

# A REVIEW OF THE VEGETATION MANAGEMENT PLAN

Of the proposed Heritage Agreement Area in the  
Hundred of Louth for the Point Boston Community  
Corporation 25691



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# CONTENTS

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1.	RECOMMENDATIONS.....	2
1.1	Restoration/Rehabilitation Actions .....	2
1.2	Preventative Actions .....	2
1.3	Monitor Success of Actions.....	2
2.	BACKGROUND.....	3
3.	THREATS.....	6
3.1	Pest Animals.....	6
3.2	Weeds .....	7
3.3	Unauthorised Access.....	8
3.4	Change in Fire Regimes.....	9
3.5	Management Effectiveness.....	9
4.	KEY OBJECTIVES.....	10
5.	WORKS PROGRAMME.....	10
5.1	High Priority Works .....	10
5.2	Integrated Rabbit Control .....	11
5.3	Basic Principles For Weed Control .....	11
5.4	Recommended Contractors/Advisors.....	11
5.4.1	Natural Resources Eyre Peninsula .....	11
5.4.2	YACCA Land Management Consultants .....	11
6.	REFERENCES.....	13
7.	APPENDICES .....	14
7.1	Plants with a Conservation Rating .....	14
7.2	Animals with a Conservation Rating.....	14
7.2.1	Birds .....	14
7.2.2	Reptiles.....	14
7.3	Unsuitable Garden Plants .....	15

## DISCLAIMER

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# 1. RECOMMENDATIONS

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This review makes the following recommendations:

1. Apply for Heritage Agreement status for the proposed area as soon as possible and;

## 1.1 RESTORATION/REHABILITATION ACTIONS

1. Commence weed and pest control work within the 2014 fire scar as soon as possible.
2. Reduce and contain the impact of existing pests (European Rabbit, Perennial Veldt Grass, African Boxthorn, African Daisy, Flinders Ranges Wattle, False Caper and Sharp Rush), and where practicable, aim to eliminate from the proposed heritage agreement area over time.
3. Remove or burn heaped piles of vegetation mixed with soil left during fire operations and the making of tracks to reduce rabbit harbor and fire suppression issues. .
4. In disturbed open areas, rely on natural regeneration, once pests have been controlled, and supplement recovery by using direct seeding and planting seedlings in other areas as necessary and as resources allow.
5. Ensure a separate fire management plan is prepared applying Ecological Fire Management Guidelines for each fire prone vegetation community in the C-zone and other treatments, including fire, are followed in the A-zone and B-zones (fire management zones).

## 1.2 PREVENTATIVE ACTIONS

1. Control pests in the Point Boston development that are posing a potential threat to nearby vegetation such as European Rabbit, Veldt Grass, Sharp Rush, False Caper and ornamental succulents.
2. Encourage and educate Boston Point community members on garden plant selection that enhances the local coastal environment.
3. Actively discourage Point Boston community members from establishing garden plants that are known to aggressively invade bushland areas (Fountain Grass, Gazania, Polygala, Marguerite/Teneriffe Daisy, Seascape Daisy and Cacti succulents). Refer to the Appendices.
4. Erect gates (numbered, GPS referenced and named for emergency and management purposes) and fence to block unauthorized access to tracks to prevent unplanned fire, weed invasion, soil disturbance, rubbish dumping and removal of timber.
5. Ensure all future firebreak maintenance and other works use non soil disturbance techniques such as mowing, slashing, rolling, spraying or 'blade up' on machinery to minimize soil disturbance, spread of weeds or creating harbor for rabbits.
6. Erect new signage to help readability and deter unauthorized recreational activities.

## 1.3 MONITOR SUCCESS OF ACTIONS

1. Establish two to five sites for regular monitoring in an effort to determine efficacy of management actions.

## 2. BACKGROUND

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This review applies to all parts of a proposed new Heritage Agreement Area in Figure 1 of this report. Note that there already exists a Heritage Agreement (HA) as an offset for the SA Mariculture development (Figure 1) which will connect to the proposed new HA. The exact boundary of the new HA area is to be determined between the Native Vegetation Council and the Point Boston Community Corporation 25691. These new areas are a commitment that the Point Boston Community Corporation 25691 and its lot owners will establish as a Heritage Agreement and maintain as an offset for the development of Point Boston.

Information contained in Dr. Bob Anderson's plan (2003) for SA Mariculture, undated vegetation management plan for the Point Boston Community Corporation, *The Eyre Peninsula Coastal Action Plan and Conservation Priority Study*, GIS analysis and fieldwork form the basis of this review.

Field work was limited by difficulty accessing some sites.

The native vegetation near the settlement is predominantly Low Ridge-fruit Mallee (*Eucalyptus angulosa*) Mallee community in good to moderate condition, with a section in poorer condition recovering from a bushfire in 2014. Invasive weeds South African Daisy (*\*Senecio pterophorus*) and Perennial Veldt Grass (*\*Ehrharta calycina*) have occupied the fire scar. One native species with an uncommon status for Eyre Peninsula was noted, Showy Firebush (*Apalochlamys spectabilis*) and is known for its response following fire or other disturbance.

Other vegetation communities include Hop Bush Wattle (*Acacia dodoneaifolia*) Tall Shrubland; Sharp Rush (*\*Juncus acutus*) Sedgeland; (introduced); Veldt Grass (*\*Ehrharta calycina*) Grassland (introduced), Sheoak (*Allocasuarina verticillata*) Woodland; Coastal Cliff and Dune (*Olearia axillaris/Leucopogon parviflorus/Acacia longifolia ssp. sophorae*) Shrublands; and Samphire Low Shrubland. All of these vegetation communities are considered fire prone, except the Samphire Low Shrubland (Figure 2).

False Caper (*\*Euphorbia terracina*) was found in the Hop Bush Wattle Tall Shrubland near the workshop and water treatment area.

Signage at the west of, and on some fences within, the proposed Heritage Agreement area warn people of the potential to be fined for unauthorized access.

A stand of introduced eucalypts can be found along the edge of the vegetation near the Point Boston entrance on the road shoulder (Figure 1). They are not yet spreading into the proposed Heritage Agreement area.

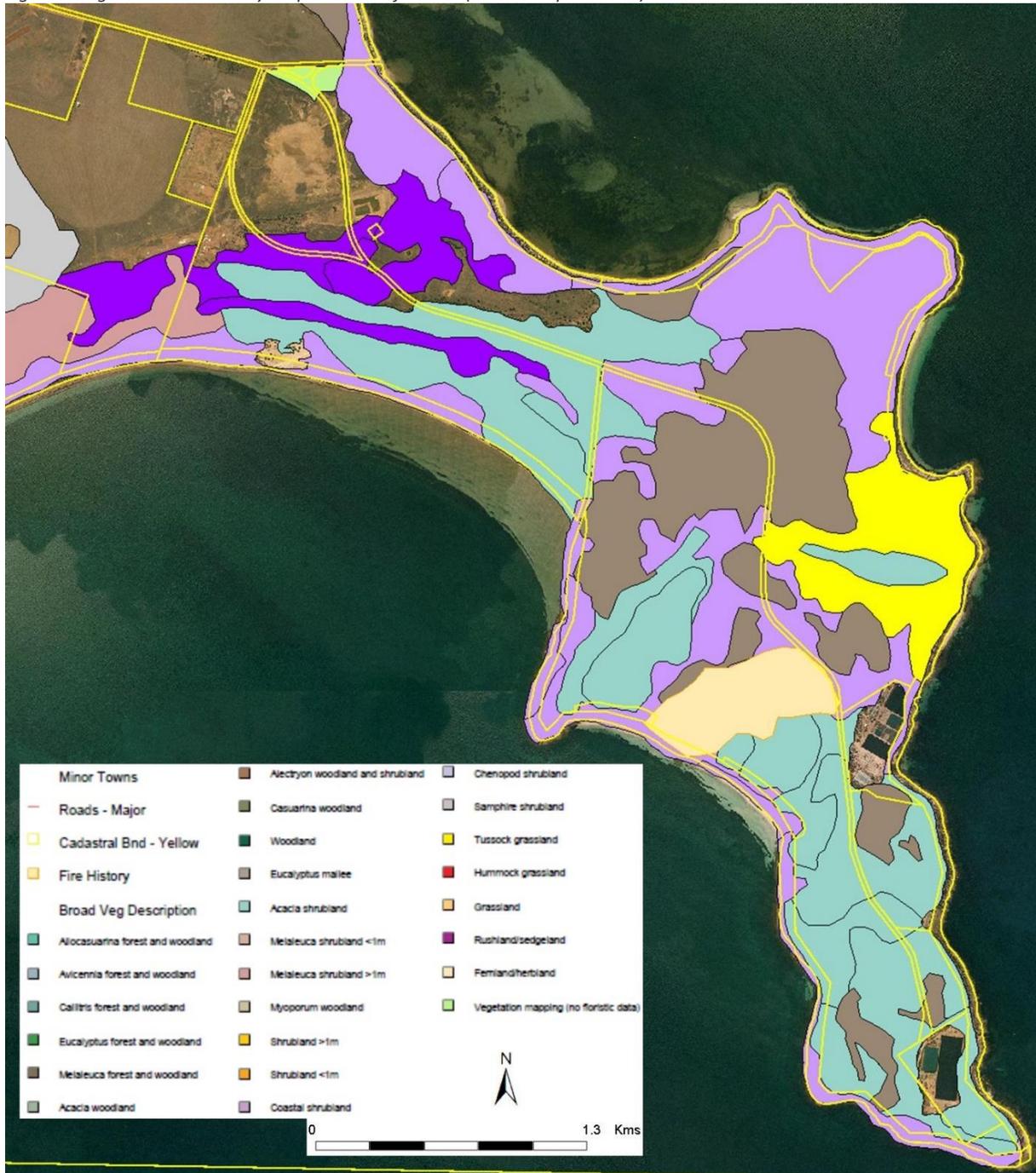
There are eight plants of conservation significance within the proposed Heritage Agreement Area; five bird species; and one reptile species (NatureMaps GIS analysis; NREP 2012). These species are listed in the Appendix. There are also seven butterfly species of conservation significance (NREP 2012).

Point Boston provides an important woodland bird habitat link between mainland vegetation and islands (Carpenter 2007) with a number of significant woodlands birds recorded at Point Boston.

Figure 1 Cadastral Map of Point Boston which includes proposed Heritage Agreement Area and some of the threats and proposed management actions (NatureMapsDEWNR).



Figure 2 Vegetation Community map and 2014 fire scar (NatureMapsDEWNR).



### 3. THREATS

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To increase the protection of this area, it is recommend to the signing up of the Heritage Agreement area as soon as practicable.

#### 3.1 PEST ANIMALS

Evidence of rabbits (*Oryctolagus cuniculus*) can be found throughout Low Ridge-fruit Mallee Community along existing tracks and in the Coastal Shrubland communities along the coast and are a significant threat to the integrity of vegetation communities. Rabbit control is a high priority to enable natural regeneration, prevent soil erosion and reduce weed invasion. Reducing rabbit harbor is included in the actions (Figures 3 & 4). For revegetation activities it may be necessary to plant within fenced rabbit exclosures if rabbit control is difficult.

*Figure 3 Rabbit Warren in heaped soil debris at the side of the Peninsula Club access track. Evidence of rabbits occurs throughout the Mallee and coastal dunes/cliff communities*



Figure 4 Heaped soil and vegetation debris near fire scar and alongside access track between proposed future development areas providing rabbit harbor. These also will create issues for fire suppression during a bushfire as they are difficult to extinguish and produce embers. These piles need to be removed or burnt.



### 3.2 WEEDS

Perennial Veldt Grass is a highly invasive grass that exists in the Point Boston development, in the recent fire scar, along tracks and into the bush on the track into the Peninsula Club and near the workshop and north-west parts of the proposed Heritage Agreement area. This grass has the ability to spread rapidly, increase the fire fuel load and fire hazard, as well as reduce native species diversity and abundance. This grass is considered a 'red alert weed' and control needs to have a high priority.

African Boxthorn (*Lycium ferocissimum*) is another 'red alert weed' and previous efforts to control this species is evident where access is easy. Found scattered in Low Ridge-fruit Mallee Community and Coastal Shrubland communities maintaining and continuing boxthorn control is a high priority.

Other weeds that need control and are also 'red alert weeds' include the Flinders Ranges Wattle (*Acacia ityaphylla*), Sharp Rush, False Caper and African Daisy. These species are only slightly less invasive than the African Boxthorn and Perennial Veldt Grass. Some of these weeds are also found in the development. Reducing the presence of these weeds in the development will reduce the likelihood of these weeds reinvading controlled areas.

The potential for garden plants to 'escape' to become serious bushland weeds will increase as the Point Boston development grows. A range of garden plants have the potential to become problem weeds and are listed in the Appendix. Education of current and future Point Boston residents can be done via the Point Boston website, through a new landholder welcome/information pack, promotion of 'good' garden plants via a brochure or booklet and/or holding a small workshop.

### 3.3 UNAUTHORISED ACCESS

Recreational vehicles (4WD, quad bikes and motor bikes) and camping have the potential to impact the proposed Heritage Agreement area by introducing new weed species, increasing soil disturbance and erosion, leaving rubbish and debris, removing dead and live wood, and increasing the likelihood of unplanned fire (bushfire) (Figure 5).

Camping along the coast already occurs along the northern shoreline. Incursions into the proposed Heritage Agreement Area for firewood collection and 'pushing' new tracks is evident at this site. Current signage to deter recreational enthusiasts is wordy and cannot be read in its entirety while driving at the speed limit (Figures 6 & 7). Use of icons/pictures and fewer words will increase readability and may have more impact.

All gates locked for controlling access should be GPS referenced, numbered and named to assist emergency services, contractor and management operations. Fences erected to limit access need to be regularly maintained so that they do not fall into disrepair. Some access tracks require gating and fencing (Figure 1).

Rubbish was found within the proposed Heritage Agreement Area with lengths of polypipe left lying in the bush. These items are unsightly and also may pose a risk to wildlife. Rubbish collection may be necessary from time to time within the proposed area. It is anticipated that rubbish and debris will increase as the population of the developments increase and visitation increases.

*Figure 5 Fallen fence has allowed recreation vehicle access into the bush. Fortunately the vehicle tracks were old. Increasing pressure is expected as the development population and visitation increases and fences and gates need to be erected and maintained to prevent unrestricted access.*



Figure 6 & 7 Signage at entrance to Point Boston intended to influence behaviour. Both are difficult to read while travelling at the speed limit



### 3.4 CHANGE IN FIRE REGIMES

Many fire prone vegetation communities have specific fire requirements in regards to interval, frequency, intensity and seasonality. Variation in one or all of these elements can result in differing effects in species diversity, distribution or abundance. Ecological Fire Management Guidelines have been produced for all fire prone vegetation communities in South Australia (DEWNR 2013). Implementation of these guidelines should be through a Fire Management Plan which identifies an appropriate system of fire management zoning and areas suitable for ecological burning to enhance biodiversity. This approach is a version of mosaic burning aimed to achieve a range of age classes within a vegetation community using flora and fauna criteria.

### 3.5 MANAGEMENT EFFECTIVENESS

Time and resources could be wasted and control efforts ineffective without some opportunity to review and monitor the effectiveness of management actions. It is therefore recommended that where actions are undertaken sites are visited regularly to determine effectiveness of actions and if follow up is needed. As a bare minimum photopoints could be established or a more comprehensive monitoring program undertaken such as Bushland Condition Monitoring. Bushland Condition Monitoring is used by Natural Resources Eyre Peninsula and other regions of the state as a benchmark tool.

Offsets from other planned future developments within Point Boston could be used to contribute financially towards the ongoing management of the proposed Heritage Agreement area.

## 4. KEY OBJECTIVES

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The following objectives are proposed, in priority order.

- Reduce or minimize threats to vegetation integrity by:
  - controlling weeds and pest animals;
  - controlling access to the area with gates and fences; and
  - reducing unauthorized access through education and signage.
- Prevent further pest incursions by:
  - educating and encouraging Point Boston community residents to plant appropriate plants that are non-invasive and controlling weeds that threaten nearby native vegetation;
  - ensuring fire breaks and other works are using non soil disturbance techniques; and
  - machinery and operators are weed free before works are conducted.
- Monitor vegetation condition by selecting sites for ongoing photopoint or bushland condition monitoring to determine efficacy of works.
- Rehabilitate and restore degraded systems as resources allow through;
  - weed and animal pest control;
  - fencing off areas with rabbit proof fencing; and
  - using direct seeding and planting seedlings.

## 5. WORKS PROGRAMME

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Some actions can take place at any time or concurrently (such as education, signage, fencing and gate erection) while other actions require specific time frames.

The control of weeds and rabbits within the fire scar from the recent bushfire in 2014 is the highest site priority for the area. For the remainder of the proposed Heritage Agreement area sites to concentrate on include coastal cliff and dunes and Mallee vegetation communities, followed by the Hopbush Wattle Shrubland, grasslands, and sedgeland.

Pest management needs to be ongoing and a priority of works is presented below and in Table 1.

### 5.1 HIGH PRIORITY WORKS

Table 1 presents a prioritised works programme to enable the Point Boston Committee to engage contractors at the right time using the right techniques to address the pests currently threatening the integrity of the proposed Heritage Agreement area.

Rabbits continue to be a significant pest for the area. Given the extensive distribution of rabbits, control works need to be undertaken along all access tracks within the Mallee community and along the coast and dunes within the development.

Highest weed priority is Perennial Veldt Grass followed by African Daisy then African Boxthorn, commencing initially in the fire scar area.

Flinders Ranges Wattle in the Hop Bush Wattle Tall Shrubland is the next weed priority.

Sharp Rush and False Caper are the next priority.

Sharp Rush dominates the Sedgeland community and needs to be progressively controlled and replaced with native sedges. This will require significant investment of time and resources therefore should only be commenced if there are adequate resources available to do so.

The introduced Eucalypt trees are not yet invading the bushland though they are spreading along the road. Ongoing monitoring will indicate whether some sort of control action is needed if they start to spread into the surrounding vegetation.

## 5.2 INTEGRATED RABBIT CONTROL

Animal pest control is most successful when a range of control techniques are applied. For example, rabbit control can concentrate on baiting during the dry months; and reducing rabbit harbor, warren destruction/ripping and fumigating in the winter months.

## 5.3 BASIC PRINCIPLES FOR WEED CONTROL

Always work in the best areas first i.e. are least weed affected and work towards areas with high weed infestation. The areas therefore to concentrate in are the best areas of vegetation near the Point Boston development in the Ridge fruited Mallee and Coastal Shrubland communities.

A successful weed control program has several stages:

- Primary weed control – removal or spraying of weeds in a strategic area
- Follow up control – removal or spraying of weeds that germinate or survive weeks or months after initial control
- Ongoing maintenance over the longer term – follow up to remove any scattered weeds that may reappear. Monitoring these sites will assist in early detection of new outbreaks.

## 5.4 RECOMMENDED CONTRACTORS/ADVISORS

### 5.4.1 Natural Resources Eyre Peninsula

For advice on rabbit control, weed control, native vegetation management.

PO Box 21, 86 Tasman Terrace Pt Lincoln SA 5606

Ph. 8688 3111

### 5.4.2 YACCA Land Management Consultants

For controlling weeds in bushland, accredited.

PO Box 2589 Pt Lincoln SA 5606

Ph. 0428727 340

Table 1 Prioritised Pest Works Program for Point Boston Heritage Agreement Area and Development (adapted from DeLaine and Stokes 2006)

THREAT	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
Rabbit	Bait with 1080 oats/pindone carrots										Bait with 1080 oats/pindone carrots		
						Reduce rabbit harbor Burn piles or remove							
						Warren destruction/fumigation							
Veldt Grass				Spray 360g/litre strength glyphosate diluted 1:100 in water									
						Spray Fusilade® at label rates							
African Daisy				Spot spray with glyphosate (360g/litre) diluted 1:100 in water, add surfactant or spray oil									
African Boxthorn				Hand pull or dig seedlings, including all roots									
	Cut and swab with glyphosate (360 g/litre strength) diluted 1:1 in water or triclopyr (600g/l strength) diluted 1:30 in diesel												
	Drill-fill with undiluted glyphosate (360g/litre strength) or undiluted triclopyr (600g/litre strength)												
										Spray glyphosate at label rates			
							Apply Graslan® granules at label rates						
Flinders Ranges Wattle	Hand pull or dig out small plants, including roots												
	Cut and swab large plants with glyphosate (360 g/litre strength) diluted 1:1 in water or triclopyr (600g/litre strength) diluted 1:60 in diesel												
	Drill-fill large plants with glyphosate (360g/litre strength) diluted 1:1 in water												
Sharp Rush									Spot spray with Glyphosate (360g/litre) diluted 1:100 in water, add surfactant				
				Dig out or spray new seedlings following fire									
False Caper				Spot spray glyphosate (360g/litre) diluted 1:100 in water, add surfactant or spray oil									
	Hand pull												

## 6. REFERENCES

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Anderson, Bob (2003) *Section 109 (part) Hundred of Louth Land Management Plan for Heritage Agreement Area*, SA Mariculture Pty Ltd

Graham Carpenter (2007) *Woodland Birds of the Southern Eyre Peninsula bushfire area – 2006*, Environmental and Biodiversity Services.

DeLaine, D and Stokes, Z (2006) *Controlling Bushland Weeds on Lower Eyre Peninsula*, Rural Solutions SA

Department for Environment, Water and Natural Resources (DEWNR) 2013, *Ecological Fire Management Guidelines of Native Vegetation in South Australia*, First Edition, Government of SA

Lock, C & DeLaine, D (2011), *Coastal Gardens A planting guide for Kangaroo Island*, KINRM & Eco Action KI

Lower Eyre Pest Management Group (2010) *Grow Me Instead. A Guide for Coastal Gardeners on Eyre Peninsula*, Finsbury Green

Natural Resources Eyre Peninsula (2012) *The Eyre Peninsula Coastal Action Plan and Conservation Priority Study*, Government of SA

NatureMaps GIS analysis.

## 7. APPENDICES

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### 7.1 PLANTS WITH A CONSERVATION RATING

FAMILYNAME	SPECIES	COMMON NAME	SA RATING	No. Records
LEGUMINOSAE	<i>Acacia dodonaeifolia</i>	Hop-bush Wattle	Rare	4
SOLANACEAE	<i>Anthocercis anisantha ssp. anisantha</i>	Port Lincoln Ray-flower	Rare	1
PITTOSPORACEAE	<i>Billardiera sp. Yorke Peninsula (P.C.Heyligers 80164)</i>	Lehmann's Apple-berry	Endangered	1
RESTIONACEAE	<i>Desmocladus diacolpicus</i>	Bundled Cord-rush	Vulnerable	1
DROSERACEAE	<i>Drosera stricticaulis</i>	Erect Sundew	Vulnerable	2
STYLIDIACEAE	<i>Levenhookia stipitata</i>		Rare	2
RHAMNACEAE	<i>Spyridium leucopogon</i>	Silvery Spyridium	Rare	1
LILIACEAE	<i>Wurmbea decumbens</i>	Trailing Nancy	Rare	2

### 7.2 ANIMALS WITH A CONSERVATION RATING

#### 7.2.1 Birds

SPECIES	COMMON NAME	SA RATING
<i>Haliaeetus leucogaster</i>	White-bellied Sea-eagle	Endangered
<i>Stagonopleura guttata</i>	Diamond Firetail	Vulnerable
<i>Burbinus grallarius</i>	Bush Stone-curlew	Rare
<i>Cereopsis novaehollandiae</i>	Cape Barren Goose	Rare
<i>Neophema petrophila</i>	Rock Parrott	Rare

#### 7.2.2 Reptiles

SPECIES	COMMON NAME	SA RATING
<i>Bassiana trilineata</i>	Western Three-lined Skink	Rare

### 7.3 UNSUITABLE GARDEN PLANTS

The following garden plants in Table 2 should be actively discouraged from the Point Boston development as they are aggressive invaders of native vegetation, are costly to remove from native vegetation and are environmental weeds. This list is not complete, as there are many environmental weeds, however these are considered some of the most common garden escapee threats on Lower Eyre Peninsula.

*Table 2 Garden plants that are environmental weeds (Lower Eyre Pest Management Group 2010; DeLaine & Stokes 2006; Lock & DeLaine 2011)*

COMMON NAME	SCIENTIFIC NAME	REASON	
Fountain Grass	<i>Pennisetum setaceum</i>	Adds to fire fuel load, increased fire risk; competes with native vegetation; prevents seedling recruitment; spreads rapidly; difficult to control.	
Gazania	<i>Gazania spp.</i>	Forms dense patches, competes with native vegetation; displaces native vegetation, prevents seedling recruitment; spreads rapidly, spreads from seeds and vegetatively.	
Myrtle-leaved Milkwort	<i>Polygala myrtifolia</i>	Adds to fire fuel load, increased fire risk; competes with native vegetation; prevents seedling recruitment; spreads rapidly from seed; difficult to control.	
Teneriffe/Marguerite Daisy	<i>Argyranthemum frutescens</i>	Forms dense patches, prevents native species becoming established, spread from seed by wind, water and soil movement.	
Seascape Daisy	<i>Osteospermum fruticosum</i>	Forms dense patches, prevents native species becoming established, spreads vegetatively.	
Succulents	Various	Forms dense patches, prevents native species becoming established, spreads vegetatively	