat and stabilise soil.

Currently, the park benefits from support provided by the Green Adelaide Coastal Conservation Officer and funded works by Green Adelaide. Following the planned proclamation of the Conservation Park, it is anticipated that a National Parks and Wildlife Service ranger will also assist with ongoing management and community engagement.

There is an opportunity to reinstate a dedicated Friends of Biodiversity Park (FoBP) group through Friends of Parks SA. This would help enhance volunteer participation, strengthen long-term stewardship, and expand conservation efforts within the park.

## 2. STUDY AREA

## 2.1 Location

Biodiversity Park is located in Outer Harbour at the northern tip of the LeFevre Peninsula, about 22 kilometres northwest of Adelaide's city centre. It serves as the main shipping port for Adelaide and is situated where the Port River meets Gulf St Vincent. The area is known for its deep-water docks, cruise ship terminal and industrial facilities, making it a key area for maritime activities (and the introduced species these bring). South of Biodiversity Park is residential housing that connects with the wider suburb network of Adelaide. The park contains walking and bike trails used by residents and some benches and sitting areas.

The Areas of study within the Park are illustrated in Figure 1.

Cadastral Boundaries: Parcel ID: D111191 A301

Title/Volume/Folio: CT/6167/753

Area (Hectares): 26.8485

<sup>&</sup>lt;sup>4</sup> Port Adelaide Residents Environment Protection Group (2025) Biodiversity Park <u>https://www.parepg.org.au/biolink/</u>



Figure 1. Biodiversity Park management area

## 2.2 Historical Land Use

For the Kaurna people, the LeFevre Peninsula was known as Yerta Bulti ('Land of Sleep' or 'Land of the dead') and was a favourite summertime hunting area. Many camps were made there due to its abundance of food plants and large game, such as kangaroos and emus. Rushes and Flax fringed the creeks and were used for food and making nets. An interesting note and a possible indicator of a different hydrology, is the citation of Honeysuckle being steeped as a tea and of its abundance in the freshwater creeks and wells. This narrative could refer to a *Banksia* sp, but most likely a *Melaleuca* sp.

A permanent Indigenous camp in the scrub and sandhills just south of Veitch Rd (~ 1km south of Biodiversity Park) was still present in the 1940s. Even into the 1950s, family groups would take the old walks to Pelican Point which would have traversed through the land which we now call Biodiversity Park.

## 2.3 Recent Site Management

There is already good infrastructure in the park, such as shared-use paths, seating areas and sculptures. Some recent management of illegal bike tracks has been undertaken but this continues to be an issue. Site assessments identified considerable weed management had been undertaken. This was evident by the dead standing and dead branches of *\*Lycium ferocissimum* (African Boxthorn) as well as spot spraying of large patches of *\* Aizoon pubescens* (Coast Galenia), *\* Euphorbia terracina* (False Caper) and more recently of *\*Cenchrus longisetus* (Feather-top grass) in Area 3.

Weed species identified in the previous Management Plans (EBS, 2004 & 2011) have been actively targeted, with ongoing follow-up control. Over the past seven years, Renewal SA has funded (coordinated by Port Adelaide Residents Environment Protection Group) weed removal efforts in the park through contractors, focusing on woody weeds such as *Lycium ferocissimum* (Boxthorn), also *Acacia saligna* (Golden Wreath Wattle) and *Retama raetam* (Weeping Broome). Other targeted species include *Asparagus asparagoides* (Bridal Creeper), *Oenothera stricta* (Common Evening Primrose), *Asphodelus fistulosus* (Onion Weed), *Gazania* spp., (Gazania), *Aizoon pubescens* (Coastal Galenia), *Cynodon dactylon* (Couch) and *Euphorbia terracina* (False Caper) and *Olea europaea ssp.* (Olive).

Since 2017, the Port Adelaide Residents Environment Protection Group has implemented a staged revegetation approach, planting approximately 200 locally native species each year. Species selection has been guided by recommendations from Pete Hemmings and others. In 2024, plants were sourced from Danny Millbanks - Coastal Conservation Officer, who also provided significant assistance with planting efforts.

## 3. EXISTING BIODIVERSITY VALUES

## 3.1 Local Flora Survey

Adjacent to Pelican Point Road, opposite Biodiversity Park, a diverse mix of remnant native flora was observed on shallow sandy to silty soils. Also observed, was exposed sheet limestone, where the ground had been scraped for earthworks to capture seasonal water run-off. The limestone layer likely sits approximately 1 metre below the current soil surface within Biodiversity Park. Similar subsurface conditions likely extend across the road into the Park. The presence of *Allocasuarina verticillata* (Drooping Sheoak) in the Park aligns with the limestone substrate, as these species tend to thrive in such conditions. Table 1 shows a list of the native species identified during the survey. Although the remnant native vegetation in surrounding areas has been highly modified there remain a lot of native samphire, swamp and salt-tolerant species.

Inspiration for Biodiversity Park, was acquired from RB Connolly Reserve, located approximately 300m south of Biodiversity Park. The Reserve, though altered and featuring a weed-impacted understorey, still contains a mosaic of good quality remnant native vegetation. The visible shrub coverage can be seen in aerial imagery of the Reserve (Figure 2).

Scientific Name	Common Name
Atriplex semibaccata	Berry Saltbush
Atriplex paludosa ssp. cordata	Marsh Saltbush
Austrostipa nodosa	Tall Spear-grass
Austrostipa scabra ssp. falcata	Slender Spear-grass
Dianella brevicaulis	Short-stem Flax-lily
Disphyma crassifolium ssp. clavellatum	Round-leaf Pigface
Enchylaena tomentosa var. tomentosa	Ruby Saltbush
Enneapogon nigricans	Black-head Grass
Enteropogon acicularis	Umbrella Grass
Maireana brevifolia	Short-leaf Bluebush
Nitraria billardierei	Nitre-bush
Olearia axillaris	Coast Daisy-bush
Puccinellia sp.	Saltmarsh-grass
Rytidosperma setaceum	Small-flower Wallaby-grass
Salsola australis	Buckbush
Senecio pinnatifolius var. pinnatifolius	Coast Groundsel
Threlkeldia diffusa	Coast Bonefruit

Table 1. Native plant list from Pelican Point Rd roadside



Figure 2. Example of tree and shrub canopy cover in neighbouring RB Connolly Reserve

RB Connolly Reserve features small sand hills with plant species similar to those in Biodiversity Park (Figure 3 a & b). These can be classified as *Callitris gracilis* (Southern Cypress Pine) and *Eucalyptus porosa* (Mallee Box) very low open woodland. This is complemented by tall shrubs such as *Myoporum insulare* (Common Boobialla), *Dodonaea viscosa* ssp. *spatulata* (Sticky Hop-bush), various *Acacia spp.* (Wattles), *Lomandra leucocephala* ssp. *robusta* (Woolly Mat-rush) along with occasional *Vittadinia gracilis* (Woolly New Holland Daisy).

The quality native vegetation in RB Connolly Reserve serves as an excellent reference for restoration efforts of the shrub layer in Area 2, which aims to have similar shrub cover. The restoration benchmarks for the Area can be set using the aerial photography of the Reserve (Figure 2).



*Figure 3a. Example vegetation structure in RB Connolly Reserve* 



Figure 3b. Lomandra leucocephala ssp. robusta (Woolly Mat-rush) is abundant in RB Connolly Reserve

## 3.2 Vegetation Associations

Historically, Biodiversity Park had a huge north-south sand hind dune running through it (Hartshorne, 2005), along with swales and low-lying, salty samphire flats. Now, the land is flat due to anthropogenic disruption of both soil and vegetation. This disturbance has resulted in a reduction in the number and variety of native vegetation communities within the Park (Table 2) - making it difficult to establish a goal vegetation community for the restoration project. Despite this difficulty, a goal vegetation community was set for each area by observing the current site topography and the healthy, established plants in the Park. The Bushland Assessment Method was then deployed with each goal vegetation community in mind.

The only flora species of conservation significance recorded in the park is *Pterostylis arenicola* (Sandhill Greenhood), which was reintroduced and is listed as Vulnerable at the national level. There is potential for further reintroductions of this species, as well as other conservation-significant species, to enhance biodiversity within the park.

According to Jack Casely-Smith (pers. comm.), a key factor in selecting this site for the reintroduction of *Pterostylis arenicola* was the presence of a mature stand of *Callitris* pines on sandy soil. Such stands are now rare in the region and this vegetation association is a priority for conservation efforts.

Area	Vegetation description	Area (hectares)
1	Callitris gracilis Low Open Woodland	6.6
2	Myoporum insulare Tall Open Shrubland	16.7
3	Austrostipa spp., Rytidosperma spp. Grassland	0.9
4	Nitraria billardierei Open Shrubland	0.8
5	Planted Eucalyptus spp. Woodland roadside vegetation	1.8
	TOTAL	26.8

#### Table 2. Summary of current vegetation associations

## 3.3 Area 1: Low Open Woodland

The vegetation in Area 1 includes: *Callitris gracilis* (Southern Cypress Pine), *Allocasuarina verticillata* (Sheoak) Low Open Woodland over tall shrubs of Myoporum *insulare* (Common Boobialla), *Dodonaea viscosa* ssp. *spatulata* (Sticky Hop-bush), *Acacia* spp. (Wattles) over *Ficinia nodosa* (Knobby Club-rush), *Dianella brevicaulis* (Short-stem Flax-lily) (see Figure 4).

As described by Niejalke (2023), this restoration and revegetation effort is in a Late Succession stage: open spaces stabilised by leaf litter, mosses or ground cover vegetation; a diverse array of long-lived perennials dominate; dead shrubs and fallen wood are present.

The presence of moss, which retains moisture, and the shade, makes this area well-suited for introducing additional ground layer species and plants of conservation significance. Notably, there is already natural seedling recruitment occurring of the *Callitris gracilis* (Southern Cypress Pine), *Allocasuarina verticillata* (Sheoak) and *Acacia spp.* (Wattles).





Figure 2. Left - Area 1 Vegetation and right - Lotus australis (Austral Trefoil) in flower.

Callitris gracilis Allocasuarina verticillata	Southern Cypress Pine Sheoak
Planted Eucalypt species	Eucalypt
Myoporum insulare	Common Boobialla
Dianella brevicaulis	Short-stem Flax-lily
Dodonaea viscosa ssp. spatulata	Sticky Hop-bush
Euphorbia terracina	False Caper
Gazania linearis	Gazania
Avena barbata	Bearded Oat
	Callitris gracilis Allocasuarina verticillata Planted Eucalypt species Myoporum insulare Dianella brevicaulis Dodonaea viscosa ssp. spatulata Euphorbia terracina Gazania linearis Avena barbata

#### 3.4 Area 2: Tall Very Open Shrubland

The vegetation in Area 2 (Figure 5) is dominated by *Myoporum insulare* (Common Boobialla), Tall Very Open Shrubland with +/- Acacia ligulata and the twiner *Muehlenbeckia gunnii* (Coastal Lignum) over a weed-dominated understorey \**Euphorbia terracina* (False Caper). Lower native shrubs and ground layer plants are very sparse, consisting mainly of *Carpobrotus rossii* (Native Pigface) and *Dianella brevicaulis* (Short-stem Flax-lily). Positively, there is more vegetation cover than bare ground due to a large amount of moss cover at the site. Unfortunately, *Pittosporum angustifolium* (Native Apricot) has suffered significant die-off, including advanced plants - possibly a result of recent drought or from being planted away from other naturally associated species.





Figure 3. Left – area 2 and right - Pittosporum angustifolium (Native Apricot) die off.

Dominant Overstorey Dominant Understorey Dominant Weeds

Myoporum insulare Acacia ligulata

Dianella brevicaulis Carpobrotus rossii

Euphorbia terracina Aizoon pubescens Avena barbata Asphodelus fistulosus Common Boobialla Umbrella Bush

Short-stem Flax-lily Native Pigface

False Caper Coastal Galenia Bearded Oat Onion Weed

#### 3.5 Area 3: Grassland

Area 3 is 0.9 hectares of Grassland dominated by Austrostipa scabra ssp. falcata (Slender Spear-grass), Austrostipa nitida (Balcarra Spear-grass), Rytidosperma setaceum (Small-flower Wallaby-grass) and Rytidosperma caespitosum (Common Wallaby-grass), see Figures 6 a &b.

Area 3 is a small patch; however, it has some dense covering of native grasses with a good crust layer of limestone strew (possible exposed bedrock) and is considerably more elevated than Area 4. \*Euphorbia terracina (False Caper) is dominant on the periphery of the dense patches. Also of note is some recent management of the invasive \*Cenchrus longisetus (Long-style Feather-grass).



Figure 6a. Dense cover of native grass and the weed grass\*Lagurus ovatus in Area 3

Figure 6b. Grassland in Area 3

Dominant Overstorey	Austrostipa spp. Rytidosperma spp.	Spear Grass Wallaby Grass
Dominant Understorey	NA	NA
Dominant Weeds	Euphorbia terracina Aizoon pubescens Avena barbata	False Caper Coastal Galenia Bearded Oat

## 3.6 Area 4: Shrubland

Area 4 is 0.8 hectares of *Nitraria billardierei* (Nitre-bush) Open Shrubland over \**Euphorbia terracina* (False Caper), \**Asphodelus fistulosus* (Onion Weed), \**Avena* sp. (Oat) and patches of *Austrostipa nitida* (Spear-grass) and sparse *Ficinia nodosa* (Knobby Clubrush), see Figure 7a.

Some revegetated species persist; *Carpobrotus rossii* (Pigface), *Dianella brevicaulis* (Flax-lily) and *Ficinia nodosa* (Knobby Club-rush).

The top soil in Area 4 has a lot of shell grit, traces of seaweed and good moss cover (Figure 7b). It is most likely relatively salty, hence the natural presence of Nitrebush and Samphire plants nearby. The land gently undulates with some mounds which will provide an opportunity to increase species diversity through revegetation.



Figure 7a. Dense cover of Nitrebush with relatively good cover throughout

Figure 7b. Shell grit, sandy soil, saline soils. Most likely contains a high calcium content. Similar soils from Port Gawler to Thompsons Beach.

## 3.7 Area 5: Plantings

Area 5 is 1.8 hectares of revegetation with non-local native species. The plantings are typical of those planted in the 1980's: Western Australian and Queensland species of Eucalypt trees with no understorey plantings (Figure 8).

Planted species include: \**Eucalyptus platypus ssp. platypus* (Round-leaved Moort), \**Eucalyptus spathulata ssp. spathulata* (Swamp Mallet), *Melaleuca lanceolata* (Dryland Tea-tree), *Eucalyptus leucoxylon* (SA Blue Gum), \**Araucaria heterophylla (Norfolk Island Pine), \*Acacia cyclops* (Western Coastal Wattle). *Myoporum insulare* (Common Boobialla) and *Dianella brevicaulis* (Short-stem Flax-lily). Native grasses of *Austrostipa* spp. (Spear Grasses) and *Rytidosperma setaceum* (Small-flower Wallaby-grass) persist, as well as disturbance tolerant species such as *Enchylaena tomentosa* var. *tomentosa* (Ruby Saltbush) and *Atriplex semibaccata* (Berry Saltbush).



Figure 8. A5 photopoint with non-local native plantings adjacent to Victoria Rd

The usual coastal weeds were found in the understorey. These include: \*Avena barbata (Bearded Oat), \*Aizoon pubescens (Coastal Galenia), \*Euphorbia terracina (False Caper), \*Mesembryanthemum crystallinum (Common Iceplant), \*Reichardia tingitana (False Sowthistle), \*Lagurus ovatus (Hare's Tail Grass), \*Ehrharta longiflora (Annual Veldt Grass) and \*Bromus spp. (Brome). It is likely that different weeds will also be visible at times other than the observation period.

## 3.8 Native Fauna

Indigenous fauna observed during the vegetation survey for Biodiversity Park was minimal. A *Tiliqua rugosa* (Sleepy Lizard) and *Tiliqua scincoides* (Eastern Blue Tongue) were recorded, though other reptiles such as snakes, lizards, skinks, and geckos were recorded during the Painted Dragon work listed in Appendix 3.

Common bird species were recorded however native mammals are unlikely to inhabit the Park due to its small size, degraded condition and the presence of introduced predators such as cats, foxes, and domestic dogs. In 2023, ecologist Harry Rust collected Bat data for Green Adelaide by placing an Anabat device in open woodland in the Park. Although there were numerous recordings obtained above 35 kHz, all were 'foggy' and did not resemble bat calls or were tainted by interference.

The Park provides an ideal habitat for several species of conservation significance. Area 1 is home to the *Ctenophorus pictus* (Painted Dragon), which, as noted by D. Niejalke (2022), typically prefers: late-stage successional hind dunes with approximately 50% cover of low shrubs and trees; scattered fallen timber or similar structures for perching and basking; a stable dune profile; open sandy areas or bare ground; and low weed density. Biodiversity Park supports a secure population of Painted Dragons in such habitat.

With ongoing revegetation and weed control, Areas 2 and 3 are expected to remain suitable habitats for Painted Dragons over the next 5–10 years. Maintaining approximately 50% open ground is essential to support this habitat. This report suggests that the Painted Dragon population in Biodiversity Park could serve as a source for the Coastal Dragon Rewilding Project (Niejalke, 2023), which aims to restore populations in other metropolitan coastal dune areas. Retaining some sheet iron in the park is also recommended, as it provides valuable habitat and facilitates reptile monitoring.

The Bitter-bush Blue Butterfly exclusively relies on *Adriana quadripartita* (Coast bitter-bush) as its larval host plant (Ento Search, 2023). According to the Ento Search report, Biodiversity Park periodically supports populations of this butterfly. To enhance habitat suitability, it is proposed that more *Adriana quadripartita* (Coast bitter-bush) are planted in larger patches throughout the park, particularly in natural drainage areas or depressions with wetter soils and moss cover. Ideally, planting biennially to create different age classes and build-in population resilience.

The Mottled Grass Skipper Butterfly was observed in low numbers at Biodiversity Park in 2021 (Ento Search, 2022), and suitable native grass habitat for its larvae is currently limited. To support this species, planting native grasses such as *Austrostipa spp*. (Spear-grasses), *Rytidosperma spp*. (Wallaby Grasses), *Chloris truncata* (Windmill Grass), and *Poa poiformis var. poiformis* (Coast Tussock-grass) is suggested. These species are included in the revegetation list in Appendix 6.

## 4. **REVEGETATION**

Refer to Figure 1 & 11 for a map of Areas.

### 4.1 Whole Site

In an ideal scenario with unlimited funding, minor/major earthworks could be undertaken in areas dominated by weed cover (see notes regarding soil scalping in section 4.2). These actions could include reshaping the landscape to mimic natural systems by creating artificial dunes, swales and depressions. Such modifications would increase habitat complexity and expand the coverage of species like *Tecticornia* spp. (Samphire) which thrive in wetland and saline environments. By transforming flat terrain into a more dynamic landscape, the number of ecological niches would significantly increase, thereby enhancing the diversity of flora and fauna supported by the system.

However, this approach goes beyond the scope of the current Biodiversity Action Plan. Instead, we are pursuing a more conservative strategy that focuses on making improvements within the existing landscape framework. This involves working with current landforms, restoring native vegetation, managing weed infestations and fostering ecological resilience in the present conditions.

The success of any revegetation effort depends upon variables such as rainfall, temperature, competition from weeds and human-related impacts like trampling by people or dogs. The entire Biodiversity Park has excellent moss cover and in some places lichen crust, both of which buffer drought stresses on the soil and block weed growth, so revegetation efforts should be successful. However, monitoring is recommended and additional planting will be required past the 5 years of this plan. There are several ornamental plantings within the park, such as nursery cultivars of *Grevillea spp.* and non-local native Eucalypts. While immediate removal may not be necessary unless they present a weed risk e.g., \**Acacia iteaphylla* (Flinders Ranges Wattle), it is important to prioritise biodiversity enhancement moving forward. To align with the goals of this management plan, future plantings should focus exclusively on locally native species to support ecological integrity and promote habitat diversity. We also suggest planting in random arrangements or circular clusters of species, rather than in straight rows.

The revegetation species listed in the following sections were compiled using a Green Adelaide threatened flora habitat selector spreadsheet, the species present in Coastal Cell MA14 (Caton et al, 2009), the knowledge base of both Flora Sight and Pete Hemmings (Provenance Indigenous Plants) accounts of seed collecting in the area. There are common species within the Park that have been omitted from these lists because they will spread well on their own by birds, lizards and ants and so do no need to be planted. Also, Mistletoe and *Cassytha* sp. (Snotty gobble) could be manually transplanted into the site by wiping seeds on the branches of appropriate host plants.

The previous management plan suggests that revegetation activities undertaken within 15 metres of walking trails should be understorey and small shrub species only (EBS, 2011) for public safety.

Summarised from the 2011 EBS report; planting should prioritise local provenance species, with site preparation including the spraying of 1m planting circles in early to mid-autumn to control weeds, avoiding soil-residual herbicides. Seedlings should be planted after autumn or early winter rains, in a shallow bowl (~50cm across), with tree guards installed and 5–10 litres of water applied immediately. Additional watering may be needed over summer. Weed management should be conducted twice in the first year and annually for the following two years to support establishment.

## 4.2 Area 1: Revegetation Suggestions

Of all the Areas in the Park, Area 1 has the best structural vegetation condition with overstorey, mid storey and ground layer plants. It contains the greatest number of native plants due to much historic revegetation effort with evidence of self-regeneration. This Area has good woodland structure, however it requires ongoing weed control and planting of understorey species and plants of conservation significance to increase biodiversity.

Bitterbush blue butterflies prefer male *Adriana quadripartita* (Coast bitter-bush) plants so increasing the number of healthy plants would benefit this butterfly. There is a patch of *Adriana quadripartita* (Coast bitter-bush) planted in the South-east corner of Area 1 however, those growing in the open appear to be struggling. It is suggested that 20 more *Adriana quadripartita* (Coast bitter-bush) be planted in the wetter soil with loamy sands in the sheltered, southern shade of other taller plants.

Some species have been omitted from the Area 1 suggestion list because it is considered that they would spread well on their own given the right conditions, such as *Nitraria billardierei* (Nitre-bush) and *Enchylaena tomentosa* (Ruby Saltbush). *Dianella brevicaulis* (Short-stem Flax-lily), *Ficinia nodosa* (Knobby Club-rush) and *Scaevola crassifolia* (Fan Flower) have been omitted because they have been well represented in the revegetation efforts so far. *Templetonia retusa* (Cockies Tongue) has been planted in this area but doesn't belong naturally. Planting of *Pittosporum angustifolia* (Native Apricot) has hereto been unsuccessful so it is suggested that future plantings are placed within 0.5 to 1m of the southern side of trunks of large shrubs or trees to increase success.

It is suggested that *Melaleuca lanceolata* (Dryland Tea-tree) could be planted along the boundary of Area 1 and *Wilsonia humilis* (Silky Wilsonia), *Disphyma crassifolium* ssp. *clavellatum* (Round-leaf Pigface) and *Suaeda australis* (Austral Seablite) in the lowest, lower lying areas. As an example, see Figure 9a.





Figure 4b. A1 photopoint

Figure 9a. Suggest planting Melaleuca lanceolata at this location

In the revegetation list for Area 1 (Table 3) the species have been split into Life Form categories as per the Bushland Assessment Method (NVC, 2024). Planting species from each of these categories will ensure that biodiversity is increased, which will be reflected in the biodiversity scoring in 5 years.

Life Form	Scientific Name	Common Name	Comments
Trees	Allocasuarina verticillata	Drooping Sheoak	Plant randomly throughout, tree guard
		Southern Cypress	Plant 15 individuals on mounded areas
Trees	Callitris gracilis	Pine	throughout. Some natural regeneration from old revegetation was observed
			Plant 15 individuals next to other trees
Trees	Pittosporum angustifolium	Native Apricot	within 0.5-1m of the trunks of taller shrubs and trees. Suggest planting on southern-
			side of host
			Collect seed from local areas, germinate in tubes and plant out. Plant 20 individuals
Trees	Santalum acuminatum	Quandong	next to Acacia spp. Must be tree guarded as
			rabbits eat the seedlings. Occurs in Coastal Cell MA14, Could plant
Shrubs >2m	Acacia dodonaeifolia	Hop-bush Wattle	under or near <i>Eucalyptus porosa</i> .
Shrubs >2m	Acacia ligulata	Umbrella Bush	
Shrubs >2m	Exocarpos aphyllus	Leafless Cherry	Difficult to propagate but may do well near the <i>Eucalyptus porosa</i> .
			After scraping all the top soil with weeds,
Shrubs >2m	Melaleuca lanceolata	Dryland Tea-tree	in the southern part of A1. Space them at
			least 5m apart
Shrubs 0.5-2m	Acacia cupularis	Cup Wattle	Smaller clumps, near older plants as a succession
			Plant large clusters biennially to create
Shrubs 0.5-2m	Adriana quadripartita	Coast Bitter-bush	different age classes. Try planting in the
			southern shade of taller plants. Some
			appear to be struggling out in the open.
Shrubs 0.5-2m	Alyxia buxifolia	Sea Box	likes A1 by planting a few, possibly near
			thriving Sheoaks
Shrubs 0.5-2m	Atriplex australasica	Saltbush	Found in Coastal Cell MA14, making it a
	Atrinlex naludosa ssn		Found in Coastal Cell MA14 making it a
Shrubs 0.5-2m	cordata	Marsh Saltbush	suitable choice for planting in this area.
Shrubs 0.5-2m	Atriplex paludosa ssp.	Marsh Saltbush	Found in Coastal Cell MA14, making it a
	Grevillea ilicifolia ssp.		suitable choice for planting in this area.
Shrubs 0.5-2m	ilicifolia	Holly-leaf Grevillea	Plant on Sand mounds near Callitris.
Shrubs 0.5-2m	Leucophyta brownii	Coast Cushion Bush	Plant on Sand mounds.
Shrubs 0.5-2m	Leucopogon parviflorus	Coast Beard-heath	Could mulch * <i>Acacia cyclops</i> and place mulch on sandy mounds and plant into.
Shrubs 0.5-2m	Maireana oppositifolia	Heathy/Salt	Plant near cohort species Lawrencia
		виеризп	squamata. Plant 30 individuals randomly throughout
Shrubs 0.5-2m	Olearia axillaris	Coast Daisy-bush	A1 next to <i>Alyxia buxifolia</i> . It is a foredune
		,	species, careful not to overplant.
Shrubs 0.5-2m	Pimelea serpyllifolia ssp. serpyllifolia	Thyme Riceflower	Untested, but may grow in A1.
Shrubs 0.5-2m	Rhagodia crassifolia	Fleshy Saltbush	Occurs in RB Connolly Reserve. Plant under
			Cypress Fille OF Mallee DOX.

#### Table 3. Revegetation species list for Area 1 (A1)

Shrubs 0.5-2m	Scaevola angustata	Coast Fanflower	Considered Regionally Extinct but plant if seed can be sourced and successfully
Shrubs < 0.5m	Atrinlex suberecta	Lagoon Salthush	propagated. Broadcast seed
Shrubs < 0.5m	Goodenia varia	Sticky Goodenia	Untested but may grow in A1
Shrubs < 0.5m	Lotus australis	Austral Trefoil	Already planted in A1 and doing well
Shrubs < 0.5m	Suaeda australis	Austral Seablite	Plant in scalp/ scraped areas or near Samphire/ Nitraria
Herbs	Actites megalocarpus	Coast Sow-thistle	Sand mounds.
Herbs	Apium annuum	Annual Celery	Found in Coastal Cell MA14, making it a suitable choice for planting in this area
Herbs	Apium prostratum var. filiforme	Native Celery	Found in Coastal Cell MA14, making it a suitable choice for planting in this area.
Herbs	Arthropodium strictum	Common Vanilla-lily	Found in Coastal Cell MA14, making it a suitable choice for planting in this area.
Herbs	Brachyscome ciliaris var. ciliaris	Variable Daisy	Found in Coastal Cell MA14, making it a suitable choice for planting in this area.
Herbs	Cotula australis		
Herbs	Cotula vulgaris var. australasica	Slender Cotula	Plant in wetter depressions.
Herbs	Geranium retrorsum	Grassland Geranium	
Herbs	Helichrysum leucopsideum	Satin Everlasting	
Herbs	Pelargonium australe	Austral Stork's-bill	
Herbs	Picris squarrosa	Squat Picris	Found in Coastal Cell MA14, making it a suitable choice for planting in this area.
Herbs	Podolepis rugata ssp. littoralis	Coast Copper-wire Daisy	Plant in areas where limestone strew or calcrete occurs close to the surface. Typically, areas with lichen crust are good.
Herbs	Pterostylis arenicola	Sandhill Greenhood	Reintroduced. Add an extra 20 plants if possible within A1. Requires good moss cover and no weeds.
Herbs	Ptilotus polystachyus	Long-tails	
Herbs	Rhagodia candolleana ssp. candolleana	Sea-berry Saltbush	
Herbs	Vittadinia gracilis	Woolly New Holland Daisy	Occurs in RB Connolly Reserve.
Herbs	Wahlenbergia littoricola	Coast Bluebell	
Mat Plants	Atriplex semibaccata	Berry Saltbush	Occurs in Coastal Cell MA14. Plant liberally.
Mat Plants	Kennedia prostrata	Scarlet Runner	Plant liberally.
Mat Plants	Kunzea pomifera	Muntries	Plant liberally. Really good at covering the ground, improving soil health and keeping the weeds out.
Mat Plants	Myoporum parvifolium	Creeping Boobialla	Plant liberally in relatively weed free areas.
Mat Plants	Wilsonia humilis	Silky Wilsonia	Plant in lower lying areas near <i>Melaleuca</i> lanceolata
Grasses > 0.2m	Anthosachne scabra	Native Wheat-grass	Suggest hosting a seeding day with a mixed bag of native grass seed.
Grasses > 0.2m	Austrostipa elegantissima	Feather Spear-grass	Plant under shrubs so it has something to climb
Grasses > 0.2m	Austrostipa drummondii	Cottony Spear-grass	Broadcast seed before rain.
Grasses > 0.2m	Austrostipa flavescens	Coast Spear-grass	Plant liberally

Grasses > 0.2m	Austrostipa mollis	Soft Spear-grass	Occurs in RB Connolly Reserve. Plant in shaded areas.
Grasses > 0.2m	Bromus arenarius	Sand Brome	Broadcast seed before rain.
Grasses > 0.2m	Enneapogon nigricans	Black-head Grass	Occurs in Coastal Cell MA14. Broadcast seed before rain.
Grasses > 0.2m	Poa fax	Scaly Poa	Plant in clumps.
Grasses > 0.2m	Poa poiformis var. poiformis	Coast Tussock-grass	Plant in clumps.
Sedges > 1m	Lepidosperma gladiatum	Coast Sword-sedge	Plant in clumps of 5 – 10 plants in the lower lying areas.
Sedges ≤ 1m	Lomandra collina	Sand Mat-rush	Untested, may grow in A1. Recorded around Osborne and nearby.
Sedges ≤ 1m	Lomandra leucocephala ssp. robusta	Woolly Mat-rush	Occurs in RB Connolly Reserve, for seed collecting. This is the priority species to propagate and revegetate.
Vines, scramblers	Billardiera cymosa ssp. cymosa	Sweet Apple-berry	Occurs in RB Connolly Reserve. Plant next to other established shrubs.
Vines, scramblers	Cassytha pubescens	Downy Dodder- laurel	Wipe sticky seed on the tops of tall shrubs.
Vines, scramblers	Clematis microphylla	Old Man's Beard	Occurs in Coastal Cell MA14. Plant next to other established shrubs.
Vines, scramblers	Einadia nutans ssp. nutans	Climbing Saltbush	Occurs in Coastal Cell MA14. Plant next to other established shrubs.
Vines, scramblers	Muehlenbeckia gunnii	Coastal Climbing Lignum	Plant next to other established shrubs so it has something to climb.
Vines, scramblers	Tetragonia implexicoma	Bower Spinach	Plant next to other established shrubs so it has something to climb.
Mistletoe	Amyema melaleucae	Tea-tree Mistletoe	Wipe seed on Melaleuca lanceolata every 3-4 shrubs.

## 4.3 Area 2: Revegetation Suggestions

Thompson Beach Coastal Shrubland (Figure 10) is comparable to the vegetation benchmark in Biodiversity Park. NatureMaps describes the pre-European Vegetation at Thompson Beach as a Mid Open Shrubland with a Dominant Overstorey of +/- Olearia axillaris, +/- Acacia ligulata, +/- Exocarpos aphyllus, +/- Myoporum insulare, +/- Alyxia buxifolia and +/- Dodonaea viscosa ssp. spatula. The Dominant Understorey has Bromus species, \*Vulpia myuros forma, Senecio lautus (NC) (Senecio pinnatifolius var. pinnatifolius), Threlkeldia diffusa, Atriplex paludosa ssp. cordata and Tetragonia implexicoma. Alyxia buxifolia (Sea Box) is not listed, but is relatively common where limestone is close to the surface and there is good moss cover. Sea Box would be an excellent inclusion to Area 2.



Figure 10. Aerial photography of Thompson Beach

For Area 2, the primary goal of revegetation should be to establish shrubs at an appropriate density. The density of Shrubs at Thompson Beach Coastal Shrubland could be used as a guide for this planting. Shrubs in Area 2 will stabilise the soil and improve moisture retention, creating favourable conditions for ground covers and other species to establish. Introducing native grasses early in the revegetation process will further enhance soil protection and moisture retention. The suggested revegetation species for Area 2 are listed in Table 4.

Effective weed control, including minor scalping of the topsoil to remove weeds before planting out using a combination of direct mass sowing seed with a seeding machine and infill plantings with tube stock. Where weeds are almost exclusively dominant and no moss is present, we recommend trialling minor topographical scalping using the techniques of scalloping or irregular mosaic and contour formations with excess soil used for elevated mounds.

Placing large logs in the area will also help to stabilise the soil, retain moisture and provide microhabitats for local fauna. Logs could be taken from dead or alive planted trees in Area 5.

Dense planting and terrain alteration will facilitate an increase in floristic diversity and potentially provide any old soil seed banks to be triggered. This is evidenced by the Samphire species and Nitrebush which have emerged in the last 25 years.

Life Form	Scientific Name	Common Name	Comments
Trees	Allocasuarina verticillata	Drooning Sheoak	Plant 10 individuals in a clustered formation
inces		Drooping Sheodik	(with tree guards), spacing them
			approximately 10m apart in a random
			pattern near A3.
Trees	Callitris gracilis	Southern Cypress	Plant 15 individuals throughout. Projected
		Pine	foliage cover over A2 should not exceed 5%.
Trees	Eucalyptus porosa	Mallee Box	Plant 6 individuals around the existing
			mature Mallee Box (not 100% classified)
Trees	Pittosporum angustifolium	Native Apricot	Plant 15 individuals adjacent to existing
			trees, positioning them within 0.5 to 1m of
			the trunks of mature trees or large shrubs.
Irees	Santalum acuminatum	Quandong	Plant 20 individuals next to Acacia spp
			tubes and plant out. Must be tree guarded
			as rabhits eat the seedlings
Shrubs >2m	Acacia dodonaeifolia	Hop-bush Wattle	Occurs in Coastal Cell MA14. Could plant
	····		under or near the <i>Eucalyptus porosa</i> . This
			plant is Rare for SA so will boost the
			biodiversity score.
Shrubs >2m	Acacia ligulate	Umbrella Bush	Plant 20 individuals more than 30m apart.
Shrubs >2m	Acacia longifolia ssp.	Coastal Wattle	Plant < 10 individuals with a gap between
	Sophorae		larger shrubs of >15m.
Shrubs >2m	Dodonaea viscosa ssp. Spatulate	Sticky Hop-bush	
Shrubs >2m	Melaleuca lanceolata	Dryland Tea-tree	Plant 3 individuals in lower lying areas > 10
			metres apart.
Shrubs >2m	Myoporum insulare	Common Boobialla	Limit plantings of this
Shrubs 0.5-2m	Acacia cupularis	Cup Wattle	Plant 3 groups of approximately 3 individual
			plants.
Shrubs 0.5-2m	Adriana quadripartita	Coast Bitter-bush	Try planting these in niches with more
Shrubs 0.5-2m	Aluxia huxifolia	Sea Box	Sildue. Needs limestone – test whether this species
511055 0.5-2111		Jea Dox	likes A2 by planting a few in scalped areas
			or near signs of limestone strew/ bedrock.
Shrubs 0.5-2m	Atriplex australasica	Saltbush	Found in Coastal Cell MA14, making it a
			suitable choice for planting in this area.
Shrubs 0.5-2m	Atriplex paludosa ssp.	Marsh Saltbush	Found in Coastal Cell MA14, making it a
	Cordata		suitable choice for planting in this area.
Shrubs 0.5-2m	Atriplex paludosa ssp.	Marsh Saltbush	Found in Coastal Cell MA14, making it a
	Paluaosa		suitable choice for planting in this area.
Shrubs 0.5-2m	ilicifolia	Holly-leaf Grevillea	Plant in sandy soll.
Shrubs 0.5-2m	Leucophyta brownii	Coast Cushion Bush	
Shrubs 0.5-2m	Leucopogon parviflorus	Coast Beard-heath	
Shrubs 0.5-2m	Maireana oppositifolia	Heathy/Salt	Plant near cohort species Lawrencia
		Bluebush	squamata in lower lying areas.
Shrubs 0.5-2m	Olearia axillaris	Coast Daisy-bush	Plant 30 individuals randomly throughout
Shruha 0 E 2m	Dimolog corpullifolia con	Thuma Disaflawar	AZ, NEXT TO AIYXIA DUXIJOIIA.
5111005 0.5-2M	Serpyllifolia	myme kicenower	Deeper sands of protected areas
Shrubs 0.5-2m	Rhagodia candolleana ssp.	Sea-berry Saltbush	Cluster plant, minimal numbers as birds will
	Candolleana		spread these naturally

#### Table 4. Revegetation species list for Area 2 (A2)

Shrubs 0.5-2m	Rhagodia crassifolia	Fleshy Saltbush	Occurs in RB Connolly Reserve. Plant under Cypress Pine or Mallee Box.
Shrubs 0.5-2m	Scaevola angustata	Coast Fanflower	Considered Regionally Extinct but plant if seed can be sourced and successfully propagated.
Shrubs 0.5-2m	Scaevola crassifolia	Cushion Fanflower	
Shrubs < 0.5m	Atriplex semibaccata	Berry Saltbush	Occurs in Coastal Cell MA14.
Shrubs < 0.5m	Atriplex suberecta	Lagoon Saltbush	Broadcast seed.
Shrubs < 0.5m	Lotus australis	Austral Trefoil	
Shrubs < 0.5m	Suaeda australis	Austral Seablite	
Shrubs < 0.5m	Tetragonia implexicoma	Bower Spinach	Plant next to other established plants.
Shrubs < 0.5m	Threlkeldia diffusa	Coast Bonefruit	
Herbs	This area is expected to be su	itable for herb establis	hment in more than five years
Herbs	Actites megalocarpus	Coast Sow-thistle	
Herbs	Apium annuum	Annual Celery	Occurs in Coastal Cell MA14.
Herbs	Apium prostratum var. filiforme	Native Celery	Occurs in Coastal Cell MA14.
Herbs	Arthropodium strictum	Common Vanilla-lily	Occurs in Coastal Cell MA14.
Herbs	Brachyscome ciliaris var. ciliaris	Variable Daisy	Occurs in Coastal Cell MA14.
Herbs	Cotula australis	Common Cotula	Occurs in Coastal Cell MA14. Plant in wetter depressions. Trial in 3-4 years once mat plants begin to establish in deeper scaled areas. Sometimes can appear.
Herbs	Cotula vulgaris var. australasica	Slender Cotula	Plant in wetter depressions. Trial in 3-4 years once mat plants begin to establish in deeper scaled areas.
Herbs	Geranium retrorsum	Grassland Crane's- bill	
Herbs	Goodenia varia	Sticky Goodenia	Will possibly grow - needs to be tested. Prefers sandy loam over limestone.
Herbs	Helichrysum leucopsideum	Satin Everlasting	
Herbs	Pelargonium australe	Austral Stork's-bill	
Herbs	Picris squarrosa	Squat Picris	Occurs in Coastal Cell MA14.
Herbs	Pterostylis arenicola	Sandhill Greenhood	
Herbs	Senecio pinnatifolius var. maritimus	Coast Groundsel	
Herbs	Vittadinia cuneata var. cuneata	Fuzzy New Holland Daisy	Occurs in RB Connolly Reserve.
Herbs	Vittadinia gracilis	Woolly New Holland Daisy	Occurs in RB Connolly Reserve.
Herbs	Wahlenbergia littoricola	Coast Bluebell	Plant in edge of depressions and base of sand mounds.
Mat Plants	Atriplex semibaccata	Berry Saltbush	Occurs in Coastal Cell MA14. Plant liberally.
Mat Plants	Disphyma crassifolium ssp. Clavellatum	Round-leaf Pigface	Plant is low lying areas and edges of mounds.
Mat Plants	Carpobrotus rossii	Native Pigface	Great soil stabiliser.
Mat Plants	Kennedia prostrata	Scarlet Runner	Plant liberally.
Mat Plants	Kunzea pomifera	Muntries	Plant liberally. Great groundcover, improving soils health and keeping the

			weeds out. It will do better once weeds are
Mat Dianta		Creaning Dechielle	removed and the soil is stable.
Iviat Plants	wyoporum parvijolium		Plant liberally in relatively weed free areas.
Mat Plants	Wilsonia rotundifolia	Round-leaf Wilsonia	Plant is lowest low-lying areas as a trial. Can tolerate higher salt levels when the areas become inundated with saltwater and salts are dispersed on the surface.
Grasses > 0.2m	Anthosachne scabra	Native Wheat-grass	Suggest hosting a seeding day with a mixed bag of native grass seed.
Grasses > 0.2m	Aristida behriana	Brush Wire-grass	Occurs in Coastal Cell MA14.
Grasses > 0.2m	Austrostipa drummondii	Cottony Spear-grass	Broadcast seed before rain in scalped locations.
Grasses > 0.2m	Austrostipa flavescens	Coast Spear-grass	
Grasses > 0.2m	Austrostipa mollis	Soft Spear-grass	Occurs in RB Connolly Reserve. Plant in shaded areas.
Grasses > 0.2m	Austrostipa nitida	Balcarra Spear- grass	
Grasses > 0.2m	Bromus arenarius	Sand Brome	Broadcast seed before rain.
Grasses > 0.2m	Chloris truncata	Windmill Grass	Occurs in Coastal Cell MA14.
Grasses > 0.2m	Enneapogon nigricans	Black-head Grass	Occurs in Coastal Cell MA14. Broadcast seed before rain.
Grasses > 0.2m	Lachnagrostis billardierei ssp. Billardierei	Coast Blown-grass	Plant on silty areas near the Nitre bush. Hand cast seed on margins before rain.
Grasses > 0.2m	Poa poiformis var. poiformis	Coast Tussock-grass	Cluster plant tubestock in swales/ depressions.
Grasses > 0.2m	Rytidosperma caespitosum	Common Wallaby- grass	Plant Tubestock and/or direct broadcast seed, possibly rake in.
Grasses > 0.2m	Rytidosperma laeve	Smooth Wallaby- grass	Plant Tubestock and/or direct broadcast seed, possibly rake in.
Sedges > 1m	Dianella brevicaulis	Short-stem Flax-lily	Plant in small clumps in association with other small shrubs, grasses and herbs.
Sedges > 1m	Lepidosperma gladiatum	Coast Sword-sedge	Plant in clumps of 5 – 10 plants in the lower lying sand, swale areas.
Sedges ≤ 1m	Lomandra collina	Sand Mat-rush	May grow - needs to be tested.
Sedges ≤ 1m	Lomandra leucocephala ssp. Robusta	Woolly Mat-rush	Occurs in RB Connolly Reserve - use for seed collecting. This is the priority species to propagate and revegetate.
Vines, scramblers	Cassytha pubescens	Downy Dodder- laurel	Direct attach to Wattles and other established shrubs
Vines, scramblers	Muehlenbeckia gunnii	Coastal Climbing Lignum	Companion plant near established larger shrubs >3-year-old trees or shrubs

## 4.4 Area 3: Revegetation Suggestions

In Area 3 there should be a focus on enhancing the existing vegetation rather than introducing an entirely new plant community. The sedge, herb, and grass species listed in the Table 5 will complement the current ecosystem. Additionally, a number of *Allocasuarina verticillata* (Drooping Sheoak) can be included, ensuring their projected foliage cover remains below 5% to maintain the site's open structure.

Life Form	Scientific Name	Common Name	Comments
Trees	Allocasuarina verticillata	Drooping Sheoak	Plant in an irregular mosaic, leaving
Herbs	Arthropodium strictum	Common Vanilla- lily	Occurs in Coastal Cell MA14.
Herbs	Brachyscome ciliaris var. ciliaris	Variable Daisy	Occurs in Coastal Cell MA14.
Herbs	Geranium retrorsum	Grassland Crane's- bill	
Herbs	Helichrysum leucopsideum	Satin Everlasting	
Herbs	Ptilotus polystachyus	Long-tails	
Herbs	Vittadinia cuneata var. cuneata	Fuzzy New Holland Daisy	Occurs in RB Connolly Reserve.
Herbs	Vittadinia gracilis	Woolly New Holland Daisy	Occurs in RB Connolly Reserve.
Herbs	Wahlenbergia stricta ssp. Stricta	Tall Bluebell	
Mat Plants	Atriplex semibaccata	Berry Saltbush	Occurs in Coastal Cell MA14.
Mat Plants	Kennedia prostrata	Scarlet Runner	
Grasses > 0.2m	Anthosachne scabra	Native Wheat- grass	
Grasses > 0.2m	Aristida behriana	Brush Wire-grass	Occurs in Coastal Cell MA14.
Grasses > 0.2m	Austrostipa drummondii	Cottony Spear- grass	Broadcast seed before rain.
Grasses > 0.2m	Austrostipa mollis	Soft Spear-grass	Occurs in RB Connolly Reserve. Plant in shaded areas.
Grasses > 0.2m	Rytidosperma caespitosum	Common Wallaby- grass	
Grasses > 0.2m	Rytidosperma laeve	Smooth Wallaby- grass	
Sedges ≤ 1m	Lomandra collina	Sand Mat-rush	Will possibly grow - needs to be tested.
Sedges ≤ 1m	Lomandra effusa	Scented Mat-rush	
Sedges ≤ 1m	Lomandra micrantha ssp.	Small-flower Mat- rush	

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## 4.5 Area 4: Revegetation Suggestions

In Area 4 the soil appears saline and contains a significant amount of shell grit at the surface, indicating that salt-tolerant species will be well-suited to these conditions (Table 6). Maintain this area as a shrubland and focus on controlling high threat weeds.

Life Form	Scientific Name	Common Name	Comments
Shrubs 0.5-2m	Atriplex australasica	Saltbush	Occurs in Coastal Cell MA14. Grows in fringing seaweed and would tolerate the
			seaweed and shell grit on the bank.
Shrubs 0.5-2m	Atriplex paludosa ssp. Cordata	Marsh Saltbush	Occurs in Coastal Cell MA14.
Shrubs 0.5-2m	Atriplex paludosa ssp. Paludosa	Marsh Saltbush	Occurs in Coastal Cell MA14.
Shrubs 0.5-2m	Maireana oppositifolia	Salt Bluebush	Plant near cohort species <i>Lawrencia</i> squamata in lower lying areas.
Shrubs < 0.5m	Atriplex semibaccata	Berry Saltbush	Occurs in Coastal Cell MA14.
Shrubs < 0.5m	Atriplex suberecta	Lagoon Saltbush	Broadcast seed.
Shrubs < 0.5m	Lotus australis	Austral Trefoil	
Shrubs < 0.5m	Suaeda australis	Austral Seablite	
Mat Plants	Atriplex semibaccata	Berry Saltbush	Occurs in Coastal Cell MA14. Plant liberally.
Mat Plants	Disphyma crassifolium ssp. Clavellatum	Round-leaf Pigface	Depressions and mounds
Mat Plants	Carpobrotus rossii	Native Pigface	Great soil stabiliser.
Grasses > 0.2m	Lachnagrostis billardierei	Coast Blown-grass	Plant on silty areas near the Nitre bush.
	ssp. Billardierei		Hand cast seed on margins before rain.
		_	Recorded nearby and on Hindmarsh Island.
Grasses < 0.2m	Distichlis distichophylla	Emu-grass	

#### Table 5. Revegetation species list for Area 4 (A4)

## 4.6 Area 5: Revegetation Suggestions

None of the established trees in Area 5 are highly invasive so do not need immediate removal, however as they reach senescence, gradual replacement with a mix of upper, middle, and ground-layer species listed in the Table 7 is recommended. Seasonal slashing and expanding of native grass cover along road verges will enhance connectivity between vegetation remnants, linking the area to Mutton Cove and the North Haven Dunes. Maintaining and increasing naturally occurring native grasses, such as Wallaby Grass and Spear Grasses, will further support habitat resilience and biodiversity. The lower matting plants *Threlkeldia diffusa* (Coastal Bonefruit), *Atriplex semibaccata* (Berry Saltbush) and small shrub *Enchylaena tomentosa* (Ruby Saltbush) are spreading naturally in the area, so are unlikely to require any planting.

Life Form	Scientific Name	Common Name	Comments
Trees	Allocasuarina verticillata	Drooping Sheoak	Plant individuals as gaps form.
Trees	Callitris gracilis	Southern Cypress Pine	Plant individuals as gaps form.
Trees	Eucalyptus porosa	Mallee Box	Plant individuals as gaps form.
Trees	Pittosporum angustifolium	Native Apricot	Plant individuals adjacent to existing trees, positioning them within 0.5 to 1m of the trunks of mature trees or large shrubs.
Trees	Santalum acuminatum	Quandong	Plant next to <i>Acacia spp</i> . (Wattles). Collect seed from local areas, germinate in tubes and plant out. Must be tree guarded as rabbits eat the seedlings.
Shrubs >2m	Acacia ligulate	Umbrella Bush	
Shrubs >2m	Dodonaea viscosa ssp. Spatulate	Sticky Hop-bush	
Shrubs >2m	Melaleuca lanceolata	Dryland Tea-tree	Plant individuals as gaps form.
Shrubs 0.5-2m	Grevillea ilicifolia ssp. ilicifolia	Holly-leaf Grevillea	Plant in sandy soil.
Shrubs 0.5-2m	Olearia passerinoides ssp.	Feather Daisy-bush	
Shrubs 0.5-2m	Rhagodia crassifolia	Fleshy Saltbush	Occurs in RB Connolly Reserve. Plant under Cypress Pine or Mallee Box.
Shrubs < 0.5m	Lotus australis	Austral Trefoil	
Vines, scramblers	Cassytha pubescens	Downy Dodder- laurel	Direct attach to Wattles and other established shrubs
Vines, scramblers	Muehlenbeckia gunnii	Coastal Climbing Lignum	Companion plant near established larger shrubs >3-year-old trees or shrubs

Tabla	$\sim$	Davianatatian		1:04	£	A	_		
lable	ь.	Revegetation	species	list,	jor.	Area	5	(A5)	

## 5. ENVIRONMENTAL THREATS

#### 5.1 Invasive Weeds

The area has a had a long history with invasive weed introductions, Biodiversity Park is located adjacent to an active shipping container facility and is part of a major trucking route and is subjected to illegal dumping of garden waste - all of which contribute to the weed load observed in the Park.

Weeds are the main threat to biodiversity and successful revegetation in the Park. Weeds are classified as high-threat if they meet one or more of the following criteria:

- Declared under the Landscapes South Australia Act 2019
- Red Alert weed rating of 3 or more
- Non-indigenous woody and herbaceous species recorded as spreading at the site.

Table 8 lists the invasive weeds observed in Biodiversity Park. Landowners have a legal responsibility to manage Declared (Landscape South Australia Act 2019) plants.

The highly invasive pastoral country grass *\*Cenchrus ciliaris* (Buffel Grass) has been recorded in the Port Adelaide area - most likely spread by trains, trucks and cars. This invasive weed is a great threat to the Park due to its high flammability and ability to overrun all species. Another observed weed grass, recorded during the summer weed threat inspection, was the closely related *\*Cenchrus setaceus* (Fountain Grass). The Fountain Grass was found in two patches in the Kardi Yarta Playground and appears to have been planted in two populations.

Non-local planted species such as \**Acacia cyclops* (Western Coastal Wattle) and \**Acacia saligna* (Golden Wreath Wattle) are spreading, whilst \**Acacia iteaphylla* (Flinders Ranges Wattle) has the potential to spread. See Figure 11 for a map of the recorded locations of these weed species. A full list of introduced plant species is provided in the Appendix.

Retaining large non-local species in parks is acceptable, as they are unlikely to become invasive. For example, *\*Agonis flexuosa* (Willow Myrtle), which provides great shade near the seating



Figure 5. \*Cenchrus setaceus (Fountain Grass) in Kardi Yarta playground reserve.

area, poses a minimal risk of spreading so can be retained for the near future without concern. Work could begin on growing local native species to replace these large non-locals or alternatively, in 10-15 years' time, when the area fills in with more local native species the large, non-local species could simply be removed.

Scientific Name	Common Name	Threat Rating (Red Alert Weed rating of 3 or more) SMLR-CO <sup>5</sup>	Weed of National Significance <sup>6</sup>	Declared (Landscapes Act) <sup>7</sup>
Acacia cyclops	Western Coastal Wattle	3		
Acacia saligna	Golden Wreath Wattle	2		
Agave americana	Century Plant	3		
Agave attenuata	Foxtail Agave	2		
Aizoon pubescens	Coastal Galenia	2		
Aizoon secundum	Galenia	2		
Ambrosia psilostachya	Perennial Ragweed			Not For Sale
Asparagus asparagoides f. asparagoides	Bridal Creeper	5	Y	Not For Sale
Asphodelus fistulosus	Onion Weed	2		
Avena barbata	Bearded Oat	2		
Cynara cardunculus ssp. flavescens	Artichoke Thistle	2		
Carpobrotus edulis ssp. edulis	Hottentot Fig	3		
Cenchrus longisetus	Feather-top	3		
Cenchrus setaceus	Fountain Grass	4		Not For Sale
Chondrilla juncea	Skeleton Weed	2		Not For Sale
Delairea odorata	Cape Ivy	3		
Euphorbia terracina	False Caper	3		Not For Sale
Freesia leichtlinii	Freesia	3		
Gazania linearis	Gazania	3		Not For Sale
Lagurus ovatus	Hare's Tail Grass	2		
Limonium hyblaeum		2		
Lycium ferocissimum	African Boxthorn	3	Y	Not For Sale
Mesembryanthemum crystallinum	Common Iceplant	2		
Oenothera biennis	Evening-Primrose			
Oenothera stricta ssp. stricta	Common Evening Primrose	2		
Olea europaea ssp.	Olive	4		
Opuntia elatior			Y	Not For Sale
Oxalis pes-caprae	Soursob	4		
Solanum elaeagnifolium	Silver-leaf Nightshade	2	Y	Not For Sale

#### Table 7. High-threat weeds in Biodiversity Park

<sup>&</sup>lt;sup>5</sup> As per Native Vegetation SA Accredited Consultant Training Package

<sup>&</sup>lt;sup>6</sup> https://weeds.org.au/weeds-profiles/

<sup>&</sup>lt;sup>7</sup> https://pir.sa.gov.au/biosecurity/weeds/declared-weeds





## 5.2 Pest Animals

Common Starlings (*Sturnus vulgaris*) and House Sparrows (*Passer domesticus*) are present in the Park, along with frequent sightings of rabbits (*Oryctolagus cuniculus*), Hares (*Lepus europaeus*). Grazing pressure from rabbits and hares is likely impacting the recruitment and regeneration of native flora species.

There is a large fox den (*Vulpes vulpes*) in the Park. Green Adelaide conducts contracted fox den detection and fumigation works at a range of coastal sites including Biodiversity Park. The City of Port Adelaide Enfield area in 2024 had very high fox numbers from Semaphore through to Outer Harbor (Warrick Barnes pers comm). Domestic cats (*Felis catus*) likely forage in the area, while domestic dogs (*Canis familiaris*) are often observed on and off walking tracks with their owners.

## 5.3 Humans

Biodiversity Park faces several ongoing management challenges related to human activity, including illegal rubbish dumping, unauthorised bike tracks and informal shelter construction. These activities disturb native vegetation, compact soil, and hinder regeneration efforts.

A remnant motorbike track from the 1990s remains in the area, and occasional motorbike use still occurs. Additionally, new mountain bike tracks and jumps continue to appear, impacting vegetation and soil stability.

There is also a potential risk of asbestos at the site. While not considered significant, any asbestos and other rubbish should be removed before the land is dedicated as a Conservation Park. Additional contamination risks identified in the 2004 Management Plan (EBS 2004) are primarily located north of Biodiversity Park and in adjacent areas. The current landholder should address rubbish removal and contamination concerns prior to dedication.

## 6. BIODIVERSITY ACTION PLAN

#### 6.1 Management Objectives

The 5-year biodiversity management objectives for Biodiversity Park are to:

- Increase native plant diversity by 20%
- Increase the number of habitat plants for butterflies by 20%
- Reduce high-threat weed cover by 10%
- Increase native tree and shrub canopy cover to 50% looking at aerial photography with at least 5m in between the canopy edge of large bushes and trees
- Maintain a self-sustaining population of Painted Dragons
- Reinvigorate Friends group membership
- Develop revegetation events connected through the Port Adelaide Environment Centre to engage the community
- Conduct a bird, butterfly and reptile survey in 2025 and at the 5-year mark
- Formally protect the area as a Conservation Park under Schedule 4, National Parks and Wildlife Act.
- Maintain existing infrastructure, seats and walking paths

Using Table 9, the actions for each Area have been prioritised.

Unit Biodiversity	Zone Biodiversity	Action priority for zone				
Score	Value Rating	High priority	Medium priority	Low priority		
>60	High	Highest priority action for whole site	High priority action for whole site	Moderate priority action for whole site		
40-59	Moderate	High priority action for whole site	Moderate priority action for whole site	Low priority action for whole site		
<40	Low	Moderate priority action for whole site	Low priority action for whole site	Lowest priority action for whole site		

Table 8.	Biodiversity	value rating	system used	by City of	Onkaparinga
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## 6.2 Management Actions and Targets

Management Zone	5-year target	Actions	Unit Biodiversity Rating	Action Priority	Overall Priority
A1	Eradicate Fountain grass from site	Remove Fountain Grass (>30 plants) in landscaped Playground Area.	Moderate (52.36)	High	High
A1	Reduce high-threat weed cover by 10%	Ongoing Woody weed control Olive, Boxthorn, Golden Wreath Wattle, Western Coastal Wattle.	Moderate (52.36)	High	High
A1	Maintain a population of Painted Dragons	On-going control of other high-threat weeds: Soursob, Onion Weed, Century Plant, Hottentot Fig, Cape Ivy, False Caper, Freesia, Gazania, Skeleton Weed. Working from the northern boundary of A1 (which is in better condition) heading south. Ensure revegetation maintains sufficient balance (50%) of vegetation and open ground, and fallen timber for optimal dragon habitat.	Moderate (52.36)	High	High
A1	Increase native plant diversity by 20%	Revegetate with at least 15 new species from the list.	Moderate (52.36)	High	High
A1	Achieve Conservation Park status	Rubbish collection - Building materials including asbestos.	Moderate (52.36)	High	High
A4	Reduce high-threat weed cover by 10%	Follow up for Boxthorn seedling removal. False Caper control.	Moderate (47.55)	High	High
A4	Increase native tree and shrub canopy cover to 50%	Remove grassy weeds plus Coastal Galenia, Common Iceplant and Sea- lavender. Onion Weed will likely be outcompeted once more native plant cover establishes naturally.	Moderate (47.55)	High	High
Whole Site	Manage Pest Animals; Rabbit, Hare & Fox	Conduct annual program to reduce grazing on native vegetation	NA	High	High
Whole Site	Reduce high-threat weed cover by 10%	Conduct annual surveys to identify any new weed incursions, particularly given the site's proximity to the Port and truck routes.	NA	High	High
A1	Increase native plant diversity by 20%	Scalp/scrape the top layer of soil from the weed-infested patch, where less moss occurs and around the <i>Lawrencia squamata</i> ready for revegetation. Set aside areas devoid of plantings to monitor what seed grows from subsurface seed banks. Mound scraped soil with weeds on the periphery and cover with plastic for 12 months (two summers) for	Moderate (52.36)	Medium	Moderate

Management Zone	5-year target	Actions	Unit Biodiversity Rating	Action Priority	Overall Priority
		best solarisation results. Note: similar to Adelaide City Council, Victoria Park.			
A1	Increase number of habitat plants for Butterflies by 20%	Increase the number of <i>Adriana quadripartita</i> (Coast Bitter-bush) by 20 plants.	Moderate (52.36)	Medium	Moderate
A1	Increase number of habitat plants for Butterflies by 20%	Revegetate with up to 100 <i>Lomandra leucocephala</i> ssp. <i>robusta</i> (Woolly Mat-rush).	Moderate (52.36)	Medium	Moderate
A1	Increase native plant diversity by 20%	Increase the population of the <i>Pterostylis arenicola</i> (Sandhill Greenhood) by 20 individuals each planted in moss.	Moderate (52.36)	Medium	Moderate
A1	Increase native tree and shrub canopy cover to 50%	Increase tree cover in the zone by 5%. Plant a minimum of 10 <i>Callitris gracilis</i> (plant throughout) and 10 <i>Allocasuarina verticillata</i> (plant in clumps about 10m apart, randomly). Plant 6 <i>Melaleuca lanceolata</i> in the southern half of A1, in the lower lying areas.	Moderate (52.36)	Medium	Moderate
A2	Increase native tree and shrub canopy cover to 50%	Plant out Trees and Tall Shrubs as per Revegetation Suggestions.	Low (29.94)	High	Moderate
A2	Reduce high threat weed cover by 10%	Ongoing Woody weed control Olive, Boxthorn, Golden Wreath Wattle, Western Coastal Wattle.	Low (29.94)	High	Moderate
A2	Reduce high threat weed cover by 10%	Ongoing control of high-threat weeds: False Caper, Gazania and Bridal Creeper.	Low (29.94)	High	Moderate
A2	Grazing pressure reduced to allow natural regeneration	Rabbit and Hare control.	Low (29.94)	High	Moderate
A2	Maintain a population of Painted Dragons	Increase the Painted Dragon habitat by creating patch/clumped vegetation islands within open, bare-ground areas. Reduce cover of Gazania, Evening Primrose, and Bucks-horn Plantain as they cover bare- ground. These measures will ensure there are good numbers of Painted Dragons for future rewilding projects along the Adelaide coast.	Low (29.94)	High	Moderate
A2	Increase native plant diversity by 20%	Revegetation with at least 15 new species from the Shrubs, Mat plants, Grasses, Sedges, Vines categories. Refer to revegetation list.	Low (29.94)	High	Moderate
A3	Reduce high threat weed cover by 10%	Weed control of Artichoke Thistle, Feather-top, Boxthorn, Olive, False Caper and Golden Wreath Wattle.	Low (26.7)	High	Moderate
A3	Increase native plant diversity by 20%	Increase tree cover in the zone to a maximum of 5%. Plant a minimum of 10 <i>Allocasuarina verticillata</i> (randomly over the whole area) tree guarded well.	Low (26.7)	High	Moderate
A3	Increase native plant diversity by 20%	Slash weedy grasses seasonally to encourage spread of native grasses. Direct broadcast of native grass throughout this area - where management has displaced weeds.	Low (26.7)	High	Moderate

Management Zone	5-year target	Actions	Unit Biodiversity Rating	Action Priority	Overall Priority
A4	Increase native plant diversity by 20%	Optional: Scalp/scrape some scalloped/irregular sites from the top layer of soil in the weed infested patch and around any emergent remnant species ready for revegetation of mounds and direct seed dispersal. Set aside areas devoid of plantings to monitor what seed grows from subsurface seed banks. Mound scraped soil with weeds on the periphery and cover with plastic for 12 months (two summers) for best solarisation results.	Moderate (47.55)	Medium	Moderate
A1	Reduce high threat weed cover by 10%	Spread Bridal Creeper rust into dense patches.	Moderate (52.36)	Low	Low
A1	Encourage natural regeneration	Remove old tree guards and stakes from previous revegetation work.	Moderate (52.36)	Low	Low
A1	Encourage natural regeneration	Dismantle cubby and shelter.	Moderate (52.36)	Low	Low
A1	Increase native plant diversity by 20%	As the planted Eucalypts senesce, replace them with <i>Callitris gracilis</i> (Southern Cypress Pine) or <i>Allocasuarina verticillata</i> (Drooping Sheoak). Note some natural regeneration is occurring already.	Moderate (52.36)	Low	Low
A2	Encourage natural regeneration	Remove rubbish and regularly monitor mountain bike activity. Implement revegetation efforts and place branches on eroded areas as needed to support soil stability.	Low (29.94)	Medium	Low
A2	Increase native plant diversity by 20%	Collect Spear Grass, mixed small saltbush seed from Area 5. Broadcast in this area before it rains onto soil with good moss cover. Plant tube stock of Nitrebush and Thorny Lawrencia.	Low (29.94)	Medium	Low
A3	Increase native plant diversity by 20%	Revegetate with at least 8 species from the Herbs, Mat Plants, Grasses and Sedges categories. Refer to revegetation list.	Low (26.7)	Moderate	Low
A3	Encourage natural regeneration	Flatten out raised sandy / shell grit mound to allow better hydrological movement.	Low (26.7)	Moderate	Low
A4	Increase native plant diversity by 20%	Plant with saltbush species and other salt-tolerant plants.	Moderate (47.55)	Low	Low
Whole Site	Reduce high threat weed cover by 10%	Monitor for new weeds.			
A2	Encourage natural regeneration	Remove Fox den.	Low (29.94)	Low	Lowest
A2	Encourage natural regeneration	Scalp/scrape some scalloped/irregular sites from the top layer of soil in the weed infested patch and around any emergent remnant species ready for revegetation of mounds and direct seed dispersal. Set aside	Low (29.94)	Low	Lowest

Management Zone	5-year target	Actions	Unit Biodiversity Rating	Action Priority	Overall Priority
		areas devoid of plantings to monitor what seed grows from subsurface			
		seed banks. Mound scraped soil with weeds on the periphery and cover			
		with plastic for 12 months (two summers) for best solarisation results.			
A2	Encourage natural	Remove Flinders Ranges Wattle.	Low (29.94)	Low	Lowest
	regeneration				
A2	Optional	Install additional bins (with dog waste bags) to reduce waste	Low (29.94)	Low	Lowest
		accumulation.			
A2	Encourage natural	Monitoring and community engagement to reduce unauthorised trail and	Low (29.94)	Low	Lowest
	regeneration	shelter construction.			
A5	Reduce high threat weed	Remove Western Coastal Wattle, Golden Wreath Wattle, False Caper.	Low (19.08)	Low	Lowest
	cover by 10%				
A5	Maintain a population of	As planted trees die in A5, relocate trunks and branches to use as a soil	Low (19.08)	Low	Lowest
	Painted Dragons	stabiliser in Area 2. Fallen timber is also important for Painted Dragons -			
		distribute to potential habitat areas.			
A5	Increase native plant diversity	Revegetate new gaps with those species from the list.	Low (19.08)	Low	Lowest
	by 20%				
A5	Increase native plant diversity	10-year aim: incremental removal of non-local species and replacement	Low (19.08)	Low	Lowest
	by 20%	with local indigenous species. Use of branches and logs from trees to			
		increase ground habitat and protection of smaller shrubs / forbs and			
		grasses.			

## 6.3 Monitoring

Repeat the Bushland Assessment Method within Biodiversity Park every five years to track changes in vegetation condition. Conduct annual surveys to identify any new weed incursions, particularly given the site's proximity to the Port and truck routes. Regularly assess the success of revegetation efforts and adjust strategies as needed to improve outcomes.

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## **APPENDIX 1: NATIVE PLANT LIST**

Includes all plant records from NatureMaps, iNaturalist and our site inspection marked with an x, with additional survey areas highlighted in orange.

Scientific Name	Common Name	EPBC Act Status <sup>8</sup>	NPW Act Status <sup>9</sup>	EYB02 St Vincent Subregional <sup>10</sup> Status	A1 Low Woodland	A2 Coastal Shrubland	A3 Grassland	A4 Nitrebush shrubland	A5 Planted Eucalypts	Pelican point Rd	RB Connolly Reserve <sup>11</sup>
Acacia cupularis	Cup Wattle				х						
Acacia ligulata	Umbrella Bush				х	х			х		x
Acacia longifolia ssp. sophorae	Coastal Wattle					x					
Acacia pycnantha	Golden Wattle				х						х
Adriana quadripartita	Coast Bitter-bush			Rare	х						x
Allocasuarina verticillata	Drooping Sheoak				х						
Alyxia buxifolia	Sea Box										
Atriplex cinerea	Coast Saltbush										
Atriplex paludosa ssp. cordata	Marsh Saltbush				x					x	
Atriplex semibaccata	Berry Saltbush								х	х	x
Austrostipa elegantissima	Feather Spear-grass				х						
Austrostipa eremophila	Rusty Spear-grass				x						
Austrostipa flavescens	Coast Spear-grass				х	х					
Austrostipa nitida	Balcarra Spear-grass				х		х	х			
Austrostipa nodosa	Tall Spear-grass								х	х	
Austrostipa scabra ssp. falcata	Slender Spear-grass						x			x	
Austrostipa sp.	Spear-grass										х
Billardiera cymosa ssp. cymosa	Sweet Apple-berry			Vulnerable							х
Calandrinia eremaea	Small Purslane										х
Callitris gracilis	Southern Cypress Pine			Near Threatened	x						x

<sup>8</sup> Under the Environment Protection and Biodiversity Conservation Act

<sup>10</sup> Gillam et al, 2014

<sup>11</sup> Includes those species in the Native Plant List Compiled by Andrew Allanson and Peter Tucker (2000 & 2006)

<sup>&</sup>lt;sup>9</sup> Under the National Parks and Wildlife Act 1972

Scientific Name	Common Name	EPBC Act Status <sup>8</sup>	NPW Act Status <sup>9</sup>	EYB02 St Vincent Subregional <sup>10</sup> Status	A1 Low Woodland	A2 Coastal Shrubland	A3 Grassland	A4 Nitrebush shrubland	A5 Planted Eucalypts	Pelican point Rd	RB Connolly Reserve <sup>11</sup>
Carpobrotus rossii	Native Pigface				х	х		х			х
Chloris truncata	Windmill grass										х
Clematis microphylla	Old Man's Beard										х
Crassula colligata ssp. Iamprosperma	Crassula/Stonecrop				x						
Crassula colorata var.	Dense Crassula				х						
Crassula decumbens var. decumbens	Spreading Crassula										x
Crassula sp.	Crassula/Stonecrop										
Dianella brevicaulis	Short-stem Flax-lily				x	х	х	х	х	х	х
Disphyma crassifolium ssp. clavellatum	Round-leaf Pigface									x	
Distichlis distichophylla	Emu-grass										
Dodonaea viscosa ssp. spatulata	Sticky Hop-bush				x						x
Einadia nutans spp. nutans	Climbing saltbush										x
Enchylaena tomentosa var. tomentosa	Ruby Saltbush				x	x		x	x	х	x
Enneapogon nigricans	Black-head Grass									х	
Enteropogon acicularis	umbrella Grass									х	
Eucalyptus leucoxylon hybrid	SA Blue Gum								x		
Eucalyptus porosa	Mallee Box				x						х
Eucalyptus socialis ssp.	Beaked Red Mallee				x						
Euphorbia dallachyana	Caustic Weed						х				
Ficinia nodosa	Knobby Club-rush				х			х			х
Kennedia prostrata	Scarlet Runner										х
Kunzea pomifera	Muntries			Rare	х						
Lawrencia squamata	Thorny Lawrencia			Rare	х						
Leucopogon parviflorus	Coast Beard-heath			Vulnerable							
Lomandra leucocephala ssp. robusta	Woolly Mat-rush										х

Scientific Name	Common Name	EPBC Act Status <sup>8</sup>	NPW Act Status <sup>9</sup>	EYB02 St Vincent Subregional <sup>10</sup> Status	A1 Low Woodland	A2 Coastal Shrubland	A3 Grassland	A4 Nitrebush shrubland	A5 Planted Eucalypts	Pelican point Rd	RB Connolly Reserve <sup>11</sup>
Lotus australis	Austral Trefoil			Rare	х				1.1.1		
Maireana brevifolia	Short-leaf Bluebush				х		х	х	х	х	
Maireana erioclada	Rosy Bluebush										
Melaleuca acuminata ssp. acuminata	Mallee Honey- myrtle										
Melaleuca brevifolia	Short-leaf Honey- myrtle				x						
Melaleuca halmaturorum	Swamp Paper-bark			Rare							
Melaleuca lanceolata	Dryland Tea-tree			Near Threatened	x				х		x
Muehlenbeckia gunnii	Coastal Climbing Lignum					x					х
Myoporum insulare	Common Boobialla				х	х	х	х			х
Nitraria billardierei	Nitrebush				х	х		х	х	х	
Olearia axillaris	Coast Daisy-bush				х					х	
Olearia passerinoides ssp.	Feather Daisy-bush										
Pelargonium australe	Austral Stork's-bill				х						х
Picris angustifolia ssp. angustifolia	Coast Picris			Near Threatened							
Pittosporum angustifolium	Native Apricot										
Poa poiformis var. poiformis	Coast Tussock-grass			Rare	x						
Pterostylis arenicola	Sandhill Greenhood	VU	V		х						
Puccinellia sp.	Saltmarsh-grass									х	
Rhagodia candolleana ssp.	Sea-berry Saltbush								x		
Rhagodia candolleana ssp. candolleana	Sea-berry Saltbush				x						
Rhagodia crassifolia	Fleshy Saltbush										х
Rytidosperma caespitosum	Common Wallaby- grass						x				
Rytidosperma setaceum	Small-flower Wallaby-	grass					х		х	х	
Rytidosperma sp.	Wallaby-grass										х
Salsola australis	Buckbush				х	х		х		х	х

Scientific Name	Common Name	EPBC Act Status <sup>8</sup>	NPW Act Status <sup>9</sup>	EYB02 St Vincent Subregional <sup>10</sup> Status	A1 Low Woodland	A2 Coastal Shrubland	A3 Grassland	A4 Nitrebush shrubland	A5 Planted Eucalypts	Pelican point Rd	RB Connolly Reserve <sup>11</sup>
Santalum acuminatum	Quandong										
Sarcozona praecox	Sarcozona										
Scaevola crassifolia	Cushion Fanflower			Vulnerable	х						
Senecio glossanthus	Annual Grounsel										х
Senecio pinnatifolius var. maritimus	Coast Groundsel										
Senecio pinnatifolius var. pinnatifolius	Coast Groundsel				x					х	x
Senecio spanomerus	Native Groundsel										
Spergularia marina	Salt Sand-spurrey										
Stenopetalum lineare	Narrow Thread- petal			Rare							
Tecticornia pergranulata ssp.	Black-seed Samphire										
Templetonia retusa	Cockies Tongue			Vulnerable	*pl						
Tetragonia implexicoma	Bower Spinach					х					х
Threlkeldia diffusa	Coast Bonefruit				х	х	х	х	х	х	
Vittadinia gracilis	Woolly New Holland	Daisy									х

## **APPENDIX 2: WEED PLANT LIST**

Includes all plant records from NatureMaps, iNaturalist and our site inspection. High-threat weeds are 3 and above.

Scientific Name	Common Name	Threat SMLR-CO <sup>12</sup>	Weed of National Significance <sup>13</sup>	Landscape Act Weed Status <sup>14</sup>
Acacia cyclops	Western Coastal Wattle	3		
Acacia saligna	Golden Wreath Wattle	2		
Agave americana	Century Plant	3		
Agave attenuata	Foxtail Agave	4		
Agonis flexuosa var. flexuosa	Willow Myrtle	-		
Aizoon pubescens	Coastal Galenia	2		
Aizoon secundum	Galenia	2		
Aloe sp.	Aloe	1		
Amaranthus albus	Stiff Tumbleweed	-		
Ambrosia psilostachya	Perennial Ragweed	-		Declared Landscape Act - Not For Sale
Arctotheca calendula	Cape Weed	2		
Asparagus asparagoides f. asparagoides	Bridal Creeper	5	Y	Declared Landscape Act - Not For Sale
Asphodelus fistulosus	Onion Weed	2		
Avena barbata	Bearded Oat	2		
Bromus diandrus	Great Brome	1		
Cakile maritima ssp. maritima	Two-horned Sea Rocket	2		
Carpobrotus edulis ssp. edulis	Hottentot Fig	3		
Cenchrus longisetus	Feather-top	3		
Cenchrus setaceus	Fountain Grass	4		Declared Landscape Act - Not For Sale
Centaurea calcitrapa	Star Thistle	2		
Chenopodium murale	Nettle-leaf Goosefoot	1		
Chondrilla juncea	Skeleton Weed	2		Declared Landscape Act - Not For Sale
Cynara cardunculus ssp. flavescens	Artichoke Thistle	2		
Delairea odorata	Cape Ivy	3		
Dittrichia graveolens	Stinkweed	2		
Eucalyptus utilis	Coastal Moort	-		
Euphorbia terracina	False Caper	3		Declared Landscape Act - Not For Sale
Foeniculum vulgare	Fennel	2		
Freesia leichtlinii	Freesia	3		
Gazania linearis	Gazania	3		Declared Landscape Act - Not For Sale

<sup>&</sup>lt;sup>12</sup> Native Vegetation Council (2024)

 <sup>&</sup>lt;sup>13</sup> https://weeds.org.au/weeds-profiles/
 <sup>14</sup> https://pir.sa.gov.au/biosecurity/weeds/declared-weeds

Scientific Name	Common Name	Threat SMLR-CO <sup>12</sup>	Weed of National Significance <sup>13</sup>	Landscape Act Weed Status <sup>14</sup>
			Significance	
Hordeum vulgare	Barley	1		
Hypochaeris glabra	Smooth Cat's Ear	1		
Lagurus ovatus	Hare's Tail Grass	2		
Limonium binervosum	Dwarf Sea-lavender	2		
Limonium hyblaeum	Sea-lavender	2		
Lolium perenne	Perennial Ryegrass	1		
Lycium ferocissimum	African Boxthorn	3	Y	Declared Landscape Act - Not For Sale
Malva parviflora	Small-flower Marshmallow	1		
Medicago polymorpha	Burr-medic	2		
Melilotus indicus	King Island Melilot	2		
Mesembryanthemum crystallinum	Common Iceplant	2		
Oenothera biennis	Evening-Primrose	-		
Oenothera stricta ssp. stricta	Common Evening Primrose	2		
Olea europaea ssp.	Olive	4		
Opuntia elatior		2	Y	Declared Landscape Act - Not For Sale
Oxalis pes-caprae	Soursob	4		
Phoenix sp.	Date Palm	-		
Plantago coronopus ssp.	Bucks-horn Plantain	2		
Portulacaria afra	Dwarf Jade Plant	-		
Reichardia tingitana	False Sowthistle	2		
Ricinus communis	Castor Oil Plant	2		
Solanum elaeagnifolium	Silver-leaf Nightshade	2	Y	Declared Landscape Act - Not For Sale
Solanum nigrum	Black Nightshade	2		
Sonchus oleraceus	Common Sow-thistle	1		
Suaeda baccifera	Seablite	-		
Trachyandra divaricata		4		Declared Landscape Act - Not For Sale
Triticum aestivum	Wheat	-		
TOTAL	57			

## **APPENDIX 3: NATIVE FAUNA LIST**

Includes all fauna records from NatureMaps, iNaturalist and our site inspection.

Scientific Name	Common Name	Class	EPBC Act Status <sup>15</sup>	NPW Act Status <sup>16</sup>	Subregional Status <sup>17</sup>
Anthochaera carunculata	Red Wattlebird	AVES			LC
Anthochaera chrysoptera	Little Wattlebird	AVES		ssp	LC
Acanthagenys rufogularis	Spiny-cheeked Honeyeater	AVES			
Cacatua sanguinea	Little Corella	AVES			
Chroicocephalus novaehollandiae novaehollandiae	Silver Gull	AVES			LC
Colluricincla harmonica	Grey Shrikethrush	AVES			
Corvus mellori	Little Raven	AVES			LC
Elanus axillaris	Black-shouldered Kite	AVES			
Falco cenchroides	Nankeen Kestrel	AVES			
Gavicalis virescens	Singing Honeyeater	AVES			LC
Geopelia cuneata	Diamond Dove	AVES			RA
Grallina cyanoleuca cyanoleuca	Magpielark	AVES			LC
Gymnorhina tibicen	Australian Magpie	AVES			LC
Hirundo neoxena neoxena	Welcome Swallow	AVES			LC
Manorina melanocephala	Noisy Miner	AVES			LC
Melithreptus gularis	Black-chinned Honeyeater	AVES		ssp	CR
Ocyphaps lophotes lophotes	Crested Pigeon	AVES			LC
Pardalotus punctatus	Spotted Pardalote	AVES			RA
Phylidonyris novaehollandiae	New Holland Honeyeater	AVES			LC
Threskiornis molucca molucca	Australian White Ibis	AVES			LC
Trichoglossus moluccanus moluccanus	Rainbow Lorikeet	AVES			LC
Tyto javanica delicatula	Eastern Barn Owl	AVES			NT
Zosterops lateralis pinarochrous	Silvereye (EP, YP, FR, MLR, MM, SE)	AVES			
Aprasia striolata	Striated worm-lizard	REPTILIA			
Christinus marmoratus	Marbled Gecko	REPTILIA			LC
Ctenophorus pictus	Painted Dragon	REPTILIA			RA
Hemiergis peronii	Four-toed Earless Skink	REPTILIA			LC
Lerista dorsalis	Southern Four-toed Slider	REPTILIA			LC
Menetia greyii	Dwarf Skink	REPTILIA			LC
Pogona barbata	Eastern Bearded Dragon	REPTILIA			LC
Pseudonaja textilis	Eastern Brown Snake	REPTILIA			LC

 <sup>&</sup>lt;sup>15</sup> Under the Environment Protection and Biodiversity Conservation Act
 <sup>16</sup> Under the National Parks and Wildlife Act 1972

<sup>&</sup>lt;sup>17</sup> Gillam et al, 2014

Scientific Name	Common Name	Class	EPBC Act Status <sup>15</sup>	NPW Act Status <sup>16</sup>	Subregional Status <sup>17</sup>
Tiliqua rugosa	Sleepy Lizard	REPTILIA			LC
Tiliqua scincoides	Eastern Bluetongue	REPTILIA			RA
Austronomus australis	White-striped Free- tailed Bat	MAMMALIA			LC
Chalinolobus gouldii	Gould's Wattled Bat	MAMMALIA			LC
Mormopterus planiceps	Southern Free-tailed Bat	MAMMALIA			LC
Aedes camptorhynchus	Southern saltmarsh mosquito	INSECTA			
Anisynta cynone	Mottled Grass-skipper	INSECTA			
Apis mellifera	European Honey-Bee	INSECTA			
Asphondylia dodonaeae	Hop-Bush Gall Midge	INSECTA			
Belenois java	Caper White	INSECTA			
Chlorobapta frontalis	Flower Scarab Beetle	INSECTA			
Dactylasioptera milnae	Bluebush Gall Midge	INSECTA			
Danaus plexippus	Monarch	INSECTA			
Entometa fervens	Gum Snout Moth	INSECTA			
Eurema smilax	Small Grass-yellow	INSECTA			
Lampides boeticus	Long-tailed Pea-blue	INSECTA			
Myrmecia nigriceps	Black-headed Bull Ant	INSECTA			
Nacaduba biocellata	Two-spotted Line-blue	INSECTA			
Pieris rapae	Cabbage White	INSECTA			
Praxis edwardsii	Edward's Praxis Moth	INSECTA			
Proteuxoa chrysospila	Blunt Noctuid Moth	INSECTA			
Taractrocera papyria	White-banded Grass- dart	INSECTA			
Theclinesthes albocincta	bitter-bush blue	INSECTA			
Theclinesthes miskini	Wattle Blue	INSECTA			
Theclinesthes serpentata	Saltbush Blue	INSECTA			
Trichilogaster signiventris	Golden Wattle Gall Wasp	INSECTA			
Uresiphita ornithopteralis	Tree Lucerne Moth	INSECTA			
Utetheisa pulchelloides	Heliotrope Moth	INSECTA			
Vanessa kershawi	Australian Painted Lady	INSECTA			
Zizina otis labradus	Common Grass-blue	INSECTA			

## **APPENDIX 4: INTRODUCED FAUNA LIST**

Includes all fauna records from NatureMaps, iNaturalist and our site inspection.

Scientific Name	Common Name
Columba livia	Feral Pigeon
Felis catus	Domestic Cat (Feral Cat)
Lepus europaeus	European Brown Hare
Mus musculus	House Mouse
Oryctolagus cuniculus	Rabbit (European Rabbit)
Passer domesticus domesticus	House Sparrow
Rattus rattus	Black Rat (Ship Rat, Roof Rat)
Sturnus vulgaris vulgaris	Common Starling
Turdus merula merula	Common Blackbird
Vulpes vulpes	Fox (Red Fox)

## APPENDIX 5: BUSHLAND ASSESSMENT METHODOLOGY SCORESHEETS

Vegetation Condition Scores					Conservation Significance Score						
SITE:	A1				Is the vegetation association considered a Threatened Ecological community or Ecosystem?	Yes/No					
BCM COMMUNITY	SMLR Co 7.31 Non et	ucalypt Coast	al Low Woodlands		State (Provisional List of Threatened Ecosystems of SA) Rare community (0.1 pt)						
					State (Provisional List of Threatened Ecosystems of SA) Vulnerable community (0.2 pts)						
VEGETATION ASSOCIATION DESCRIPTION	Callitris gracilis, Alloca	suarina vertic	illata Very Open Low W	oodland c	State (Provisional List of Threatened Ecosystems of SA) Endangered community (0.3 pts)						
SIZE OF SITE (Ha)	6.6				Nationally (EPBC Act) Vulnerable community (0.35 pts)						
					Nationally (EPBC Act) Endangered or Critically Endangered community (0.4 pts)						
Benchmarked attributes (Scores determined by comparing to a Benchm	ark community)		Native Plant Life Forms	Cover rating	Note; all sites will score a minimum Conservation Significance Score of 1 Threatened Community Score	1					
			Trees > 15m		Number of Threatened Flora Species recorded for the site (within the site)	Number					
Number of Native Species (Minus herbaceous annu	als for spring Surveys)	35	Trees 5 - 15 m		*If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National I	rating.					
Native Plant Species Diversity Score (max 30) from be	nchmark score		Trees < 5m	2	State Rare species recorded (1 pt each)	(					
weighted by a factor of 2		28.0	Mallee > 5m		State Vulnerable species recorded (2.5 pt each)	(					
			Mallee < 5m	1	State Endangered recorded (5 pts each)	(					
Number of regenerating native species		1	Shrubs > 2m	2	Nationally Vulnerable species recorded (10 pts each)	1					
Regeneration Score (max 12) from benchmark commu	inity weighted by a factor of	1.5	Shrubs 0.5 - 2m	2	Nationally Endangered or Critically endangered species recorded (20 pts each)	(					
		3	Shrubs <0.5m	2	0 = 0 pts; <2 = 0.04 pts; 2 - <5 = 0.08 pts; 5 - <10 = 0.12 pts; 10 - <20 = 0.16 pts; 20 or > = 0.2 pts	10					
			Forbs	1	Threatened Flora Score	0.16					
Weed species	Cover Weed Threat	CxI	Mat Plants	1							
(Top 5 Cover x Invasiveness)	(max 6) Rating (max 5	o)	Grasses > 0.2m	2	Potential habitat for Threatened Fauna Species (number observed or previously recorded)	Number					
Euphorbia terracina	2	3 6	Grasses < 0.2m		"If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National i	rating.					
Ladurus ovatus	2	2 4	Sedges > 1m	-	State Rare species observed or locally recorded (1 pt each)	(					
Avena sp.	2	2 4	Sedges < 1m	2	State Vulnerable species observed or locally recorded (2.5 pt each)	(					
Gazania linearis	1	3 3	Hummock grasses		State Endangered species observed or locally recorded (5 pt each)	(					
Asbnodelus tistulosus	Cover v Threat	Z Z	Vines, scramblers	2	Nationally vulnerable species observed or locally recorded (10 pts each)						
Weed Score (max 15) from benchmark community	Cover x Threat	19	Ferre								
			Perns		0 = 0  pts; < 2 = 0.02  pts; 2 - <5 = 0.04  pts; 5 - <10 = 0.06  pts; 10 - <20 = 0.08  pts; 20  or  > = 0.1  pts						
			Giass-tree	-	I hreatened Fauna Score						
Native Plant Life Forms (max 20) from benchmark sco	re weighted by a factor of 2	2	lotal	17	CONSERVATION SIGNIFICANCE SCORE	1.16					

Non-Benchmarked Attributes	Is the community naturally treeless?		Total Scores for the Site		Vegetation Condition x Landscape Contex	xt x
(Scores determined from direct field observations)	Fallen Timber/Debris (max 5)	1		Score	Conservation Significance =	
Native:exotic Understorey biomass Score (max 5) 3	Hollow-bearing trees Score (max 5)	1	LANDSCAPE CONTEXT SCORE	1.19	UNIT BIODIVERSITY SCORE	52.36
	Mature Tree Score (max 8)	2	VEGETATION CONDITION SCORE	37.93	Total Biodiversity Score	
	Tree Canopy Cover Score (max 5)	2	CONSERVATION SIGNIFICANCE SCORE	1.16	(Biodiversity Score x hectares)	345.58

Vegetation Condition Score calculati	on				Photo Point and Vegetation Surv	ey Location		Direction of the Photo
Positive Vegetation Attributes Score = Native	species diversity + Rege	neration + Native Plan	t Life Forms		54H 271277	6148517 ± 5 m GDA2020		South
Fallen timber/debris + Hollow-bearing trees						21/1/2020, 11:20:32 dill	Manager C	GPS Reference
- If the community Score is Not Benchmarked	(SNB) for regeneration thi	s score is multiplied 1	.24			1 1 - W		Datum GDA20
- If the community is naturally treeless this score is	s multiplied by 1.29			51.00		the second se		Zone (52, 53 or 54) 54
Negative Vegetation Attributes Score = (15 - We	eds) + ((10 - Biomass sco	ore - Tree Canopy Cow	er Score)exp2/2)	20.50	A State of the second second	- \#\		Easting (6 digits) 271277
VEGETATION CONDITION SCORE (Positive ve	g attributes x ((80 - Negat	ive vegetation attribute	es) / 80))	37.93		and a light	and the second	Northing (7 digits) 6148517
	Low M	edium	High		Martin Martin			Description
Native Plant Species Diversity						A SHE	REAL	
Weed Score					E SAFER	State and the	6	
Native Plant Life Forms					A HE LANKED			
Regeneration						A LAN	PHY AND	
Native:exotic Understorey Biomass					- HAR SUSSER		124-13-2-	
Mature Trees							The second	
Tree Canopy Cover						Bar Indiana and	and the second	
Tree Hollows								
Fallen timber					CHARLES CARACTER STORE	A	man . No	
Vegetation Condition Score						Al photopoint	-	

Vegetation Condition Scores					Conservation Significance Score		
SITE:	A2					Is the vegetation association considered a Threatened Ecological community or Ecosystem?	Yes/No
BCM COMMUNITY	SMLR Co	7.2 Coastal	Shrublands &	Tall Shrublands		State (Provisional List of Threatened Ecosystems of SA) Rare community (0.1 pt)	
						State (Provisional List of Threatened Ecosystems of SA) Vulnerable community (0.2 pts)	
VEGETATION ASSOCIATION DESCRIPTION	Myoporum	<i>n insular</i> e Very	Open Shrub	land		State (Provisional List of Threatened Ecosystems of SA) Endangered community (0.3 pts)	
SIZE OF SITE (Ha)	16.7	6.7				Nationally (EPBC Act) Vulnerable community (0.35 pts)	
	•					Nationally (EPBC Act) Endangered or Critically Endangered community (0.4 pts)	
Benchmarked attributes				Native Plant	Cover	Note; all sites will score a minimum Conservation Significance Score of 1 Threatened Community Score	1
(Scores determined by comparing to a Benchma	ark commu	unity)		Life Forms	rating		
				Trees > 15m		Number of Threatened Flora Species recorded for the site (within the site)	Number
Number of Native Species (Minus herbaceous annu	als for sprin	ng Surveys)	11	Trees 5 - 15 m		*If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National r	rating.
Native Plant Species Diversity Score (max 30) from ber	nchmark sco	ore		Trees < 5m		State Rare species recorded (1 pt each)	0
weighted by a factor of 2	veighted by a factor of 2 14.0 Mallee > 5			Mallee > 5m		State Vulnerable species recorded (2.5 pt each)	
				Mallee < 5m		State Endangered recorded (5 pts each)	0
Number of regenerating native species 0 Shrubs > 2m			Shrubs > 2m	3	Nationally Vulnerable species recorded (10 pts each)	0	
Regeneration Score (max 12) from benchmark commu	nity weighte	d by a factor of	1.5	Shrubs 0.5 - 2m	2	Nationally Endangered or Critically endangered species recorded (20 pts each)	0
			0	Shrubs <0.5m	1	0 = 0 pts; <2 = 0.04 pts; 2 - <5 = 0.08 pts; 5 - <10 = 0.12 pts; 10 - <20 = 0.16 pts; 20 or > = 0.2 pts	0
				Forbs	1	Threatened Flora Score	0
Weed species	Cover	Weed Threat	CxI	Mat Plants	2		
(Top 5 Cover x Invasiveness)	(max 6)	Rating (max 5)		Grasses > 0.2m		Potential habitat for Threatened Fauna Species (number observed or previously recorded)	Number
Euphorbia terracina	4	3	3 12	Grasses < 0.2m	1	*If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National r	ating.
Gazania linearis	2	3	6	Sedges > 1m		State Rare species observed or locally recorded (1 pt each)	0
Mesembrvanthemum crvstallinum	1	2	2 2	Sedges < 1m	1	State Vulnerable species observed or locally recorded (2.5 pt each)	0
Asphodelus fistulosus	1	2	2 2	Hummock grasses		State Endangered species observed or locally recorded (5 pt each)	0
Arctotheca calendula	1	2	2 2	Vines, scramblers	lers 2 Nationally Vulnerable species observed or locally recorded (10 pts each)		0
Cover x Threat 24 Mistletoe			Mistletoe		Nationally Endangered or Critically endangered species observed or locally recorded (20 pts each)		
Weed Score (max 15) from benchmark community			5	Ferns		0 = 0 pts; <2 = 0.02 pts; 2 - <5 = 0.04 pts; 5 - <10 = 0.06 pts; 10 - <20 = 0.08 pts; 20 or > = 0.1 pts	0
				Grass-tree		Threatened Fauna Score	0
				Total	13		
Native Plant Life Forms (max 20) from benchmark sco	re weighted	by a factor of 2			16.0	CONSERVATION SIGNIFICANCE SCORE	1

Non-Benchmarked Attributes	Is the community naturally treeless?	<ul><li>✓</li></ul>	Total Scores for the Site		Vegetation Condition x Landscape Contex	xt x
(Scores determined from direct field observations)	Tree attributes not scored for treeless			Score	Conservation Significance =	
Native:exotic Understorey biomass Score (max 5) 2	communities or communities with only		LANDSCAPE CONTEXT SCORE	1.19	UNIT BIODIVERSITY SCORE	29.94
	emergent trees		VEGETATION CONDITION SCORE	25.16	Total Biodiversity Score	
			CONSERVATION SIGNIFICANCE SCORE	1.00	(Biodiversity Score x hectares)	500.00

Vegetation Condition Score calculati	ion		Photo Point and Vegetation Survey Location	Direction of the Photo
Positive Vegetation Attributes Score = Native	e species diversity + Regeneration + Native Plant Life Forms		SE S	S
Fallen timber/debris + Hollow-bearing trees				GPS Reference
- If the community Score is Not Benchmarked	(SNB) for regeneration this score is multiplied 1.24		@ 160°SE (T) = 54S 271102 6149624 +2m + 9m	Datum GDA20
- If the community is naturally treeless this score is	is multiplied by 1.29	38.70	© 100 3E (1) ● 543 27 1103 0146034 ±3111 ▲ 0111	Zone (52, 53 or 54) 54
Negative Vegetation Attributes Score = (15 - We	eds) + ((10 - (Biomass score x 2))exp2/2)	28.00		Easting (6 digits) 271231
VEGETATION CONDITION SCORE (Positive ve	g attributes x ((80 - Negative vegetation attributes) / 80))	25.16		Northing (7 digits) 6148651
	Low Medium High			Description
Native Plant Species Diversity			and the second	
Weed Score				
Native Plant Life Forms			the state of the second state of the second	
Regeneration				1
Native:exotic Understorey Biomass				
			and we have the second and the second	4
				4
			A CONTRACTOR OF A CONTRACT OF	4
			Biodiversity nark	4
Vegetation Condition Score			A2 photo 2 27 Jan 2025, 11 34:41 am ACDT	4

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Vegetation Condition Scores					Conservation Significance Score		
SITE:	A3					Is the vegetation association considered a Threatened Ecological community or Ecosystem?	Yes/No
BCM COMMUNITY	SMLR Co 7.1 C	Coastal Tus	ssock Gra	sslands		State (Provisional List of Threatened Ecosystems of SA) Rare community (0.1 pt)	
						State (Provisional List of Threatened Ecosystems of SA) Vulnerable community (0.2 pts)	
VEGETATION ASSOCIATION DESCRIPTION	Grasses on raise	Grasses on raised NW area with clay and lichen				State (Provisional List of Threatened Ecosystems of SA) Endangered community (0.3 pts)	
SIZE OF SITE (Ha)	0.9	0.9				Nationally (EPBC Act) Vulnerable community (0.35 pts)	
						Nationally (EPBC Act) Endangered or Critically Endangered community (0.4 pts)	
Benchmarked attributes				Native Plant	Cover	Note; all sites will score a minimum Conservation Significance Score of 1 Threatened Community Score	1
(Scores determined by comparing to a Benchma	rk community)			Life Forms	rating		
				Trees > 15m		Number of Threatened Flora Species recorded for the site (within the site)	Number
Number of Native Species (Minus herbaceous annua	als for spring Surve	eys)	18	Trees 5 - 15 m		*If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National r	ating.
Native Plant Species Diversity Score (max 30) from ben	chmark score			Trees < 5m		State Rare species recorded (1 pt each)	0
weighted by a factor of 2	weighted by a factor of 2 30.0 Mallee			Mallee > 5m		State Vulnerable species recorded (2.5 pt each)	
Mallee < 5m			Mallee < 5m		State Endangered recorded (5 pts each)		
Number of regenerating native species 0 Shrubs > 2m			Shrubs > 2m		Nationally Vulnerable species recorded (10 pts each)	0	
Regeneration Score (max 12) from benchmark commun	nity weighted by a fa	actor of 1.5		Shrubs 0.5 - 2m		Nationally Endangered or Critically endangered species recorded (20 pts each)	0
		s	NB	Shrubs <0.5m		0 = 0 pts; <2 = 0.04 pts; 2 - <5 = 0.08 pts; 5 - <10 = 0.12 pts; 10 - <20 = 0.16 pts; 20 or > = 0.2 pts	0
				Forbs		Threatened Flora Score	0
Weed species	Cover Weed 1	Threat C	xI	Mat Plants			
(Top 5 Cover x Invasiveness)	(max 6) Rating	(max 5)		Grasses > 0.2m		Potential habitat for Threatened Fauna Species (number observed or previously recorded)	Number
Euphorbia terracina	5	3	15	Grasses < 0.2m	2	*If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National r	ating.
Avena barbata	3	2	6	Sedges > 1m		State Rare species observed or locally recorded (1 pt each)	0
Aizoon pubescens	2	2	4	Sedges < 1m		State Vulnerable species observed or locally recorded (2.5 pt each)	0
Lvcium ferocissimum	1	3	3	Hummock grasses		State Endangered species observed or locally recorded (5 pt each)	0
Olea europaea ssp.	1	4	4	Vines, scramblers		Nationally Vulnerable species observed or locally recorded (10 pts each)	
	Cover x Threat		32	Mistletoe		Nationally Endangered or Critically endangered species observed or locally recorded (20 pts each)	0
Weed Score (max 15) from benchmark community			0	Ferns		0 = 0 pts; <2 = 0.02 pts; 2 - <5 = 0.04 pts; 5 - <10 = 0.06 pts; 10 - <20 = 0.08 pts; 20 or > = 0.1 pts	0
				Grass-tree		Threatened Fauna Score	0
				Total	2		
Native Plant Life Forms (max 20) from benchmark scor	e weighted by a fac	ctor of 2			4.0	CONSERVATION SIGNIFICANCE SCORE	1

Non-Benchmarked Attributes	Is the community naturally treeless?	<	Total Scores for the Site		Vegetation Condition x Landscape Contex	d x
(Scores determined from direct field observations)	Tree attributes not scored for treeless			Score	Conservation Significance =	
Native:exotic Understorey biomass Score (max 5) 1	communities or communities with only		LANDSCAPE CONTEXT SCORE	1.19	UNIT BIODIVERSITY SCORE	26.70
	emergent trees		VEGETATION CONDITION SCORE	22.44	Total Biodiversity Score	
			CONSERVATION SIGNIFICANCE SCORE	1.00	(Biodiversity Score x hectares)	24.03

Vegetation Condition Score calculati	ion		Photo Point and Vegetation Survey Location	Direction of the Photo
Positive Vegetation Attributes Score = Native	e species diversity + Regeneration + Native Plant I	Life Forms	54H 270483 6148781 ± 9 m GDA2020	S
Fallen timber/debris + Hollow-bearing trees			5 (1), 10 m, 2//1/2025, 1:15:55 pm	GPS Reference
- If the community Score is Not Benchmarked	(SNB) for regeneration this score is multiplied 1.2	24		Datum GDA20
- If the community is naturally treeless this score is	s multiplied by 1.29	54.39	A CONTRACTOR OF A CONTRACTOR O	Zone (52, 53 or 54) 54
Negative Vegetation Attributes Score = (15 - We	eeds) + ((10 - (Biomass score x 2))exp2/2)	47.00	and the second of the second of the second	Easting (6 digits) 270483
VEGETATION CONDITION SCORE (Positive ve	g attributes x ((80 - Negative vegetation attributes)	) / 80)) 22.44		Northing (7 digits) 6148781
	Low Medium	High	TO BE A REAL PROPERTY OF THE REAL PROPERTY.	Description
Native Plant Species Diversity				
Weed Score			and the second second	
Native Plant Life Forms				Aug
Regeneration			A REAL PROPERTY AND A REAL	
Native:exotic Understorey Biomass				
			The second se	
Vegetation Condition Score			Area 3 photopoint	

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Vegetation Condition Scores						Conservation Significance Score		
SITE:	A4					Is the vegetation association considered a Threatened Ecological community or Ecosystem?	Yes/No	
BCM COMMUNITY	SMLR Co 8.2	- Coastal S	Samphire	Saltbush, Bluebush		State (Provisional List of Threatened Ecosystems of SA) Rare community (0.1 pt)		
	Shrublands wit	ith Infrequer	nt Inundation	n/Lower Salinity		State (Provisional List of Threatened Ecosystems of SA) Vulnerable community (0.2 pts)		
VEGETATION ASSOCIATION DESCRIPTION	Nitraria billard	litraria billardierei Open Shrubland over *Euphorbia terracina, *As			a, *Aspho	State (Provisional List of Threatened Ecosystems of SA) Endangered community (0.3 pts)		
SIZE OF SITE (Ha)	0.8	0.8				Nationally (EPBC Act) Vulnerable community (0.35 pts)		
						Nationally (EPBC Act) Endangered or Critically Endangered community (0.4 pts)		
Benchmarked attributes				Native Plant	Cover	Note; all sites will score a minimum Conservation Significance Score of 1 Threatened Community Score	1	
(Scores determined by comparing to a Benchm	nark community	y)		Life Forms	rating			
				Trees > 15m		Number of Threatened Flora Species recorded for the site (within the site)	Number	
Number of Native Species (Minus herbaceous ann	uals for spring Su	urveys)	11	Trees 5 - 15 m		*If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National r	rating.	
Native Plant Species Diversity Score (max 30) from be	nchmark score			Trees < 5m		State Rare species recorded (1 pt each)	0	
weighted by a factor of 2			28.0	Mallee > 5m		State Vulnerable species recorded (2.5 pt each)	0	
				Mallee < 5m		State Endangered recorded (5 pts each)	0	
Number of regenerating native species 0 Shrubs > 2m			Shrubs > 2m		Nationally Vulnerable species recorded (10 pts each)			
Regeneration Score (max 12) from benchmark comm	unity weighted by	a factor of 1	.5	Shrubs 0.5 - 2m	3	Nationally Endangered or Critically endangered species recorded (20 pts each)		
			0	Shrubs <0.5m	2	0 = 0 pts; <2 = 0.04 pts; 2 - <5 = 0.08 pts; 5 - <10 = 0.12 pts; 10 - <20 = 0.16 pts; 20 or > = 0.2 pts	0	
				Forbs		Threatened Flora Score	0	
Weed species	Cover Wee	ed Threat	CxI	Mat Plants				
(Top 5 Cover x Invasiveness)	(max 6) Ratir	ng (max 5)		Grasses > 0.2m		Potential habitat for Threatened Fauna Species (number observed or previously recorded)	Number	
Aizoon pubescens	2	2	4	Grasses < 0.2m	2	"If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National i	ating.	
Asphodelus fistulosus	2	2	4	Sedges > 1m	1	State Rare species observed or locally recorded (1 pt each)	0	
Euphorbia terracina	3	3	9	Sedges < 1m	1	State Vulnerable species observed or locally recorded (2.5 pt each)	0	
Lvcium ferocissimum	1	3	3	Hummock grasses		State Endangered species observed or locally recorded (5 pt each)	0	
Limonium sp.	1	2	2	Vines, scramblers		Nationally Vulnerable species observed or locally recorded (10 pts each)	0	
Weed Score (may 15) from benchmark community	Cover x Thre	at	22	Mistietoe		Nationally Endangered or Critically endangered species observed or locally recorded (20 pts each)	0	
			2	Ferns		0 = 0 pts; $<2 = 0.02$ pts; $2 - <5 = 0.04$ pts; $5 - <10 = 0.06$ pts; $10 - <20 = 0.08$ pts; $20$ or $> = 0.1$ pts	0	
				Grass-tree		Threatened Fauna Score	0	
Native Blant Life Former (may 20) from honohmerik og	ana unichted burg	factor of O		Total	9			
mative Plant Life Forms (max 20) from benchmark sc	ore weighted by a	i lacior of 2			14.0	CUNSERVATION SIGNIFICANCE SCORE	1	

Non-Benchmarked Attributes	Is the community naturally treeless?	>	Total Scores for the Site		Vegetation Condition x Landscape Contex	d x
(Scores determined from direct field observations)	Tree attributes not scored for treeless			Score	Conservation Significance =	
Native:exotic Understorey biomass Score (max 5) 3	communities or communities with only		LANDSCAPE CONTEXT SCORE	1.19	UNIT BIODIVERSITY SCORE	47.55
	emergent trees		VEGETATION CONDITION SCORE	39.96	Total Biodiversity Score	
			CONSERVATION SIGNIFICANCE SCORE	1.00	(Biodiversity Score x hectares)	38.04

Vegetation Condition Score calculation	on		Photo Point and Vegetation Survey Location	Direction of the Photo
Positive Vegetation Attributes Score = Native	species diversity + Regeneration + Native	Plant Life Forms	54H 270608 6148883 ± 4 m GDA2020	S
Fallen timber/debris + Hollow-bearing trees			5 (1), 6 M, 2//1/2023, 1:32:10 pm	GPS Reference
- If the community Score is Not Benchmarked	(SNB) for regeneration this score is multip	lied 1.24		Datum GDA20
- If the community is naturally treeless this score is	s multiplied by 1.29	54.1	8	Zone (52, 53 or 54) 54
Negative Vegetation Attributes Score = (15 - We	eds) + ((10 - (Biomass score x 2))exp2/2)	21.0		Easting (6 digits) 270608
VEGETATION CONDITION SCORE (Positive ve	g attributes x ((80 - Negative vegetation att	ributes) / 80)) 39.9	<u>6</u>	Northing (7 digits) 6148883
	Low Medium	High	the second s	Description
Native Plant Species Diversity				
Weed Score				
Native Plant Life Forms			A REAL PROPERTY AND A REAL	
Regeneration			A CONTRACTOR OF THE OWNER OWNE	
Native:exotic Understorey Biomass				
Vegetation Condition Score			A4 photopoint	

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Vegetation Condition Scores					Conservation Significance Score		
SITE:	A5					Is the vegetation association considered a Threatened Ecological community or Ecosystem?	Yes/No
BCM COMMUNITY	SMLR Co	7.31 Non eu	calypt Coast	al Low Woodlands		State (Provisional List of Threatened Ecosystems of SA) Rare community (0.1 pt)	
						State (Provisional List of Threatened Ecosystems of SA) Vulnerable community (0.2 pts)	
VEGETATION ASSOCIATION DESCRIPTION	Planted no	on local Eucal	pt species			State (Provisional List of Threatened Ecosystems of SA) Endangered community (0.3 pts)	
SIZE OF SITE (Ha)	1.8					Nationally (EPBC Act) Vulnerable community (0.35 pts)	
	•					Nationally (EPBC Act) Endangered or Critically Endangered community (0.4 pts)	
Benchmarked attributes				Native Plant	Cover	Note; all sites will score a minimum Conservation Significance Score of 1 Threatened Community Score	1
(Scores determined by comparing to a Benchma	ark commu	unity)		Life Forms	rating		
				Trees > 15m		Number of Threatened Flora Species recorded for the site (within the site)	Number
Number of Native Species (Minus herbaceous annu	als for spring	g Surveys)	16	Trees 5 - 15 m	1	*If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National r	ating.
Native Plant Species Diversity Score (max 30) from ben	chmark sco	re		Trees < 5m	3	State Rare species recorded (1 pt each)	0
weighted by a factor of 2	highted by a factor of 2 16.0 Mallee > 5m			Mallee > 5m		State Vulnerable species recorded (2.5 pt each)	
				Mallee < 5m		State Endangered recorded (5 pts each)	0
Number of regenerating native species 0 Shrubs > 2m			Shrubs > 2m	1	Nationally Vulnerable species recorded (10 pts each)		
Regeneration Score (max 12) from benchmark commu	nity weighted	d by a factor of '	1.5	Shrubs 0.5 - 2m	1	Nationally Endangered or Critically endangered species recorded (20 pts each)	0
			0	Shrubs <0.5m	2	0 = 0 pts; <2 = 0.04 pts; 2 - <5 = 0.08 pts; 5 - <10 = 0.12 pts; 10 - <20 = 0.16 pts; 20 or > = 0.2 pts	0
				Forbs		Threatened Flora Score	0
Weed species	Cover V	Need Threat	CxI	Mat Plants	1		
(Top 5 Cover x Invasiveness)	(max 6) F	Rating (max 5)		Grasses > 0.2m		Potential habitat for Threatened Fauna Species (number observed or previously recorded)	Number
Aizoon pubescens	4	2	8 8	Grasses < 0.2m	1	*If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National r	ating.
Avena sp.	2	2	4	Sedges > 1m		State Rare species observed or locally recorded (1 pt each)	0
Acacia saliona	1	2	2	Sedges < 1m		State Vulnerable species observed or locally recorded (2.5 pt each)	0
Acacia cvclops	1	3	3	Hummock grasses		State Endangered species observed or locally recorded (5 pt each)	0
Sonchus oleraceus	1	1	1	Vines, scramblers		Nationally Vulnerable species observed or locally recorded (10 pts each)	0
	Cover x T	Threat	18	Mistletoe		Nationally Endangered or Critically endangered species observed or locally recorded (20 pts each)	0
Weed Score (max 15) from benchmark community			7	Ferns		0 = 0 pts; <2 = 0.02 pts; 2 - <5 = 0.04 pts; 5 - <10 = 0.06 pts; 10 - <20 = 0.08 pts; 20 or > = 0.1 pts	0
				Grass-tree		Threatened Fauna Score	0
				Total	10		
Native Plant Life Forms (max 20) from benchmark sco	re weighted l	by a factor of 2			10.0	CONSERVATION SIGNIFICANCE SCORE	1

Non-Benchmarked Attributes	Is the community naturally treeless?		Total Scores for the Site		Vegetation Condition x Landscape Contex	xt x
(Scores determined from direct field observations)	Fallen Timber/Debris (max 5)	1		Score	Conservation Significance =	
Native:exotic Understorey biomass Score (max 5) 2	Hollow-bearing trees Score (max 5)	0	LANDSCAPE CONTEXT SCORE	1.19	UNIT BIODIVERSITY SCORE	19.08
	Mature Tree Score (max 8)	0	VEGETATION CONDITION SCORE	16.03	Total Biodiversity Score	
	Tree Canopy Cover Score (max 5)	1	CONSERVATION SIGNIFICANCE SCORE	1.00	(Biodiversity Score x hectares)	34.34

Vegetation Condition Score calculation	ion		Photo Point and Vegetation Survey Location	Direction of the Photo
Positive Vegetation Attributes Score = Native	e species diversity + Regeneration + Native Plant Life Fo	Forms	54H 271148 6148357 ± 4 m GDA2020	SE
Fallen timber/debris + Hollow-bearing trees			SE (1), 7 m, 27/1/2025, 10:50:00 dm	GPS Reference
- If the community Score is Not Benchmarked	(SNB) for regeneration this score is multiplied 1.24			Datum GDA20
- If the community is naturally treeless this score is	is multiplied by 1.29	27.00		Zone (52, 53 or 54) 54
Negative Vegetation Attributes Score = (15 - We	eeds) + ((10 - Biomass score - Tree Canopy Cover Score	ore)exp2/2) 32.50	Carl P Martin P and S .	Easting (6 digits) 271148
VEGETATION CONDITION SCORE (Positive veg	eg attributes x ((80 - Negative vegetation attributes) / 80))	0)) 16.03		Northing (7 digits) 6148357
	Low Medium High	h		Description
Native Plant Species Diversity				
Weed Score				
Native Plant Life Forms				
Regeneration				
Native:exotic Understorey Biomass				
Mature Trees			A CAR AND A	
Tree Canopy Cover				
Tree Hollows				
Fallen timber				
Vegetation Condition Score			A5 photopoint	

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