



**FINAL**

# **Point Henry Foreshore Management Plan**



Prepared for the City of Greater Geelong by:

**Thompson Berrill Landscape Design Pty Ltd**

in association with

Mark Trengove Ecological Services

**MAY 2006**

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**ENVIRONMENT UNIT**

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## APPENDICES

- Appendix A** Point Henry Vegetation Communities prepared by Mark Trengove Ecological Services as part of this Management Plan
- Appendix B** Point Henry Vegetation Guidelines prepared by Mark Trengove as part of this Management Plan
- Appendix C** Summary Information Leaflet # 1 Outcomes, prepared by TBLD as part of this Management Plan

# ACKNOWLEDGEMENTS

The project team would like to thank the Steering Committee who have attended meetings and contributed to the development of the Management Plan including:

Burke Renouf	Sustainability Officer, City of Greater Geelong (COGG)
Ricky Bell	Recreation Officer, (COGG)
Geoff Brooks	Coastal Planner, Port Phillip Region, Department of Sustainability and Environment (DSE)
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Brendan Foran	Alcoa
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Goshen Watts	Kite Power
Andre Limsowtin	Kite surfer
Bruce Muir	Kite surfer
Roger Bennett	Four Winds Marine

We would also like to recognise the contribution the community have made through filling in the questionnaires which provided valuable information that has shaped the direction of the plan.

# ABBREVIATIONS

<b>Abbreviation</b>	<b>Description</b>
<b>Alcoa</b>	Alcoa World Alumina Australia Alcoa Australia Rolled Products
<b>CAMBA</b>	Agreement between the Governments of Japan and Australia for the protection of migratory birds in danger of extinction
<b>CAP</b>	Coastal Action Plan
<b>CSL</b>	Cheetham Salt Limited
<b>COGG</b>	City of Greater Geelong
<b>DSE</b>	Department of Sustainability and Environment
<b>EPA</b>	Environment Protection Authority
<b>JAMBA</b>	Agreement between the Governments of Japan and Australia for the protection of migratory birds in danger of extinction
<b>PWC</b>	Personal Water Craft (Jet ski)
<b>VCS</b>	Victorian Coastal Strategy
<b>WACL</b>	Wathaurong Aboriginal Cooperative Limited
<b>4WD</b>	Four-wheel-drive vehicle

# 1.0 INTRODUCTION

## 1.1 Project Scope

The project brief called for the preparation of a Management Plan for the future management and development of Point Henry Foreshore Reserve. The Plan is to establish up to date management guidelines and recommendations for the City of Greater Geelong to encourage and guide an integrated approach for the future management, use and development of Point Henry Foreshore Reserve.

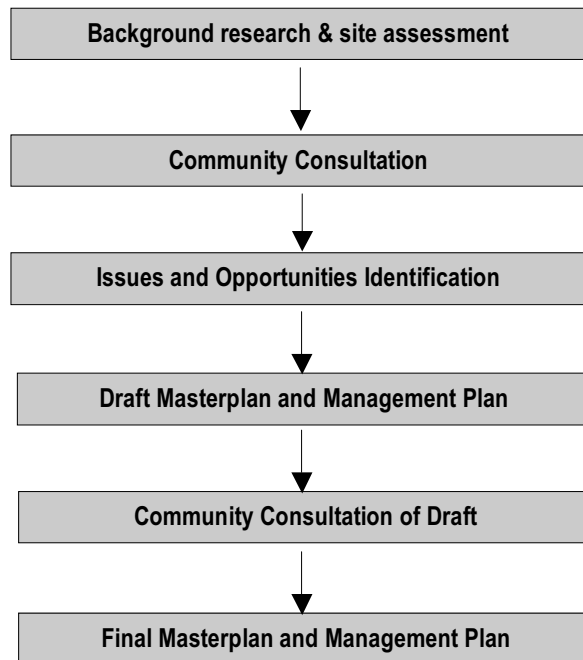
The plan will need to ensure that the long-term management and vision of enhancing the natural beauty, biodiversity, historical importance for both Aboriginal and European cultural heritage and community enjoyment of the foreshore reserve is maintained. These values are to be maintained in accordance with visions of the community and relevant organisations and existing strategies and guidelines established by Council, the State Government and other relevant governing bodies. The outcomes will need to be realised in such a manner that the area's natural and intrinsic character is maintained and enhanced.

## 1.2 Key Objectives

- Recognise, protect, improve and interpret the flora and fauna values.
- Improve the quality of informal recreational experiences and passive enjoyment of the foreshore reserve.
- Identify, protect and, where appropriate, interpret Aboriginal and European cultural heritage sites and values.
- Protect and improve the key view corridors from the site including over Corio Bay and to the You Yangs.
- Encourage community involvement in the management of the foreshore reserve.
- Improve liaison between the management agencies and the adjoining land holders, and overall management of the reserve.
- Improve the conditions and overall landscape character and amenity of the site to promote care and respect for its cultural and environmental values.

## 1.3 Project Process

The following flow chart diagram illustrates the project process for the plan.



## 1.4 Project Team

### **Thompson Berrill Landscape Design Pty Ltd (TBLD)**

TBLD is a firm of landscape architects with expertise in the area of open space, coastal and waterway planning and design. TBLD have worked extensively in this region preparing a range of management plans for other coastal areas and waterways.

### **Mark Trengove Ecological Services (MTES)**

MTES has extensive experience in flora survey and vegetation management in the Geelong region. For this project, MTES has undertaken a vegetation community survey, summarised their condition and has provided management recommendations.

## 2.0 BACKGROUND INFORMATION

### 2.1 Location and brief site description

Point Henry Foreshore Reserve is located approximately 7 kilometres east of the centre of Geelong, at the entrance to Corio Bay. Industrial land use dominates the Point with two major industrial land-holders being Alcoa Australia and Cheetham Salt Limited Moolap Salt Works. Nearby residential areas include Newcomb, Moolap and Whittington.

Point Henry peninsula projects north from the Bellarine Peninsula, forming the eastern edge to Corio Bay and is highly visible from the main public foreshore areas of central Geelong. The dominance of industrial land use on the peninsula reduces the number of visitors to the Point Henry Foreshore Reserve. The lack of high numbers of visitors would favour waterbird, shorebird and waderbird habitat values in this area.

The main visitor destination at Point Henry is the Point itself, which is low lying, remote and offers protected shallow waters and expansive views over Corio Bay. The Point Henry Foreshore Reserve is relatively narrow, with an average width of 50 - 60 metres on the western shoreline and 120 metres wide on the eastern shoreline and a total length of approximately 6.3 kilometres.

The western shoreline changes from a steeply graded section which has been rock/rubble stabilised, to relatively flat coastline with low dunes and saltmarsh behind them. The eastern shoreline is all relatively flat with low dunes and a combination of saltmarsh and modified saltmarsh.

Point Henry Pier is located on the eastern shoreline and the pier structure is owned by Ports Pty Ltd and wholly managed by Toll, and is used exclusively by the Alcoa's Point Henry Operation. The seabed under the pier and 5 metres to either side of the structure is leased from the Crown for 99 years. This plan does not include comment on or review of the Point Henry Pier directly, but does comment on the provision of maintenance access to the Pier over public land.



**INSERT DRAWING # PTH-02 EXISTING CONDITIONS**



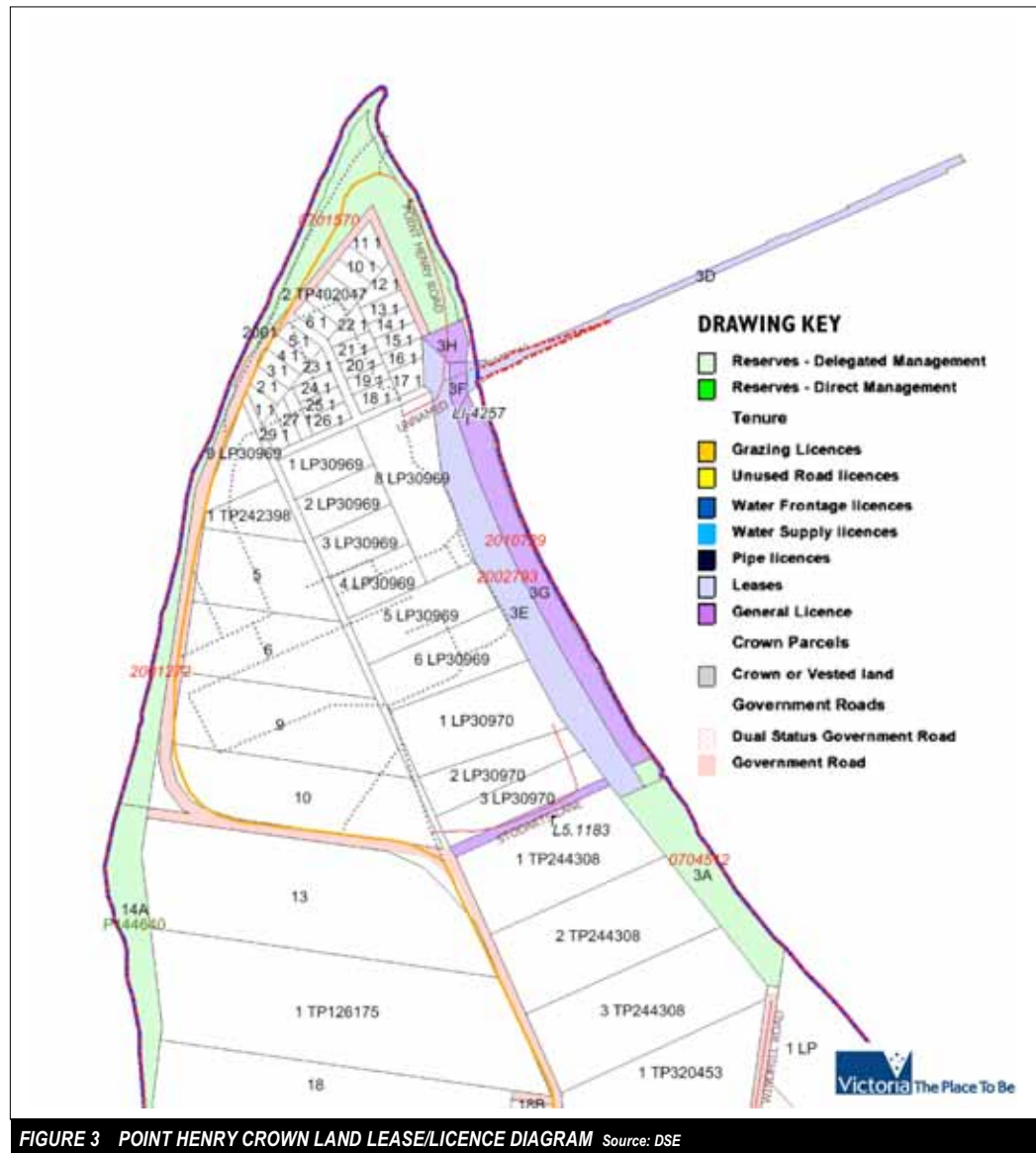
## 2.2 Land ownership and management

The Point Henry Foreshore Reserve included in this study is predominantly Crown land. The only exception is the Point Henry Signal Station and approximately 60% of the Alcoa water quality treatment wetlands which is owned by Alcoa. The Crown land falls under a range of lease and management arrangements including as follows:

- the western shoreline is managed by the City of Greater Geelong.
- the Point is managed by City of Greater Geelong

- ❑ the eastern shoreline north of the Point Henry Pier (north of land parcel 3H as shown in *Figure 3*) is managed by the City of Greater Geelong
- ❑ the eastern shoreline from the end of Government Road to Stodarts Lane is managed by Alcoa
- ❑ the eastern shoreline south of Stodarts Lane is managed by the City of Greater Geelong

Refer to the diagram below supplied by the Department of Sustainability and Environment.



**FIGURE 3 POINT HENRY CROWN LAND LEASE/LICENCE DIAGRAM** Source: DSE

## 2.3 Regional context

### 2.3.1 International agreements

Australia has formal migratory bird bilateral agreements between the Australian Government and the Government of Japan (JAMBA) since 1974 and the People's Republic of China (CAMBA) since 1986. The two agreements list terrestrial, water and shorebirds which migrate between Australia and these respective countries, and require the government to protect and conserve their habitats, exchange information and protect the migratory birds from take or trade. The JAMBA Agreement also includes specific provisions for cooperation on the conservation of threatened birds. Some of the migratory birds at Point Henry are covered by these two agreements.

### 2.3.2 Commonwealth legislation

#### ***Aboriginal and Torres Strait Islander Heritage Protection Act 1984***

This Act provides protection for Aboriginal cultural property including places, objects and folklore that are of particular significance to Aboriginals, in accordance with Aboriginal tradition. This Commonwealth Act takes precedence over State cultural heritage legislation where there is a conflict. The Act prohibits defacing, damaging, interfering or endangering an Aboriginal place unless prior consent of the local Aboriginal community has been obtained. For Point Henry, the Aboriginal community is the Wathaurong Aboriginal Co-operative (TerraCulture, 2005).

#### ***Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)***

The EPBC Act promotes the conservation of biodiversity by providing strong protection for listed species and communities. The Act does not replace State or local government approvals, but requires that Commonwealth approval be gained if there is a significant impact in matters of national environmental significance. The Act identifies six matters of national environmental significance, and those relevant to Point Henry include nationally listed threatened species and ecological communities, and listed migratory species.

### 2.3.3 State legislation

#### ***Coastal Management Act 1995***

The Point Henry Foreshore Management Plan has been prepared in accordance with the *Coastal Management Act 1995* to provide direction for day to day management of an area of coast by appointed managers.

#### ***Flora and Fauna Guarantee Act 1988***

The *Flora and Fauna Guarantee Act 1988* is 'to establish a legal and administrative structure to enable and promote the conservation of Victoria's native flora and fauna'.

The study area is frequented by some avifauna species which are listed as threatened species under this Act (Ecology Australia 1994). These include:

- Baillon's Crane *Porzana pusilla*
- Fairy Tern *Sterna nereis nereis*
- Grey-tailed Tattler *Heteroscelus brevipes*
- Great Egret *Ardea alba*
- Little Egret *Egretta garzetta nigripes*
- Little Tern *Sterna albifrons*
- Orange-bellied Parrot *Neophema chrysogaster*

***Heritage Act 1995***

This Act provides protection and conservation of places and objects of cultural significance and the registration of these places. The Act protects all categories of historic cultural significance relating to non-Aboriginal settlement of Victoria. The Heritage Council is responsible for administering this Act. (TerraCulture, 2005)

***Archaeological and Aboriginal Relics Preservation Act 1972***

This provides protection for all material relating to the past Aboriginal occupation. The Act establishes procedures for archaeological investigation and mandatory reporting of the discovery of Aboriginal sites. Aboriginal Affairs Victoria (AAV) administers the Act. (TerraCulture, 2005)

***Crown Land (Reserves) Act 1978***

This Act provides for the reservation of Crown Lands for certain purposes and for the management of such lands.

**INSERT DRAWING # PTH-01 REGIONAL CONTEXT PLAN**

### 2.3.4 Local government

The Greater Geelong Planning Scheme contains local controls over the site. Specifically for the study area the following controls are included:

- ❑ Environmental Significance Overlay Schedule 2
- ❑ Heritage Overlay 322 (memorial to the founding of Geelong)
- ❑ Heritage Overlay 1583 (the Signal Station)

The land is zoned Public Conservation and Resource Zone, and this zone extends into the water for a distance of 600 metres.

### 2.3.5 Relevant strategies and studies

#### Victorian Coastal Strategy

*Prepared by Victorian Coastal Council and adopted by the Victorian State Government, 2002*

The Victorian Coastal Strategy (VCS) is an overall framework for the long term management of coastal and marine areas. The strategy establishes principles to underpin decision making to protect the broad public interest in the long term. Point Henry is included in a Coastal Protection Zone which is defined as "*areas in relatively natural condition or which are significant for botanical, zoological, geological or geomorphological, archaeological or historical reasons, including sites or fragile environments that are sensitive to modification. This zone should be managed to protect the natural values of the zone*". The Point Henry Foreshore Management Plan is consistent with the *Victorian Coastal Strategy*.

#### Siting and Design Guidelines for Structures on the Victorian Coast

*Prepared by Victorian Coastal Council and adopted by the Victorian State Government, 1998*

The primary purpose of the Siting and Design Guidelines is to define issues that should be considered in the siting, design and construction of new structures and the improvement of existing structures in coastal areas. The document is not intended to be used as a manual for designing and siting in coastal areas, rather the focus is to raise awareness of more "sympathetic development that complements the surrounding landscape". The intention of the guidelines is to increase awareness of the coastal landscape and to improve design standards and excellence for the whole of the coastline.

#### Corio Bay Coastal Action Plan

*Prepared by Tract Consultants and Connell Wagner, 2005*

- ❑ This Coastal Action Plan (CAP) is developed in accordance with the *Coastal Management Act 1995* to provide a key mechanism for implementation of the *Victorian Coastal Strategy (VCS)*. The CAP enables broad principles and priorities identified in the VCS to be further developed and applied at a sub-regional level.
- ❑ The Corio Bay CAP identified the need to prepare a Management Plan for Point Henry.
- ❑ The CAP outlined key objectives for the precinct as follows: to implement shore protection works without substantial interference to the dynamic coastal processes; to improve definition of public access to both Point Henry Reserve and along the western shoreline; and to maintain and protect significant wading bird and marine habitats and to reinstate a natural shoreline profile.
- ❑ The relevant implementation action from the CAP is: "*Implement a management plan to improve facilities for recreational opportunities and conservation values and define access to Point Henry Reserve to eliminate public and stakeholder confusion. This should include the prohibition of vehicle and formal boat launching from the point, directing boat launching to Limeburners Point*".
- ❑ The Point Henry Foreshore Management Plan is consistent with the Corio Bay Coastal Action Plan.

### **Biodiversity Strategy**

*Prepared by City of Greater Geelong, 2003*

- ❑ Point Henry is included in a Primary Biodiversity Zone.
- ❑ Point Henry has an important role as a biological link.
- ❑ The Strategy identifies that remnants of vegetation and habitat are important, and there is a need to map the biodiversity values and prepare a management plan.
- ❑ Aims to link together and expand isolated/fragmented remnants.

### **Geelong Coastal Processes Study**

*Prepared by Lawson and Treolar Pty Ltd for City of Greater Geelong, 2004*

- ❑ The COGG commissioned this study of coastal processes along the northern edge of the Bellarine Peninsula extending from Edwards Point to Limeburners Point. The aim of the study was to define the coastal and geomorphic processes that shape the coastal environment and to provide a basis for the management of the coastal zone.
- ❑ The descriptions of the coastal geomorphology and the recommendations from this study have been referred to in the Draft Point Henry Foreshore Management Plan.
- ❑ In summary the report identifies the following:
  - Since the Hopetoun Channel was cut in 1861, sand supply to the Point Henry coastline has been interrupted.
  - The western shoreline has been reinforced with rock work and appears to be stable but requires monitoring.
  - The eastern shoreline is experiencing sand build-up north of the pier and erosion south of the pier, with the blockage caused by the construction of Point Henry Pier.
  - Loss of Seagrass in Stingaree Bay requires investigation.
  - Noted a strange phenomenon of currents in Stingaree Bay.
  - Noted the effects of stormwater outfall north of Cheetham Salt Works from aerial photo.

### **Geelong Stormwater Management Plan, Volume IV**

*Prepared by WBM Oceanics Australia for City of Greater Geelong, 2002*

- ❑ Identified there are two broader stormwater catchments for Point Henry, and the ridgeline of the Point is the divider between the two catchments.
- ❑ Newcomb is the catchment to the western side of Point Henry, and extends from Eastern Park to Point Henry with stormwater draining to Corio and Stingaree Bays. Major threats identified in the Newcomb catchment includes: industrial land use (smaller holdings); and septic and sewage leakage from Moolap Industrial area.
- ❑ Leopold is the catchment to the eastern side of Point Henry and drains to the Outer Harbour. Major threats identified in the Leopold catchment includes: industrial land use (moderate), this is highlighted as moderate because Alcoa has an Environmental Management Plan and wetlands to treat water quality which are already in place.

### **South West Port Phillip & Adjacent Ocean Coast Public Boat Launching Review**

*Prepared by Worley Pty Ltd for the South West Port Phillip & Adjacent Ocean Coast Ramp Steering Committee, 2004*

- ❑ This study reviewed 25 public boat launching facilities in the south west of Port Phillip and on the adjacent ocean coast between Kirk Point and Barwon Heads. The main purpose of the report is to determine priorities for future works or consolidation of facilities at the sites.
- ❑ Key recommendations for Point Henry from this study referred to in this Management Plan includes: upgrading the Point Henry facility but only for very small vessels and not for vehicle launching, as a medium priority; and maintain the status quo at Windmill Road.

## **Point Henry An Archaeological Assessment (Draft August 2005)**

*Prepared by TerraCulture Pty Ltd for City of Greater Geelong and Department of Sustainability and Environment.*

- This report presents the results of the Point Henry archaeological field survey, completed by an audit of previously registered cultural heritage sites. The report was prepared to inform the Point Henry Management Plan and contains specific recommendations which inform the future management of archaeological values in the site.

## **2.4 Site description**

### **2.4.1 Geology and geomorphology**

Point Henry peninsula is an elevated ridge of sand clays fringed by shallow beaches on the north and east and protected by rock/concrete walls on the west. North and east of Point Henry is one massive Holocene sedimentation that has built a succession of parallel beach ridges and development of an elongate spit and a sinuous offshore bar system that extends across the entrance to Corio Bay towards Point Lillias. This system is truncated by the Hopetoun (shipping) Channel which was cut in 1861, to allow ships to enter Corio Bay. It is noted that the Point is recurving westwards, possibly due to the influence of wake from shipping. (Rosengren, 1988).

Point Henry itself is an elongate shelly spit and is built on a basement of eroded clays and silts that form the Point Henry promontory, and there are visible outcrops at the base of the western shoreline. Point Henry, north of the Pier, is identified to be of regional geological and geomorphological significance as it is the longest elongate cusped spit in Port Phillip Bay, and the area to the east is the most extensive accumulation of clearly defined parallel ridge and lagoon systems in the Bay. The site is noted as being highly disturbed by industrial and salt evaporation pan development (Rosengren, 1988).

On the western side of the Point, 200 metres south of the tip the percentage of shell grit decreases with a higher percentage of fine sand. On the eastern side the beach comprises fine shell grit, actual shells and fine sand. (Lawson and Treolar, 2004).

The clay platform along the western shoreline of Point Henry is noted as being of Regional geological and geomorphological significance as this is the only instance in Port Phillip Bay of a platform developing in unconsolidated clay materials. The platform extends along the western side and is a broad, horizontal intertidal platform cut in soft silt clay. The platform has a flat to gently concave surface which retains large pools at low tide (Rosengren, 1988).

The CSIRO has recently completed a report investigating the potential risk of acid sulfate soils on proposed development in the City of Greater Geelong (CSIRO, 2005). This report identifies the potential risk areas and also carried out tests in these areas which included Point Henry. Two tests were undertaken and one of these tests was considered marginal in terms of potential risk. There is potential for infrastructure to be affected by Acid Sulfate Soils and should therefore be checked before major development occurs. The likely impacts that can result from Acid Sulfate Soils which may require consideration in future works on the Point Henry foreshore include:

- Lower soil pH making some soils toxic to plant growth causing scolding
- Sulfuric acid corrodes concrete, iron and steel foundations and piping
- Plastic corrugated drainage can become blocked by iron oxides
- Acid waters can mobilise heavy metals which can be absorbed by fish and aquatic life
- Bitumen road failure
- Low bearing capacity of soils

## 2.4.2 Coastal processes

The sand movement at Point Henry starts at the tip and travels south down both sides of the Point. Since the cutting of Hopetoun Channel, the sand supply to this section of coastline from the north has been interrupted, and this resulted in the tip of Point Henry being eroded and realigned from its original shape to regain an equilibrium based on the reduced sand supply. The construction of Point Henry Pier prevents sand from flowing in its natural flow path and is therefore building up on the north side of the Pier. It may be necessary to bypass this pier to allow the sand to travel further south along the beach. (Lawson and Treolar, 2004)

The western side of the point has experienced erosion which is assumed to be due to the reduction in sand supply rather than by wave action. This erosion has been stabilised with a rock/concrete sea wall, however, it will require ongoing monitoring. (Lawson and Treolar, 2004)

There is evidence in the aerial photo of an outflow from the north west corner of the salt pans into Stingaree Bay which appears to have caused loss of Seagrass in Stingaree Bay. This is noted as warranting further investigation. (Lawson and Treolar, 2004)

## 2.4.3 Adjoining land use

### **Cheetham Salt's Moolap Salt Works**

The Moolap Salt Works directly adjoin the southern portion of the western shoreline of the study area. The Moolap Salt Works is operational and provides important habitat for avifauna listed under the JAMBA and CAMBA agreements and the Victorian F&FG Act. The nature of the operation, being large areas of salt pans with changing water levels, enhances the habitat value for migratory waders and other avifauna species. The varying range of water depths are utilised by different species for roosting and feeding. Without the active management of water flows into and through the pond system, the habitat values of the salt works would decline (Maunsell McIntyre, 2000). Any future expansion of the system of salt pans or buildings would require environmental assessment prior to approval. If for any reason Cheetham Salt suspends or reduces salt production, environmental requirements will be retained to sustain the ecological values associated with natural wetland areas prior to salt production activities. The Moolap Salt Works are listed on the Victorian Heritage Register and any future change would need to consider the cultural heritage values.

### **Alcoa Point Henry Operations**

Alcoa of Australia have two operations at the Point Henry site, with the Smelter located in the northern portion of the site and Alcoa Australia Rolled Products, manufacturing aluminium rolled sheet products, in the southern area. Alcoa adjoin the eastern shoreline and their buffer zone extends south to Portarlington-Geelong Road. The Smelter and Rolled Products operation are located on the elevated north point, with the remaining land providing support facilities including sewer treatment ponds and water quality treatment ponds. Alcoa also own land that was formerly part of Cheetham Salt Moolap Salt Works in the vicinity of Windmill Road. These former salt pans are being retained for environmental values including flora and avifauna values. The Smelter has been in operation since 1963 and since the early 1990's Alcoa have been undertaking environmental improvements including water quality, waste minimisation, erosion control etc. Regular avifauna counts are undertaken in the Alcoa site by Birds Australia. In addition to the Smelter and Rolled Products Plant, Alcoa own the Point Henry Signal Station and have developed the landscape surrounding this to incorporate interpretative signage, and more recently worked with the Wathaurong Aboriginal Co-operative to develop interpretative information on Aboriginal cultural values. Alcoa own more than half of the Alcoa wetlands and these pre-treat the stormwater runoff from some areas of the Smelter, and also provide a recreational asset and fauna habitat.

## 2.4.4 Flora and fauna

### 2.4.4.1 Flora

There is little information available on the original vegetation communities present at Point Henry. The Broad Vegetation Types (Estimated coverage Pre-1750) and Victorian Bioregions map (NRE, 1997) includes Coastal Scrubs and Grassland Complexes to the perimeter of Point Henry and Plains Grassy Woodland Complexes to the higher ground. The Point Henry Environmental and Landscape Analysis Report (Brian Bodsworth, 1990) includes some descriptions from early explorers accounts of the area. This refers to the region as being largely covered with grasses with scattered trees including Banksia, Sheoke and Wirildra. They also noted that trees were cleared during the early stages of European settlement to supply timber to the Lime burning kilns along the coast, and is the likely reason why there is no remnant overstorey remaining in the study area. The Point Henry Flora and Fauna Management Study (Ecology Australia, 1994) prepared for the Alcoa site includes a table of reconstructed pre-European vegetation of Point Henry. The elevated areas of the site (adjacent to the western shoreline) have sandy clays and Coastal Shrubland/Woodland complex vegetation and Open Grassy Woodland are applicable to the site. The key characteristic overstorey species for these include Wirildra, Sheoke, possibly Red Gum, Lightwood and Blackwood. No Banksia species are referred to in this report.

The study area contains six broad vegetation communities which have been surveyed and described by MTES as part of this Management Plan. Refer to Drawing No. PTH-03 for the spatial distribution of the vegetation communities across the study area. Each of the vegetation communities have been listed with their EVC number and community name where known. A full description of the existing vegetation communities is contained in Appendix A. Below is a summary of the six vegetation communities present:

- ❑ *Coastal Dune Shrubland/Coastal Dune Grassland Mosaic (EVC1)*  
Noted as being of High significance as this community is depleted and fragmented in the Port Phillip Bay Region. This community is present along the supra-littoral zone above the beach on both the eastern and western shorelines. The community is an open to closed Shrubland to 1.8 metres high dominated by Coast Saltbush *Atriplex cinerea* and Austral Salt-grass *Distichlis distichophylla*. A modified form of this vegetation community is found in locations where the sub-littoral zone has been modified and contains artificial material and fill.
- ❑ *Coastal Saltmarsh (EVC9)*  
This community is noted as being of High significance as it is endangered in the Otway Plains Bioregion. The community is present in low-lying areas subject to tidal inundation on both the eastern and western shoreline, and is particularly well developed along the eastern shoreline. The closed herbfields are dominated by Beaded Glasswort *Sarcocornia quinqueflora* ssp *quinqueflora* and Shrubby Glasswort *Sclerostegia arbuscula*. A modified form of Coastal Saltmarsh exists on the eastern shoreline which is subjected to increased inputs of freshwater largely stormwater from Alcoa.
- ❑ *Submerged Herbfield (component of EVC9)*  
This community is noted as being of High significance given the distribution of this vegetation type is poorly known in Victoria. It is confined to brackish to seasonally hypersaline depressions within the Saltmarsh vegetation and is most well developed on the eastern shoreline. The open to closed submerged herbfield is seasonally dominated by Long-fruited Water-mat *Lepilaena cylindrocarpa* and Algae.
- ❑ *Brackish Wetland Herbfield (No EVC)*  
This community is of medium significance as, whilst it is degraded saltmarsh, it contains 11 indigenous species and provides important wildlife habitat values. The community is present on the eastern shoreline immediately north and south of Point Henry Pier, in areas that are receiving stormwater inputs from the Alcoa Point Henry Operation. This is a closed herbfield/sedgeland brackish swamp with dominant species including Cumbungi *Typha domingensis*, Sea Club-rush *Bolboschoenus caldwellii* and Common Spike-rush *Eleocharis acuta*.

- *Coastal Tussock Grassland (EVC 163)*  
This community is noted to be of High significance as it is Vulnerable in the Otway Plains Bioregion and is depleted and fragmented. It occurs in two sites on the western shoreline at the northern end of Cheetham Salt Works. The vegetation is a Coast Tussock-grass *Poa poiformis* dominated closed grassland.
- *Plains Grassy Woodland (EVC55) possibly degraded remnant*  
This community is of Low significance given the species diversity is poor and degraded. The community is present in several locations on the coastal slopes along the western shoreline. The community is an open tussock grassland dominated by Wallaby-grass *Austrodanthonia pilosa*, Spear-grasses *Austrostipa bigeniculata*, *Austrostipa flavescens*, *Austrostipa scabra* ssp *falcata*, and exotic species.

### Issues

Within the study area there are some key overall issues that need to be address in vegetation management. These include:

- Uncontrolled 4WD access to the site is damaging areas of vegetation, particularly the low lying areas of Saltmarsh and Coastal Dune Shrubland. The impacts include physically damaging and disturbing areas of indigenous vegetation, compaction of the ground which inhibits regeneration of species, transporting weed species into the site and changing the landform and hydrological patterns in localised areas.
- Presence of weed species in the site.
- Lack of indigenous vegetation cover through historical loss of vegetation.
- Revegetation areas include a range of non-indigenous natives some of which are highly invasive including *Hakea suaveolens*, *Melaleuca armillaris* and *Lagunaria patersonii*.
- Weed invasion limits regeneration of indigenous species.
- Areas of exotic slashed grass invading into areas of indigenous vegetation.
- Overflow of freshwater from stormwater quality treatment ponds impacting on saltmarsh vegetation.

**INSERT DRAWING # PTH-03 EXISTING VEGETATION COMMUNITIES**

#### 2.4.4.2 Fauna

There is no comprehensive recent fauna survey for the Point Henry public foreshore reserve. The following information is gained from background documents particularly the Point Henry Flora and Fauna Management Study prepared for Alcoa Australia Ltd (Ecology Australia. 1994), information from volunteers involved in the Seal Watch program at Point Henry, and information from DSE and City of Greater Geelong Environment Unit.

##### **Southern elephant seal *Mirounga leonine***

There is one Elephant seal that visits the Point each year and whilst no tracking has been undertaken, it is likely the seal comes from Heard Island from late November through to late December/early January. This species is listed as vulnerable under the EPBC Act 1999, and a recovery plan has been prepared in accordance with the EPBC Act. The southern elephant seal is not endemic to Australian waters and breed on Macquarie and Heard Islands, but individuals range widely and occasionally reach the beaches in Tasmania and Southern Mainland Australia. Both Macquarie Island and Heard Island are fully protected and listed as World Heritage sites (DEH, 2004). The seal comes ashore to moult and bask in the sun in the vicinity of the Point, utilising parts of the eastern and western shoreline. The seal is estimated to be 5 - 6 years old and estimated to weigh about 1 tonne (Seal Watch).

The Seal Watch program recommends that humans be kept at a safe distance from the seal to protect it, and also for visitor safety. \*

##### **Avifauna**

Point Henry in conjunction with Cheetham Salt Works is regarded as important habitat for waders and waterbirds, seabirds, gulls and terns. The avifauna is listed under the JAMBA and CAMBA agreements and listed under the F&FG Act 1988. The area is not included in the Ramsar Convention, however, there are Ramsar sites in close proximity to the study area as shown on the Regional Context Diagram (Refer *Drawing No. PTH-01*). This regional context of the broader system of habitats contributes to range of avifauna at Point Henry and the Cheetham Salt Works.

Following is a summary of the types of birds that visit the Point Henry foreshore reserves:

##### *International significance*

- Sharp-tailed Sandpiper

##### *National significance*

- Red-necked Avocet
- Greenshank
- Marsh Sandpiper
- Red-necked Stint
- Curlew Sandpiper
- Orange-bellied Parrot

##### *State significance*

- Latham's Snipe
- Fairy Tern
- Little Tern
- Brolga (pair, sighted by DSE, Dec 2005)

##### *Regional significance*

- Pied Cormorant
- Little Pied Cormorant
- Little Black Cormorant
- Royal Spoonbill
- Chestnut Teal

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\* Seal Watch program is a volunteer program which seeks to monitor the seal and its welfare

- Black Falcon
- Peregrine Falcon
- Lewin's Rail
- Baillon's Crake
- Australian Crake
- Spotless Crake
- Pied Oystercatcher
- Grey-tailed Tattler
- Common Sandpiper
- Pacific Gull
- Whiskered Tern
- Crested Tern
- Blue-winged Parrot
- Little Grassbird
- Calamanthus

### **Other fauna**

Other fauna recorded in the site during the 1994 Ecology Australia study includes:

- Common dolphins
- Metallic Skink

Other fauna reported to be present at the site by DSE or COGG:

- Tiger Snake (pers. comm. COGG Environment Unit)
- Water rats (breeding population)
- Copperhead Snake
- Bats (species not specified)
- Marsh frogs (species not specified)

### **Issues**

No comprehensive fauna survey has been undertaken for the entire site, with previous surveys undertaken for Alcoa dating from 1994. The site, particularly the shallow coastline, is frequented by large numbers of birds and this plan supports undertaking a comprehensive fauna survey to quantify the fauna values present.

Pest animals impact on flora and fauna values which include:

- Foxes and feral cats which are predators of ground dwelling fauna and birds
- Rabbits causing soil erosion and destruction of vegetation

There are other potential impacts on fauna values which include:

- Uncontrolled 4WD access and motorbikes
- Duck hunting
- Fishing
- Rubbish dumping
- Dog walking
- Walking
- Limited indigenous vegetation cover in some areas of site

## **2.4.5 Cultural heritage**

### **2.4.5.1 Indigenous cultural heritage values**

Point Henry falls within the Wathaurong language group, which included at least twenty-five different clans. The identity of the clan who occupied Point Henry is not precisely known but it is likely to be the Bengalat baling, the Bellarine Peninsula people. It is assumed they were mobile hunters and gatherers and moved according to subsistence requirements, trading and social obligations. (TerraCulture Pty Ltd, 2005)

#### **Aboriginal Archaeological Sites**

One artefact scatter was located on the western shoreline at Point Henry. The scatter includes formal and informal artefact types that are associated with composite tools made from wood and used to hunt game. (TerraCulture Pty Ltd, 2005)

### **2.4.5.2 Non-indigenous cultural heritage values**

John Batman landed at Point Henry in 1835 and the Point became the landing place for Geelong, as there was a continuous sand bar that extended north from Point Henry to Point Lillias, preventing boats entering Corio Bay. An old historical illustration from 1853 shows the forest of masts at Point Henry viewed from Geelong. Early records describe droving cattle across the sand bar prior to the Hopetoun Channel being cut. Construction of a pier commenced at Point Henry in 1841 but was not completed until 1861, the year the Hopetoun Channel was cut and the steamers and clippers could enter Corio Bay. A steamer made trips between Point Henry and Geelong, as there were facilities that had developed at the Point given it was the main entry port for Geelong in those initial years. A tea garden was established early in the sites history on the site of where the Alcoa Point Henry Operation is now located. These gardens became less popular by the end of the 1800's and were sold for grazing. Cheetham Salt Works was established in the 1889 and have been operating since that time on the site. (Bodsworth, 1990).

As Geelong grew the naval traffic continued to utilise the Hopetoun Channel. The Geelong Harbour Trust came into being in 1905. The Hopetoun Channel was dredged in 1931 to a depth of 29 feet but draft was still limited to 25 feet because this dredged depth did not continue as far as the entrance to the port. In 1934 the new Outer Harbour Channel was dredged, and by 1939 the deep channel was available. In order to control the shipping traffic, a temporary signal station was established at Portarlinton and also at Moorabool Pier. The Harbour Trust purchased land at the north end of Point Henry in 1939, and the Signal Station was designed by N. Schefferle Architect. Continuous watch commenced on 7th November 1940 and continued for 52 years. The depth of channel increased over the years to a depth of 36 feet in the 1960s'. The final shift at the Signal Station was worked on the night of January 31 1993 as it was made redundant by modern communication systems including mobile phones (C. Gordon, 1993). The Signal Station was purchased by Alcoa in 1994 for use as a Wetland Resource Centre.

Alcoa Australia purchased the site to establish the Alcoa Point Henry Operation in 1961 and continues to operate the Complex today.

#### **European Archaeological Sites**

- ❑ Cheetham Salt Moolap Salt Works is a large historic industrial site and is listed on numerous registers (TerraCulture, 2005).
- ❑ A ruinous wharf on the western shoreline of Point Henry was identified by TerraCulture in their 2005 survey. There are six sets of pylons with cross markers, and historic maps illustrate a pier near this location in the late 1800's. The site is locally significant due to its relationship to the maritime history. Further investigation to determine the sites origin and significance is required (TerraCulture, 2005).

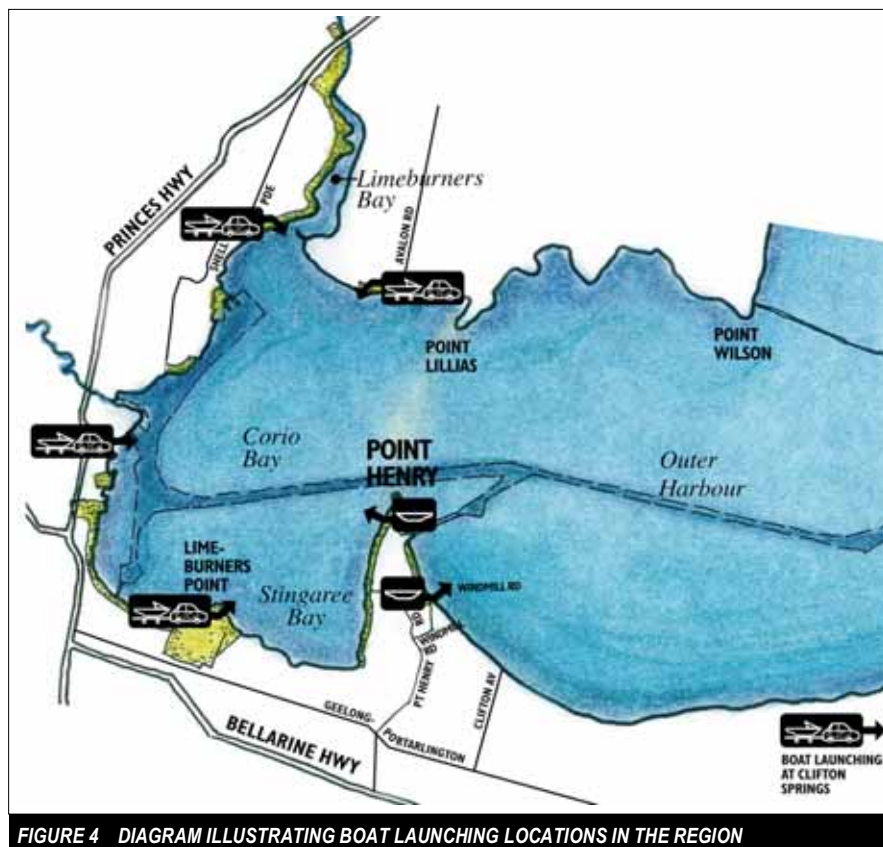
## 2.4.6 Recreation

For a description of recreational use by location, refer to **Section 3.0** of this report.

### 2.4.6.1 Water-based recreation

Point Henry is used for access to launch very small watercraft including tinnies and small sailing craft, kayaks/canoes, sailboards including kite surfing and wind surfing and PWC. The sail boarders launch from the western shoreline either at the northern end near the spit or at the mid-way along the western shoreline south of the decommissioned Alcoa stormwater outfall. Windsurfing and kitesurfing are popular activities at Point Henry particularly given the shallow water, good beach access and favourable wind conditions.

Small boats appear to launch from both the western and eastern shorelines. Fishing is noted as a recreational use, predominantly from the eastern shoreline and spear fishing is undertaken near the pier. The Corio Bay CAP recommends the prohibition of vehicle and formal boat launching from the point, directing boat launching to Limeburners Point refer *Figure 4*. The Boat Launching Review (Worley, 2004) confirms that boat launching (without vehicles) for very small craft is to be continued at Point Henry from the beach. Very small craft can include kayaks, canoes, small tinnies and small sailing craft. Larger craft requiring vehicles are to be launched from Limeburners Point (approximately 10 minutes from Point Henry), and there are other boat launching locations nearby in the region which are included in *Figure 4*. Windmill Road is also used as a boat launching point for very small craft, primarily canoes and kayaks and is intended for informal low key use only, particularly given the values of the nearby saltmarsh (Worley, 2004).



**FIGURE 4** DIAGRAM ILLUSTRATING BOAT LAUNCHING LOCATIONS IN THE REGION

Parks Victoria has recently declared and signed an exclusion zone for kite surfing within 200 metres of Point Henry Pier (the exclusion zone does not relate to boating or other water craft use). Offshore, the waters of the Outer Harbour and Corio Bay are used by PWCs and fishing craft who launch from other boat ramps nearby (refer *Figure 4*). All the other launch points have boat ramps and permit vehicle assisted boat launching. The only location in this region that excludes the use of a vehicle for boat launching is Point Henry. (Worley, 2004).

#### 2.4.6.2 Land-based recreation

The shallow water, flat shallow shoreline and protected nature of Point Henry is well suited for beach walking and enjoying the expansive views across Corio Bay. The shallow waters are popular feeding areas for shorebirds, waterbirds and waders and bird watching is popular, along with the presence of the avifauna contributing to the character and passive enjoyment of the site.

In the questionnaire completed by the community as part of this project, people nominated they highly value the views to the You Yangs, the views to Geelong, watching ships, the birdlife, and the sheltered location. The most popular land-based recreational activities are walking and dog walking. Other recreational activities include swimming, fishing, bird watching, picnics, fossicking for shells, watching the ships, enjoying the views and relaxing.

The questionnaires revealed that Point Henry Reserve receives the largest amount of visitors, followed by the western shoreline, the eastern shoreline, the Signal Station and Wetland, and finally the eastern shoreline at Windmill Road. Whilst it would be anticipated that Point Henry Reserve receives the largest amount of visitors, the lower numbers at the Signal Station and Wetland were not anticipated given the level of facilities, signage etc at these locations. The lack of visitation may be attributed to the poor visibility of these features on arrival at the Point and the Masterplan includes recommendations to improve this.

There is a cycle lane along Point Henry Road which does receive some use, but was not nominated highly in the returned questionnaires for the project. There is potential to encourage cycle access as there is an existing connection to the Bellarine Peninsula Rail Trail (refer to Regional Context Diagram, Drawing No. PTH-01).

Whilst not identified during the consultation phase, duck hunting is currently permitted during the duck hunting season in the Crown reserves south of Point Henry Pier to Windmill Road, and further south beyond the study area. Duck shooting is permitted from the land out over the water. This activity has been identified as being a workplace safety issue for Alcoa and GeelongPorts employees working on the Point Henry Pier and at the Alcoa Plant. Informal recreational use of this area includes beach walking, bird watching and boating (kayaks and canoes) and these activities potentially conflict with duck hunting. It is anticipated that passive recreational use of this area will gradually increase over time and the conflicts between duck hunting and other recreational uses will be exacerbated.

There is extensive illegal use of the site by four-wheel-drives which damages the vegetation and the peaceful enjoyment of the site and safety. A key issue to address in the Management Plan is exclusion of four-wheel-drive vehicles from the site. This site is also used for horse exercising which in low numbers on the western shoreline does not appear to have detrimental impacts.

## 3.0 MANAGEMENT ZONES

### 3.1 Introduction to Management Zones

The study area has been divided into a number of different zones that have been defined by common management aims. This section describes existing conditions and recommendations for each of the zones in the study area. Overall recommendations, which are common to the entire study area, are described in Section 4. The Masterplan, which covers the Point Henry and western shoreline only, spatially locates future changes and facilities. The Masterplan Drawing No. PTH-05 on page 25 includes design notes describing the changes, and the recommendations are included in the Management Zone descriptions included in this Section 3 and Management Zones are located on Drawing No. PTH-04 on page 24.

In summary the Management Zones described further in this section of the report are:

- Zone 1 Western shoreline adjacent to Cheetham Salt Works
- Zone 2 Western shoreline adjacent to Alcoa
- Zone 3 Western shoreline adjacent to Point Henry Road
- Zone 4 Signal Station
- Zone 5 Point Henry Reserve
- Zone 6 Eastern shoreline north of Point Henry Pier
- Zone 7 Alcoa water quality treatment wetland
- Zone 8 Eastern shoreline modified saltmarsh
- Zone 9 Eastern shoreline remnant saltmarsh

The management zones have been grouped into three overarching management intents. Future proposals for change of use or development in the reserves are to be compatible with the management intent and assessed accordingly.

#### 3.1.1 Management Intents for the zones

##### 3.1.1.1 Environmental Conservation Areas

These are areas managed primarily for their environmental conservation values. Future management and change within these zones will need to demonstrate they are compatible with the protection conservation values including flora and fauna values. Generally activities that substantially increase visitor use of these areas will not be acceptable. The extent of the study area included in Environmental Conservation Areas are illustrated on Drawing PTH-04, and include the following zones:

- Zone 1 Western shoreline adjacent to Cheetham Salt Works
- Zone 2 Western shoreline adjacent to Alcoa
- Zone 6 Eastern shoreline north of Point Henry Pier
- Zone 9 Eastern shoreline remnant saltmarsh

##### 3.1.1.2 Recreation and Conservation Areas

These areas are managed primarily for passive recreational use compatible with conservation values. Future proposals to increase recreation uses at Point Henry will be directed to these areas and will need to demonstrate they are compatible with environmental values. Generally in these zones, priority is given to passive recreation use, and the main visitor facilities including car parking, picnic areas, toilet facilities etc are located within them. The extent of the study area included in Recreation and Conservation Areas are illustrated on Drawing PTH-04, and include the following zones:

- Zone 3 Western shoreline adjacent to Point Henry Road
- Zone 4 Signal Station
- Zone 5 Point Henry Reserve

### 3.1.1.3 **Modified natural systems for the protection of broader site values**

These are areas where saltmarsh has been modified to provide water quality treatment wetlands that pre-treat the urban runoff prior to discharge into the Outer Harbour. Whilst it is recognised these treatment areas are required, expansion to them will not be encouraged. The extent of the study area included in the Modified natural systems for the protection of broader site values are illustrated on Drawing PTH-04, and include the following zones:

- Zone 7 Alcoa water quality treatment wetlands
- Zone 8 Eastern shoreline water quality treatment wetlands

### 3.1.2 **Priority timing**

Each recommendation is assigned a priority, which represents the following indicative timeframe:

Critical	Within 1 year
Very High	1 - 3 years
High	4 - 6 years
Low	7+ years
Ongoing	
As Required	

These priorities are subject to availability of Councils capital and operational budgets to undertake the tasks and in some instances, availability of other agency budgets and works and other funding sources eg. Commonwealth and State government grants.

**INSERT DRAWING # PTH-04 MANAGEMENT ZONES**

**INSERT DRAWING # PTH-05 MASTERPLAN**

## 3.2 ZONE 1 Western Shoreline adjacent to Cheetham Salt Works *Environment Conservation Area*

The zone includes the Crown land reserve extending south from the Cheetham Salt Drain Outfall in the north and south to the Cheetham Salt bluestone sea wall. Refer to Drawing No. PTH-04, page 24.

### 3.2.1 Existing conditions

#### Land ownership/management

The study area is Crown land managed by City of Greater Geelong.

#### Landscape character

- ❑ The land is low lying coastal shrubland and saltmarsh with expansive views over Stingaree Bay and Cheetham Salt Works.
- ❑ Access is via the beach with shallow margins.
- ❑ There has been recent fill at the southern end of this zone which appears to be eroding along the coastline, however this is currently being rectified by Cheetham Salt.

#### Recreation

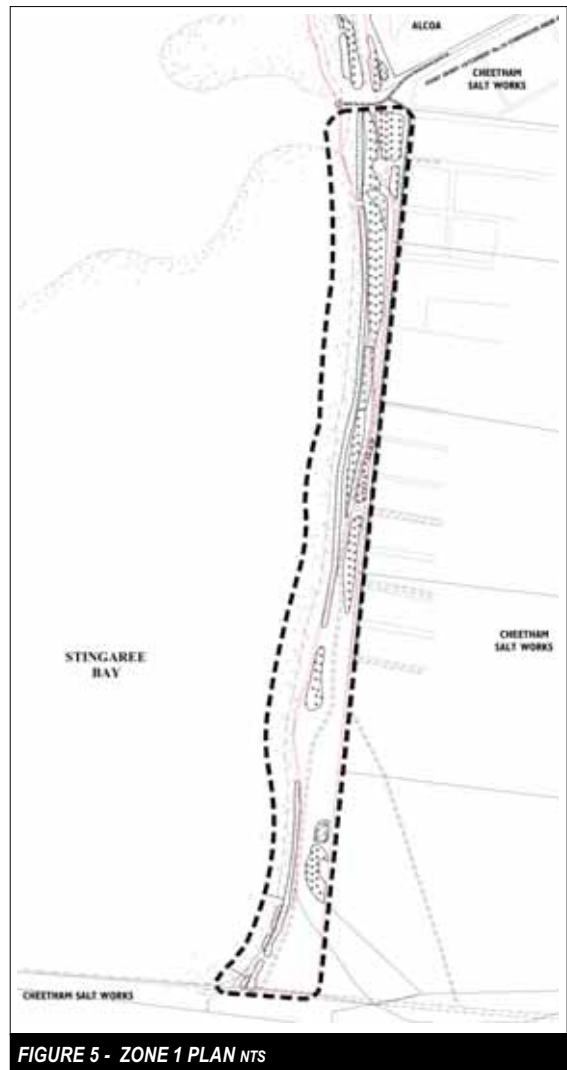
- ❑ There is no formal path established through this area, however, informal beach walking is not restricted.
- ❑ It is assumed that birdwatchers would potentially access the site, given the significant wader, waterbird and shorebird values along the foreshore and in Stingaree Bay and in the adjoining Cheetham Salt Limited Moolap Salt Works.
- ❑ Recreational fishing in Stingaree Bay (launching from Limeburners Point, refer to *Figure 4*).

#### Flora and fauna

- ❑ Coastal saltmarsh is noted as being of High significance, along with smaller areas of Submerged herbfield.
- ❑ Dune shrubland extends along the shoreline of the zone, which is in relatively good condition, except at the north and south ends of the zone.
- ❑ Waterbird and migratory waders occur along the shoreline and within Cheetham Salt Moolap Salt Works including a range of internationally significant species.
- ❑ Sea-lavender is an invasive weed in the Coastal Saltmarsh which will require control.
- ❑ The Coastal Saltmarsh is minimal in the southern end of the zone due to ground disturbance and fill.

#### Cultural heritage

- ❑ Cheetham Salt including the bluestone sea wall, the extensive salt pans, the remaining machinery and plant, historical buildings are socially significant as a major provider of employment for Geelong in early years. Richard Cheetham was the founder of Cheetham Salt and an important pioneer of the Victorian salt industry.



- No sites of Aboriginal cultural heritage have been recorded in this zone.

#### **Adjoining land**

- The adjoining land is owned and managed by Cheetham Salt Moolap Salt Works. The land is recognised as important waterbird habitat including for internationally significant species.

#### **Adjoining water**

- Seagrass bed values in Stingaree Bay noted as important fish breeding areas and provide waterbird habitat for Ducks and Grebes
- Sediment from the stormwater outfall impacts on the Seagrass beds in Stingaree Bay. The catchment of this drain includes part of the Point Henry industrial area, including Hays Road, Mullan Road and Point Henry Road, some of which are unsealed.
- The clay platform extending along the western shoreline of Point Henry Peninsula is noted as being of Regional geomorphological significance. The platform has a flat to gently concave surface which retains large pools at low tide. This is the only instance in Port Phillip Bay of a platform developing in unconsolidated clay.
- Shallow waters is noted as important for waterbirds including a small number of Little Terns and Fairy Terns, large feeding number of Cormorants, Pacific Gulls, and occasional Chestnut Teal, (Ecology Australia, 1994). A range of species including those of international significance have been recorded.
- Shallow waters may occasionally be used by Common Dolphins, (Ecology Australia, 1994).

### **3.2.2 Zone 1 Key Issues**

- Retention of the habitat values for migratory waders, waterbirds and shorebirds.
- Invasive weed management, particularly Sea Lavender.
- Potential impact of sediment from the stormwater outfall on the seagrass in Stingaree Bay.
- Loss of saltmarsh vegetation due to previous disturbance to parts of the southern section of the foreshore reserve.

### **3.2.3 Zone 1 Management Aims**

- Reduce sediment loads in the stormwater drain to reduce its potential impact on the Seagrass beds in Stingaree Bay.
- Improve waterbird and wader bird habitat values.
- Expand the existing areas of Coastal Saltmarsh.
- Retain informal recreational access (i.e. no formalised paths).

### **3.2.4 Zone 1 Management Recommendations**

<b>No</b>	<b>Issue</b>	<b>Recommendation</b>	<b>Agency</b>	<b>Priority</b>
3.2.4.1	Reduction in Seagrass beds potentially due to sediment loads and/or water quality from stormwater drain.	Council stormwater officer to investigate the sub-catchment for the drain, and identify at-source sediment control measures, and other water quality treatment measures.	COGG (Land-holders) (EPA)	High
3.2.4.2	Recent remodelling of salt pans resulted in disturbance to areas of the Foreshore Reserve.	Monitor the success of natural regeneration of Coastal Saltmarsh vegetation in this area, and undertake weed control and/or species enrichment planting if required to re-establish saltmarsh in this area.	CSL COGG	Ongoing

No	Issue	Recommendation	Agency	Priority
3.2.4.3	Presence of the serious environmental weeds including Sea-lavender ( <i>Limonium companyousis</i> ) and African Thistle ( <i>Berkheya rigida</i> ).	Control and manage environmental weeds with priority control of Sea-lavender to prevent this spreading elsewhere in the site.	COGG	Very High
3.2.4.4	Protect the Coastal Saltmarsh of high significance and prevent further outbreaks of environmental weeds.	Regularly monitor the saltmarsh vegetation and take active measures to control future outbreaks of weeds, and supplementary revegetation if regeneration is unsuccessful. Monitor tidal flows and manage as required to achieve natural conditions in consultation with Cheetham Salts Limited.	COGG CSL	Ongoing
3.2.4.5	Dune Shrubland and degraded Dune Shrubland.	Maintain Dune Shrubland vegetation and regularly monitor the condition of the dunes to ensure no illegal filling or disturbance occurs.	COGG	Ongoing
3.2.4.6	Progressive beach erosion.	Undertake regular monitoring of beach erosion, and if significant, undertake further investigation of potential control measures which minimise impacts on the dynamic coastal processes	COGG	Ongoing

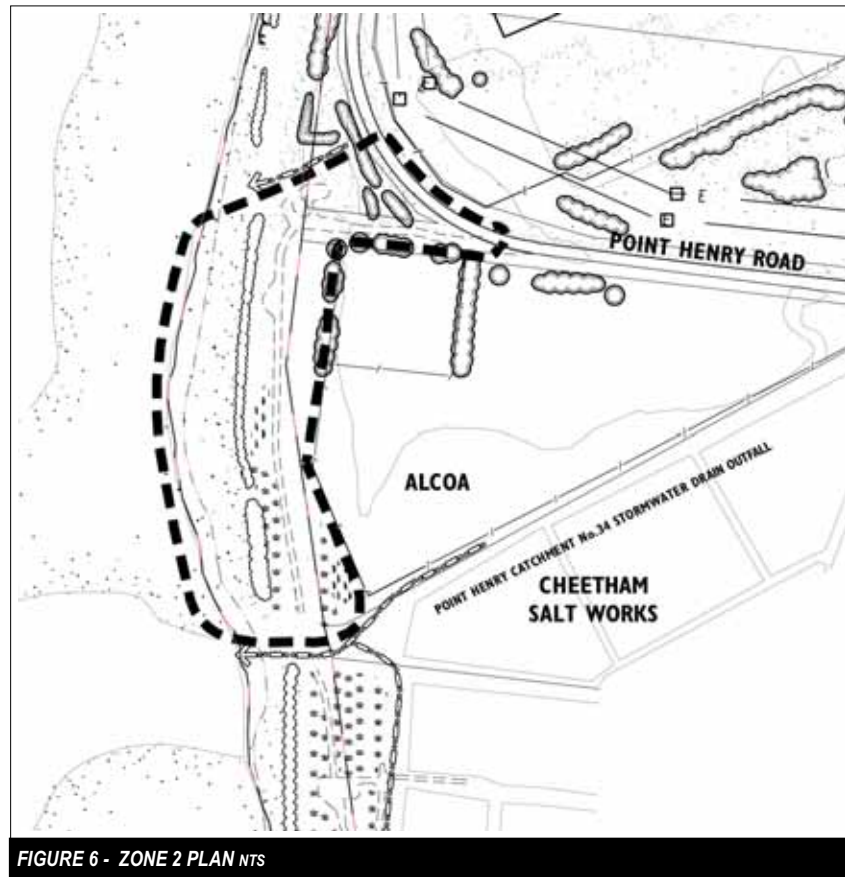
### 3.3

## ZONE 2

### Western shoreline adjacent to Alcoa

#### *Recreation Conservation Zone*

This zone includes the land extending from the decommissioned Alcoa stormwater outfall south to the Point Henry catchment 34 stormwater drain outfall. Refer to Drawing No. PTH-04, page 24 and Masterplan Drawing PTH-05.



#### 3.3.1 Existing conditions

##### **Landownership/management**

The study area is Crown land, managed by City of Greater Geelong.

##### **Landscape character**

- The landform is relatively flat and offers good views over Corio Bay.
- The shrubs and trees planted in the zone provide some shade, but also restrict open sight lines making the area less safe for recreational purposes.
- The area is currently being degraded due to uncontrolled vehicle access.

##### **Recreation**

- The formal paths are established, however uncontrolled vehicle access has created a network of unsealed roads.
- The site is used as an access point for kite and windsurfing and other small craft.
- The coastline is used for water based recreation including windsurfing and kite surfing.
- The outfall drains are natural barriers to vehicle access north and south of this zone.

### **Flora and fauna**

- ❑ Coast Tussock-grass Grassland that is of high significance and is the only remnant of this vegetation community in the study area.
- ❑ Small disjointed remnants of Saltmarsh Complex.
- ❑ There are records of the Orange-bellied Parrot from June 1986, adjacent to the shoreline (Ecology Australia, 1994).
- ❑ Other waterbird species that utilise the Shoreline include occasional Sharp-tailed Sandpipers, regular small numbers of Greenshank, Red-necked Stint and Curlew Sandpiper.
- ❑ The shrub and tree plantings have a large component of non-indigenous species, some of which are weedy species including *Hakea suaveolens*, *Melaleuca armillaris* and *Lagunaria patersonii*.
- ❑ There are a number of serious environmental weeds in this zone that are also present in Zone 3 including African Thistle, Blanket Weed, African Boxthorn and Kikuyu Grass.

### **Adjoining land use**

- ❑ The Alcoa land to the south of the zone is the location of a former landfill. A stockpile of clay, which is to be used to cap the former landfill, is utilised by unauthorised 4WD's as there is no fence between public land and Alcoa land.

### **Adjoining water**

- ❑ The coastline is used for water based recreation including windsurfing and kite surfing.
- ❑ Shallow waters are noted as being important for water birds including small numbers of Little Terns and Fairy Terns, large feeding numbers of Cormorant, Pacific Gull, and occasional Chestnut Teal (Ecology Australia, 1994).
- ❑ Shallow waters may occasionally be used by Common Dolphins (Ecology Australia, 1994).

### **Cultural heritage**

- ❑ Sites of Aboriginal archaeological value have been recorded in this zone and require ongoing protection.
- ❑ No sites of non-indigenous cultural heritage value have been recorded in this zone.

## **3.3.2 Zone 2 Key Issues**

- ❑ Protect Aboriginal archaeological values.
- ❑ Uncontrolled 4WD access damaging vegetation and other values.
- ❑ Protect area of Coast Tussock-grass Grassland and the only remnant of this vegetation type in the study area.
- ❑ Retain water based recreational use of the coastline including wind surfing and kite surfing.

## **3.3.3 Zone 2 Management Aims**

- ❑ To provide vehicle access for permitted recreation use, maintenance access and restrict uncontrolled vehicle access.
- ❑ Protect and expand the Coast Tussock-grass Grassland and the Coastal Saltmarsh.
- ❑ Protect Aboriginal archaeological values.
- ❑ Control weeds including non-indigenous native shrubs.

### 3.3.4 Zone 2 Management Recommendations

No	Issue	Recommendation	Agency	Priority
3.3.4.1	Damage to and fragmentation of Coast Tussock-grass Grassland and disturbance to Aboriginal archaeological values.	<ul style="list-style-type: none"> <li>Install suitable vehicle control measures to contain vehicles to the permitted beach access road and small parking area located in the northern section of this zone. (Refer to 3.3.4.2) Retain maintenance vehicle access only.</li> </ul>	COGG Alcoa WACL	Very High
		<ul style="list-style-type: none"> <li>Undertake weed control to protect existing Coast Tussock-grass Grassland and, where appropriate, expand this vegetation community.</li> </ul>	COGG WACL	Very High & Ongoing
3.3.4.2	Uncontrolled vehicle access to this area.	Undertake construction of road access and small parking area to provide suitable access for permitted recreational use including windsurfing, kite surfing, walking access and very small watercraft use. For vehicle control barrier refer to Item 4.7.1. Refer to Masterplan Drawing PTH-05.	COGG	High
3.3.4.3	Invasive weeds in remnant indigenous vegetation.	Manage the invasive weeds in remnant indigenous vegetation including African Thistle, Blanket Weed, African Boxthorn and Kikuyu Grass with priority given to protection of the Coast Tussock-grass Grassland and Saltmarsh Complex. Revegetate as required.	COGG	Very High & Ongoing
3.3.4.4	Invasive weeds present in the existing shrub and tree plantings.	<ul style="list-style-type: none"> <li>Selectively remove the invasive weed species from the shrub and tree plantings.</li> </ul>	COGG	High
		<ul style="list-style-type: none"> <li>Review the density of remaining indigenous plantings and consider supplementary indigenous planting, being careful not to create dense screening.</li> </ul>	COGG	Low
3.3.4.5	Vehicle access has changed natural landform and inundation patterns.	<ul style="list-style-type: none"> <li>Undertake minor re-shaping works to reinstate natural morphology.</li> <li>Monitor natural regeneration of vegetation communities and where required, undertake supplementary planting with local provenance indigenous species.</li> </ul>	COGG	High
3.3.4.6	Protect Aboriginal archaeological values.	Review management practices in this area and do not disturb the ground in order to protect archaeological values.	COGG WACL Alcoa CSL	High

## 3.4 ZONE 3 Western Shoreline adjacent to Point Henry Road

### *Recreation Conservation Area*

This zone extends from the Alcoa property boundary westwards to the High Water Mark, and extending from the decommissioned Alcoa stormwater outfall northwards including all the steeply graded land along the western shoreline.

This Zone is included in the Masterplan for the site, refer to Drawing PTH-05, page 25.

### 3.4.1 Existing conditions

#### **Land ownership/management**

Point Henry Road is Crown land designated as Government Road and the public land west of the road reserve is Crown land managed by City of Greater Geelong.

#### **Landscape character**

- ❑ The land is steeply graded between Point Henry Road and the shoreline. This offers spectacular elevated views across Corio Bay to Geelong and the You Yangs.
- ❑ The groups of shrubs and trees planted along the coastal side of Point Henry Road obscure broader view lines over Corio Bay.
- ❑ In some sections the bank is so steeply graded no vehicle access is possible for maintenance purposes and illegal uncontrolled 4WD access is similarly restricted.
- ❑ The Alcoa Plant is visually dominant on arrival at Point Henry as there is no planting between Point Henry Road and the Plant. The presence of powerlines along the edge of the plant limits the height and style of planting that can be achieved.
- ❑ The existing asphalt parking area opposite Entry Gate 2 to Alcoa is unnecessary and attracts undesirable uses.
- ❑ The overhead powerlines on the east side of Point Henry Road are visually prominent.
- ❑ Access along the shoreline is not formalised, however there is space at the base of the slope to walk along the grassed area behind the modified Dune Shrubland.
- ❑ This section of the shoreline has been subject to erosion, and as a result concrete and other hard material has been placed as a rock sea wall along this steeply graded section of shoreline to control erosion which appears to be successful (Lawson and Treolar, 2004), however, this material is visually intrusive to this natural landscape

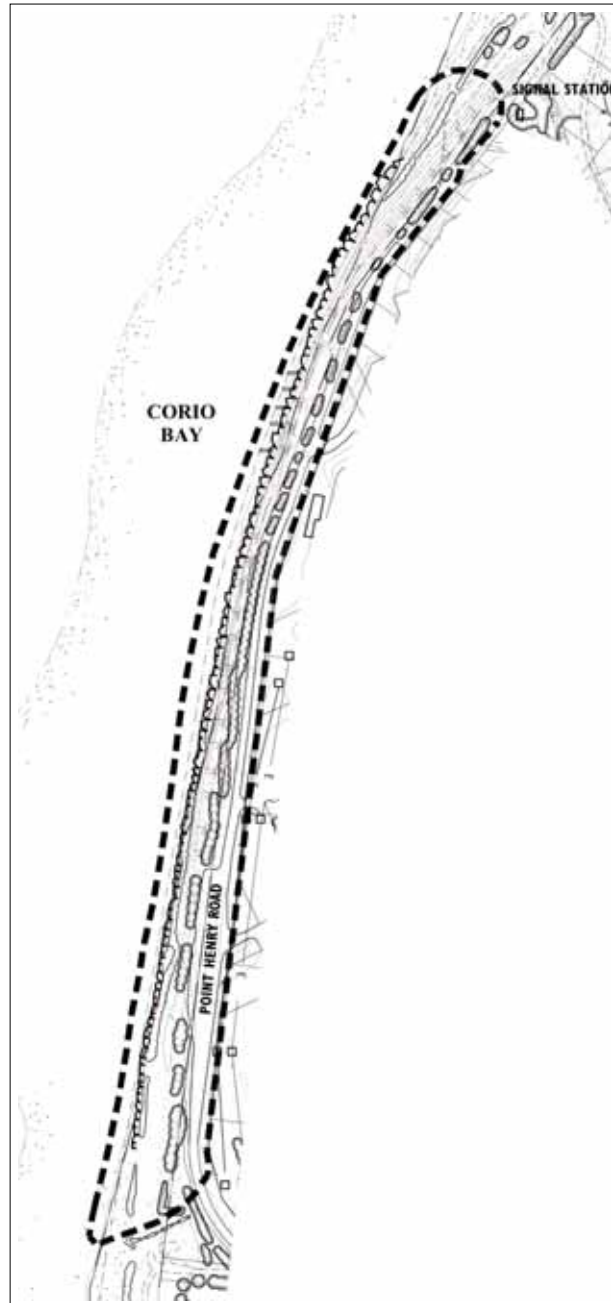


FIGURE 7 - ZONE 3 PLAN NTS

setting. It is noted there is some erosion occurring behind the concrete material and this presents a public safety risk.

- ❑ The timber pylons and cross members, which may be remnant from former jetties in the late 1800's (TerraCulture, 2005) contribute to the landscape character of the site. These are key visual markers and a good orientation point for pedestrians walking along the shoreline. The heritage status of these structures is currently unknown, however, they are potentially of local cultural significance. (TerraCulture, 2005).

### **Recreation**

- ❑ No formal paths exist along the shoreline, however community consultation outcomes identify people walk and walk the dog along the western shoreline.
- ❑ The coastline is used for water based recreation including windsurfing and kite surfing.
- ❑ Uncontrolled 4WD access degrading environmental, landscape and cultural values.

### **Flora and fauna**

- ❑ Degraded Dune Shrubland has colonised adjacent to the shoreline and rock armour erosion control treatment.
- ❑ Some small areas of modified Plains Grassy Woodland are located along the upper bank. They include Wallaby-grass, Spear-grass and some exotic grasses. It is noted these areas require protection and gradual expansion, however, it is recognised the priority for their expansion is lower recognising their overall role in native grassland management in the Geelong region.
- ❑ The majority of the zone is dominated by exotic pasture grass and Kikuyu.
- ❑ Shrub and tree plantings along the edge of Point Henry Road are a combination of introduced and indigenous species. Indigenous species include Drooping She-oak and Moonah, and introduced species include Sweet-scented Hakea, Honey Myrtle and Norfolk Island Hibiscus.
- ❑ The western shoreline is occasionally used by Sharp-tailed Sandpipers and regular small numbers of Greenshank, Red-necked Stint and Curlew Sandpiper (Ecology Australia, 1994). Grey-tailed Tattler and Common Sandpiper have been recorded in the artificial rock shoreline.

### **Adjoining land use**

- ❑ Alcoa Plant is visually prominent and the noise and odour emanating from the plant is evident in the elevated sections of this zone.

### **Adjoining water**

- ❑ The coastline is used by wind and kite surfers, however, launching does not occur in this zone.
- ❑ Shallow waters are noted as important for water birds including small numbers of Little Terns and Fairy Terns, large feeding numbers of Cormorant, Pacific Gull, and occasional Chestnut Teal (Ecology Australia, 1994).
- ❑ Shallow waters may occasionally be used by Common Dolphins (Ecology Australia, 1994).

### **Cultural heritage**

- ❑ A monument has been installed on the crest of the hill at the northern extent of the zone, opposite the Point Henry Signal Station. This is in recognition of the cultural heritage significance of Point Henry with text as follows:  
*'Below this headland name Point Henry in 1836 but known to the Aborigines as Maloppio many pioneer squatters landed their stock. Here Geelong began and here for more than twenty years the masts of many an ocean-going vessel soared above incoming settlers. Geelong Historical Society 1951.'*
- ❑ Timber jetty/pier structures along the western shoreline may be remnant from jetties present in the site in the late 1800's. The heritage values require further investigation. (TerraCulture, 2005).
- ❑ No sites of Aboriginal cultural heritage have been recorded in this zone.

### 3.4.2 Zone 3 Key Issues

- ❑ Uncontrolled 4WD access damaging the environmental and landscape values.
- ❑ Existing overstorey and shrub plantings screening views over Corio Bay.
- ❑ Small remnants of Plains Grassland Grassy Woodland vegetation on steep banks.
- ❑ Maintenance of steep banks.
- ❑ Retain water based recreational use of adjoining waters including wind surfing and kite surfing.

### 3.4.3 Zone 3 Management Aims

- ❑ Secure the site to prevent access by 4WD vehicles to improve site values.
- ❑ Protect and where practical expand the remnants from the Plains Grassy Woodland vegetation.
- ❑ Encourage additional passive recreational uses, eg. walking and dog walking (on lead).
- ❑ Improve the character and sense of arrival at Point Henry to reflect its environmental character and values.

### 3.4.4 Zone 3 Management Recommendations

No	Issue	Recommendation	Agency	Priority
3.4.4.1	Four wheel drive damage to upper slopes.	<ul style="list-style-type: none"> <li>• Secure the site through design and installation of cable fence (detailed determined in the trial in a selected area of the site) and where appropriate, reduce to installation between tree and shrub plantings only. Refer to Recommendation 4.7.1 for design criteria and trial.</li> </ul>	COGG	High
		<ul style="list-style-type: none"> <li>• Ongoing maintenance of fence to repair breakages, and ensure ongoing security of site. Refer to Recommendation 3.4.4.3 and 3.4.4.4.</li> </ul>	COGG	Ongoing
3.4.4.2	Under-utilised carpark encourages inappropriate behaviour, rubbish dumping etc.	<ul style="list-style-type: none"> <li>• Demolish and remove carpark.</li> <li>• Reinstate grades and plant scattered indigenous overstorey trees. Refer to Masterplan Drawing.</li> </ul>	COGG (Alcoa)	High
3.4.4.3	Protection, monitoring and gradual expansion of remnant Plains Grassy Woodland vegetation.	Protect the remnant Plains Grassy Woodland vegetation by the following:		
		<ul style="list-style-type: none"> <li>• Control inappropriate disturbance through 3.4.4.1.</li> </ul>	COGG	High
		<ul style="list-style-type: none"> <li>• Define remnant grassland areas with simple star picket and wire barrier.</li> </ul>	COGG	Very High
		<ul style="list-style-type: none"> <li>• Undertake ongoing selective weed control in the defined areas, and gradually expand defined area as weed control is achieved.</li> </ul>	COGG	Ongoing
		<ul style="list-style-type: none"> <li>• Gradually expand the remnant Plains Grassy Woodland vegetation, once the areas are protected and secure.</li> </ul>	COGG	Low & Ongoing

No	Issue	Recommendation	Agency	Priority
3.4.4.4	Existing shrub plantings along Point Henry Road contain non-indigenous natives, including weedy species. The plantings are dense and do not represent the open scattered woodland character likely to have been present, and block views over Corio Bay.	Undertake selective removal of non-indigenous shrubs and trees, with priority given to weedy species: <i>Hakea suaveolens</i> , <i>Melaleuca armillaris</i> and <i>Lagunaria patersonii</i> . Note: This removal work needs to be undertaken in conjunction with 3.4.4.1 to ensure new openings greater than 1.2 metres wide are secured to prevent 4WD access. Expand plantings with indigenous species (Refer to Action 3.4.4.5).	COGG	High
3.4.4.5	Lack of indigenous vegetation on the embankment.	Plant additional scattered indigenous trees over the embankment to establish scattered Plains Grassy Woodland character which is thought to be the original vegetation type. Refer to Masterplan Drawing PTH-05. Refer to also to Action 3.4.4.3.	COGG	High & Ongoing
3.4.4.6	The poor visual amenity and public safety issue of the erosion stabilisation treatment along shoreline.	<ul style="list-style-type: none"> <li>Retain and where required supplement the degraded Dune Shrubland vegetation to the landward side of the erosion stabilisation works to improve environmental and landscape values. This will also restrict public access to the steep rocky bank.</li> <li>Where erosion is occurring on landward side of wall, stabilise with indigenous planting that has soil-binding characteristics. Monitor and if required, install additional rock works to stabilise.</li> <li>Additional supplementary planting to be undertaken when path is constructed to improve the buffer and deterrent for access to the water from the path to minimise visitor impacts on the shoreline values. This vegetation will largely cover the exposed concrete and rubble.</li> </ul>	COGG	Low
3.4.4.7	Lack of looped walking paths at Point Henry.	Undertake detailed design and construction of a looped walking path system including: <ul style="list-style-type: none"> <li>1.5 m wide compacted unsealed path from Point Henry adjacent to the shoreline south of Alcoa Gate # 2.</li> <li>2m wide compacted unsealed shared trail along the upper slopes adjacent to Point Henry Road. Refer to the Masterplan drawing PTH-05 for indicative alignment.</li> </ul>	COGG	Low
3.4.4.8	Heritage significance of the timber pylons and structures on the western shoreline are unknown.	<ul style="list-style-type: none"> <li>Undertake a heritage assessment of the timber structure to determine their origin and significance.</li> <li>Retain the structure and implement any recommendations from the heritage assessment to protect and stabilise these.</li> </ul>	COGG COGG	Low Ongoing

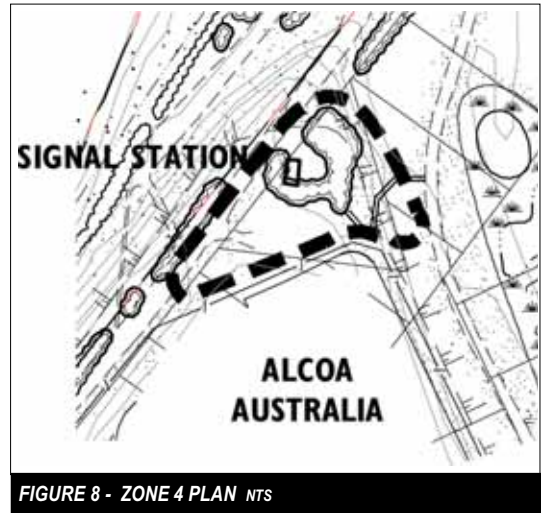
## 3.5

### ZONE 4 Signal Station

#### *Recreation Conservation Area*

This zone encompasses the immediate surrounds of the Signal Station and Point Henry Road. This includes the steeply graded land to the east of Signal Station.

This Zone is included in the Masterplan for the site, refer to Drawing PTH-05, page 25.



#### 3.5.1 Existing conditions

##### **Land ownership/management**

The Signal Station is located on Alcoa's land and is within their land management responsibility. The adjoining Government Road is Crown land and forms the western section of this zone.

##### **Landscape character**

- ❑ Land is elevated with good views over the eastern shoreline to the Point Henry Pier and the Alcoa Wetlands.
- ❑ The Signal Station contributes to the character of the zone and its specific use.
- ❑ The carpark and associated native plantings contribute to sense of arrival, however they screen views into this area from Point Henry Road.

##### **Recreation**

- ❑ The visitor facilities include carparking, the lookout platform over the wetland with interpretive signage and an outdoor education/interpretation area adjacent to the Signal Station.
- ❑ A path connects the carpark to a circuit walk around the Alcoa Wetland.
- ❑ The facilities are not visible on arrival to the Point which may explain lower usage levels of this facility in the consultation outcomes.

##### **Flora and fauna**

- ❑ The area to the north and east of the Signal Station carpark has been planted with indigenous and non-indigenous species, including trees, shrubs and ground-covers. It is likely this area would originally have consisted of the Plains Grassy Woodland vegetation community.
- ❑ Small numbers of Latham's Snipe may use the plantations in Spring (Ecology Australia, 1994).

##### **Cultural heritage**

- ❑ The Point Henry Signal Station is noted to be of historical significance and is listed on the COGG Planning Scheme in a Heritage Overlay. The Station was constructed in the late 1930's with the first watch commencing in November 1940. The Station was operational continually until it closed 52 years later in 1993. It closed due to the declining volume of ships coming into Corio Bay and alternative technology reducing the need for active watch to be kept. The communication equipment on the Station is still in use today and the Victorian Regional Channels Authority has access to this as required.
- ❑ No specific sites of Aboriginal cultural heritage have been recorded in this zone.

### Adjoining land

- ❑ Alcoa Smelter is located nearby and the noise levels and emissions detract from the useability, impacts on the viability and use of the outdoor education/interpretation area.
- ❑ There is potential to reduce the visual impact of the adjoining Smelter with additional indigenous vegetation.

### 3.5.2 Zone 4 Key Issues

- ❑ Lack of visual prominence of the Signal Station.
- ❑ Views from the Signal Station and immediate surrounds are increasingly being obscured by vegetation.
- ❑ Impact of noise and emissions from the Alcoa Smelter on the use of the outdoor education and interpretation facility.

### 3.5.3 Zone 4 Management Aims

- ❑ To improve the visual prominence of the Signal Station to improve visitor understanding of the cultural and natural values of Point Henry Peninsula.
- ❑ Retain as an interpretation location and encourage improved links between this zone and the Point Henry Recreation Zone.

### 3.5.4 Zone 4 Management Recommendations

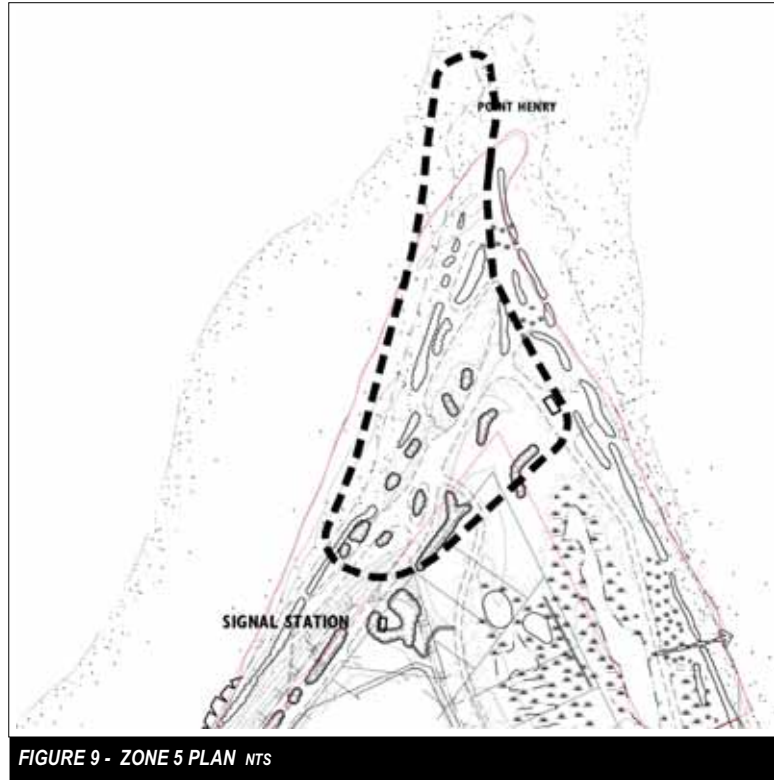
No	Issue	Recommendation	Agency	Priority
3.5.4.1	Lack of visual prominence of the Signal Station.	<ul style="list-style-type: none"> <li>• Undertake some selective vegetation trimming and removal to open up views of the Station on entry to the site targeting non-indigenous native species where practical.</li> </ul>	COGG (Alcoa)	High
		<ul style="list-style-type: none"> <li>• The realigned road will curve slightly towards the Signal Station improving its visual prominence on entry to the site (Implement as part of 3.6.4.1)</li> </ul>	COGG (Alcoa)	Very High
3.5.4.2	Existing planting obscures views over the Point and the You Yangs, and the viewing platforms over the wetlands.	<ul style="list-style-type: none"> <li>• Trim existing indigenous vegetation and progressively remove non-indigenous species to open up views. Replace with lower growing indigenous species where practical.</li> <li>• Expand existing areas of planted indigenous vegetation where practical.</li> </ul>	Alcoa	High
3.5.4.3	Visual and noise impacts from the adjoining Alcoa Smelter.	Investigate the potential to reconfigure the car park layout to increase the planting area between Alcoa Smelter and the Signal Station and wetland interpretation platforms. As part of the design, trim or selectively remove vegetation at entry to improve vehicle line of sight on entry and exit from the Signal Station car park area.	Alcoa	High
3.5.4.4	Road through this zone leads to the steep descent to the Point, where vehicle speed is an ongoing safety issue.	Realign the road to incorporate slight curves to slow traffic and improve sense of arrival, safety and road maintenance. The curves will realign views towards the Signal Station on entry. (Implement as part of 3.6.4.1)	COGG	Very High

## 3.6

### **ZONE 5** **Point Henry Reserve** *Recreation Conservation Area*

This zone extends north of the Signal Station to Point Henry and the western shoreline.

This Zone is included in the Masterplan for the site, refer to Drawing PTH-05, page 25.



#### **3.6.1 Existing conditions**

##### **Land ownership/management**

The majority of this zone is Crown land managed by the City of Greater Geelong. A smaller part on the south-eastern side is Government Road and Alcoa land.

##### **Landscape character**

- ❑ The landform includes the Point which is of regional geomorphological significance. The Point is an elongated shelly spit and a sinuous offshore bar system that extended across the entrance to Corio Bay. This system is now truncated by the cutting of the Hopetoun Channel. The Point Henry spit recurves westwards (Rosengren, 1988).
- ❑ The landscape is relatively flat, and offers all ability access to the shallow shoreline with expansive views over Corio Bay.
- ❑ Uncontrolled vehicle access has modified the natural landform and created an unsafe environment for recreational users. The result is large areas that have no vegetation, high vehicle speeds in the site and poorly maintained unsealed roads.

##### **Recreation**

- ❑ Launching small craft including dinghy's, canoes, kayaks, small tinnies, PWC's, kite surfers and wind surfers.
- ❑ Boat launching currently includes vehicle assisted boat launching, which is not consistent with the recommendations in the South West Port Phillip and Adjacent Ocean Coast Public Boat Launching Review (Worley, 2004) and the Corio Bay Coastal Action Plan (Tract, 2005).

- ❑ Land based recreational activities include walking, dog walking, swimming and fossicking for shells.
- ❑ Views to the You Yangs and across to Geelong are highly valued.
- ❑ Bird watching and watching the ships.
- ❑ Picnics at the Point due to grassed area, shallow shorelines and views.
- ❑ Some horse exercising along the beach.

#### **Flora and fauna**

- ❑ A seal visits the Point annually and there may potentially be an increase in the number of seals visiting the Point.
- ❑ The Point Henry sand spit may be occasionally used by Fairy Tern for roosting, along with numbers of roosting Cormorants, Pacific Gull and Crested Tern, and occasional roosting by Pied Oystercatcher and Eastern Curlew.
- ❑ The western shoreline has similar values to those noted in Zone 3.
- ❑ Vegetation is predominantly exotic mown grass, with areas of dune shrubland adjacent to the shoreline and saltmarsh species.
- ❑ A range of planted trees and shrubs include predominantly non-indigenous species.

#### **Adjoining land use**

- ❑ Alcoa land contains the water quality treatment wetland and complement the natural landscape character of the Point.

#### **Adjoining water**

- ❑ The western shoreline is sheltered and popular for water-based recreation including boating, wind surfing and kite surfing.
- ❑ There are waterbird habitat values along the western shoreline.

#### **Cultural heritage**

- ❑ Point Henry was the arrival point for boat passengers in the mid-1800's prior to Hopetoun Channel being cut in 1861. The Point therefore has some social significance to the European settlement of Geelong.
- ❑ Parks Victoria have identified there is a land based navigation aid in this zone which is no longer used, but is an official survey point.
- ❑ No specific sites of Aboriginal cultural heritage have been recorded in this zone.

### **3.6.2 Zone 5 Key Issues**

- ❑ Provide for water and land based recreational use compatible with environmental values.
- ❑ Uncontrolled vehicle and 4WD access damaging environmental and landscape values of the site.
- ❑ Secure controlled vehicle access to the Point Henry Pier.
- ❑ Poor quality of existing recreational infrastructure, particularly the toilet facility which is too large for the visitation levels at the site, and subject to extensive vandalism in this remote location.
- ❑ Lack of recreational and visitor management facilities.
- ❑ Excessive vehicle speed.
- ❑ Retain boat launching but restrict vehicle access consistent with the Boat Launching Review (Worley, 2004) and the Corio Bay CAP (2005).

### 3.6.3 Zone 5 Management Aims

- ❑ Retain and promote passive recreational access, and improve defined areas for permitted activities to avoid conflicts between environmental and recreation use.
- ❑ Improve the provision of visitor management facilities to improve the recreational and landscape character of the site.
- ❑ Retain beach small craft launching facility that does not require vehicle launch (as per Public Boat Launching Review Report, July 2004 and Corio Bay CAP, 2005).
- ❑ Provide for water based recreational use including wind surfing, kite surfing, boating, fishing and swimming.
- ❑ Protect and expand, where practical, indigenous vegetation.
- ❑ Safe management of the Elephant Seal that visits the Point.

### 3.6.4 Zone 5 Management Recommendations

No	Issue	Recommendation	Agency	Priority
3.6.4.1	Uncontrolled vehicle access, damaging vegetation and natural morphology of the Point, and lack of formalised car park.	Undertake detailed design and documentation for construction of a realigned road entry, carparks and adequate turnaround area to provide access for permitted informal recreational use. Refer to Masterplan Drawing PTH-05 for indicative layout. Documentation to include minor re-shaping works to address compaction, in order to encourage natural regeneration with supplementary planting of indigenous vegetation. Indicative areas of regeneration/ revegetation are shown on Masterplan Drawing PTH-05.	COGG	Very High
3.6.4.2	Maintenance and delivery vehicle access is required to Point Henry Pier.	Council to consult with the relevant organisations during the design development and implementation of car park and vehicle control measures at Point Henry to incorporate maintenance and delivery vehicle access to Point Henry Pier.	COGG (DSE) (Alcoa) (Geelong-Ports)	Very High
3.6.4.3	Vehicle speed	The entry road is to be realigned and regraded to reduce vehicle speed. Vehicles will be restricted to the entry road, parking and turnaround. Effective vehicle control cable barriers are to be installed and regularly maintained.	COGG	Very High
3.6.4.4	Lack of public recreation infrastructure including picnic tables, seats, pedestrian paths.	Implement the Masterplan including: <ul style="list-style-type: none"> <li>• picnic tables and seats.</li> <li>• network of unsealed trails providing links to broader areas of the site including the Alcoa Wetland, and the path connecting the western shoreline and Point Henry Signal Station.</li> </ul>	COGG COGG	Low High
3.6.4.5	Small and very small watercraft launching without vehicles (i.e. without vehicles on the beach).	The western and eastern shorelines are suitable for launching small watercraft including sailboards, canoes and kayaks from the beach without vehicles. Non vehicle-assisted launch access points will be retained on both the western and eastern shorelines where there are existing gaps in the dune shrubland. Refer to Masterplan Drawing PTH-05.	COGG	Ongoing

No	Issue	Recommendation	Agency	Priority
3.6.4.6	Safety of the Elephant Seal and visitors when the seal is at the Point.	COGG and DSE are to undertake pre-planning measures regarding securing the site when the Elephant Seal is at the Point. The Masterplan has incorporated minor changes which may assist with improved management, including: realignment of the entry road; selective vegetation removal to open up views over the Point and Wetland; and investigate the potential for the Signal Station to be used by DSE/Seal Watch for conducting guided tours. Council to facilitate the involvement of the wind and kite surfers to establish safe access protocols when the seal is at the Point.	COGG DSE Alcoa	Ongoing
3.6.4.7	Toilet facility is too large, is subject to extensive vandalism and is poorly located in the site.	<ul style="list-style-type: none"> <li>• Remove existing toilet facility and construct a new, small toilet facility near the proposed carpark area to meet best practice environmental standards in remote sites. This will include investigating harvesting roof runoff for re-use in the facility and potentially for supply to external shower. This location has been selected to be in close proximity to the open grassed area and western shoreline that is popular for swimming and sailboard sports, and yet not highly visible as it is co-located with existing trees.</li> <li>• Once the existing toilet block has been removed, its location is to be planted with scattered indigenous trees in keeping with the Open Woodland vegetation character.</li> </ul>	COGG	Low
3.6.4.8	Vehicle damage to indigenous vegetation.	Undertake design and construction of vehicle control measures described in 3.6.4.1 to prevent further vehicle damage to indigenous vegetation. Undertake selective weed control and supplementary revegetation where required.	COGG	Very High

### 3.7 ZONE 6 Eastern Shoreline north of Point Henry Pier

#### *Environment Conservation Zone*

This zone includes the eastern shoreline extending north of the Point Henry Pier to the Point.

This Zone is included in the Masterplan for the site, refer to Drawing PTH-05, page 25.

#### 3.7.1 Existing conditions

##### Land ownership/management

The shoreline is Crown land predominantly managed by Council, with a section immediately north of the Pier leased and licensed to Alcoa.

##### Landscape character

- ❑ The eastern shoreline has a greater sense of remoteness than the western shoreline.
- ❑ Views to the Pier and ships.
- ❑ The existing toilet block dominates the landscape character in the north of this zone, and is highly visible on arrival to the Point.

##### Recreation

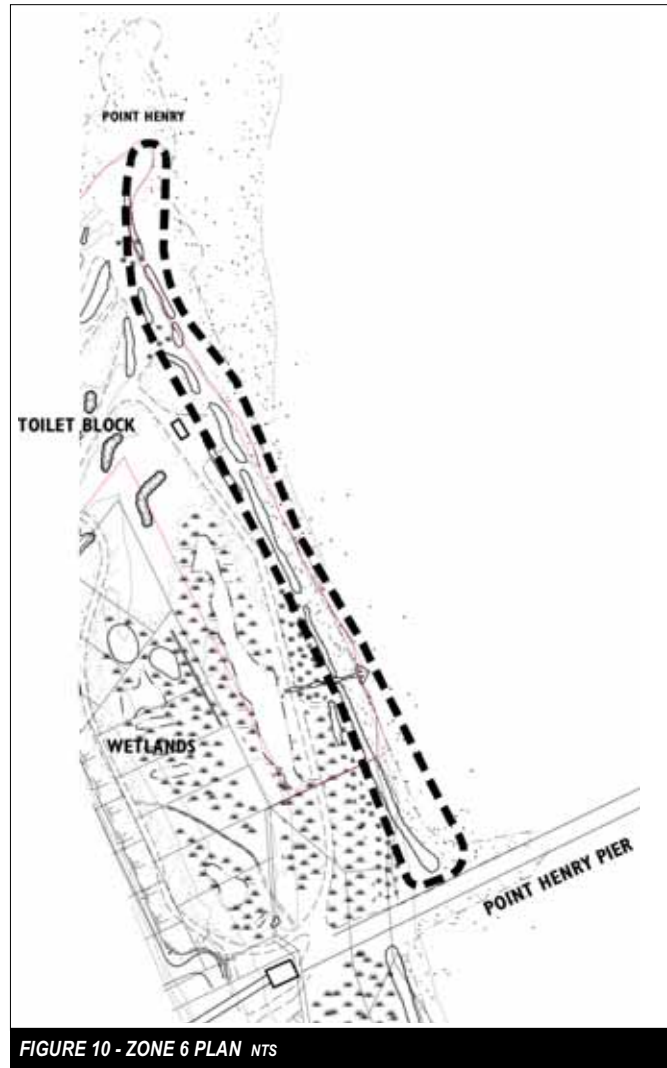
- ❑ Fishing and boat launching occurs from the eastern coastline, between the areas of dune shrubland.
- ❑ Currently there are no vehicle control measures, and therefore there is a network of roads and access points which damage existing Dune Shrubland.
- ❑ Kite surfing occurs on the eastern shoreline, however, there is a 200 metre exclusion zone from the Pier.

##### Flora and fauna

- ❑ The vegetation is predominantly Dune Shrubland (Degraded) in the north of the zone, changing to Dune Shrubland in better condition to the south.
- ❑ Occasional small numbers of Sharp-tailed Sandpipers, and occasional use by Fairy Terns, Greenshank, Red-necked stint and Curlew Sandpiper in small numbers. A range of regionally significant birds also use this shoreline (Ecology Australia, 1994).
- ❑ Serious environmental weeds include African Thistle, Blanket Weed and African Boxthorn.

##### Adjoining land use

- ❑ The Alcoa stormwater quality treatment wetland discharges through this zone.



### Cultural heritage

- ❑ No specific sites of Aboriginal or non-indigenous cultural value have been recorded in this zone.

### Adjoining water

- ❑ The eastern shoreline is shallow and assured to provide habitat values for wader and water birds.
- ❑ Shallow waters are noted as important for water birds including small numbers of Little Terns and Fairy Terns, large feeding numbers of Cormorant, Pacific Gull, and occasional Chestnut Teal (Ecology Australia, 1994).
- ❑ Shallow waters may occasionally be used by Common Dolphins (Ecology Australia, 1994).
- ❑ Recreational fishing and kite surfing, however, there is a 200 metre exclusion zone for kite surfing from the Pier.

## 3.7.2 Zone 6 Key Issues

- ❑ Uncontrolled vehicle and 4WD access to the shoreline damaging the dunes and the environmental and landscape values of the site.

## 3.7.3 Zone 6 Management Aims

- ❑ To consolidate and expand existing Dune Shrubland remnant vegetation.
- ❑ To reinstate the natural shoreline values.

## 3.7.4 Zone 6 Management Recommendations

No	Issue	Recommendation	Agency	Priority
3.7.4.1	Compaction and damage to existing vegetation from uncontrolled vehicle access.	Remove vehicle access by implementing Action 3.6.4.1 once vehicle access is controlled.	COGG	Very High
		<ul style="list-style-type: none"><li>• Assess and undertake minor reshaping of landform, where required, to re-establish a more natural topography and loosen compacted surface.</li><li>• Monitor for successful regeneration, and undertake supplementary planting where required with locally endemic indigenous species.</li></ul>		Ongoing
3.7.4.2	Weeds	Manage serious environmental weeds including African Thistle, Blanket Weed and African Boxthorn, in accordance with best management practice.	COGG	Low
3.7.4.3	Fishing and boat launching access.	Retain beach access point where shown on the Masterplan (north of existing toilet block) for access, including fishing and launching of small craft (without vehicles).	COGG	Ongoing

## 3.8

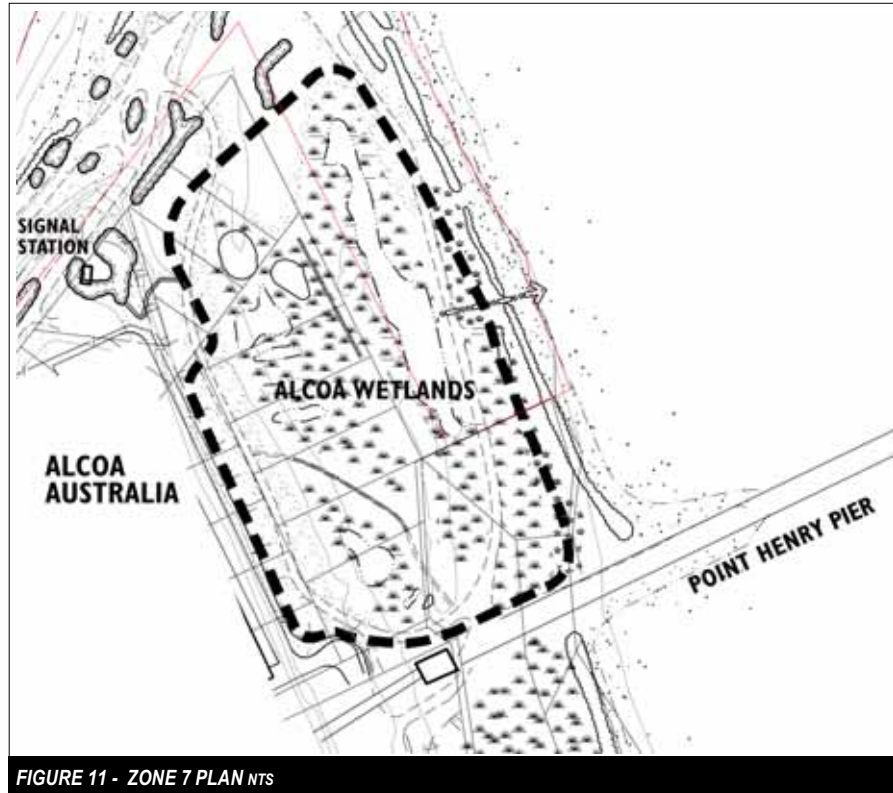
### ZONE 7

#### Alcoa water quality treatment wetlands

##### *Modified natural systems for protection of broader site values area*

This zone includes the Alcoa water quality treatment wetlands and adjoining maintenance access track.

This Zone is included in the Masterplan for the site, refer to Drawing PTH-05, page 25.



#### 3.8.1 Existing conditions

##### Land ownership/management

The land is partially owned by Alcoa, and partially Crown land. The Crown land has three types of arrangements, the majority of which is managed by City of Greater Geelong, a small area is leased to Alcoa and the other area licensed to Alcoa. The Pier itself is privately owned by Ports Pty Ltd and Toll manage the Pier, which is solely used by Alcoa Point Henry Works.

##### Landscape character

- The water quality treatment wetland enhances the natural character of the site, however it is recognised this is not the 'natural' landscape character.
- The visual impact of the Alcoa Smelter on the site is significant due to its close proximity and elevation. Recent planting by Alcoa between the Plant and the wetland will assist in ameliorating these impacts.

##### Recreation

- The path system provides a more extensive path network.
- Uncontrolled public vehicle access detracts from the passive recreation experience including bird watching and walking.
- The boardwalk and bird hide, providing for walking and bird watching. There is potential for passive use to increase.

### **Flora and fauna**

- ❑ The vegetation community is noted as Brackish Wetland Herbfield, and is dominated by Cumbungi *Typha domingensis*. This community is noted as medium significance as it is modified Coastal Saltmarsh. There are eleven indigenous species which provide important wildlife habitat. There is some Coastal Saltmarsh (Degraded) remains which is to be protected and possibly expanded.
- ❑ The bird habitat values provided by the wetland are noted as important including Latham's Snipe along with small numbers of Sharp-tailed Sandpiper, and occasional Greenshank, Marsh Sandpiper and Red-necked Stint. A range of other bird species of regional significance are present in the wetland.
- ❑ A small permanent pond has been established in the north-east area of the wetland as a frog pond to encourage frogs into this area. There are records of the Common Froglet in the pond (*pers. comm. Steve Ford, Alcoa*).
- ❑ Hairy Willow-herb is a serious environmental weed present in the wetland which requires control. Hairy Willow-herb is considered a potentially serious weed that currently has limited distribution hence the priority. Other environmental weeds include Kikuyu Grass, Annual Beard-grass and Grey Willow.

### **Cultural heritage**

- ❑ No specific sites of Aboriginal or non-indigenous cultural heritage value have been recorded in this zone.

### **Adjoining land**

- ❑ The visual, noise and odour impacts from the adjoining Smelter.

## **3.8.2 Zone 7 Key Issues**

- ❑ Lack of secure maintenance vehicle access to the Point Henry Pier of the Pier owner and manager.
- ❑ Invasive weeds in the Alcoa water quality treatment wetlands.
- ❑ Lack of pedestrian connection between the interpretive trail around the water quality treatment wetland and the remainder of Point Henry.
- ❑ Uncontrolled vehicle access impacting on the recreational values.

## **3.8.3 Zone 7 Management Aims**

- ❑ Protect the marine environment by ensuring ongoing effective water quality treatment of stormwater output.
- ❑ Protect the remaining Saltmarsh Complex vegetation by containing freshwater to modified areas.
- ❑ Provide secure maintenance access to the Point Henry Pier for the Pier owner and manager.

### 3.8.4 Zone 7 Management Recommendations

No	Issue	Recommendation	Agency	Priority
3.8.4.1	Effectiveness of water quality treatment wetlands.	Continue regular monitoring and minor modification as required to protect the marine environment.	Alcoa (EPA)	Ongoing
3.8.4.2	Weeds in particular Hairy Willow-herb which is present in high numbers.	<ul style="list-style-type: none"> <li>Continue to investigate the best method to control Hairy Willow-herb which is currently unknown. Trial physical removal of plant prior to setting seed, as seed is transported by wind and therefore difficult to control. DSE to liaise with Alcoa regarding the success of trial control methods used elsewhere.</li> <li>Undertake effective control of other environmental weeds present in wetlands, and regularly monitor to prevent additional outbreaks.</li> </ul>	Alcoa COGG (DSE)	High and Ongoing
3.8.4.3	Poor visual links and direct pedestrian connection to the broader public reserve at Point Henry	<ul style="list-style-type: none"> <li>Selectively remove non-indigenous native shrub plantings to the north and west of the wetlands to open up sightlines.</li> <li>Design and construct additional unsealed pedestrian path connections as illustrated in the Masterplan. These paths to be constructed once vehicle control and new carpark has been constructed (Refer recommendation 3.4.4.1)</li> </ul>	COGG Alcoa  COGG Alcoa	High  Low
3.8.4.4	Exotic grass and non-indigenous plantings to the north do not enhance the ephemeral wet grassland to the north and do not contribute to the landscape and environmental values of the area.	Progressively control Kikuyu. Plant indigenous vegetation to the northern area of this zone. This will include scattered overstorey vegetation out from the wetland edge and paths.	COGG Alcoa	Low
3.8.4.5	Maintenance access to Point Henry Pier	Provide maintenance vehicle access across public land in this zone to Point Henry Pier. Refer to the Masterplan Drawing PTH-05 for location of the maintenance access track.	COGG DSE Alcoa Toll	Very High

**3.9 ZONE 8**  
**Eastern shoreline**  
**water quality**  
**treatment wetlands**  
*Modified natural systems*  
*for protection of broader*  
*site values area*

This zone includes the area of modified saltmarsh on the eastern shoreline, extending south of Point Henry Pier. Refer to Drawing No. PTH-04, page 24.

**3.9.1 Existing conditions**

**Land ownership/management**

This is Crown Land which is partially licensed and partially leased to Alcoa.

**Landscape character**

- The Point Henry Pier is dominant in this zone.
- Public access is limited.
- There is some coastal erosion occurring along the shoreline (Lawson and Treolar, 2004)

**Flora and fauna**

- Original Coastal Saltmarsh has been degraded by freshwater inputs. Vegetation community is Brackish Wetland Herbfield which includes Cumbungi, Sea Club-sedge and Common Spike Rush.
- Weed invasion in the wetland, particularly Hairy Willow-herb and Gazania.
- Other environmental weeds include Kikuyu, Annual Beard-grass and Grey Willow.
- Small numbers of Sharp-tailed Sandpiper, and small numbers of the Greenshank, Marsh Sandpiper, Red necked Stint and Curlew Sandpiper, along with occasional Fairy Terns. Large numbers of Latham's Snipe were recorded in the early 1980's although this is reduced in 1994 (Ecology Australia, 1994).

**Recreation**

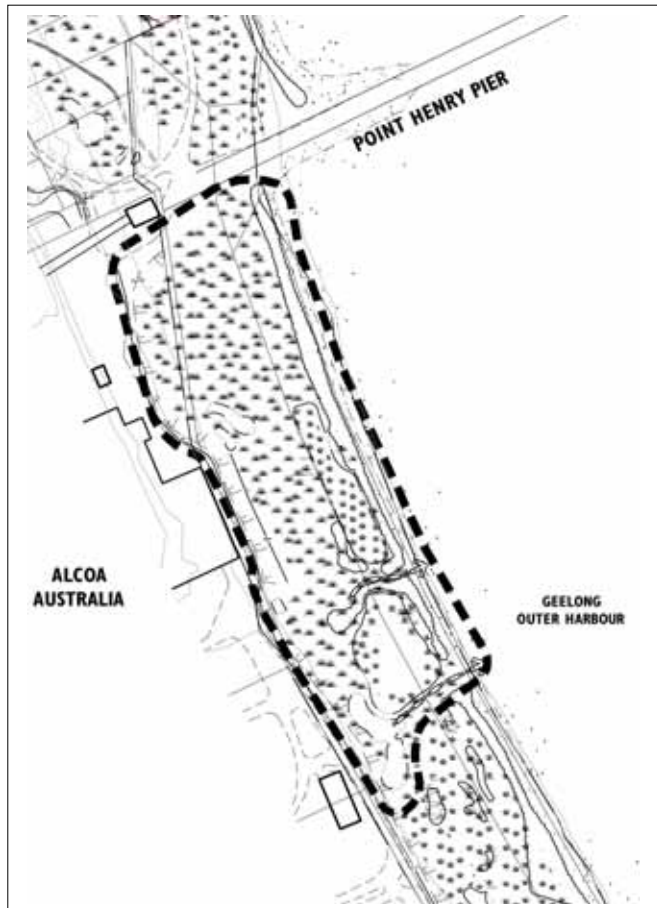
- Beach walking.
- Duck hunting.

**Cultural heritage**

- No specific sites of Aboriginal or non-indigenous cultural heritage value have been recorded in this zone.

**Adjoining land**

- Alcoa Point Henry Operation and the Point Henry Pier are visually dominant.



**FIGURE 12 - ZONE 8 PLAN NTS**

- ❑ Impacts of stormwater runoff on the Coastal Saltmarsh values.
- ❑ Weed invasion from the Alcoa Point Henry Operation into the foreshore reserve.

#### Adjoining water

- ❑ Shallow waters are noted as important for water birds including small numbers of Little Terns and Fairy Terns, large feeding numbers of Cormorants, Pacific Gull, and occasional Chestnut Teal, (Ecology Australia, 1994).
- ❑ Shallow waters may occasionally be used by Common Dolphins, (Ecology Australia, 1994).
- ❑ Recreational fishing.
- ❑ PWCs.

### 3.9.2 Zone 8 Key Issues

- ❑ Potential for the freshwater inputs via stormwater runoff from Alcoa to further encroach and degrade adjoining saltmarsh vegetation.
- ❑ Invasive weed control.
- ❑ The coastline immediately south of the Pier is experiencing some erosion which is assumed to be caused by the interruption to the natural sand drift in a southerly direction by the Pier (Lawson & Treolar, 2004).

### 3.9.3 Zone 8 Management Aims

- ❑ Protect the marine environment by ensuring ongoing effective water quality treatment of stormwater output.
- ❑ Protect the Dune Shrubland vegetation community through monitoring and effective erosion control if required.
- ❑ Protect the remaining Saltmarsh Complex vegetation by containing freshwater to modified areas.
- ❑ Monitor erosion south of the Pier and address as required.

### 3.9.4 Zone 8 Management Recommendations

No	Issue	Recommendation	Agency	Priority
3.9.4.1	Effectiveness of water quality treatment wetlands.	Continue regular monitoring and modification as required to protect the marine environment.	Alcoa (EPA)	Ongoing
3.9.4.2	Weeds in particular Hairy Willow-herb which is present in low numbers.	<ul style="list-style-type: none"> <li>• Investigate the best method to control Hairy Willow-herb which is currently unknown. Trial physical removal of plant prior to setting seed, as seed is transported by wind and therefore difficult to control.</li> <li>• Undertake effective control of other environmental weeds present in wetlands, and regularly monitor to prevent additional outbreaks.</li> </ul>	Alcoa (DSE)	High and Ongoing
3.9.4.3	Coastal erosion south of Point Henry Pier.	<ul style="list-style-type: none"> <li>• Monitor the erosion south of the Pier.</li> <li>• If erosion continues and compromises the water quality treatment wetland established by Alcoa, engage suitably qualified coastal engineers/ geomorphologists to investigate appropriate measures to control erosion, which may include increasing the bypassing of sand to the south of the Pier.</li> </ul>	Alcoa  Alcoa (DSE) (COGG) (Toll/ Bridge owner)	Ongoing  As required

### 3.10 ZONE 9

#### Eastern shoreline coastal saltmarsh

*Environmental Conservation Area*

This zone commences south of the modified saltmarsh and extends south to Windmill Road. Refer to Drawing No. PTH-04, page 24.

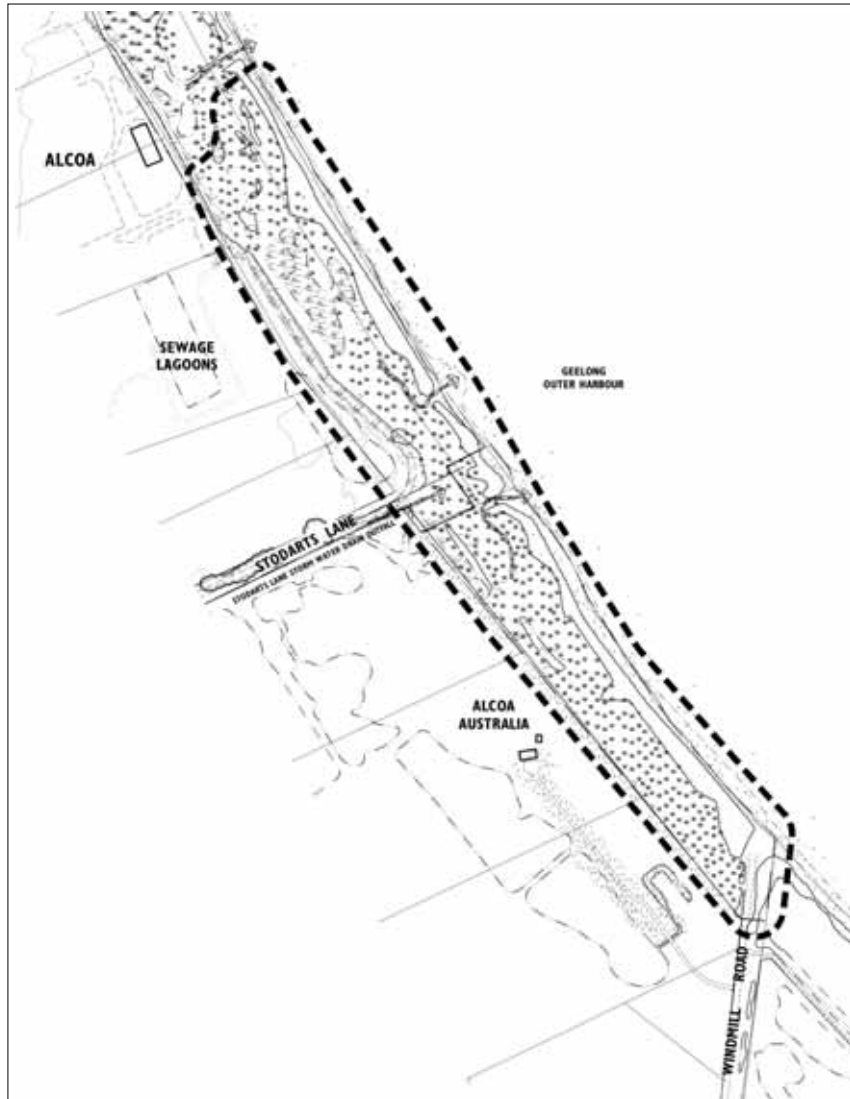


FIGURE 13 - ZONE 9 PLAN NTS

#### 3.10.1 Existing conditions

##### Land ownership/management

This is Crown Land which is partially licensed and partially leased to Alcoa in the northern section of this zone. The southern section of this zone is managed by the City of Greater Geelong.

##### Landscape character

- Expansive views over Outer Harbour and towards Point Henry Pier.
- Saltmarsh and dune shrubland contributes to the natural character of this zone.
- Sense of remoteness.
- Sheltered location and shallow water access.

### **Recreation**

- ❑ Launching small craft from the beach.
- ❑ Beach walking and dog walking.
- ❑ Duck hunting is permissible from public land, over public land, in season and subject to all normal shooting regulations. This causes a workplace safety issue for the Alcoa and GeelongPorts on Point Henry Pier.

### **Flora and fauna**

- ❑ Coastal Saltmarsh vegetation is in good condition, and given the width of this reserve, contains the largest areas of saltmarsh in the study area.
- ❑ Dune Shrubland vegetation extends along the length of this zone and is in good condition.
- ❑ Environmental weeds include Golden Wreath Wattle.
- ❑ The Coastal Saltmarsh is noted as providing important habitat for a range of bird species, particularly due to the size and extent of Coastal Saltmarsh. This includes regular small numbers of the Sharp-tailed Sandpiper and the Greenshank. Other species occasionally using the area is Marsh Sandpiper, Red-necked Stint, Curlew Sandpiper and Red-necked Avocet. Fairy Terns occasionally use the site, along with a range of regionally significant species (Ecology Australia, 1994).
- ❑ There is a bare area near the Sewage Treatment Ponds where saltmarsh vegetation has not regenerated. Recent soil tests conducted by Alcoa in this area reveal the bare area has soils with elevated levels of calcium, potassium, sulphur and phosphorous.

### **Cultural heritage**

- ❑ No specific sites of Aboriginal or non-indigenous cultural heritage value have been recorded in this zone.

### **Adjoining land**

- ❑ Weed invasion and land disturbance from the Alcoa Point Henry Operation into the Coastal Saltmarsh.
- ❑ Threat of vehicle damage caused by uncontrolled vehicle access from the Windmill Road.

### **Adjoining water**

- ❑ Shallow waters are noted as important for water birds including small numbers of Little Terns and Fairy Terns, large feeding numbers of Cormorants, Pacific Gull, and occasional Chestnut Teal (Ecology Australia, 1994).
- ❑ Shallow waters may occasionally be used by Common Dolphins (Ecology Australia, 1994).

## **3.10.2 Zone 9 Key Issues**

- ❑ Duck hunting is incompatible with workplace safety at Point Henry Pier and the Alcoa site. It is also incompatible with passive recreational use of this zone.
- ❑ Degradation of the saltmarsh by freshwater inputs via stormwater runoff.
- ❑ Uncontrolled vehicle and 4WD access damaging environmental values at the end of Windmill Road.
- ❑ Saltmarsh threatened by uncontrolled vehicle access and damage given the increasing use of the area, and when other areas on Point Henry are secured to preclude uncontrolled 4WD access.

## **3.10.3 Zone 9 Management Aims**

- ❑ Protect the remnant Coastal Saltmarsh and Dune Shrubland vegetation communities and bird habitat values.

- ❑ Monitor fresh water discharge from stormwater outfall at Stodarts Lane to ensure no decline occurs to the remnant Coastal Saltmarsh in this zone.
- ❑ Improve interface treatment between Alcoa and the foreshore reserve.

### 3.10.4 Zone 9 Management Recommendations

No	Issue	Recommendation	Agency	Priority
3.10.4.1	Conflicts between duck hunting and workplace safety at Point Henry Pier and Alcoa, along with passive recreational use.	Investigate suitability of duck hunting at this location given conflicts with workplace safety on the Pier and at Alcoa in consultation with stakeholders and users.	DSE Alcoa COGG Geelong-Ports Police Geelong Sporting Shooters Geelong Rod & Game	Very High
3.10.4.2	Uncontrolled vehicle access at the end of Windmill Road damaging saltmarsh vegetation.	<ul style="list-style-type: none"> <li>• Undertake detailed design and construction of a vehicle turnaround and small parking area the end of Windmill Road, before the water supply channel. Install vehicle control barriers, consistent with other barriers in the study area, to prevent vehicle access to the beach. Non vehicle-assisted launching of small water craft will be permitted.</li> <li>• Detailed design development and construction of an effective vehicle control barrier at the proposed Windmill Road car park. Refer to Recommendation No. 4.7.1 for design criteria &amp; costs. This smaller section of barrier is to be constructed as part of the trial prior to construction of more extensive lengths of the barrier elsewhere at Point Henry.</li> </ul>	COGG  COGG	Very High  Very High
3.10.4.3	An area currently lacks saltmarsh vegetation cover adjacent to the Alcoa sewage lagoons.	Review soil test results and investigate suitable program to reinstate saltmarsh in this area and undertake works.	Alcoa	Very High
3.10.4.4	Stormwater outfall at Stodarts Lane could potentially cause decline to Coastal Saltmarsh.	<ul style="list-style-type: none"> <li>• Set up a regular monitoring system of Coastal Saltmarsh in this zone in consultation with COGG.</li> <li>• If any change to the Coastal Saltmarsh occurs, undertake measures to address this with priority.</li> </ul>	Alcoa COGG  Alcoa (COGG)	Very High & Ongoing  As required
3.10.4.5	<i>Acacia saligna</i> , single specimen, north of the Stodarts Lane.	Remove <i>Acacia saligna</i> to ensure this does not spread in this zone.	Alcoa	Critical
3.10.4.6	Coastal Saltmarsh is subject to weed infestation.	Regularly monitor the Coastal Saltmarsh community for weed infestations, and where they occur, undertake immediate control measures to remove weeds.	Alcoa COGG	Ongoing

## 4.0 OVERALL MANAGEMENT RECOMMENDATIONS

### 4.1 Litter

There is a substantial amount of litter along both shorelines, particularly the western shoreline. This litter appears to be primarily wind-blown or deposited by currents.

No	Issue	Recommendation	Agency	Priority
4.1.1	Litter on the western shoreline.	<ul style="list-style-type: none"> <li>Support the ongoing implementation of Geelong's Stormwater Management Plan to control volume of litter entering Corio Bay.</li> <li>Regular litter collection / beach cleaning to reduce the impact on the environmental and landscape character of the western shoreline, particularly given importance of habitat values.</li> </ul>	COGG	Ongoing
4.1.2	Rubbish dumping at Windmill Lane.	Implement trial vehicle control measures as described in 3.10.4.2. Regularly monitor for rubbish dumping and remove to reduce impact on environmental values.	COGG	Ongoing
4.1.3	Litter at Point Henry Reserve with improved visitor facilities.	Trial a 'take litter home' policy and do not install bins. Monitor success and adapt as required.	COGG	Very High
4.1.4	Maintenance levels.	Increase maintenance levels at Point Henry Reserve once recreation facilities have been improved.	COGG	High

### 4.2 Fauna

No	Issue	Recommendation	Agency	Priority
4.2.1	There is no recent comprehensive fauna survey for Point Henry Foreshore Reserves.	<p>Undertake a fauna survey and management recommendations for Point Henry Foreshore Reserves. The management recommendations should include:</p> <ul style="list-style-type: none"> <li>document the presence of avifauna species using comparative historical information available through Birds Australia.</li> <li>appropriate levels of dog access to the site (Refer to 4.3.1).</li> <li>appropriate levels of horse access to the site.</li> <li>appropriate levels of human access to the site.</li> <li>pest animal control.</li> </ul>	COGG	Very High

No	Issue	Recommendation	Agency	Priority
4.2.2	Protection of the Elephant Seal and the public when the seal is present at the Point.	COGG to liaise with the Seal Watch program to develop suitable management program for controlled access during the Elephant Seal's use of Point Henry. The major issues to be considered in the management program include: <ul style="list-style-type: none"> <li>• Access for sailboarders/kite surfers.</li> <li>• Launching and landing of small craft.</li> <li>• Investigate potential use of the Signal Station for interpretation and viewing of the Elephant Seal from a safe distance.</li> <li>• Adequate interpretive and education information available to visitors and residents about the seal.</li> <li>• Determine improvements to the site to encourage use of the Point by Elephant seals.</li> </ul>	COGG	Ongoing

### 4.3 Introduced animals

Dog walking is a popular recreational activity in the area, along with occasional horse exercising. The water and migratory wader bird habitat values needs to be considered in relation to future animal management and control measures in the site.

No	Issue	Recommendation	Agency	Priority
4.3.1	Dog walking is popular, however, this has potential to disturb avifauna habitat values.	Determine appropriate levels of access for dog walking in the site including dog on-lead and dog off-lead areas where appropriate, in consultation with the local laws area who are preparing a City-wide Urban Animal Strategy.	COGG	High
4.3.2	Horse riding at the Point.	Implement recommendations consistent with the proposed Fauna Management Study for the site.	COGG	As required

### 4.4 Pest animals

Rabbits and foxes have been identified in previous studies as a major issue in the site. This includes potential impacts on avifauna values by foxes and erosion and vegetation loss from rabbits.

No	Issue	Recommendation	Agency	Priority
4.4.1	Rabbits causing erosion and lack of vegetation regeneration	<ul style="list-style-type: none"> <li>• Liaise with adjoining land-holders to develop a co-ordinated rabbit baiting program in accordance with best management practice. It is noted that Alcoa already conduct a rabbit baiting program which has been in place since the early 1990's. Similarly Cheetham Salt conduct a regular rabbit baiting program.</li> <li>• Regularly monitor rabbit levels, and periodically undertake rabbit baiting as required to keep their numbers under control.</li> </ul>	COGG Alcoa CSL	High
			COGG Alcoa CSL	Ongoing

No	Issue	Recommendation	Agency	Priority
4.4.2	Foxes predating avifauna.	Alcoa carries out regular fox baiting programs, and COGG to liaise with adjoining land-holders to encourage landowners to expand the program.	COGG Alcoa CSL DSE	Ongoing

## 4.5 Cultural heritage

No	Issue	Recommendation	Agency	Priority
4.5.1	Protect Aboriginal and European cultural heritage values.	Implement the recommendations from the Archaeological Assessment for Point Henry prepared by TerraCulture, 2005.	COGG (WACL)	Ongoing
4.5.2	Site works may be required prior to completion of the Cultural Heritage Plan.	<ul style="list-style-type: none"> <li>Ensure site specific archaeological surveys are undertaken prior to finalisation of the design. All procedures must adhere to the Aboriginal and Torres Strait Islander Act 1994, the Archaeological and Aboriginal Relics Preservation Act 1972 and the Council adopted Aboriginal Development Planning Protocol 2000 as required is completed prior to tender and implementation of any site construction works.</li> <li>Ensure Wathaurong site monitor is present on site when the ground surface is disturbed.</li> </ul>	COGG (WACL) (DSE)	Critical and ongoing
4.5.3	Interpretation of cultural heritage values on the site.	Interpret cultural heritage values of the site with a coordinated signage style in consultation with the WACL. Refer to 4.9 for signage.	COGG WACL ALCOA	Low

## 4.6 Recreation use

No	Issue	Recommendation	Agency	Priority
4.6.1	Boat launching at Point Henry Reserve.	Boat launching at Point Henry Reserve is to be consistent with the South West Port Phillip & Adjacent Ocean Coast Public Boat Launching Review (2004), Corio Bay CAP (2005) or their subsequent strategies. This Review currently recommends that Point Henry provide beach launching for very small vessels without vehicle launching. Vehicle launching is recommended to occur at the recently upgraded facility at Limeburners Point.	COGG	Ongoing
4.6.2	Boat launching at Windmill Road.	As for 4.6.1, boat launching at Windmill Road will be consistent with the Public Boat Launching Review (2004). Boat launching of small craft from the beach to continue at Windmill Road with no upgrade to launching facilities. The report notes that at most canoeing access should be catered for.	COGG	Ongoing

No	Issue	Recommendation	Agency	Priority
4.6.3	Recreational activity at Point Henry Reserve will need to be managed to minimise potential impact on environmental and landscape values of the site.	Regularly monitor the levels of recreational use occurring at the Point. Review applications that increase formal recreational use and visitor levels with the following considerations: <ul style="list-style-type: none"> <li>• That the proposed recreational activity will not negatively impact on the existing fauna values of the site (to be identified in the Fauna Survey recommended in 4.2.1).</li> <li>• That the proposed activity will cease or fully relocate to an alternative location during times when the Elephant Seal visits the Point.</li> <li>• That the proposed activity will not increase the demand for additional built facilities at the Point, regularly exceed the car parking capacity illustrated in the Point Henry Reserve Masterplan, or significantly change the location of paths and facilities on the Masterplan (Drawing PTH-05).</li> </ul>	COGG DSE	Ongoing

## 4.7 Vehicle access

Inappropriate vehicle access to the site has damaged landscape and environmental values, and impacted on the safety of other site users. Excluding this, inappropriate use will take a consistent effort over a number of years, with a regular inspection program to monitor the success of vehicle barriers, and adjust where required.

No	Issue	Recommendation	Agency	Priority
4.7.1	Vehicle barrier design	Design for the vehicle barrier to meet the following criteria: <ul style="list-style-type: none"> <li>• minimise the visual bulk and prominence.</li> <li>• utilise materials that are durable and replaceable when damaged.</li> <li>• flexibility for use over varying lengths from 1.5 metres up to hundreds of metres.</li> <li>• not easily damaged or removed by large vehicles.</li> <li>• complements the natural landscape character and values of the site.</li> </ul>	COGG	Critical
4.7.2	Vehicle barrier installation / implementation.	<ul style="list-style-type: none"> <li>• Initially trial detailed design and installation of a section of the vehicle barrier for an initial three months. Monitor success, and review the design if required. The trial section should be installed in a prominent location at the Point to fully test its strength and durability.</li> <li>• Once trial is completed and necessary design amendments made, install vehicle barrier at Windmill Road to secure this site given the remoteness and high values at this site.</li> <li>• Install progressively at Point Henry in accordance with priorities in the Management Plan recommendations.</li> </ul>	COGG  COGG  COGG	Critical  Critical  Refer Zone recs

No	Issue	Recommendation	Agency	Priority
4.7.3	Vehicle barrier maintenance.	Regularly (ie. at least monthly after initial installation) monitor, and repair as soon as practical when damage occurs. This will deter sustained damage over time.	COGG	Ongoing

## 4.8 Community involvement

No	Issue	Recommendation	Agency	Priority
4.8.1	Community involvement via Friends Group or similar.	Utilise this Management Plan consultation process to generate community interest in the values of Point Henry and potential to form a Friends Group to assist COGG with ongoing management of the site.	COGG	Very High

## 4.9 Signage

Interpretive signage has been installed at the Signal Station and the wetlands by Alcoa. The Point Henry foreshore reserves do not have any other coordinated system of signage. Once the planned improvements as outlined in this Management Plan and Masterplan have commenced, a cohesive, informative and sensitively designed signage system is recommended.

No	Issue	Recommendation	Agency	Priority
4.9.1	Lack of information, direction and interpretive signage.	Once visitor facility upgrade works have commenced, and the site secured, prepare the design and implementation of a coordinated signage system that considers the following: <ul style="list-style-type: none"> <li>incorporates directional, information and interpretive information including that highlighted for inclusion in this management plan;</li> <li>minimises the number of signs required;</li> <li>size and location of signs to minimise potential damage by vehicles;</li> <li>an installation system that is strong and robust, and allows for the signs to be replaced into the robust frames; and</li> <li>design and information that reflects the unique natural character and cultural heritage of the site, including the importance of view sheds without signs dominating the views.</li> </ul>	COGG (DSE) (CSW) (Alcoa) (WACL)	Low

## 4.10 Collection of natural materials from the Point

Collection of natural materials from the Point is not permitted, particularly the collection of shell grit. The reason for not permitting collection of shell grit and seaweed is the Point has already experienced a decline in natural materials being available to it, associated the Hopetoun Shipping Channel. The presence of Seagrass is part of the coastal ecosystem and if harvested/collected, will lead to a loss of sand as part of this, along with potential damage and disturbance to shorelines.

No	Issue	Recommendation	Agency	Priority
4.10.1	Collection of seaweed	Collection of seaweed is not permitted for commercial or personal use. Advice that this is not a permitted activity is to be integrated into the Information / Interpretation signs for the site. These will be installed at Point Henry Reserve car park and Windmill Road car park.	COGG	Ongoing
4.10.2	Collection of shell grit	Collection of shell grit is not permitted for commercial or personal use. Advice that this is not a permitted activity is to be integrated into the Information / Interpretation signs for the site. These will be installed at Point Henry Reserve car park and Windmill Road car park.	COGG	Ongoing

#### 4.11 Maintenance and management

No	Issue	Recommendation	Agency	Priority
4.11.1	Maintenance levels	Review existing maintenance levels and develop a suitable maintenance program for Point Henry Foreshore Reserve to address the existing priority issues, particularly relating to vehicle control in the site.	COGG	Very High
4.11.2	Monitor maintenance levels	<ul style="list-style-type: none"> <li>Monitor the maintenance levels and adapt to suit the ongoing management of the site as the recommendations in this plan are implemented.</li> <li>Liaise with Alcoa to investigate if there are ways to improve overall management of the area with shared responsibilities, particularly given the remote nature of the site.</li> </ul>	COGG Alcoa	Ongoing Ongoing

#### 4.12 Open space infrastructure design

Point Henry Foreshore is relatively remote being located away from residential areas. Uncontrolled vehicle access through the site is a key issue that needs to be addressed in order to improve the environmental, landscape character and passive recreational values of the reserve. The remoteness and potential for inappropriate use and access to the site needs to be considered in the future design of open space infrastructure in this location.

No	Issue	Recommendation	Agency	Priority
4.12.1	Detailed design is required for proposed infrastructure.	<p>Prior to construction of major open space infrastructure in the site, detailed design development needs to be undertaken. This is to include:</p> <ul style="list-style-type: none"> <li>geotechnical investigation to determine if Acid Sulfate Soils are present;</li> <li>incorporate sustainability principles in the design including consideration of appropriate material use, water harvesting and reuse principles;</li> <li>consistency with the Siting and Design Guidelines for Structures on the Victorian Coast (1998); and</li> <li>durability in this remote location.</li> </ul>	COGG	Ongoing

## 5.0 IMPLEMENTATION SCHEDULE

The following tables list all Actions from Sections 3 and 4 of the Point Henry Foreshore Masterplan and Management Plan by priority. Within each of the stages the Actions are grouped into the two categories of:

- Zone Recommendations (Section 3 of the report)
- Overall Recommendations (Section 4 of the report)

**NOTE: THIS SECTION WILL BE COMPLETED WHEN THE COSTING HAS BEEN REVIEWED AND CONFIRMED.**

### 5.1 Critical

#### 5.1.1 Zone Recommendations

Code	Action	Responsibility	Priority
	<b>CRITICAL</b>		
3.10.4.5	Remove <i>Acacia saligna</i> to ensure this does not spread in this zone.	Alcoa	Critical

#### 5.1.2 Overall Recommendations

Code	Action	Responsibility	Priority
	<b>CRITICAL</b>		
4.5.2	Ensure site specific archaeological surveys are undertaken prior to finalisation of the design. All procedures must adhere to the Aboriginal and Torres Strait Islander Act 1994, the Archaeological and Aboriginal Relics Preservation Act 1972 and the Council adopted Aboriginal Development Planning Protocol 2000 as required is completed prior to tender and implementation of any site construction works.	COGG (WACL) (DSE)	Critical & Ongoing
	Ensure Wathaurong site monitor is present on site when the ground surface is disturbed.	COGG (WACL) (DSE)	Critical & Ongoing
4.7.1	Design for the vehicle barrier to meet the following criteria: Minimise the visual bulk and prominence; Utilise materials that are durable and replaceable when damaged; Flexibility for use over varying lengths from 1.5 metres up to hundreds of metres; Not easily damaged or removed by large vehicles; and Complements the natural landscape character and values of the site.	COGG	Critical
4.7.2	Initially trial detailed design and installation of a section of the vehicle barrier for an initial three months. Monitor success, and review the design if required. The trial section should be installed in a prominent location at the Point to fully test its strength and durability. (Design costs only)	COGG	Critical
	Once trial is completed and necessary design amendments made, install vehicle barrier at Windmill Road to secure this site given the remoteness and high values at this site.	COGG	Critical

## 5.2 Very High

### 5.2.1 Zone Recommendations

Code	Action	Responsibility	Priority
	<b>VERY HIGH</b>		
3.2.4.3	Control and manage environmental weeds with priority control of Sea-lavender to prevent this spreading elsewhere in the site.	COGG	Very High
3.3.4.1	Install suitable vehicle control measures to contain vehicles to the permitted beach access road and small parking area located in the northern section of this zone. (Refer to 3.3.4.2) Retain maintenance vehicle access only.	COGG Alcoa WACL	Very High
	Undertake weed control to protect existing Coast Tussock-grass Grassland, where appropriate, expand this vegetation community.	COGG WACL	Very High & Ongoing
3.3.4.3	Manage the invasive weeds in remnant indigenous vegetation including African Thistle, Blanket Weed, African Boxthorn and Kikuyu Grass with priority given to protection of the Coast Tussock-grass Grassland and Saltmarsh Complex. Revegetate as required.	COGG	Very High & Ongoing
3.4.4.3	Define remnant grassland areas with simple star picket and wire barrier.	COGG	Very High
3.5.4.1	The realigned road will curve slightly towards the Signal Station improving its visual prominence on entry to the site (Refer 3.5.4.4)	COGG (Alcoa)	Very High
3.5.4.4	Realign the road to incorporate slight curves to slow traffic and improve sense of arrival, safety and road maintenance. The curves will realign views towards the Signal Station on entry.	COGG	Very High
3.6.4.1	Undertake detailed design and documentation for construction of a realigned road entry, carpark and adequate turnaround area to provide access for permitted informal recreational use. Refer to Masterplan Drawing PTH-05 for indicative layout.	COGG	Very High
	Documentation to include minor re-shaping works to address compaction, in order to encourage natural regeneration with supplementary planting of indigenous vegetation. Indicative areas of regeneration/ revegetation are shown on Masterplan Drawing PTH-05.	COGG	Very High
3.6.4.2	Council to consult with the relevant organisations during the design development and implementation of car park and vehicle control measures at Point Henry to incorporate maintenance and delivery vehicle access to Point Henry Pier.	COGG (DSE) (Alcoa) (Geelong-Ports)	Very High
3.6.4.3	The entry road is to be realigned and regraded to reduce vehicle speed. Vehicles will be restricted to the entry road, parking and turnaround. Effective vehicle control cable barriers are to be installed and regularly	COGG	Very High
3.6.4.8	Undertake design and construction of vehicle control measures described in 3.6.4.1 to prevent further vehicle damage to indigenous vegetation.	COGG	Very High
3.7.4.1	Assess and undertake minor reshaping of landform, where required, to re-establish a more natural topography and loosen compacted surface.	COGG	Very High
3.8.4.5	Provide maintenance vehicle access across public land in this zone to Point Henry Pier. Refer to the Masterplan Drawing PTH-05 for location of the maintenance access track.	COGG DSE Alcoa Toll	Very High

Code	Action	Responsibility	Priority
3.10.4.1	Investigate suitability of duck hunting at this location given conflicts with workplace safety on the Pier and at Alcoa in consultation with stakeholders and users.	COGG DSE Alcoa Geelong-Ports Police Geelong Sporting Shooters Geelong Rod & Game	Very High
3.10.4.2	Undertake detailed design and construction of a vehicle turnaround and small parking area the end of Windmill Road, before the water supply channel. Install vehicle control barriers, consistent with other barriers in the study area, to prevent vehicle access to the beach. Non vehicle-assisted launching of small water craft will be permitted.	COGG	Very High
	Construction of an effective vehicle control barrier at the proposed Windmill Road car park. This smaller section of barrier is to be constructed as a trial prior to construction of more extensive lengths of barrier elsewhere at Point Henry. (Refer 4.7.1 for design criteria costs).	COGG	Very High
3.10.4.3	Review soil test results and investigate suitable program to reinstate saltmarsh in this area and undertake works.	Alcoa	Very High
3.10.4.4	Set up a regular monitoring system of Coastal Saltmarsh in this zone in consultation with COGG.	Alcoa COGG	Very High & Ongoing

## 5.2.2 Overall Recommendations

Code	Action	Responsibility	Priority
	<b>VERY HIGH</b>		
4.1.3	Trial a 'take litter home' policy and do not install bins. Monitor success and adapt as required.	COGG	Very High
4.2.1	Undertake a fauna survey and management recommendations for Point Henry Foreshore Reserves. The management recommendations should Document the presence of avifauna species using comparative historical information available through Birds Australia; Appropriate levels of dog access to the site (Refer to 4.3.1); Appropriate levels of horse access to the site; Appropriate levels of human access to the site; and Pest animal control.	COGG	Very High
4.8.1	Utilise this Management Plan consultation process to generate community interest in the values of Point Henry and potential to form a Friends Group to assist COGG with ongoing management of the site.	COGG	Very High
4.11.1	Review existing maintenance levels and develop a suitable maintenance program for Point Henry Foreshore Reserve to address the existing priority issues, particularly relating to vehicle control in the site.	COGG	Very High

## 5.3 High

### 5.3.1 Zone Recommendations

Code	Action	Responsibility	Priority
	<b>HIGH</b>		
3.2.4.1	Council stormwater officer to investigate the sub-catchment for the drain, and identify at-source sediment control measures, and other water quality treatment measures.	COGG (Landholders) (EPA)	High
3.3.4.2	Undertake detailed design and construction of road access and small parking area to provide suitable access for permitted recreational use including windsurfing, kite surfing, walking access and very small watercraft use. Refer to Masterplan Drawing PTH-05.	COGG	High
3.3.4.4	Selectively remove the invasive weed species from the shrub and tree plantings.	COGG	High
3.3.4.5	Undertake minor re-shaping works to reinstate natural morphology near the channel.	COGG	High
	Monitor natural regeneration of vegetation communities and where required, undertake supplementary planting with local provenance indigenous species.	COGG	High
3.3.4.6	Review management practices in this area and do not disturb the ground in order to protect archaeological values.	COGG WACL Alcoa CSL	High
3.4.4.1	Secure the site through design and installation of cable fence (detailed determined in the trial at Windmill Road) and where appropriate, reduce to installation between tree and shrub plantings only.	COGG	High
3.4.4.2	Demolish and remove carpark.	COGG (Alcoa)	High
	Reinstate grades and plant scattered indigenous overstorey trees. Refer to Masterplan Drawing.	COGG (Alcoa)	High
3.4.4.3	Control inappropriate disturbance through 3.4.4.1.	COGG	High
3.4.4.4	Undertake selective removal of non-indigenous shrubs and trees, with priority given to weedy species: <i>Hakea suaveolens</i> , <i>Melaleuca armillaris</i> and <i>Lagunaria patersonii</i> . Note: This removal work needs to be undertaken in conjunction with 3.4.4.1 to ensure new openings greater than 1.2 metres wide are secured to prevent 4WD access. Expand plantings with indigenous species (Refer to Action 3.4.4.5).	COGG	High
3.4.4.5	Plant additional scattered indigenous trees over the embankment to establish scattered Plains Grassy Woodland character which is thought to be the original vegetation type. Refer to Masterplan Drawing PTH-05. Refer also to Action 3.4.4.3	COGG	High & Ongoing
3.5.4.1	Undertake some selective vegetation trimming and removal to open up views of the Station on entry to the site targeting non-indigenous native species where practical.	COGG (Alcoa)	High
3.5.4.2	Trim existing indigenous vegetation and progressively remove non-indigenous species to open up views. Replace with lower growing indigenous species where practical.	Alcoa	High
	Expand existing areas of planted indigenous vegetation where practical.	Alcoa	High
3.5.4.3	Investigate the potential to reconfigure the car park layout to increase the planting area between Alcoa Smelter and the Signal Station and wetland interpretation platforms. As part of the design, trim or selectively remove vegetation at entry to improve vehicle line of sight on entry and exit from the Signal Station car park area.	Alcoa	High

Code	Action	Responsibility	Priority
3.6.4.4	Network of unsealed trails providing links to broader areas of the site including the Alcoa Wetland, and the path connecting the western shoreline and Point Henry Signal Station.	COGG	High
3.6.4.8	Undertake selective weed control and supplementary revegetation where required.	COGG	High
3.8.4.2	Continue to investigate the best method to control Hairy Willow-herb which is currently unknown. Trial physical removal of plant prior to setting seed, as seed is transported by wind and therefore difficult to control. DSE to liaise with Alcoa regarding the success of trial control methods used elsewhere.	Alcoa COGG (DSE)	High & Ongoing
	Undertake effective control of other environmental weeds present in wetlands, and regularly monitor to prevent additional outbreaks.	Alcoa COGG (DSE)	High & Ongoing
3.8.4.3	Selectively remove non-indigenous native shrub plantings to the north and west of the wetlands to open up sightlines.	COGG Alcoa	High
3.9.4.2	Investigate the best method to control Hairy Willow-herb which is currently unknown. Trial physical removal of plant prior to setting seed, as seed is transported by wind and therefore difficult to control.	Alcoa (DSE)	High & Ongoing
	Undertake effective control of other environmental weeds present in wetlands, and regularly monitor to prevent additional outbreaks.	Alcoa (DSE)	High & Ongoing

### 5.3.2 Overall Recommendations

Code	Action	Responsibility	Priority
	<b>HIGH</b>		
4.1.4	Increase maintenance levels at Point Henry Reserve once recreation facilities have been improved.	COGG	High
4.3.1	Determine appropriate levels of access for dog walking in the site including dog on-lead and dog off-lead areas where appropriate, in consultation with the local laws area who are preparing a City-wide Urban Animal Strategy.	COGG	High
4.4.1	Liaise with adjoining land-holders to develop a co-ordinated rabbit baiting program in accordance with best management practice. It is noted that Alcoa already conduct a rabbit baiting program which has been in place since the early 1990's. Similarly Cheetham Salt conduct a regular rabbit baiting program.	COGG Alcoa CSL	High

## 5.4 Low

### 5.4.1 Zone Recommendations

Code	Action	Responsibility	Priority
	<b>LOW</b>		
3.3.4.4	Review the density of remaining indigenous plantings and consider supplementary indigenous planting, being careful not to create dense screening.	COGG	Low
3.4.4.3	Gradually expand the remnant Plains Grassy Woodland vegetation, once the areas are protected and secure.	COGG	Low & Ongoing

<b>Code</b>	<b>Action</b>	<b>Responsibility</b>	<b>Priority</b>
<b>3.4.4.6</b>	Retain and where required supplement the degraded Dune Shrubland vegetation to the landward side of the erosion stabilisation works to improve environmental and landscape values. This will also restrict public access to the steep rocky bank.	COGG	Low
	Where erosion is occurring on landward side of wall, stabilise with indigenous planting that has soil-binding characteristics. Monitor and if required, install additional rock works to stabilise.	COGG	Low
	Additional supplementary planting to be undertaken when path is constructed to improve the buffer and deterrent for access to the water from the path to minimise visitor impacts on the shoreline values. This vegetation will largely cover the exposed concrete and rubble.	COGG	Low
<b>3.4.4.7</b>	Undertake detailed design and construction of a looped walking path system including:		
	1.5m wide compacted unsealed path from Point Henry adjacent to the shoreline south of Alcoa Gate #2.	COGG	Low
	2m wide compacted unsealed shared trail along the upper slopes adjacent to Point Henry Road. Refer to the Masterplan Drawing PTH-05 for indicative alignment.	COGG	Low
<b>3.4.4.8</b>	Undertake a heritage assessment of the timber structure to determine their origin and significance.	COGG	Low
<b>3.6.4.4</b>	Picnic tables and seats.	COGG	Low
<b>3.6.4.7</b>	Remove existing toilet facility and construct a new, small toilet facility near the proposed carpark area to meet best practice environmental standards in remote sites. This will include investigating harvesting roof runoff for re-use in the facility and potentially for supply to external shower. This location has been selected to be in close proximity to the open grassed area and western shoreline that is popular for swimming and sailboard sports, and yet not highly visible as it is co-located with existing trees.	COGG	Low
	Once the existing toilet block has been removed, its location is to be planted with scattered indigenous trees in keeping with the Open Woodland vegetation character.	COGG	Low
<b>3.7.4.2</b>	Manage serious environmental weeds including African Thistle, Blanket Weed and African Boxthorn, in accordance with best management practice.	COGG	Low
<b>3.8.4.3</b>	Design and construct additional unsealed pedestrian path connections as illustrated in the Masterplan. These paths to be constructed once vehicle control and new carpark has been constructed (Refer recommendation 3.4.4.1).	COGG Alcoa	Low
<b>3.8.4.4</b>	Progressively control Kikuyu. Plant indigenous vegetation to the northern area of this zone. This will include scattered overstorey vegetation out from the wetland edge and paths.	COGG Alcoa	Low

## 5.4.2 Overall Recommendations

Code	Action	Responsibility	Priority
	<b>LOW</b>		
4.5.3	Interpret cultural heritage values of the site with a coordinated signage style in consultation with the WACL. Refer to 4.9 for signage.	COGG WACL Alcoa	Low
4.9.1	Once visitor facility upgrade works have commenced, and the site secured, prepare the design and implementation of a coordinated signage system that considers the following: Incorporates directional, information and interpretive information including that highlighted for inclusion in this management plan; Minimises the number of signs required; Size and location of sizes to minimise potential damage by vehicles; An installation system that is strong and robust, and allows for the signs to be replaced into the robust frames; and Design and information that reflects the unique natural character and cultural heritage of the site, including the importance of view sheds without signs dominating the views.	COGG (DSE) (CSW) (Alcoa) (WACL)	Low

## 5.5 Ongoing

### 5.5.1 Zone Recommendations

Code	Action	Responsibility	Priority
	<b>ONGOING</b>		
3.2.4.2	Monitor the success of natural regeneration of Coastal Saltmarsh vegetation in this area, and undertake weed control and/or species enrichment planting if required to re-establish saltmarsh in this area.	CSL COGG	Ongoing
3.2.4.4	Regularly monitor the saltmarsh vegetation and take active measures to control future outbreaks of weeds, and supplementary revegetation if regeneration is unsuccessful. Monitor tidal flows and manage as required to achieve natural conditions in consultation with Cheetham Salts Limited.	COGG CSL	Ongoing
3.2.4.5	Maintain Dune Shrubland vegetation and regularly monitor the condition of the dunes to ensure no illegal filling or disturbance occurs.	COGG	Ongoing
3.2.4.6	Undertake regular monitoring of beach erosion, and if significant, undertake further investigation of potential control measures which minimise impacts on the dynamic coastal processes.	COGG	Ongoing
3.3.4.1	Undertake weed control to protect existing Coast Tussock-grass Grassland, where appropriate, expand this vegetation community.	COGG WACL	Very High & Ongoing
3.3.4.3	Manage the invasive weeds in remnant indigenous vegetation including African Thistle, Blanket Weed, African Boxthorn and Kikuyu Grass with priority given to protection of the Coast Tussock-grass Grassland and Saltmarsh Complex. Revegetate as required.	COGG	Very High & Ongoing
3.4.4.1	Ongoing maintenance of fence to repair breakages, and ensure ongoing security of site. Refer to Recommendations 3.4.4.3 and 3.4.4.4.	COGG	Ongoing
3.4.4.3	Undertake ongoing selective weed control in the defined areas, and gradually expand defined area as weed control is achieved.	COGG	Ongoing
	Gradually expand the remnant Plains Grassy Woodland vegetation, once the areas are protected and secure.	COGG	Low & Ongoing

Code	Action	Responsibility	Priority
3.4.4.5	Plant additional scattered indigenous trees over the embankment to establish scattered Plains Grassy Woodland character which is thought to be the original vegetation type. Refer to Masterplan Drawing PTH-05. Refer also to Action 3.4.4.3	COGG	High & Ongoing
3.4.4.8	Retain the structure and implement any recommendations from the heritage assessment to protect and stabilise these.	COGG	Ongoing
3.6.4.5	The western and eastern shorelines are suitable for launching small watercraft including sailboards, canoes and kayaks from the beach without vehicles. Non vehicle-assisted launch access points will be retained on both the western and eastern shorelines where there are existing gaps in the dune shrubland. Refer to Masterplan Drawing PTH-05.	COGG	Ongoing
3.6.4.6	COGG and DSE are to undertake pre-planning measures regarding securing the site when the Elephant Seal is at the Point. The Masterplan has incorporated minor changes which may assist with improved management, including: realignment of the entry road; selective vegetation removal to open up views over the Point and Wetland; and investigate the potential for the Signal Station to be used by DSE/Seal Watch for conducting guided tours. Council to facilitate the involvement of the wind and kite surfers to establish safe access protocols when the seal is at the Point.	COGG DSE Alcoa	Ongoing
3.7.4.1	Monitor for successful regeneration, and undertake supplementary planting where required with locally endemic indigenous species.	COGG	Ongoing
3.7.4.3	Retain beach access point where shown on the Masterplan (north of existing toilet block) for access, including fishing and launching of small craft (without vehicles).	COGG	Ongoing
3.8.4.1	Continue regular monitoring and minor modification as required to protect the marine environment.	Alcoa (EPA)	Ongoing
3.8.4.2	Continue to investigate the best method to control Hairy Willow-herb which is currently unknown. Trial physical removal of plant prior to setting seed, as seed is transported by wind and therefore difficult to control. DSE to liaise with Alcoa regarding the success of trial control methods used elsewhere.	Alcoa COGG (DSE)	High & Ongoing
	Undertake effective control of other environmental weeds present in wetlands, and regularly monitor to prevent additional outbreaks.	Alcoa COGG (DSE)	High & Ongoing
3.9.4.1	Continue regular monitoring and modification as required to protect the marine environment.	Alcoa (EPA)	Ongoing
3.9.4.2	Investigate the best method to control Hairy Willow-herb which is currently unknown. Trial physical removal of plant prior to setting seed, as seed is transported by wind and therefore difficult to control.	Alcoa (DSE)	High & Ongoing
	Undertake effective control of other environmental weeds present in wetlands, and regularly monitor to prevent additional outbreaks.	Alcoa (DSE)	High & Ongoing
3.9.4.3	Monitor the erosion south of the Pier.	Alcoa	Ongoing
3.10.4.4	Set up a regular monitoring system of Coastal Saltmarsh in this zone in consultation with COGG.	Alcoa COGG	Very High & Ongoing
3.10.4.6	Regularly monitor the Coastal Saltmarsh community for weed infestations, and where they occur, undertake immediate control measures to remove weeds.	Alcoa COGG	Ongoing

## 5.5.2 Overall Recommendations

Code	Action	Responsibility	Priority
	<b>ONGOING</b>		
4.1.1	Support the ongoing implementation of Geelong's Stormwater Management Plan to control volume of litter entering Corio Bay.	COGG	Ongoing
	Regular litter collection / beach cleaning to reduce the impact on the environmental and landscape character of the western shoreline, particularly given importance of habitat values.	COGG	Ongoing
4.1.2	Implement trial vehicle control measures as described in 3.10.4.2. Regularly monitor for rubbish dumping and remove to reduce impact on environmental values.	COGG	Ongoing
4.2.2	COGG to liaise with the Seal Watch program to develop suitable management program for controlled access during the Elephant Seal's use of Point Henry. The major issues to be considered in the management program include: Access for sailboarders/kite surfers; Launching and landing of small craft; Investigate potential use of the Signal Station for interpretation and viewing of the Elephant Seal from a safe distance; Adequate interpretive and education information available to visitors and residents about the seal; and Determine improvements to the site to encourage use of the Point by Elephant seals.	COGG	Ongoing
4.4.1	Regularly monitor rabbit levels, and periodically undertake rabbit bating as required to keep their numbers under control.	COGG Alcoa CSL	Ongoing
4.4.2	Alcoa carries out regular fox baiting programs, and COGG to liaise with adjoining land-holders to encourage landowners to expand the program.	COGG Alcoa CSL DSE	Ongoing
4.5.1	Implement the recommendations from the Archaeological Assessment for Point Henry prepared by TerraCulture, 2005.	COGG (WACL)	Ongoing
4.5.2	Ensure site specific archaeological surveys are undertaken prior to finalisation of the design. All procedures must adhere to the Aboriginal and Torres Strait Islander Act 1994, the Archaeological and Aboriginal Relics Preservation Act 1972 and the Council adopted Aboriginal Development Planning Protocol 2000 as required is completed prior to tender and implementation of any site construction works.	COGG (WACL) (DSE)	Critical & Ongoing
	Ensure Wathaurong site monitor is present on site when the ground surface is disturbed.	COGG (WACL) (DSE)	Critical & Ongoing
4.6.1	Boat launching at Point Henry Reserve is to be consistent with the South West Port Phillip & Adjacent Ocean Coast Public Boat Launching Review (2004), Corio Bay CAP (2005) or their subsequent strategies. This Review currently recommends that Point Henry provide beach launching for very small vessels without vehicle launching. Vehicle launching is recommended to occur at the recently upgraded facility at Limeburners Point.	COGG	Ongoing

Code	Action	Responsibility	Priority
4.6.2	As for 4.6.1, boat launching at Windmill Road will be consistent with the Public Boat Launching Review (2004). Boat launching of small craft from the beach to continue at Windmill Road with no upgrade to launching facilities. The report notes that at most canoeing access should be catered for.	COGG	Ongoing
4.6.3	Regularly monitor the levels of recreational use occurring at the Point. Review applications that increase formal recreational use and visitor levels with the following considerations:  That the proposed recreational activity will not negatively impact on the existing fauna values of the site (to be identified in the Fauna Survey recommended in 4.2.1);  That the proposed activity will cease or fully relocate to an alternative location during times when the Elephant Seal visits the Point; and  That the proposed activity will not increase the demand for additional built facilities at the Point, regularly exceed the car parking capacity illustrated in the Point Henry Reserve Masterplan, or significantly change the location of paths and facilities on the Masterplan (Drawing PTH-05).	COGG DSE	Ongoing
4.7.3	Regularly (ie. at least monthly after initial installation) monitor, and repair as soon as practical when damage occurs. This will deter sustained damage over time.	COGG	Ongoing
4.10.1	Collection of seaweed is not permitted for commercial or personal use. Advice that this is not a permitted activity is to be integrated into the Information / Interpretation signs for the site. These will be installed at Point Henry Reserve car park and Windmill Road car park.	COGG	Ongoing
4.10.2	Collection of shell grit is not permitted for commercial or personal use. Advice that this is not a permitted activity is to be integrated into the Information / Interpretation signs for the site. These will be installed at Point Henry Reserve car park and Windmill Road car park.	COGG	Ongoing
4.11.2	Monitor the maintenance levels and adapt to suit the ongoing management of the site as the recommendations in this plan are implemented.	COGG	Ongoing
	Liaise with Alcoa to investigate if there are ways to improve overall management of the area with shared responsibilities, particularly given the remote nature of the site.	COGG Alcoa	Ongoing
4.12.1	Prior to construction of major open space infrastructure in the site, detailed design development needs to undertaken. This is to include:  Geotechnical investigation to determine if Acid Sulfate Soils are present;  Incorporate sustainability principles in the design including consideration of appropriate material use, water harvesting and reuse principles;  Consistency with the Siting and Design Guidelines for Structures on the Victorian Coast (1998); and  Durability in this remote location.	COGG	Ongoing

## 5.6 As Required

### 5.6.1 Zone Recommendations

Code	Action	Responsibility	Priority
	<b>AS REQUIRED</b>		
3.9.4.3	If erosion continues and compromises the water quality treatment wetland established by Alcoa, engage suitably qualified coastal engineers/geomorphologists to investigate appropriate measures to control erosion, which may include increasing the bypassing of sand to the south of the Pier.	Alcoa (DSE) (COGG) (Toll/Bridge Owner)	As Required
3.10.4.4	If any change to the Coastal Saltmarsh occurs, undertake measures to address this with priority.	Alcoa (COGG)	As Required

### 5.6.2 Overall Recommendations

Code	Action	Responsibility	Priority
	<b>AS REQUIRED</b>		
4.3.2	Implement recommendations consistent with the proposed Fauna Management Study for the site.	COGG	As Required

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# APPENDICES

# APPENDIX A

## **Point Henry Vegetation Communities**

Prepared by Mark Trengove as part of the Management Plan

# PT HENRY VEGETATION COMMUNITIES

prepared by  
Mark Trengove Ecological Services

prepared for Thompson Berrill Landscape Design

27 January 2005

## 1 DUNE SHRUBLAND

### Description

Open to closed Shrubland to 1.8 metres high, dominated by Coast Saltbush and Austral Salt-grass.

### EVC

EVC 1 - Coastal Dune Shrubland/Coastal Dune Grassland Mosaic.

### Location

Confined to supra-littoral zone, above the beach, on the east and west of the Point.

### Significance

High. This community, largely confined to Port Phillip Bay Region, is now depleted and fragmented.

### Species List

#### BOTANICAL NAME

#### COMMON NAME

#### Indigenous Species

<i>Atriplex cinerea</i>	Coast Saltbush
<i>Austrostipa elegantissima</i>	Feather Spear-grass
<i>Austrostipa stipoides</i>	Prickly Spear-grass
<i>Disphyma crassifolium</i> ssp <i>clavellatum</i>	Rounded Noon-flower
<i>Distichlis distichophylla</i>	Austral Salt-grass
<i>Frankenia pauciflora</i> ssp <i>pauciflora</i>	Sea-heath
<i>Rhagodia candolleana</i>	Sea-berry Saltbush
<i>Spergularia media</i>	Coast Sand-spurrey
<i>Suaeda australis</i>	Austral Seablite
<i>Tetragonia implexicoma</i>	Bower Spinach

#### Exotic Species

<i>Berkheya rigida</i>	African Thistle
<i>Galenia pubescens</i>	Blanket Weed
<i>Lycium ferocissimum</i>	African Boxthorn
<i>Melilotus indicus</i>	Sweet Melilot

## 2 MODIFIED COASTAL SHRUBLAND

### Description

Open to closed Shrubland to 1.8 metres high, dominated by Coast Saltbush and Austral Salt-grass. Modified due to the largely artificial substrate.

### EVC

EVC 1 - Coastal Dune Shrubland/Coastal Dune Grassland Mosaic.

### Location

Confined to supra-littoral zone, above the beach, where it has colonized artificial substrate, ie imported fill for erosion control or saltworks, on the west side of the point.

### Significance

Medium. This community, largely confined to Port Phillip Bay Region, is now depleted and fragmented.

### Species List

#### BOTANICAL NAME

#### COMMON NAME

#### Indigenous Species

<i>Atriplex cinerea</i>	Coast Saltbush
<i>Disphyma crassifolium</i> ssp <i>clavellatum</i>	Rounded Noon-flower
<i>Distichlis distichophylla</i>	Austral Salt-grass
<i>Frankenia pauciflora</i> ssp <i>pauciflora</i>	Sea-heath
<i>Suaeda australis</i>	Austral Seablite

#### Exotic Species

<i>Berkheya rigida</i>	African Thistle
<i>Galenia pubescens</i>	Blanket Weed
<i>Lycium ferocissimum</i>	African Boxthorn
<i>Melilotus indicus</i>	Sweet Melilot

## 3 SALTMARSH COMPLEX

### Description

Open to closed herbfields dominated by Beaded Glasswort or Shrubby Glasswort.

### EVC

EVC 9 - Coastal Saltmarsh.

### Location

Extensive areas to the east and west of the Point, in areas subject to tidal inundation.. Particularly well developed on the east.

### Significance

High. Endangered in the Otway Plains Bioregion (DSE 2005). The best developed Saltmarsh vegetation occurred in the Port Phillip Region.



### **Exotic Species**

Cotula coronopifolia	Water Buttons
Melilotus indicus	Sweet Melilot
Paraphlois incurva	Coast Barb-grass
Polygonum monspeliensis	Annual Beard-grass
Rumex crispus	Curled Dock

## **5 SUBMERGED HERBFIELD**

### **Description**

Open to closed submerged herbfield, seasonally dominated by Long-fruited Water-mat and Algae.

### **EVC**

Considered a component of EVC 9 - Coastal Saltmarsh.

### **Location**

Confined to brackish to seasonally hypersaline depressions within the Saltmarsh vegetation. Most well developed to the south-east of the Point.

### **Significance**

High. The distribution of this vegetation type is poorly known in Victoria.

### **Species List**

BOTANICAL NAME	COMMON NAME
----------------	-------------

#### **Indigenous Species**

Lepilaena cylindrocarpa	Long-fruited Water-mat
Sarcocornia quinqueflora ssp quinqueflora	Beaded Glasswort

#### **Exotic Species**

Nil

## **6 BRACKISH WETLAND HERBFIELD**

### **Description**

Open to closed herbfield/sedgeland brackish swamp. Modified, formerly Coastal Saltmarsh.

### **EVC**

No EVC.

### **Location**

Located to the east of the Point, in areas that are subjected to increases in inputs of fresh water, mostly being the former stormwater treatment ponds of the Alcoa complex.

### **Significance**

Medium. Degraded vegetation, contains 11 indigenous species and provides important wildlife habitat values.

### Species List

#### BOTANICAL NAME

#### COMMON NAME

#### Indigenous Species

Bolboschoenus caldwellii	Sea Club-sedge
Crassula helmsii	Swamp Crassula
Eleocharis acuta	Common Spike-rush
Epilobium billarieranum ssp billardierianum	Robust Willow-herb
Epilobium hirtigerum	Hoary Willow-herb
Lilaeopsis polyantha	Austral Lilaeopsis
Mimulus repens	Creeping Monkey-flower
Suaeda australis	Austral Seablite
Samolus repens	Creeping Brookweed
Schoenoplectus validus	River Club-sedge
Triglochin striatum	Streaked Arrow-grass

#### Exotic Species

Aster subulatus	Aster Weed
Cotula coronopifolia	Water Buttons
Epilobium hirsutum	Hairy Willow-herb
Pennisetum clandestinum	Kikuyu Grass
Polypogon monspeliensis	Annual Beard-grass
Salix cinerea	Grey Willow

## 7 COAST TUSSOCK-GRASS GRASSLAND

### Description

Coast Tussock-grass dominated closed grassland.

### EVC

EVC 163 Coastal Tussock Grassland.

### Location

Confined to two sites to the west of the Point.

### Significance

High. Vulnerable in the Otway Plains Bioregion (DSE 2005). This community is now depleted and fragmented.

### Species List

#### BOTANICAL NAME

#### COMMON NAME

#### Indigenous Species

Disphyma crassifolium ssp clavellatum	Rounded Noon-flower
Distichlis distichophylla	Austral Salt-grass
Frankenia pauciflora ssp pauciflora	Sea-heath
Poa poiformis	Coast Tussock-grass

#### Exotic Species

Berkheya rigida	African Thistle
Galenia pubescens	Blanket Weed
Lycium ferocissimum	African Boxthorn
Plantago coronopus	Buck's-horn Plantain

## 8 MODIFIED GRASSLAND

### Description

Open tussock grassland dominated by Wallaby-grass, Spear-grasses and exotic species.

### EVC

Possibly a degraded remnant of EVC 55 Plains Grassy Woodland.

### Location

Confined to several locations on the coastal slopes to the west of the Point.

### Significance

Low. Species poor and degraded remnant.

### Species List

#### BOTANICAL NAME

#### COMMON NAME

#### Indigenous Species

<i>Austrodanthonia pilosa</i>	Velvet Wallaby-grass
<i>Austrostipa bigeniculata</i>	Kneed Spear-grass
<i>Austrostipa flavescens</i>	Coast Spear-grass
<i>Austrostipa scabra</i> ssp <i>falcata</i>	Slender Spear-grass

#### Exotic Species

<i>Avena fatua</i>	Wild Oat
<i>Berkheya rigida</i>	African Thistle
<i>Bromus catharticus</i>	Prairie Grass
<i>Dactylis glomeratus</i>	Cock's-foot
<i>Galenia pubescens</i>	Blanket Weed
<i>Lycium ferocissimum</i>	African Boxthorn
<i>Medicago polymorpha</i>	Burr Medic
<i>Pennisetum clandestinum</i>	Kikuyu Grass
<i>Plantago coronopus</i>	Buck's-horn Plantain

# APPENDIX B

## **Point Henry Vegetation Management Guidelines**

Prepared by Mark Trengove as part of the Management Plan

# PT HENRY VEGETATION MANAGEMENT GUIDELINES

prepared by  
Mark Trengove Ecological Services

prepared for Thompson Berrill Landscape Design

3 February 2005

## Zone 1 Cheetham Salt Works Saltmarsh/ Dune Shrubland

### *Aims*

Restore Saltmarsh Community.

### *Issues*

Site degraded and subjected to disturbance from deposition of fill.  
Unnatural contours and soil profiles as a result of previous actions effecting tidal and hydrological patterns and vegetation growth patterns.  
Weed invasions.

### *Actions*

Remove exotic fill and reinstate tidal patterns, soil contours and profiles.  
Allow for natural regeneration of saltmarsh vegetation.  
Manage environmental weeds, especially Sea Lavender.  
Monitor and revegetate/control weeds as required.

### Serious Environmental Weeds

BOTANICAL NAME	COMMON NAME
<i>Berkheya rigida</i>	African Thistle
<i>Limonium compansis</i>	Sea-lavender

## Zone 2 Coast Tussock-grass Grassland /Saltmarsh

### *Aims*

Restore indigenous vegetation communities.  
Remove inappropriate non-indigenous natives.

### *Issues*

Weed invasion- Weeds limiting regeneration of native grasses and invading areas of native grasses.  
Disturbance- Inappropriate disturbance (vehicles) facilitating weed invasion and causing changes to contours and tidal and hydrological patterns.  
Rubbish dumping.  
Non-indigenous natives creating unnatural landscape.

### *Actions*

Control inappropriate disturbance and rubbish dumping.  
Restore tidal patterns, soil contours and profiles where possible.  
Manage invasive weed species.

Revegetate in areas of predominately exotic vegetation.  
Selectively remove non-indigenous natives, especially weedy species (*Hakea suaveolens*, *Melaleuca armillaris*, *Lagunaria patersonii*).

#### Serious Environmental Weeds

BOTANICAL NAME	COMMON NAME
<i>Berkheya rigida</i>	African Thistle
<i>Galenia pubescens</i>	Blanket Weed
<i>Lycium ferocissimum</i>	African Boxthorn
<i>Pennistum clandestinum</i>	Kikuyu Grass

### Zone 3

#### Western Slopes/Grassland Remnants/Dry sites

##### *Aims*

Retain and expand the small existing populations of native grasses.  
Create an open informal grassy woodland community.

##### *Issues*

Weed invasion- Weeds limiting regeneration of native grasses and invading areas of native grasses.  
Disturbance- Inappropriate disturbance (vehicles) facilitating weed invasion.  
Non-indigenous natives creating unnatural landscape.

##### *Actions*

Control inappropriate disturbance.  
Manage invasive weed species by removal (perennials) and limiting seed set (annuals).  
Revegetate in areas of predominately exotic vegetation.  
Selectively remove non-indigenous natives, especially weedy species (*Hakea suaveolens*, *Melaleuca armillaris*, *Lagunaria patersonii*).

#### Serious Environmental Weeds

BOTANICAL NAME	COMMON NAME
<i>Berkheya rigida</i>	African Thistle
<i>Galenia pubescens</i>	Blanket Weed
<i>Lycium ferocissimum</i>	African Boxthorn
<i>Pennistum clandestinum</i>	Kikuyu Grass

### Dune Shrubland

##### *Aims*

Maintain and enhance Dune Shrubland vegetation.

##### *Issues*

Disturbance.  
Weed invasion.

##### *Actions*

Limit disturbance  
Manage environmental weed species.

## Serious Environmental Weeds

### BOTANICAL NAME

*Berkheya rigida*

*Galenia pubescens*

*Lycium ferocissimum*

### COMMON NAME

African Thistle

Blanket Weed

African Boxthorn

## Zone 4

### Signal Station and slopes to the east

#### *Aims*

Retain indigenous plantings.

Selectively remove non-indigenous natives to open vistas.

Increase areas of indigenous plantings.

#### *Issues*

Non-indigenous native species inappropriate or poorly located.

#### *Actions*

Selectively remove non-indigenous natives, especially weedy species (*Hakea suaveolens*, *Melaleuca armillaris*).

Selective planting of indigenous species.

### Coastal Flats

#### *Aims*

Selectively remove non-indigenous natives to open vistas.

Increase areas of indigenous plantings.

#### *Issues*

Non-indigenous native species inappropriate or poorly located.

Areas of exotic slashed grasses inappropriate.

#### *Actions*

Selectively remove non-indigenous natives, especially weedy species (*Hakea suaveolens*, *Melaleuca armillaris*).

Selectively remove exotic slashed grasses.

Selective planting of indigenous species.

## Zone 5 Recreation

### Dune Shrubland

#### *Aims*

To consolidate and expand existing remnants.

#### *Issues*

Compaction from inappropriate traffic.

Damage to vegetation and lack of regeneration due to inappropriate disturbance (vehicles).

Disturbance- Inappropriate disturbance (vehicles) facilitating weed invasion and causing

changes to contours and tidal and hydrological patterns.  
Weed invasion.

### ***Actions***

Control inappropriate disturbance and rubbish dumping.  
Restore tidal patterns, soil contours and profiles where possible.  
Manage invasive weed species.

### Serious Environmental Weeds

BOTANICAL NAME	COMMON NAME
<i>Berkheya rigida</i>	African Thistle
<i>Galenia pubescens</i>	Blanket Weed
<i>Lycium ferocissimum</i>	African Boxthorn

### **Coastal Flats**

#### ***Aims***

Selectively remove non-indigenous natives to open vistas.  
Increase areas of indigenous plantings.

#### ***Issues***

Non-indigenous native species inappropriate or poorly located.  
Areas of exotic slashed grasses inappropriate.  
Disturbance- Inappropriate disturbance (vehicles) facilitating compaction, weed invasion and changing soil contours.

#### ***Actions***

Control inappropriate disturbance.  
Restore soil contours and profiles where possible.  
Manage environmental weed species.  
Remove non-indigenous natives and exotic slashed grasses.  
Selective planting of indigenous species.

### **Zone 6 Eastern Shoreline Dune Shrubland**

#### ***Aims***

To consolidate and expand existing dune shrubland remnant vegetation.

#### ***Issues***

Compaction from inappropriate traffic.  
Damage to vegetation and lack of regeneration due to inappropriate traffic.  
Disturbance- Inappropriate disturbance (vehicles) facilitating weed invasion and causing changes to contours and tidal and hydrological patterns.  
Weed invasion.

#### ***Actions***

Control inappropriate disturbance.  
Restore tidal patterns, soil contours and profiles where possible.  
Manage invasive weed species.  
Encourage natural regeneration/revegetate as appropriate.

## Serious Environmental Weeds

### BOTANICAL NAME

*Berkheya rigida*

*Galenia pubescens*

*Lycium ferocissimum*

### COMMON NAME

African Thistle

Blanket Weed

African Boxthorn

## Zone 7 Wetlands and modified Saltmarsh

### *Aims*

Maintain indigenous vegetation.

Limit invasion of freshwater into saltmarsh

Monitor the effectiveness of stormwater treatment ponds.

### *Issues*

Compaction from inappropriate traffic.

Damage to vegetation and lack of regeneration due to inappropriate traffic.

Disturbance- Inappropriate disturbance (vehicles) facilitating weed invasion and causing changes to contours and tidal and hydrological patterns.

Weed invasion, especially Hairy Willow-herb.

Overflow of freshwater from stormwater retention ponds may be further impacting on saltmarsh vegetation.

Ephemeral wet grassland to the north of zone is predominately exotic.

### *Actions*

Control inappropriate disturbance (vehicles).

Restore tidal patterns, soil contours and profiles where possible.

Manage environmental weed species, especially Hairy Willow-herb.

Encourage natural regeneration/revegetate as appropriate.

Monitor the performance of the Alcoa freshwater treatment ponds, including impact on saltmarsh vegetation (degraded saltmarsh complex).

Reinstate indigenous vegetation at ephemeral wet grassland to the north of zone.

## Serious Environmental Weeds

### BOTANICAL NAME

*Epilobium hirsutum*

*Pennisetum clandestinum*

*Polypogon monspeliensis*

*Salix cinerea*

### COMMON NAME

Hairy Willow-herb

Kikuyu Grass

Annual Beard-grass

Grey Willow

## Zone 8 Modified Eastern Shoreline

### *Aims*

Maintain indigenous vegetation.

Limit invasion of freshwater into saltmarsh

### *Issues*

Weed invasion, especially Hairy Willow-herb and Gazania.

Overflow of freshwater from stormwater retention ponds may be further impacting on saltmarsh vegetation.

### **Actions**

Manage environmental weeds, especially Hairy Willow-herb, and Gazania.  
Monitor the performance of the Alcoa freshwater treatment ponds, including impact on saltmarsh vegetation (degraded saltmarsh complex).

#### Serious Environmental Weeds

BOTANICAL NAME	COMMON NAME
<i>Gazania linearis</i>	Gazania
<i>Epilobium hirsutum</i>	Hairy Willow-herb
<i>Pennisetum clandestinum</i>	Kikuyu Grass
<i>Polypogon monspeliensis</i>	Annual Beard-grass
<i>Salix cinerea</i>	Grey Willow

### **Zone 9 Natural Eastern Shoreline**

#### **Aims**

Maintain ecological values.

#### **Issues**

Disturbance.

Localized lack of growth of Saltmarsh vegetation (at A).

Environmental weeds such as *Acacia saligna*.

#### **Actions**

Limit disturbance from Windmill Lane access.

Monitor saltmarsh vegetation growth at A. Determine causes and remediate.

Manage environmental weeds, ie *Acacia saligna*.

#### Serious Environmental Weeds

BOTANICAL NAME	COMMON NAME
<i>Acacia saligna</i>	Golden Wreath Wattle

### **Planting Lists**

#### Coastal Slopes and Woodland Species (including Zones 3 & 4)

BOTANICAL NAME	COMMON NAME	LIFE FORM
<i>Melaleuca lanceolata</i>	Moonah	mt
<i>Myoporum insulare</i>	Boobialla	ls
<i>Bursaria spinosa</i>	Sweet Bursaria	ls
<i>Acacia implexa</i>	Lightwood	st
<i>Acacia pycnantha</i>	Golden Wattle	st
<i>Allocasuarina verticillata</i>	Drooping Sheoke	s-mt
<i>Leucopogon parviflorus</i>	Coast Beard-heath	ms
<i>Olearia axillaris</i>	Coast Daisy-bush	ms
<i>Ozothamnus ferrugineus</i>	Shrub-everlasting	ms
<i>Solanum laciniatum</i>	Kangaroo Apple	ls
<i>Goodenia ovata</i>	Hop Goodenia	ms
<i>Correa alba</i>	White Correa	ss
<i>Pimelea glauca</i>	Smooth Rice-flower	ss
<i>Leucophyta brownii</i>	Cushion Bush	ss
<i>Atriplex semibaccata</i>	Berry Salt-bush	gc
<i>Einadia nutans</i>	Nodding Salt-bush	gc

<i>Enchyleana tomentosa</i>	Ruby Sat-bush	gc	
<i>Maireana brevifolia</i>	Short-leaf Bluebush		ss
<i>Rhagodia candolleana</i>	Sea-berry Saltbush		ss/gc/c
<i>Tetragonia implexicoma</i>	Bower Spinach		gc/c
<i>Zygophyllum billardieri</i>	Coast Twin-leaf		gc
<i>Carpobrotus rossii</i>	Coast Pig-face	gc	
<i>Acaena novae-zelandiae</i>	Bidgee Widgee		gc
<i>Clematis microphylla</i>	Small-leaf Clematis		c
<i>Ficinia nodosa</i>	Knobby Club-rush		rph
<i>Austrodanthonia caespitosa</i>	Common Wallaby-grass		pt
<i>Austrostipa bigeniculata</i>	Kneed Spear-grass		pt
<i>Austrostipa elegantissima</i>	Feather Spear-grass		pt
<i>Austrostipa flavescens</i>	Coast Spear-grass	pt	
<i>Austrostipa scabra ssp falcata</i>	Slender Spear-grass		pt
<i>Poa poiiformis</i>	Coast Tussock-grass		pt
<i>Distichlis distichophylla</i>	Austral Salt-grass		rph
<i>Dianella revoluta</i>	Black-anther Flax-lily	rph	
<i>Dianella brevicaulis</i>	Coast Flax-lily	pt	

#### Dune Shrubland (including Zones 2,3,5 & 6)

BOTANICAL NAME	COMMON NAME	LIFE FORM
<i>Atriplex cinerea</i>	Coast Saltbush	ms
<i>Austrostipa stipoides</i>	Prickly Spear-grass	pt
<i>Disphyma crassifolium ssp clavellatum</i>	Rounded Noon-flower	sph
<i>Distichlis distichophylla</i>	Austral Salt-grass	rph
<i>Frankenia pauciflora ssp pauciflora</i>	Sea-heath	ss
<i>Rhagodia candolleana</i>	Sea-berry Saltbush	ss/gc/c
<i>Suaeda australis</i>	Austral Seablite	ss
<i>Tetragonia implexicoma</i>	Bower Spinach	gc/c

#### Moonah Woodland- Semi Saline Flats (including Zones 2,4,5 & 7)

<i>Melaleuca lanceolata</i>	Moonah	mt
<i>Myoporum insulare</i>	Boobialla	ls
<i>Leucopogon parviflorus</i>	Coast Beard-heath	ms
<i>Malva australis</i>	Native Hollyhock	ms
<i>Rhagodia candolleana</i>	Sea-berry Saltbush	ss/gc/c
<i>Tetragonia implexicoma</i>	Bower Spinach	gc/c
<i>Acaena novae-zelandiae</i>	Bidgee Widgee	gc
<i>Ficinia nodosa</i>	Knobby Club-rush	rph
<i>Poa poiiformis</i>	Coast Tussock-grass	pt
<i>Dianella brevicaulis</i>	Coast Flax-lily	pt
<i>Dianella revoluta</i> (non glaucous coastal)	Flax-lily	rph

# APPENDIX C

## **Summary of Information Leaflet #1 Outcomes**

Prepared by TBLD as part of the Management Plan

# Point Henry Foreshore Management Plan

## Summary of Information Leaflet #1 outcomes

Prepared by Thompson Berrill Landscape Design P/L for City of Greater Geelong,  
March 2005

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### INTRODUCTION

An information leaflet and questionnaire was prepared to seek feedback from the community regarding the plan. A total of 1,575 leaflets were distributed. City of Greater Geelong distributed 1,300 leaflets to the local residential and industrial area via the post, as well as 275 leaflets being made available with the information board on site, with the seal volunteers and the customer service desks at Myres Street, Drysale, Belmont and City Hall. A total of 99 questionnaires were completed and returned. The outcomes of these have been entered into an Access database and this paper includes a summary of these outcomes.

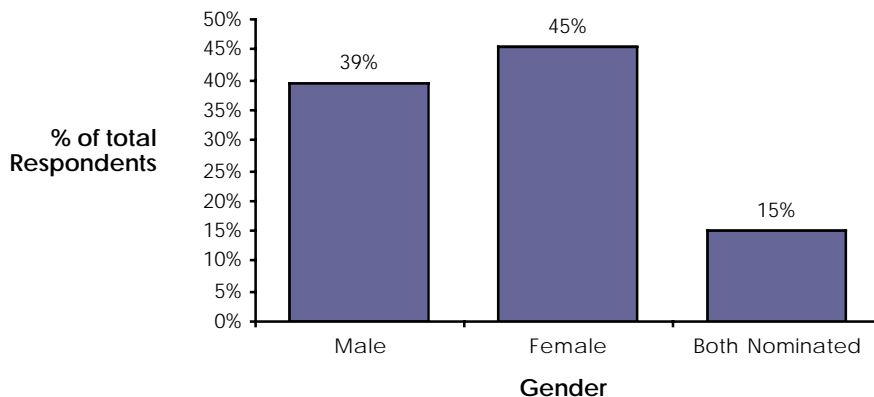
The questionnaire was predominately a multiple choice questionnaire, with an open question at the end asking what issues should be addressed in the plan. Refer to questionnaire included as Attachment A.

### 1.0 PERSONAL DETAILS OF THE RESPONDENTS

#### 1.1 Gender

##### Summary

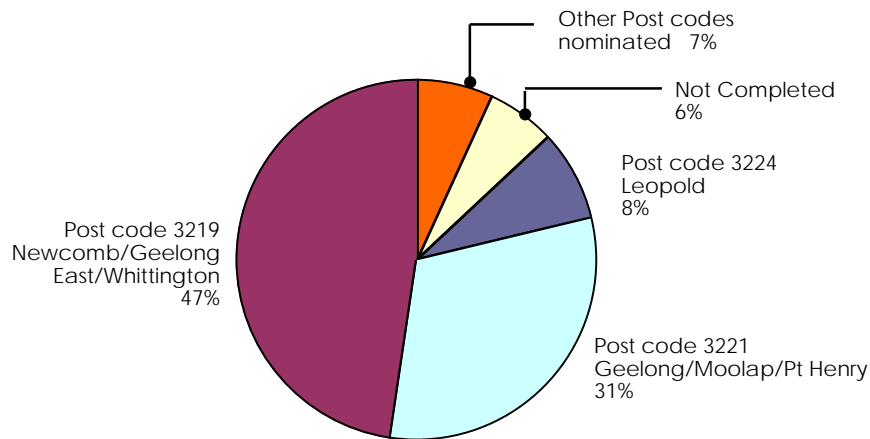
There was a relatively even number of responses from both genders, with slightly more females than males.



## 1.2 Where they live

### Summary

The largest amount of responses were from the Newcomb/Geelong East and Whittington areas. The leaflet was distributed to these residential precincts. It confirms that there is some local use at Point Henry from nearby residents.

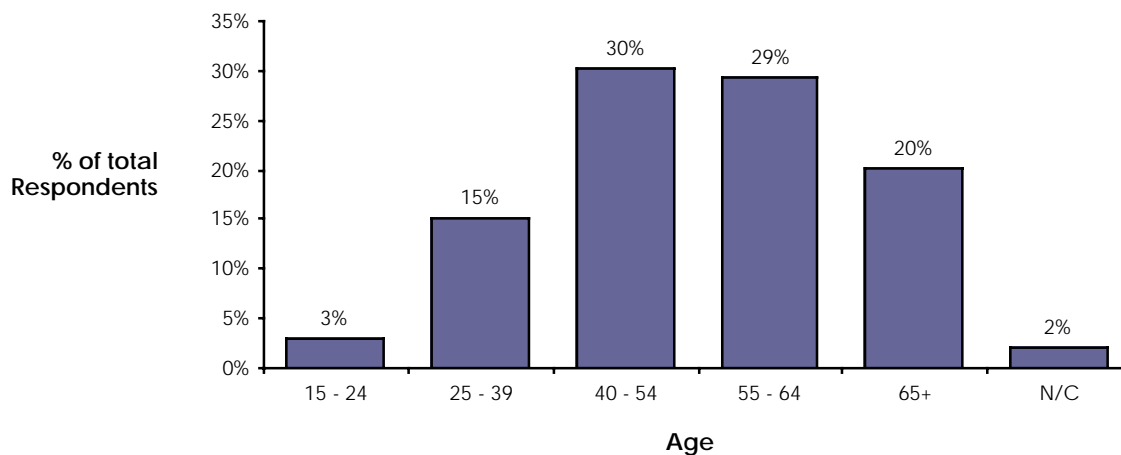


## 1.3 Age range

### Summary

The participation in informal passive activities including dog walking, walking and bird watching/enjoying the views are consistent with the older age group.

The active sports of kite surfing and wind surfing attract younger participants, however, only a small number of surveys have been received from this group.

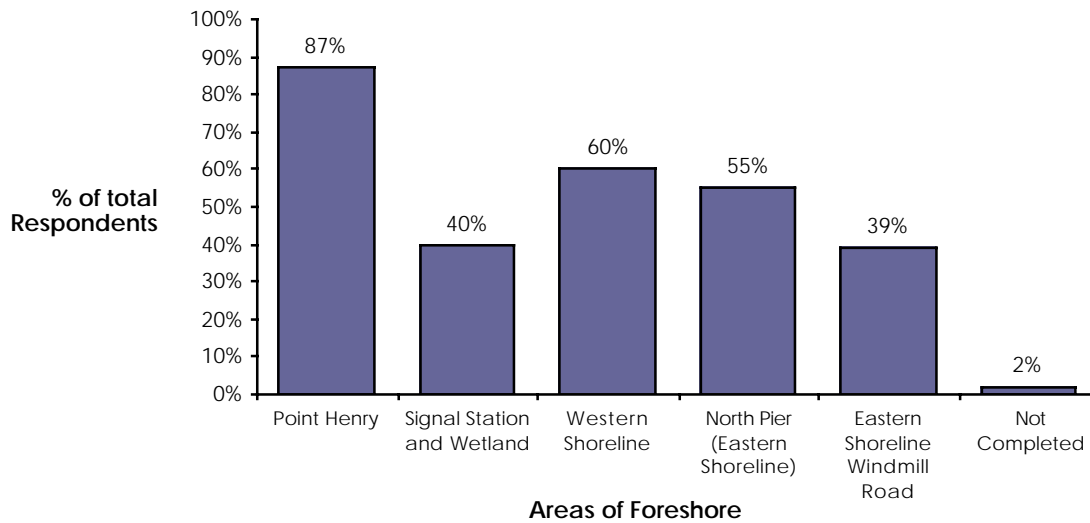


## 2.0 AREAS OF THE FORESHORE THEY VISIT

### Summary

Point Henry is clearly the main destination for visitors to this area. The future design will need to ensure access to the Point is retained and recognise this will be the main point of visitor orientation.

The least visited parts are the Windmill Road area and the Signal Station and Wetland. Given a large number of visitors are coming to the area to walk, the wetlands and Signal Station have the potential to be better used and integrated into the site.



### 3.0 The reasons for visiting the site

#### Summary

- ❑ The major activity is walking, which is undertaken primarily at Point Henry with 58% visiting for this purpose, followed by Western Shoreline (44%) and Eastern Shoreline (North of the Pier) (34%).
- ❑ Walking the dog is the second most popular activity undertaken with 44% of people visiting Point Henry for this purpose, and 35% along the Western Shoreline.
- ❑ Shore fishing is undertaken primarily at Point Henry (11%).
- ❑ Boat launching is most popular at Point Henry (16%).
- ❑ Swimming at Point Henry is popular with 13% of people visiting for this purpose.
- ❑ Passive activities such as Bird Watching and Picnics are equally popular at Point Henry with both scoring 22% of people visiting for this purpose.
- ❑ Kite Surfing and Wind Surfing by the local community appears low, however, this activity is more likely to be undertaken by regional visitors.

In the following table the responses have been coded with a greyscale to highlight the most frequent responses.

**Black** = 100 - 51%

**Dark grey** = 50 - 26%

**Pale grey** = 25 - 10%

**White** = 9% and less

	Walking	Walking Dog	Shore Fishing	Boat Launching	Swimming	Kite Surfing	Wind Surfing	Bird Watching	Picnics	Other
<b>Point Henry</b>	<b>58%</b>	<b>44%</b>	11%	16%	13%	4%	3%	22%	22%	22%
<b>Western Shoreline</b>	<b>44%</b>	<b>35%</b>	6%	2%	3%	4%	5%	11%	10%	16%
<b>Eastern Shoreline (North of Pier)</b>	<b>34%</b>	<b>33%</b>	6%	7%	6%	3%	3%	8%	12%	13%
<b>Signal Station and Wetland</b>	<b>27%</b>	<b>17%</b>	3%	0%	2%	0%	0%	17%	7%	4%
<b>Eastern Shoreline Windmill Rd</b>	<b>30%</b>	<b>25%</b>	2%	3%	2%	0%	0%	8%	6%	7%

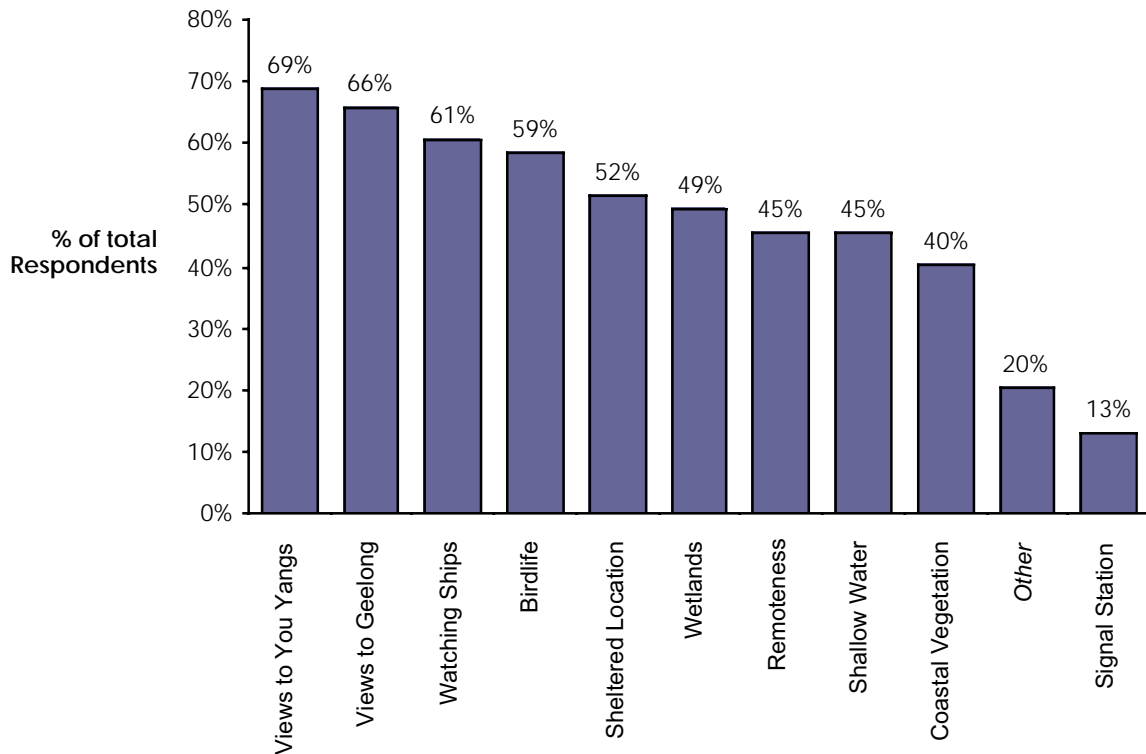
#### Others consist of:

- Nothing (5)
- Relaxing (5)
- Watching ships (5)
- Collect shells/Fossicking (3)
- Enjoying views (3)
- Horse riding at Pt Henry & Eastern Shoreline (North of Pier) (3)
- Paddling with family (3)
- Quiet thinking (3)
- Sailing dinghy's (3)
- Sitting in car looking over bay/Sitting in car with friends (3)
- Cycling (2)
- Gathering seaweed (2)
- Kayaking (2)
- Snorkelling (2)
- Viewing sea-life/shell fish (2)
- and Canoeing, Play in water, Reading, Spear fishing, Studying littoral, Visiting area, Work (taxi driver).

## 4.0 WHAT PEOPLE VALUE ABOUT THE SITE

### Summary

Enjoying the views is the highest value and will be considered carefully in future design and management. The lack of integration of the Signal Station with the site, including access to it, is a potential reason for the low response to this.



### **Other values filled in by respondents included:**

Quiet area/Peaceful (7)

Kite surfing in area (3)

Natural setting (2)

No shops, food outlets or advertising (3)

Close to home (2)

Ease of launching small boats due to conditions (2)

Good area for dog off leash to run, play and socialise (2)

Doesn't get too busy or over crowded (2)

and Flat water, Water, Large shallow area, Children enjoy shallow water to explore sea creatures, Able to let dogs off leash to swim, Walking dogs, Great area for a cool sea breeze on a hot day, Wind from SW to NE, Seal, Wildlife, Marine life, Limited development, Able to watch yacht racing, Melbourne skyline, Safe to cycle to and from, Sign board, It's history, No fees.

## 5.0 ISSUES TO BE ADDRESSED IN THE PLAN

### 5.1 Summary of key issues

- ❑ The poor condition and/or provision of visitor facilities in the site.
- ❑ The poor condition of the main entry road, and lack of suitable vehicle control measures in the site.
- ❑ Improve recreational opportunities and facilities in the site.
- ❑ Potential pollution from industrial land use affecting the water quality and general environmental quality of the area.
- ❑ Rubbish including the lack of maintenance, control of rubbish dumping, and the presence of rubbish along the foreshore.
- ❑ The native fauna including the seal and water birds are to be considered in the future management and design of the area.

### 5.2 Summary of all issues by category

Note: the percentage is derived from the total number of questionnaires received.

%	No.	COMMENTS
<b>32%</b>	<b>32</b>	<b>ROAD MANAGEMENT</b>
8%	8	Access road to Point is always rough and needs to be sealed and graded, dangerous in wet weather
3%	3	Clearly define tracks for cars / ill-defined roads require attention
3%	3	Control hoons in cars tearing up grass and vegetation
3%	3	Roads to be addressed in the plan
2%	2	Better road access required
1%	1	Approach along Portarlington Rd requires upgrade
1%	1	Bridge or tunnel to link Pt Henry to Avalon required
1%	1	Bridge required from Pt Henry to Pt Cook
1%	1	Cars have too much access to East Shore, revegetate & provide tracks & parking
1%	1	Do not decrease speed limit
1%	1	Left turn lane required from Portarlington Road to Pt Henry
1%	1	Restrict access at night only to control hoons
1%	1	Restrict vehicle access across Point, leave for boat launching, to protect seal
1%	1	Road maintenance required from buildings to beach
1%	1	Seal the road from Signal Station to Pier
<b>29%</b>	<b>29</b>	<b>INFRASTRUCTURE</b>
7%	7	Rubbish bins required, emptied regularly
4%	4	Car parking facilities required/upgraded
4%	4	Upgrade & clean toilet/shower block, including security cameras, running water etc
3%	3	Picnic benches required
2%	2	Picnic shelter required
3%	3	Seats required
1%	1	Fences to be addressed in the plan
1%	1	Grassed picnic areas with rotundas and BBQ's required
1%	1	Lighting required to boat washing station
1%	1	Steel chain and timber ramp required
1%	1	Toilets are required
1%	1	Wetland viewing platforms required
<b>28%</b>	<b>28</b>	<b>RECREATION</b>
		<b>Dogs (7)</b>
1%	1	Appreciate area being recognised as a dog beach with dog facilities
1%	1	Dog waste bins required

<b>%</b>	<b>No.</b>	<b>COMMENTS</b>
1%	1	Dogs to be under effective control
1%	1	Great area to walk dogs
1%	1	Limitations to be in place regarding dog walking policy
1%	1	Pick up dog waste signs erected and penalties enforced
1%	1	Year round access to area required to exercise dogs
		<b>Paths (9)</b>
2%	2	Shared trail required from Limeburners Point to Pt Henry
1%	1	Construct bike path from Pt Henry to Eastern Beach
1%	1	Lack of pedestrian access to the south beach to be addressed in the plan
1%	1	More walking trails required
1%	1	Pedestrian access required along Western Shoreline
1%	1	Provision of boardwalk to view birdlife
1%	1	Shared trail required around foreshore, including the eastern and western to Windmill Lane
1%	1	Shared trail with viewing & rest points from Eastern Beach along foreshore to rail trail
		<b>Recreation (6)</b>
2%	2	Activities for teens to be arranged
1%	1	Lovely area to take family out to enjoy water
1%	1	Transform area to be more user-friendly
1%	1	Designate areas for kite surfers
1%	1	More park areas for recreation required, eg at Western Beach
		<b>Watercraft (6)</b>
2%	2	Boat ramp required
1%	1	Construct 1-lane boat ramp on north of Alcoa pier for small boats - incorporate parking
1%	1	Limit fishing boat launching area
1%	1	Limitations to be in place around boat launching access and ramp
1%	1	Stingray Bay too choppy for small fishing boats
<b>18%</b>	<b>18</b>	<b>BEACH, WATER AND AIR QUALITY</b>
5%	5	Seaweed is smelly at times, too much washes up
2%	2	Beach and water pollution a concern
2%	2	Improve wetland presentation
2%	2	Possible pollutants from Alcoa a concern
1%	1	Conservation of wetlands to be addressed in the plan
1%	1	EPA to check water and air pollution from Alcoa
1%	1	Pollution to be addressed in the plan
1%	1	Removal of rubbish from waterways
1%	1	Restore beach to how it was - sandy
1%	1	Shoreline of Saltworks requires attention, open beach to public for walking and dogs
1%	1	Water and air to be cleaned which are polluted due to Alcoa and Shell Oil Refinery
<b>17%</b>	<b>17</b>	<b>OVERALL CHARACTER</b>
7%	7	Leave area as is, no change required
2%	2	Great area, no problems with area
2%	2	Include salt pans adjacent to Portarlington Rd in plan of the area
1%	1	Area is very important for Geelong
1%	1	Beatification required in general
1%	1	Keep natural
1%	1	Limit further industrial development of the area
1%	1	Remove Alcoa
1%	1	Transform Point to how it was
<b>11%</b>	<b>11</b>	<b>FAUNA</b>
2%	2	Visiting seals/elephant seals to be protected
2%	2	Wildlife issues to be addressed in the plan

<b>%</b>	<b>No.</b>	<b>COMMENTS</b>
1%	1	Area should not be closed due to seal, instead penalise ill-users, not all responsible users
1%	1	Attract a greater diversity of birds
1%	1	Implement a permanent plan for animal protection, including protection of seal
1%	1	Install large rocks for seal to scratch against, rather than scratching against rubbish bin
1%	1	More bird nesting boxes required in wetlands
1%	1	Relocate seal and seal protectors
1%	1	Remove sea urchins
<b>11%</b>	<b>11</b>	<b>MAINTENANCE</b>
4%	4	Cleaning of area required
3%	3	Rubbish removal required along beach foreshore, rubbish left behind by visitors
3%	3	Toilets needs to be maintained
1%	1	Disappointing to bird watch while dodging rubbish
<b>10%</b>	<b>10</b>	<b>VEGETATION</b>
3%	3	Vegetation to be addressed in the plan
2%	2	More shade trees to be planted
1%	1	Car parks to be more shady
1%	1	Control weeds on Eastern Foreshore to enable swimming access
1%	1	Grassed area required towards the northern point
1%	1	Improve, preserve and restore coastal vegetation
1%	1	Revegetate with indigenous species
<b>9%</b>	<b>9</b>	<b>MANAGEMENT</b>
4%	4	Rubbish dumping to be controlled
1%	1	Concern over funds used for this questionnaire
1%	1	Concern over future use of area east of CSIRO, currently underutilised
1%	1	Confused about public access to area, would like to explore but thought it off-limits
1%	1	Form a volunteer group to help maintain Pt Henry
1%	1	Mosquitoes to be addressed in the plan
<b>2%</b>	<b>2</b>	<b>ENVIRONMENT</b>
1%	1	Conservation of natural environment to be addressed in the plan
1%	1	Environmental issues to be addressed in the plan
<b>2%</b>	<b>2</b>	<b>SIGNAL STATION</b>
1%	1	Coast guard/life saver to be stationed at Signal Station
1%	1	Signal Station when manned was deterring vandalism
<b>1%</b>	<b>1</b>	<b>VIEWS</b>
1%	1	Views to Pt Henry should be scenic, do not want to look at used concrete

## **ATTACHMENT A**

**Point Henry Foreshore**

**Copy of Information Leaflet #1 with questionnaire  
as distributed**

# POINT HENRY FORESHORE Management Plan

## information leaflet #1 CITY OF GREATER GEELONG

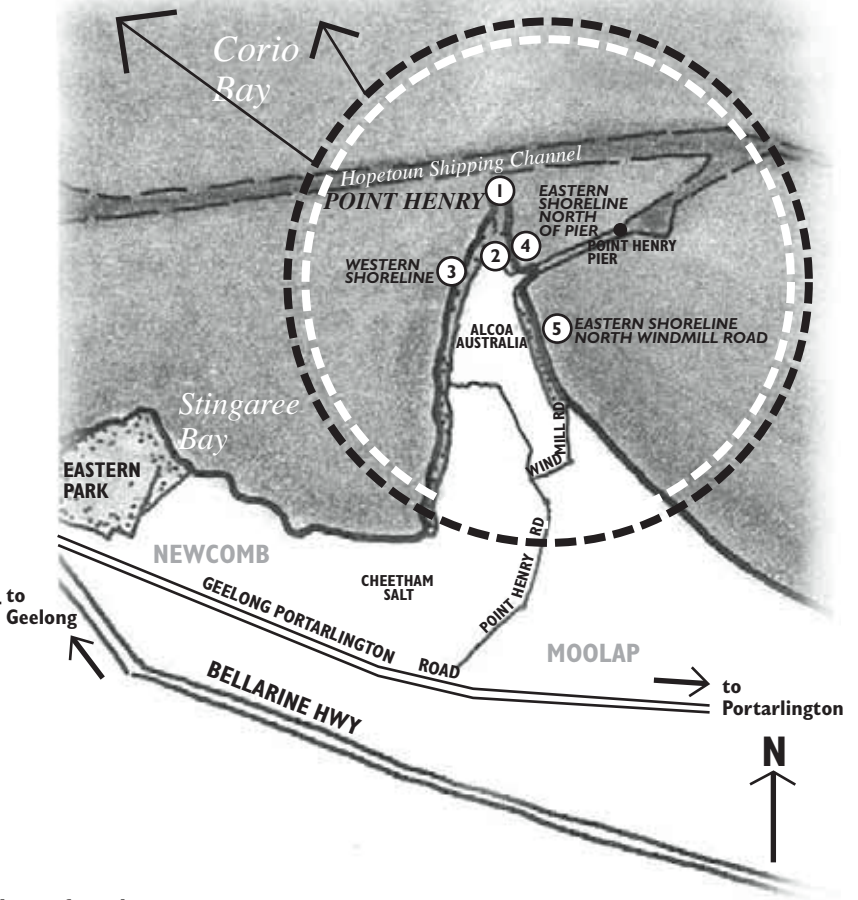
You Yangs

views across the bay



Alcoa Australia

western shoreline



### What is the plan for?

The City of Greater Geelong in consultation with state government agencies and adjoining landholders is currently preparing a plan to guide future direction and management of the public foreshore reserves at Point Henry.

### Where is the project up to?

The project is in the first phase of research to identify the issues to be addressed in the plan. This questionnaire is asking what the local community and people who visit the site value and how they use the foreshore, whilst also identifying issues or problems that need to be addressed in the plan.

### How can you be involved?

Please complete the questionnaire on the other side and return to the free post address by:

**Friday February 11 2005**

If you wish to be updated on the project, please fill out your name and address and you will be advised by mail with a second leaflet when the Draft Management Plan is on display and available for community comment.

### Point Henry foreshore

The Point Henry foreshore is located east of Geelong at the start of Corio Bay, as illustrated on the map included in this leaflet. Point Henry is historically important for both indigenous and non-indigenous people of the Geelong region. Prior to the channel being cut into Corio Bay in the early 1860's Point Henry was the landing place for all shipping arriving in Geelong. Today Point Henry foreshore is popular for beach walking, wind and kite surfing as the shallow waters provide for safe water based recreational use. The foreshore and adjoining saltmarsh and wetland areas provide habitat for a wide range of waterbirds, many of international significance, including those that visit parts of the foreshore. The sites remoteness and relatively low visitor numbers reinforce the conservation values of the area. Point Henry is an important economic and industrial precinct with major landholders including Alcoa and Cheetham Salt. Whilst there are no residential areas immediately adjoining Point Henry, the foreshore is close to the growing communities of Whittington, Moolap and Newcomb.

If you would like to be kept informed about the project, please fill out your name and address below and return to the City of Greater Geelong.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

POSTCODE \_\_\_\_\_ EMAIL \_\_\_\_\_

Council is collecting the personal information requested on this form for research and analysis. Council will solely use the personal information for that primary purpose or directly related purposes. The respondent understands that the personal information provided is for the purposes of this and future research by the City and that they may apply to Council for access, deletion and/or amendment of the information. Council may disclose your personal information to third parties such as contractors or agents to provide services on our behalf. Council requires that the information is not used for any other purpose. Provision of personal information is optional. You can contact Council's Privacy Officer on 5227 0270 for further information on the City's privacy policy.

# Questionnaire

a) Male  Female

Postcode

Age Range

0-14     25-39     55-64  
 15-24     40-54     65+

b) Which parts of the Point Henry Foreshore do you visit, and what do you do there?

Locations	Activities											Please add any additional activities				
	Example	Walking	Walking Dog	Shore Fishing	Boat Launching	Swimming	Kite Surfing	Wind Surfing	Bird Watching	Picnics						
1. Point Henry	✓															
2. Signal Station & wetland viewing platforms																
3. Western Shoreline																
4. Eastern Shoreline north of pier																
5. Eastern Shoreline north of Windmill Road																

c) What do you value about Point Henry Foreshore?

- |   |   |
|---|---|
| <input type="checkbox"/> Views of the You Yangs | <input type="checkbox"/> Signal Station     |
| <input type="checkbox"/> Views over Geelong     | <input type="checkbox"/> Remoteness         |
| <input type="checkbox"/> Watching the ships     | <input type="checkbox"/> Coastal vegetation |
| <input type="checkbox"/> Shallow water access   | <input type="checkbox"/> Birdlife           |
| <input type="checkbox"/> Sheltered location     | <input type="checkbox"/> Wetlands           |

Please add any additional values

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

d) What issues or problems would you like addressed in the plan?

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

**FOLD DIAGRAM**

Once completed fold questionnaire as diagram shows:



first fold



second fold



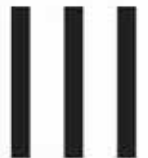
staple once to secure

second fold

**Delivery Address:**  
 PO Box 104  
 GEELONG VIC 3220

ATTENTION: ENVIRONMENT UNIT.

No stamp required if posted in Australia



City of Greater Geelong  
 Reply Paid 104  
 GEELONG VIC 3220