

## Summary of Results

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Weed mapping within the Harmers  
Haven Coastal Reserve  
Stage 1

**April 2013**

Shannon Dwyer & Tim Bowler

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## Acknowledgements

- **Amaryll Perlesz** - Friends of Harmers Haven
- **Ben Crockett**, Spatial Information Officer – Parks Victoria
- **Ben Imbery**, Environmental Consultant – Indigenous Design Land Management
- **Clare Gibson**, Ranger – Parks Victoria
- **Nadia Cole**, Manager – Indigenous Design Land Management
- **Rosemary Paterson** – Friends of Harmers Haven

## Version Control

Status	Date issued	Revision type	Reviewed by	Amended by
Draft 1.1	16/4/2013	First Draft	N. Cole	S. Dwyer
Draft 1.2	16/4/2013	Draft released to client by S. Dwyer	Friends of Harmers Haven	S. Dwyer
Final Document	2/5/2013	Released to client by S. Dwyer		

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## 1 Introduction

Indigenous Design Land Management was engaged by the Friends of Harmers Haven and Parks Victoria, Wonthaggi, to complete GPS mapping of weeds and threatened species within a ~70 hectare south-eastern section of the Harmers Haven Coastal Reserve.

The scope of the project specifically entails:

- GPS mapping of ‘high’ and ‘very high risk’ weeds within the area;
- GPS mapping of rare or threatened flora and fauna within the area;
- Brief report including:
  - Maps displaying captured data;
  - Discussion of areas or particular weeds of concern; and
  - Discussion of locations and significance of rare or threatened flora and fauna

The following data accompany this Summary:

1. ESRI ArcMap Shapefiles (in GDA94 datum)
2. Microsoft Excel Spreadsheets including:
  1. X & Y coordinates, taxon information and cover, size and pattern of weed infestations (in line with modified Parks Victoria protocols)
  2. X & Y coordinates, taxon information and estimated numbers of threatened species
  3. Tracklog of all areas covered by the survey
3. Photographic examples of select infestations
4. Basic maps of collected data

Rare and threatened flora and fauna records from this project will be lodged with the Department of Sustainability and Environment’s Victorian Biodiversity Atlas so that records will be permanently available for planning and management of the Reserve and its immediate surrounds.

Below is a summary of methodology and results of mapping conducted for Stage 1 of mapping within Harmers Haven Coastal Reserve.

## **2 Methodology**

### **2.1 Background Information**

As part of this project the report '*Harmers Haven Flora and Fauna Reserve, South Gippsland An assessment of vegetation and management issues*' (Carr, 2003) was reviewed. This report provided a valuable and detailed, insight to the ecology and previously identified rare or threatened flora, weed and management issues of the Reserve.

Records from the Department of Sustainability and Environment's (DSE's) Victorian Biodiversity Atlas (VBA) were also searched to identify likely flora and fauna to be encountered at the site.

### **2.2 Survey Focus**

All mapping was undertaken with a particular focus on walking paths, reserve boundary areas and areas of disturbance. Effort was made to visit all different vegetation types and patterns across the Reserve and as much of the Reserve's area as practicably possible.

All weeds with a 'High' or Very High' risk rating, as per the '*Advisory list of environmental weeds of coastal plains and heathy forests bioregions of Victoria*' (DSE, 2009) were recorded and assigned values (detailed below). Some additional weeds to those meeting the above criteria were also recorded at the discretion of the observer. In most cases, additional taxa were recorded when they were deemed to be of risk to values in the Reserve, found infrequently in small populations and / or considered to be uncommon in the local area.

Opportunistic observations of rare or threatened flora and fauna were also recorded and mapped.

### **2.3 Survey Period**

Surveys and GPS mapping of weeds and rare or threatened flora and fauna observations were undertaken over a period of 2 days 10 & 11 April, 2013.

## **2.4 Data Capture**

Survey data were captured using handheld GPS units running ArcPad 7.1 & 10 mobile GIS software. A track-log of each observer's survey path was automatically collected to display the area covered by surveys and the following specific values and ranges were recorded for each weed observation:

- 1. Taxon**
- 2. Size (m<sup>2</sup>) - ranges include:**
  - a. <1 x 1**
  - b. 1 x 1 – 2 x 2**
  - c. 2 x 2 – 5 x 5**
  - d. 5 x 5 – 10 x 10**
  - e. 10 x 10 – 25 x 25**
  - f. 25 x 25 – 50 x 50**
- 3. Cover (% foliar cover) - ranges include:**
  - a. 0-4%**
  - b. 5-24%**
  - c. 25-49%**
  - d. 50-74%**
  - e. 75-100%**
- 4. Pattern - descriptors include**
  - a. Individual**
  - b. Scattered**
  - c. Clumped**
  - d. Linear**
  - e. Continuous**
- 5. Comments – additional observations, photos, etc.**

Photographic examples were also taken of a select few infestations found by surveys.

## **2.5 Limitations**

Although significant effort was made to visit all areas of the Reserves, in some cases this was not practical or possible. Therefore, it is likely that some areas of the study site may contain unrecorded weed infestations and possibly unrecorded taxa.

### 3 Summary of results

#### 3.1 Literature and Database Reviews

##### 3.1.1 Significant Flora

Twelve of the 22 quadrats surveyed by Carr (2003) are located within the bounds of this current mapping project (*Map 1*). Of these quadrats, two were recorded as containing rare species. Quadrat 12 (ID: E11130) was reported to contain *Oxalis rubens* (Dune Wood-sorrel) and Quadrat 14 (ID: E11132) was reported to contain *Exocarpos syrticola* (Coast Ballart) (Carr, 2003). Both of these species are considered to be ‘rare’ in Victoria (DSE, 2005).

Searches of a 2km radius of the site on DSE’s VBA returned a list of 11 flora and 10 terrestrial fauna taxa listed as rare or threatened having been previously recorded in the area.

Most notably of the flora records is the presence of *Phyllangium sulcatum* (Rock Mitrewort) recorded from a survey in 2001. This species is ‘presumed extinct’ in Victoria, with the record in the Harmers Haven / Cape Paterson location the only record in the State listed on the VBA and the only record of the species in Victoria since a 1986 collection in Winiam East, western Victoria (DSE, 2013a; DSE, 2005; AVH, 2013). The precise location of this record is thought to be on the outskirts of the Cape Paterson township with the locality description given as “...about 1km west of Cape Paterson” (DSE, 2013a).

*Appendix 1* displays the extract of rare and threatened flora and fauna records from the VBA.

#### 3.2 Weed Mapping

The south-east section of the Harmers Haven Coastal Reserve (Stage 1) was surveyed over 2 days on the 10<sup>th</sup> & 11<sup>th</sup> of April, 2013. *Map 1* provides an overview of the area surveyed and the paths (tracklogs) taken by each observer during the survey period.

Surveys recorded a total of 22 weed taxa which are listed as ‘High’ or ‘Very High’ risk by DSE (2009) or otherwise regarded by observers as noteworthy within the study site.

### 3.2.1 Catchment and Land Protection Act 1994

Four of the 22 taxa recorded at the site are regarded as ‘noxious’ under the *Catchment and Land Protection (CaLP) Act 1994*. *Table 1* displays the noxious weeds identified within the study site and their respective CaLP statuses within the West Gippsland Catchment.

**Table 1** *Noxious weeds identified within the Harmers Haven Study Site.*

Botanical Name	Common Name	WGCMA CaLP Status
<i>Allium triquetrum</i>	Angled Onion	Restricted
<i>Rubus fruticosus</i> spp. agg.	Blackberry	Controlled
<i>Carduus tenuiflorus</i> / <i>C. pycnocephalus</i>	Slender/Shore Thistle	Controlled
<i>Dittrichia graveolens</i>	Stinkwort	Restricted

The weeds listed in *Table 1* are, with the exception of *Rubus fruticosus* spp. agg. (Blackberry), found in small, isolated populations at the site. Whilst Blackberry is found more commonly, its abundance is by no means extensive. *Map 2* displays the mapped occurrences of CaLP listed weeds throughout the site.

### 3.2.2 High and Very High Risk Weeds (DSE, 2009)

The most common weed of those listed as high or very high risk (and not CaLP listed) encountered across the site is *Coprosma repens* (Mirror Bush). This species is common, widespread and long established at the site with large individuals common in areas protected from strong winds and salt spray. Areas of particular dominance of this species exist:

1. west of the walking track at the end of Wilson’s Road (*Map 3*);
2. in the depression behind the fore-dune between the two cliff formations throughout the centre of the site (*Maps 3 & 4*); and
3. in the westerly-draining gully north-east of the mouth of Coal Creek (*Map 3*).

*Euphorbia paralias* (Sea Spurge) is found commonly and in significant abundance along the foredune areas of the site. This species has, however, been recently treated with herbicide to great effect. Almost all records displayed on *Map 4* are of treated plants, with very few live individuals encountered over this area. The border of *Map 3 & 4* approximately represents the extent of current treatment. Most records displayed on *Map 3* are of live plants which are particularly dominant where the open dune niche of the species widens around the mouth of Coal Creek.



The highly invasive climber species *Dipogon lignosus* (Dolichos Pea) was located in just one location consisting of a small amount of plants on the eastern side of the Road and carpark at Wreck Beach. This is presumed to be a new infestation at the reserve, with the species unrecorded from the 2003 assessment. Whilst only a small population of the species was located, it is likely that further plants exist amongst vegetation adjoining this area further east. The species is also fast to spread and becomes heavily dominant once established. It is thus considered to be a high risk to the Reserve.

*Artemisia arborescens* (Silver Wormwood) was originally recorded by the 2003 study and categorised as consisting of “rare or localised, small populations” (Carr, 2003). This species was found by mapping in an extensive and almost exclusive population, approximately 200m east of the termination of the private extension to Old Boiler Road (*Map 4*). The presence and established nature of this population of the species in the Reserve is notable as the species is regarded as ‘incipiently naturalised’ in Victoria. That is, “*the taxon is known to be introduced in Victoria and represented by one or more populations but the extent of naturalisation is uncertain and there is doubt whether it has become truly naturalised yet*” (Walsh & Stajsic, 2007).

The size and nature of the population recorded at Harmers Haven indicates that the species is capably reproducing (whether by seed or vegetative means) and, at least at Harmers Haven, should perhaps be regarded as truly naturalised. *Figure 1* displays an example of the Silver Wormwood population identified at the site. Recommendations regarding this and other weeds are given in *Section 4*.



**Figure 1** Silver Wormwood located behind the foredune at Harmers Haven

### 3.3 Comparison with past records

Weed records taken from Table 3 of Carr (2003) have been used to determine the current status of weeds within the Reserve compared to that of 10 years prior. This analysis took all weeds proposed for elimination by Carr (2003) and applied DSE's current risk rating (DSE, 2009).

As a result, a list of weeds currently regarded as “High” and “Very High” risk (DSE, 2009) (i.e. within the scope of this mapping project) and identified in 2003 as “*the most seriously invasive weed species with relatively limited distribution or population size...amenable to elimination from the study area*” (Carr, 2003) was generated. Table 2 details the weeds currently present at the site meeting the above criteria.

**Table 2** Weeds previously recommended for elimination still present at the Reserve

Botanical Name	Common name	Recommendation of Carr (2003)	DSE (2009) Status
<i>Allium triquetrum</i>	Angled Onion	Eliminate	Very High
<i>Cortaderia selloana</i>	Silver Pampas-grass	Eliminate	High
<i>Pittosporum undulatum</i>	Sweet Pittosporum	Eliminate	Very High

Whilst the species listed in Table 2 were found at the study site, none were found in great quantities. Although the presence at the Reserve demonstrates that they have not been eliminated as recommended, they can be said to be under control and further small-scale works could potentially see them eliminated.

Appendix 2 lists all weeds mapped by this project.

### 3.4 Rare or Threatened Flora and Fauna

#### 3.4.1 Flora

Three species listed as ‘rare’ in Victoria (DSE, 2005) were identified in various locations across the site. All three species had been previously recorded by the 2003 study of the site (Carr, 2003); however, new locations and populations of these species were located during assessments.

Map 5 displays all records of rare flora identified during assessments.

*Pomaderris oraria* subsp. *oraria* (Bassian Pomaderris) is located in two locations in the central area of the site, nearby the termination of the private extension to Old Boiler Road. The population consists of approximately 20 plants, most of which are apparently mature.

*Exocarpos syrticola* (Coast Ballart) is present along the roadside of Berry Road at the northern boundary of the study site and at the public access termination of Old Boiler Road. This species was previously recorded at the site in “*Quadrat 14...and along Berry Road*” by Carr (2003).

*Oxalis rubens* (Dune Wood-sorrel) was identified at 3 locations at the site. This species was last located at the site in Quadrats 12 & 14 and said to be “*apparently widespread and common*” (Carr, 2003). The species was located and mapped at the site of Quadrat 14 and two other cliff-top areas, but could not be identified at Quadrat 12.

### **3.4.2 Fauna**

Four bird taxa listed as rare or threatened were located at the site during mapping. Whilst all are of State significance, with the exception of *Ardea modesta* (Eastern Great Egret), they are also well known and documented to occur at or nearby the site.

The Eastern Great Egret is listed as ‘vulnerable’ by DSE was located on the banks of Coal Creek nearby the bridge and was seen feeding in the creek margin. This species is previously unrecorded at or within 2km of the site (DSE, 2013a).

*Haematopus fuliginosus* (Sooty Oystercatcher) is known to occur at the site with a total of 5 previous sightings of the species recorded for the area in the VBA (DSE, 2013a). A total of 10 individuals were observed and mapped in two separate but nearby locations on the beach south of the mouth of Coal Creek.

*Larus pacificus pacificus* (Pacific Gull) is listed as ‘near threatened’ by DSE (2013b) and was located in 6 separate locations across the site. It should, however, be acknowledged that as the records were collected over two days, some may be duplicates of the same individual/s.

*Thinornis rubricollis rubricollis* (Hooded Plover) is listed as ‘vulnerable’ by DSE (2013b). Two mature individuals were located and mapped on Wreck Beach at the mouth of Coal Creek.

Following completion of mapping at the site, confirmed sightings and photographs of the first *Neophema chrysogaster* (Orange-bellied Parrot) for the Victorian season were recorded within saltmarsh in the lower reaches of Coal Creek. The Orange-bellied Parrot is listed as ‘threatened’ under the *Flora and Fauna Guarantee (FFG) Act 1988* and has a status of ‘Critically Endangered’ at both State and national level (DSE, 2013b).

The area in which the bird was recorded had an upgrade to beach access by way of a bridge across the Coal Creek estuary in November, 2011. The bridge has led to pedestrian trampling of saltmarsh being virtually eliminated and subsequent prolific regeneration of native flora along the creek edges (pers. comm. Amaryll Perlesz, 29/4/2013).

*“The juvenile OBP was first seen by Bonnie Taylor on 16/04/13 and photographed by Frank Bird 17/04/13 at Harmers Haven estuary foraging amongst S. quinqueflora and Juncus sp. and feeding on S. quinqueflora.”* (pers. comm. Jon Fallow & Amaryll Perlesz, 22/4/2013).

Figure 2 displays a photograph of the juvenile Orange-bellied Parrot, taken by Frank Bird.



**Figure 2** Juvenile Orange-bellied Parrot photographed at Coal Creek, Harmers Haven

## 4 Recommendations

The control of all weeds identified by this project within the Reserve is not practical or possible. It is therefore necessary that those weeds likely to deliver the best cost-benefit to the Reserve are prioritised for treatment. *Table 3* lists ten weeds recommended for control or eradication from the site.

**Table 3** – *Weeds recommended for priority control at the study site*

Botanical Name	Common Name	Lifeform	Risk Rating (DSE, 2009)	Distribution
<i>Allium triquetrum</i>	Angled Onion	Graminoid	Very High	Localised & Minimal
<i>Artemisia arborescens</i>	Silver Wormwood	Woody	NIL	Localised & Abundant
<i>Cortaderia selloana</i>	Pampas Grass	Graminoid	High	Localised & Minimal
<i>Coprosma repens</i>	Mirror Bush	Woody	Very High	Widespread & Abundant
<i>Dipogon lignosus</i>	Common Dipogon	Scrambler	Very High	Localised & Minimal
<i>Dittrichia graveolens</i>	Stinkwort	Herb	Medium	Localised & Minimal
<i>Euphorbia paralias</i>	Sea Spurge	Herb	High	Localised & Abundant
<i>Hakea drupacea</i>	Sweet Hakea	Woody	Very High	Localised & Minimal
<i>Pittosporum undulatum</i>	Sweet Pittosporum	Woody	Very High	Widespread & Minimal
<i>Rubus fruticosus</i> spp. agg.	Blackberry	Woody	Very High	Widespread & Moderate

All weeds listed in *Table 3* are displayed on *Maps 3 & 4*.

Prior to control of Silver Wormwood, it is recommended that a specimen be collected, pressed and lodged with the National Herbarium of Victoria to permanently record the presence of this species at Harmers Haven. The formal documentation of this species is of botanical and ecological importance as it provides evidence that the species is in fact naturalising in Victoria.

Following the undertaking of further survey and mapping work in other areas of the Reserve, it is recommended that a more detailed strategy or plan for the control of weeds in the greater Reserve be developed. Such a plan will ensure that weed issues can be identified and prioritised in a more strategic and holistic manner.

## 5 References

- AVH, 2013. *Specimen Search Results*. [Online]  
Available at: <http://avh.ala.org.au/occurrences/search?taxa=Phylangium+sulcatum#mapView>  
[Accessed 4 April 2013].
- Carr, G. W., 2003. *Harmers Haven Flora and Fauna Reserve, South Gippsland: An assessment of vegetation and management issues*, Fairfield, Victoria: Ecology Australia.
- DSE, 2005. *Advisory List of Rare or Threatened Plants in Victoria*, Melbourne: Victorian Government Department of Sustainability and Environment.
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- DSE, 2013a. *Victorian Biodiversity Atlas*. [Online]  
Available at: <https://vba.dse.vic.gov.au/vba/index.jsp>  
[Accessed 4 April 2013].
- DSE, 2013b. *Advisory List of Threatened Vertebrate Fauna in Victoria.*, Melbourne: Victorian Government Department of Sustainability and Environment.
- Walsh, N. G. & Stajsic, V., 2007. *A Census of the Vascular Plants of Victoria*. [Online]  
Available at: <http://www.rbg.vic.gov.au/viclist/index.htm>

## 6 Appendices

### 6.1 Appendix 1 - Victorian Biodiversity Atlas, Species Summary List (Rare and Threatened only)

Extract Date: 04/04/2013 01:56 PM

Selected Area

Type: Buffer Base point: POINT (145.587487590699 -38.665614613422335) Within: 2000 metres

Data Publication Date: 22 Mar 2013

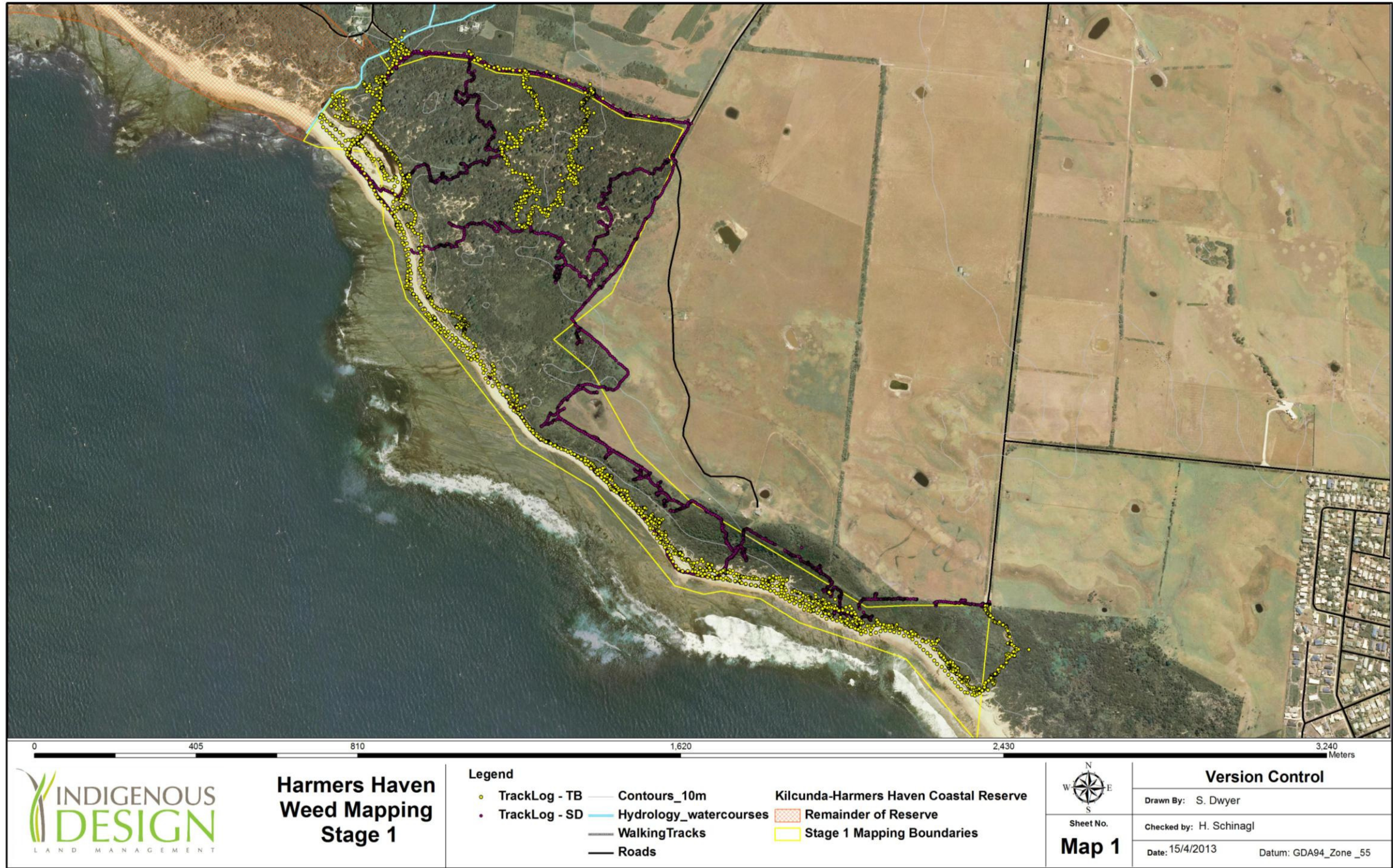
Search Result					
Taxon ID	Scientific Name	Common Name	DSE Advisory List	Discipline	No. of Sightings
503648	<i>Allocasuarina media</i>	Prom Sheoak	Poorly known	Flora	1
11034	<i>Antechinus minimus maritimus</i>	Swamp Antechinus	Near threatened	Terrestrial Fauna	3
501615	<i>Argentipallium dealbatum</i>	Silver Everlasting	Rare	Flora	2
501354	<i>Exocarpos syrticola</i>	Coast Ballart	Rare	Flora	2
10131	<i>Haematopus fuliginosus</i>	Sooty Oystercatcher	Near threatened	Terrestrial Fauna	5
10226	<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	Vulnerable	Terrestrial Fauna	1
10112	<i>Hydroprogne caspia</i>	Caspian Tern	Near threatened	Terrestrial Fauna	1
61092	<i>Isodon obesulus obesulus</i>	Southern Brown Bandicoot	Near threatened	Terrestrial Fauna	1
60126	<i>Larus pacificus pacificus</i>	Pacific Gull	Near threatened	Terrestrial Fauna	11
10045	<i>Lewinia pectoralis pectoralis</i>	Lewin's Rail	Vulnerable	Terrestrial Fauna	1
12407	<i>Lissolepis coventryi</i>	Swamp Skink	Vulnerable	Terrestrial Fauna	2
502145	<i>Melaleuca armillaris subsp. armillaris</i>	Giant Honey-myrtle	Rare	Flora	1
502390	<i>Oxalis rubens</i>	Dune Wood-sorrel	Rare	Flora	3
505279	<i>Phyllangium sulcatum</i>	Rock Mitrewort	Presumed extinct	Flora	1
10181	<i>Platalea regia</i>	Royal Spoonbill	Vulnerable	Terrestrial Fauna	1
502665	<i>Pomaderris oraria subsp. oraria</i>	Bassian Pomaderris	Rare	Flora	2
504506	<i>Prasophyllum spicatum</i>	Dense Leek-orchid	Endangered	Flora	1
502868	<i>Pultenaea prolifera</i>	Otway Bush-pea	Rare	Flora	1
504948	<i>Sarcocornia quinqueflora subsp. tasmanica</i>	Beaded Glasswort	Poorly known	Flora	1
10138	<i>Thinornis rubricollis rubricollis</i>	Hooded Plover	Vulnerable	Terrestrial Fauna	4
505057	<i>Viola fuscoviolacea</i>	Dusky Violet	Rare	Flora	1

## 6.2 Appendix 2 – List of weeds recorded by mapping

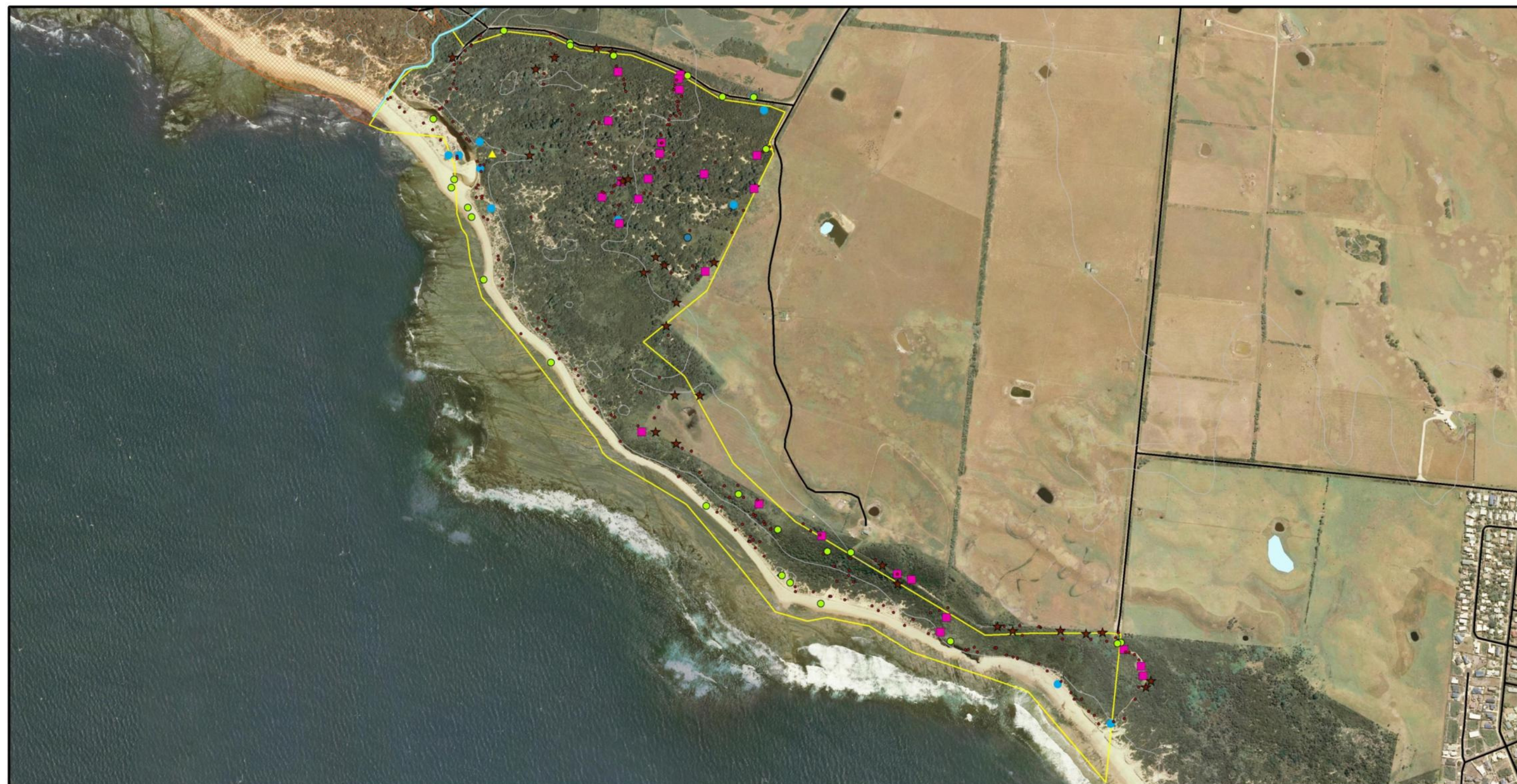
Botanical Name	Common Name	Risk Rating (DSE, 2009)
<i>Allium triquetrum</i>	Angled Onion	Very High
<i>Ammophila arenaria</i>	Marram Grass	Very High
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	Very High
<i>Artemisia arborescens</i>	Silver Wormwood	NA
<i>Carduus tenuiflorus</i>	Winged Slender-thistle	Low
<i>Cirsium vulgare</i>	Spear Thistle	Medium
<i>Coprosma repens</i>	Mirror Bush	Very High
<i>Cortaderia selloana</i>	Pampas Grass	High
<i>Dipogon lignosus</i>	Common Dipogon	Very High
<i>Dittrichia graveolens</i>	Stinkwort	Medium
<i>Ehrharta erecta</i> var. <i>erecta</i>	Panic Veldt-grass	Very High
<i>Ehrharta longiflora</i>	Annual Veldt-grass	Very High
<i>Euphorbia paralias</i>	Sea Spurge	High
<i>Hakea drupacea</i>	Sweet Hakea	Very High
<i>Holcus lanatus</i>	Yorkshire Fog	Very High
<i>Mentha pulegium</i>	Pennyroyal	Medium
<i>Myosotis sylvatica</i>	Wood Forget-me-not	Very High
<i>Osteospermum fruticosum</i>	Dimorphotheca	Low
<i>Pennisetum clandestinum</i>	Kikuyu	Moderate
<i>Pittosporum undulatum</i>	Sweet Pittosporum	Very High
<i>Rubus fruticosus</i> spp. agg.	Blackberry	Very High
<i>Sporobolus africanus</i>	Rat-tail Grass	High



7 Maps







0 410 820 1,640 2,460 3,280 Meters



## Harmers Haven Weed Mapping Stage 1

### Legend

- |                                     |                                 |  |
|-------------------------------------|---------------------------------|--|
| 011PV_Weeds                         | ● Carr (2003) Quadrat Locations | Kilcunda-Harmers Haven Coastal Reserve |
| ● All Other Weeds                   | ● 011PV_ROTs                    | Remainder of Reserve                   |
| CaLP Listed Weeds                   | — Contours_10m                  | Stage 1 Mapping Boundaries             |
| ▲ <i>Allium triquetrum</i>          | — Hydrology_watercourses        |  |
| ■ <i>Cirsium vulgare</i>            | — Walking Tracks                |  |
| ● <i>Dittrichia graveolens</i>      | — Roads                         |  |
| ★ <i>Rubus fruticosus</i> spp. agg. | — Hydrology_waterbody_GDA94     |  |



Sheet No.

**Map 2**

### Version Control

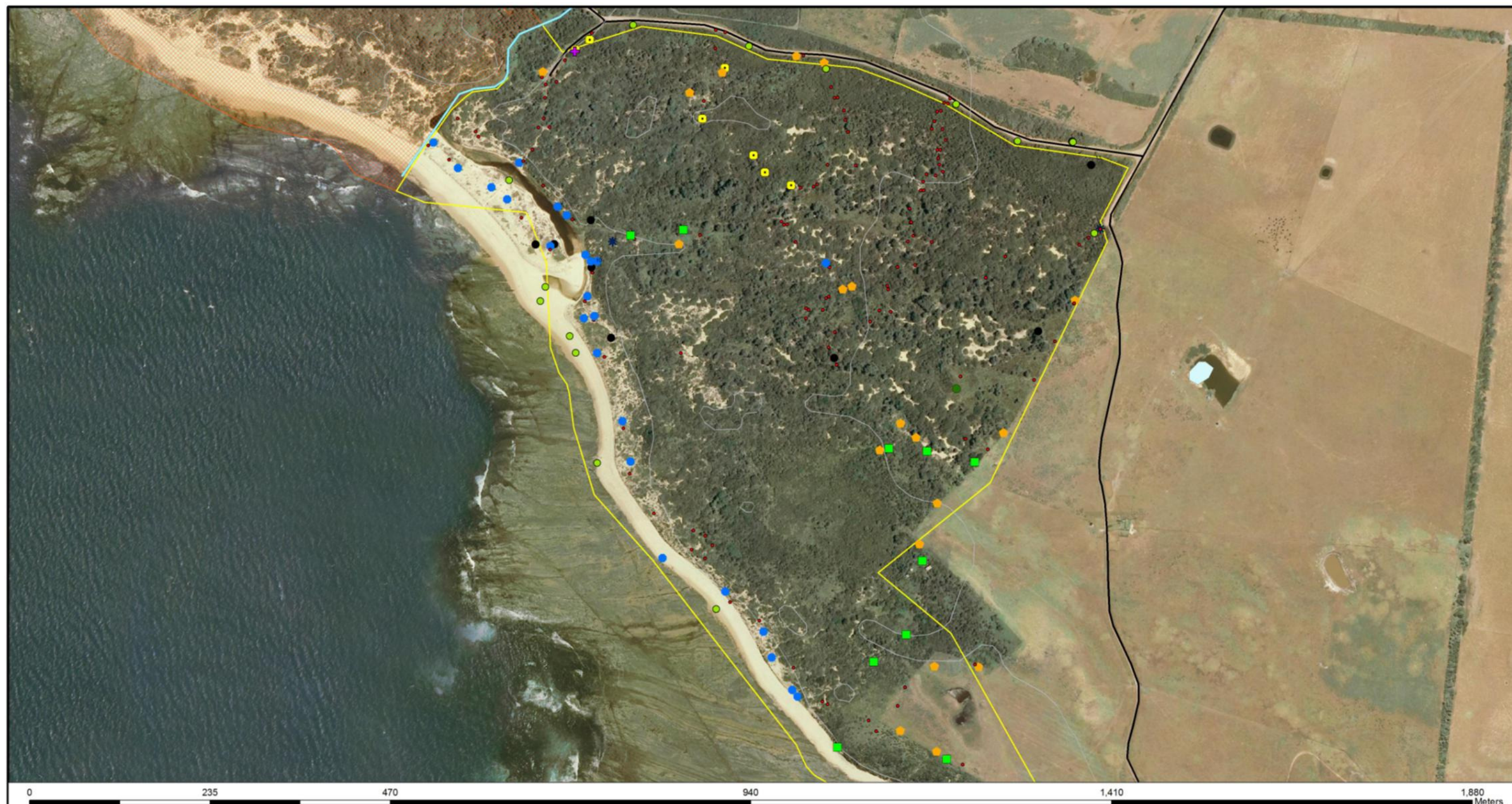
Drawn By: S. Dwyer

Checked by: H. Schinagl

Date: 15/4/2013

Datum: GDA94\_Zone \_55





- Legend**
- |  |   |   |
|--|---|---|
| <p><b>011PV_Weeds</b></p> <ul style="list-style-type: none"> <li>● All Other Weeds</li> <li>● <i>Dittrichia graveolens</i></li> <li>● <i>Rubus fruticosus</i> spp. agg.</li> <li>● <i>Allium triquetrum</i></li> <li>● <i>Pittosporum undulatum</i></li> <li>● <i>Coprosma repens</i></li> <li>● <i>Euphorbia paralias</i></li> <li>● <i>Dipogon lignosus</i></li> </ul> | <ul style="list-style-type: none"> <li>● Carr (2003) Quadrat Locations</li> <li>— Contours_10m</li> <li>— Hydrology_watercourses</li> <li>— Walking Tracks</li> <li>— Roads</li> <li>— Hydrology_waterbody_GDA94</li> </ul> | <p><b>Kilcunda-Harmers Haven Coastal Reserve</b></p> <ul style="list-style-type: none"> <li>□ Remainder of Reserve</li> <li>□ Stage 1 Mapping Boundaries</li> <li>● 011PV_ROTs</li> </ul> |
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## Harmers Haven Weed Mapping Stage 1



Sheet No.  
**Map 3**

### Version Control

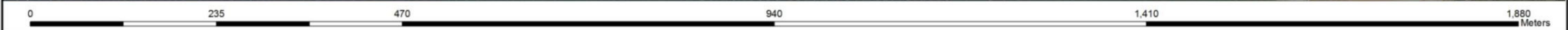
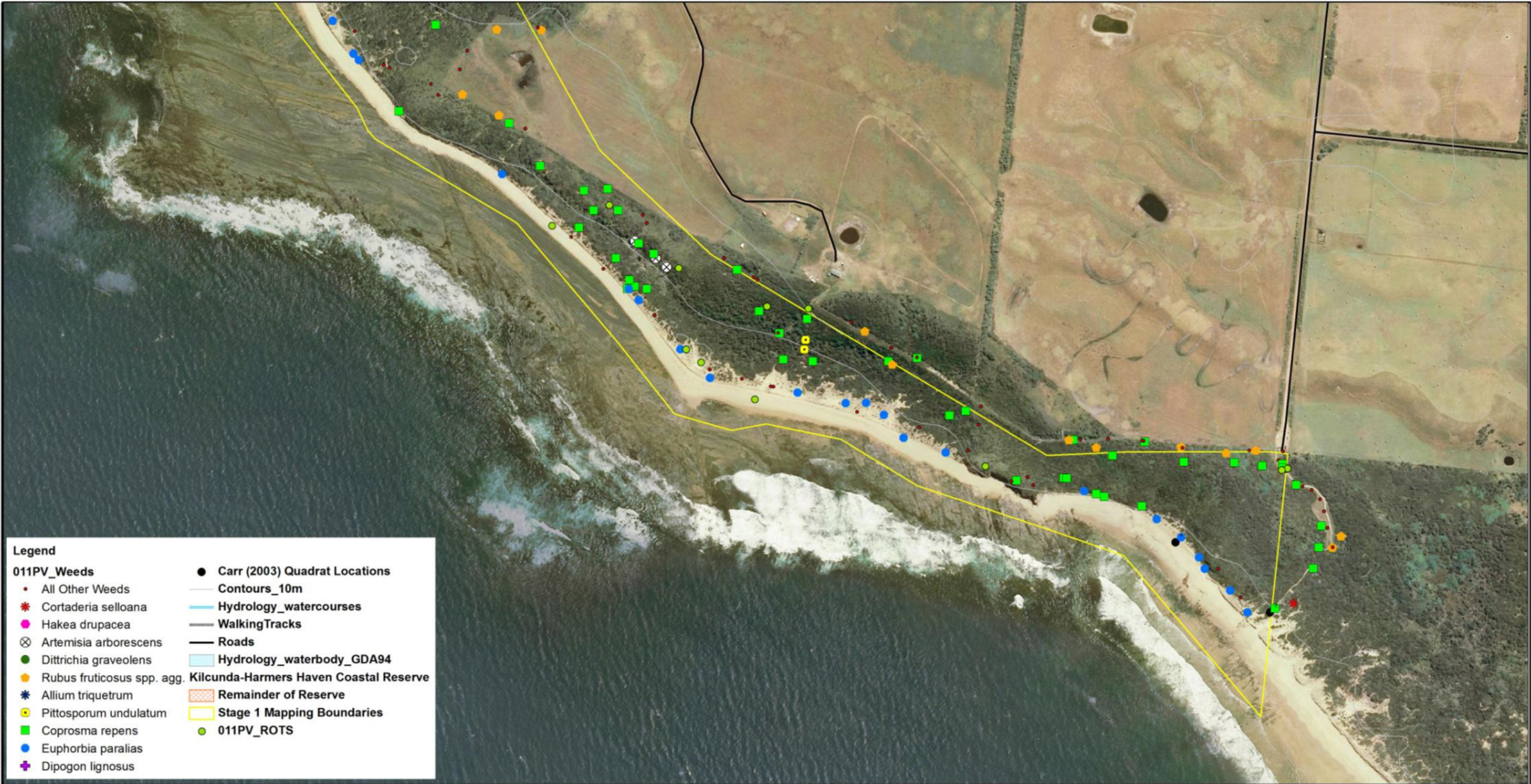
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Checked by: H. Schinagl

Date: 15/4/2013

Datum: GDA94\_Zone \_55





	<b>Harmers Haven Weed Mapping Stage 1</b>		<b>Version Control</b>	
			Drawn By: S. Dwyer	
			Checked by: H. Schinagl	
			Date: 15/4/2013	Datum: GDA94_Zone_55
		Sheet No.	<b>Map 4</b>	





## Harmers Haven Weed Mapping Stage 1

### Legend

#### 011PV\_ROT5

- Ardea modesta
- Exocarpos syrticola
- ◆ Haematopus fuliginosus
- ★ Larus pacificus pacificus
- ✚ Oxalis rubens
- ✱ Pomaderris oraria subsp. oraria
- Thinornis rubricollis

- Contours\_10m
- Hydrology\_watercourses
- WalkingTracks
- Roads
- Hydrology\_waterbody\_GDA94

#### Kilcunda-Harmers Haven Coastal Reserve

- Remainder of Reserve
- Stage 1 Mapping Boundaries



Sheet No.

**Map 5**

### Version Control

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Date: 15/4/2013

Datum: GDA94\_Zone \_55





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