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*Lang Lang Foreshore Reserve  
Coastal Management Plan*

# Lang Lang Foreshore Reserve Coastal Management Plan

Prepared by Connell Wagner Pty Ltd on behalf of Lang Lang Foreshore Committee of Management Inc. and the Department of Sustainability and Environment

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## Note:

The Hon. John Thwaites MP, Minister for Environment, has approved the Lang Lang Foreshore Reserve Coastal Management Plan, pursuant to Section 32 of the *Coastal Management Act 1995*.

The Coastal Management Plan takes effect on 16 December 2004, the date that Notice of Approval was published in the Victorian Government Gazette (G.51, page 3392).

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# Executive Summary

The Lang Lang Foreshore Reserve Committee of Management Inc. (the Committee of Management) and the Department of Sustainability and Environment (DSE) commissioned a Coastal Management Plan (CMP) to provide an overall vision for the future management of the Lang Lang Foreshore Reserve. The CMP aims to provide a basis for subsequent detailed management plans and works for the Reserve, through the collation of existing data, establishment of aims and a vision, and the identification of issues within the Reserve.

The CMP has been prepared by consultants under the guidance of the Committee of Management, DSE and in consultation with the local community and relevant stakeholders. The methodology included a review of relevant legislation, strategies and reports, a site inspection, followed by a review of issues and opportunities. From this basis, a vision was prepared and key goals and management actions were identified. The purpose of the plan is to:

- Identify the environmental, heritage and recreation values of the area;
- Provide a long term vision for the management of the Reserve;
- Set objectives for the protection of these values and strategies to protect and enhance them; and,
- Provide a prioritised list of actions and timeframes in which to achieve the objectives.

## Vision

The Lang Lang Foreshore Reserve will be managed in an ecologically sustainable manner ensuring the long-term protection of the area's environmental, cultural and recreational values including the Western Port Ramsar site. The Reserve's Caravan Park will be redeveloped to be consistent with the principles of Ecologically Sustainable Development and provide a sound financial basis to assist in the management of the Reserve. Recreational activities including fishing, boating, walking, picnicking, caravanning, camping and nature appreciation will be provided for within the Reserve. Community participation will be paramount in the on-going management of the Reserve.

**Management actions** of high priority include:

- Reduce the impact of erosion on the foreshore using soft engineering solutions and minimising activities on the immediate foreshore;
- Ensure that activities within the Reserve comply with relevant legislation and regulations;
- Investigate alternative sewage treatment/disposal options for the Caravan Park;
- Identify Reserve boundaries;
- Conduct a vegetation study and design and implement a Vegetation Management and Revegetation Plan for the Reserve;
- Implement management strategies detailed in *Western Port Ramsar Site- Strategic Management Plan*.
- Develop and implement a pest plant and animal program for the Reserve in conjunction with adjoining property owners;
- Enhance visitor awareness of the cultural, geomorphological and historical significance of the Lang Lang foreshore area;
- Undertake a hazardous materials and structural conditions audit of buildings within the Caravan Park and beach shack area;
- Undertake a public risk assessment in areas characterised by steep cliffs; and,
- Undertake environmental and cultural assessments prior to proposed works.

The CMP provides a sound basis for which to manage the Lang Lang Foreshore Reserve for the benefit of all users whilst ensuring the conservation of natural and cultural values for future generations.

## Introduction

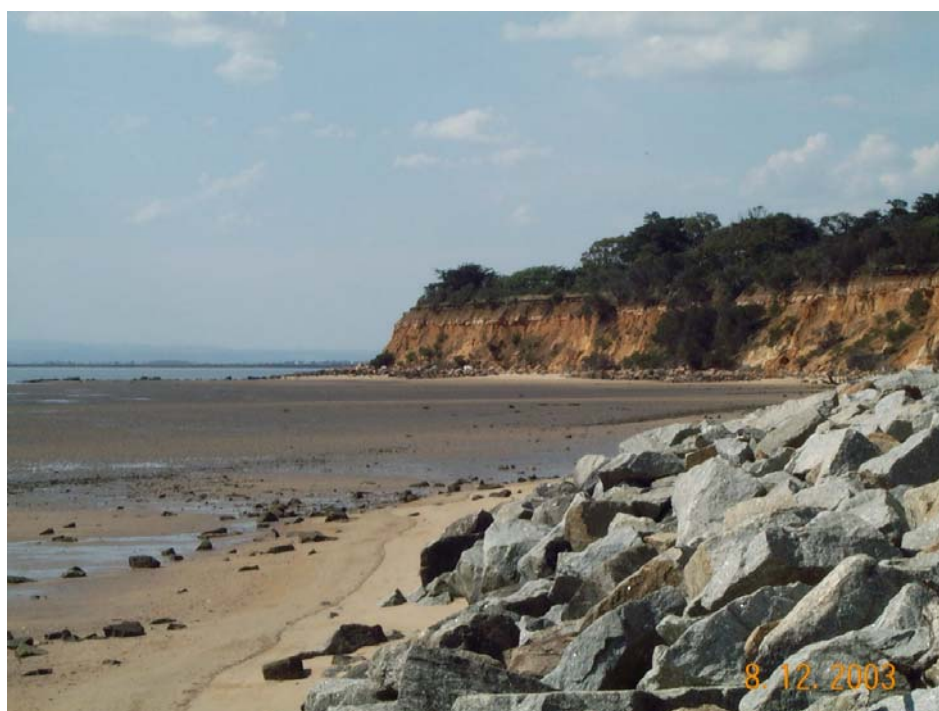
### 2.1 Background

In March 2002, the Lang Lang Foreshore Reserve Committee of Management Inc. in consultation with the Department of Sustainability and Environment (DSE) appointed Connell Wagner to prepare a Coastal Management Plan for the Lang Lang Foreshore Reserve.

The Lang Lang Foreshore Reserve Coastal Management Plan has been prepared in accordance with the *Coastal Management Act 1995* and was subject to further refinement following a community consultation period in January/February 2003 before being presented to the Minister for Environment for his consideration. Details of the Reserve are available in **Table 1**.

<b>Site</b>	Lang Lang Foreshore Reserve Lang Lang and Jam Jerrup Western Port Victoria
<b>Site features</b>	Beach, cliffs, wetland, walking tracks, caravans, beach shacks, amenities, car parking, boat ramp, public jetty, picnic facilities, native bushland
<b>Local councils</b>	Bass Coast Shire and Cardinia Shire
<b>Adjacent land use</b>	Agricultural farm land surrounds the Reserve on three sides, while Western Port and its associated wetlands are to the west
<b>Surrounding land use</b>	Farmland, pockets of natural/remnant vegetation, wetlands, low density residential

Table 1- Reserve details



Red Bluff from Jam Jerrup beach

The study area is defined as covering the entire Lang Lang Foreshore Reserve (refer to Map 1), which covers approximately 45ha and extends from about 1.5km north of Jetty Road and south of the Jam Jerrup township towards Pioneer Bay. The Reserve consists of a narrow coastal strip, made up of cliffs, sand dunes, mudflats, wetlands and intertidal rock platforms, all leading into the waters of Western Port.

As shown in **Map 1**, the study area has been divided into 6 areas or precincts for the purpose of preparing Management Actions. The boundaries of each precinct have been based on the landforms, vegetation and activities occurring in each precinct. The 6 precincts are:

- Northern Precinct
- Recreation Precinct
- Red Bluff Precinct
- Jam Jerrup Precinct
- Stockyard Point Precinct
- Southern Precinct

A description of each precinct is provided in **Map 1**. Section 6 of the Management Plan outlines the Management Actions relevant to each precinct.

Map 1- Please Refer to Lang Lang Foreshore Reserve and precincts.pdf



## **2.2 Methodology and Consultation**

Consultation was an important process in the development of the draft CMP, which included meetings, questionnaires and site inspections with appropriate representatives. Representatives from the following organisations were consulted:

- Department of Sustainability and Environment.
- Bass Coast and Cardinia Shire Councils.
- Lang Lang Foreshore Reserve Committee of Management Inc.
- Local residents, adjacent landowners, caravan owners, beach shack permit holders and Lang Lang Coast Action Group.

The participation of key stakeholders has been important in the development of the CMP. Key stakeholders and the local community were notified of the project's commencement and were invited to meet with the Project Team on-site on 5<sup>th</sup> April 2002. Those that could not attend were encouraged to complete a questionnaire or contact the consultants to discuss any issues or concerns (refer to Appendix B).

## 3. Existing Management

### 3.1 Ownership and Management of the Foreshore Reserve

The Lang Lang Foreshore Reserve is Crown land. The Department of Sustainability and Environment, on behalf of the Crown, represents the landowner, the State, and under the *Crown Land (Reserves) Act 1978*, the Department has the power to delegate management responsibilities to local bodies.

The management of the Lang Lang Foreshore Reserve is delegated to a volunteer Committee of Management. This Committee manages the Reserve in consultation with many groups. In addition to the Department of Sustainability and Environment, who oversee the Committee's management, there are other agencies with an important role in managing the coast. Bass Coast and Cardinia Shire Councils have responsibility for much of the infrastructure adjacent the Reserve, such as roads and stormwater drainage. Bass Coast Shire Council is responsible for areas south of Jetty Lane, while Cardinia Shire manages the remaining northern portion. The official boundary between the Council areas lies down the centre of Jetty Lane, however, there is an agreement between Cardinia Shire and Bass Coast Shire that the latter will maintain the road and the former will maintain both sides of the road reserve. Section 6 aims to provide clear a direction as to which body is responsible for certain areas or tasks or whether there are shared responsibilities.

Cardinia Shire Council manages the coastal land north of the Foreshore Reserve boundary and the Department of Sustainability and Environment manages the coastal area adjacent to the southern boundary of Lang Lang Foreshore Reserve.

The Lang Lang Jetty is managed by Parks Victoria.

### 3.2 Relevant Legislation

The following is an overview of the key legislation that directly affects and directs the management of the Reserve.

The Victorian Government passed the *Coastal Management Act 1995* (State) to provide for the coordinated strategic planning of Victoria's coastal resources. The Act established the Victorian Coastal Council (VCC) and three Regional Coastal Boards to facilitate this process.

The Central Coastal Board provides strategic planning advice to the Minister for Environment, for the coastline between Breamlea, on the western boundary of the City of Greater Geelong, to Andersons Inlet at the eastern boundary of Bass Coast Shire. Under the Act, the Board may prepare Coastal Action Plans for its region or a part of its region.

The *Coastal Management Act* requires the written consent of the Minister to use or develop coastal Crown land. When considering an application to use or develop coastal Crown land, the Minister for Environment must consider the consistency of proposals with the Victorian Coastal Strategy, relevant Land Conservation Council and Environment Conservation Council recommendations and relevant Management Plans and Coastal Action Plans.

The *Crown Land (Reserves) Act 1978* (State) provides for the reservation of Crown land for a variety of public purposes, the appointment of committees of management to manage those reserves and for leasing and licensing of reserves for purposes approved by the Minister for Planning.

In Victoria, the *Archaeological and Aboriginal Relics Preservation Act 1972* (State) provides legislative protection for all Aboriginal cultural heritage sites, places and objects. Sites of significance have been recorded within the Reserve and are protected under this Act.

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Commonwealth) provides for the blanket protection of all Australian Aboriginal and Torres Strait Islander archaeological sites, places and objects whether privately or publicly owned. Whereas the State provides legislative protection for all physical evidence of past Aboriginal occupation, the Commonwealth Act also protects Aboriginal cultural property in the wider sense so as to include contemporary and ancient

traditions and folklore. Any person, organisation or company wishing to disturb or destroy an Aboriginal site without contravening the Act when an alternative solution cannot be found can do so by obtaining written consent in advance from the relevant Aboriginal community.

The local Aboriginal communities have responsibilities under this Act. In Victoria, Aboriginal Affairs Victoria, a State government agency, assists the local Aboriginal communities with the management of Aboriginal heritage. The State is divided into five cultural heritage regions. The regional bodies are a useful information source for matters relating to cultural heritage. The relevant regional body should be contacted when works are being undertaken within their administrative boundaries. The Lang Lang Foreshore Reserve is located within the Kulin Nations heritage region.

Within the five cultural heritage regions are 26 Aboriginal Communities. Each local Aboriginal Community is recognised under the Act. The Lang Lang Foreshore Reserve is located within the Wurundjeri Tribe Land Compensation and Cultural Heritage Council area.

In addition to the Wurundjeri there are two other Aboriginal corporations which are recognised as traditional owners of the area. These are the Bunurong Land Council and Aboriginal Corporation and the Boonerwung Elders Land Council Aboriginal Corporation.

The **Environment Protection and Biodiversity Conservation Act 1999** (Commonwealth) delineates areas of Commonwealth and State responsibility for the natural environment. This Act defines the Commonwealth's role in managing the environment as limited to matters of national environmental significance, such as Ramsar wetlands. The Act aims primarily to provide for the protection of the environment, promote ecologically sustainable development and promote the conservation of biodiversity. This Act applies to the Lang Lang Foreshore Reserve due to its protection under the Ramsar Convention 1971 (see section 3.4 below).



View of the French Island and Western Port Ramsar Site from Jam Jerrup

The **Environment Protection Act 1970** (State) provides the legal framework by which environmental objectives, regulations and goals are established throughout the State for industry, commerce and the general public. The Act reflects the precautionary principle, the protection of intergenerational equity, the polluter pays principle, and the protection of biodiversity. It puts the responsibility for sound environmental management on Victorian businesses, communities and individuals. The Act aims to achieve greater environmental performance through shifting to collaboration and co-regulation as opposed to the traditional 'command and control'.

The **Flora and Fauna Guarantee Act 1988** (State) provides the legal framework to conserve Victoria's native plants and animals. Its broad aim is to prevent the extinction of any more plants and animals and to ensure that native flora and fauna survive, flourish and retain their potential for evolutionary development in the wild.

**Australian Heritage Commission Act 1975** established the Australian Heritage Commission. The main role of the Commission is to advise the relevant Minister, on matters relating to the National Estate. This includes advice relating to actions identifying, conserving, improving and preserving the national estate. The National Estate consists of those places, natural and/or cultural, that have aesthetic, historic, scientific or social significance or other special value for future generations as well as for the present community. The former farm on Red Bluff is entered in the Register of the National Estate (refer to section 4.2).

The **Planning and Environment Act 1987** (State) establishes State planning and land use processes including provisions for planning schemes for individual council areas. A planning scheme is a statutory document which sets out objectives, policies and provisions relating to the use, development, protection and conservation of land in the area to which it applies. A planning scheme regulates the use and development of land through planning provisions to achieve those objectives and policies. Every planning scheme includes the State Planning Policy Framework. This Framework consists of general principles for land use and development in Victoria and specific policies dealing with settlement, environment, housing, economic development, infrastructure, and particular uses and development. The Local Planning Policy Framework sets a local and regional strategic policy context for a municipality including Crown land. It comprises the Municipal Strategic Statement and specific local planning policies.

#### **Ramsar Convention 1971**

The broad aim of the Convention on Wetlands of International Importance (Ramsar Convention 1971) is to reverse the worldwide loss of wetlands and to recognise and conserve those that remain. Wetlands are defined as shallow, open waters such as lakes, rivers and coastal fringes, and any land, which is regularly or intermittently saturated, by water, such as marshes, swamps and floodplains. Currently there are over eighty countries, which are Contracting Parties to the Ramsar Convention.

The whole of Western Port is protected under the Ramsar Convention. The Lang Lang Foreshore, therefore, abuts an area of international significance and hence, activities and impacts originating from within the reserve must aim to conserve and enhance the wetland. Management relating to wetland areas in the Reserve is located in sections 4.1.2, 4.2, 5, 6.2 and 8.

### **3.3 State and Regional Context**

There are a number of State and regional strategies and policies that are relevant to the management of the Lang Lang Foreshore Reserve. The following provides a summary of the key policies that have been considered in the development of the CMP for the Foreshore Reserve.

#### **Council Planning Schemes**

The **Bass Coast Planning Scheme** and **Cardinia Planning Scheme** set out policies and controls for the use, development and protection of land. The strategic framework and directions for the future use of the municipalities are outlined in their **Municipal Strategic Statements** (MSS). The MSSs provide the rationale for the policies and planning controls that form part of the Bass Coast and Cardinia Planning Schemes. For Cardinia & Bass Coast, the MSSs identify the internationally recognised coastal ecosystems, increasing aged populations, and their proximity to both Melbourne and Gippsland as significant features of the Shires. The Foreshore Reserve is zoned Public Conservation and Recreation, with Environmental Significance Overlays 1 (Coastal Areas) and 2 (Sites of Geological and Geomorphological Significance) identifying that there are geological and geomorphological sites of significance within Lang Lang Foreshore Reserve that should be protected and conserved.

#### **Victorian Coastal Strategy**

Under the **Coastal Management Act 1995** the Victorian Coastal Council prepared the **Victorian Coastal Strategy** to guide planning on the Victorian coast. The Strategy was revised in January 2002 with the four major directions being:

- Ensuring the protection of significant environmental features;

- Providing integrated planning and management to provide a clear direction for the future use of the coast;
- Identifying suitable development areas and opportunities on the coast; and
- Ensuring the sustainable use of natural resources.

This document has built upon the previous strategy and strengthened the framework for ecologically sustainable long-term management of coastal and marine areas.

### **Siting and Design Guidelines**

The *Siting and Design Guidelines for Structures on the Victorian Coast* was prepared in 1998 by the Victorian Coastal Council to assist the Victorian Coastal Council, coastal managers, Local Government and other stakeholders to implement the *Victorian Coastal Strategy*. The Guidelines outline issues that should be considered in the siting, design and construction of structures within Victoria's coastline.

### **Victorian Coastal Vulnerability Study**

Conducted by the Coastal Investigations Unit of the Port of Melbourne Authority in the early 1990's, this study identified the Caravan Park at Lang Lang as potentially vulnerable to suffering significant impacts due to rising sea levels associated with the greenhouse effect. In the long term, foreshore recession will have repercussions for the management of the Reserve and its associated Caravan Park.

### **Western Port Environmental Study**

The *Western Port Environmental Study* was the first environmental 'baseline' study to give an overall picture of the health of the Bay and assist with planning for future development. The study was completed in 1973-74 in response to a request from the Western Port Water Pollution Committee (WWPC) following industrial development in the Bay in the late 1960's. The study found a very diverse ecosystem based on mangrove communities and seagrass beds that supported large populations of bird life and marine organisms. Topics including geology and hydrology, soil, climate, air quality, stream sampling, land use, economics and environmental planning, industrial development, physical and chemical characteristics of the Bay, mangroves, seagrass, population and community structure, outfalls, avifauna, seal colonies, toxicology and fishes were covered in the Study.

### **Western Port Ramsar Site- Strategic Management Plan**

This Management Plan is a comprehensive management framework for Western Port within the context of a wetland of international importance, as identified under the Convention on Wetlands. It aims to "...facilitate conservation and wise use of the site so as to maintain, and where practical restore, the ecological values for which it is recognised as a Ramsar wetland."

### **Western Port Coastal Villages Strategy**

The *Western Port Coastal Villages Strategy* was prepared in 1994 in recognition that the growth of the greater Melbourne metropolis will put pressure on the Western Port villages, which, unlike those of Port Phillip, have maintained individual identities. The Strategy aims to protect the features of these villages by providing a clear direction on their future size and servicing. The study complements the Western Port Bay Strategy.

Specifically, the Strategy notes that Pioneer Bay has little development (1994) and is not well located as a settlement due to its low lying, visually exposed characteristics. Jam Jerrup is recognised as an area of high environmental significance and sensitivity that is not suited to further subdivision or expansion.

### **State Environment Protection Policy (Waters of Victoria) - Schedule F8**

This Schedule replaces the State Environment Protection Policy (SEPP) developed in 1979, which focused primarily on point source discharges. Since then, increased urban settlement and other activities have put pressures on the Western Port catchment which has resulted in the loss of seventy percent of seagrass coverage since the Western Port Environmental Study in 1973-74. Similarly, there is a continual improvement in management agencies and their programs providing a more integrated focus on environmental protection. The revised Schedule aims to improve management of the 3000 km<sup>2</sup> Western Port catchment, which incorporates the area from Flinders in the West, to north of Beaconsfield and Tarago, to Grantville in the east and including French and Phillip Islands.

### Western Port Perspective

The *Western Port Perspective* was prepared in 2000 and looked at the entire bay and any land that contained activities that could affect the Western Port environment. The report looks at the methods for placing values on the attributes within the Port and the risks to those values posed by various human and environmental problems. These risks are analysed and prioritised for the study area with specific management directions and actions.

Although many of the risks listed in this document are associated with Port activities, risks that are of relevance to the Lang Lang Foreshore Reserve include pest plants and animals, coastal erosion and urban stormwater. Management actions for the overall management of Western Port include:

- Protect native flora and fauna (including management of pest plants and animals);
- Focus on appreciating the natural environment;
- Revegetate and stabilise degraded sites to prevent soil erosion;
- Protect sites of environmental and cultural significance; and,
- Inform and educate the public and local community on the natural values of Western Port and how they can be protected and enhanced.

**Sites of Zoological Significance in the Western Port Region (Andrew *et. al.*, 1984)** recognises the remnant vegetation in the Lang Lang area as being of regional significance as faunal habitat. Some of the largest areas of remnant native vegetation on the eastern shoreline of Western Port are either within Lang Lang Foreshore Reserve or the immediate vicinity and support a range of birds, reptiles, amphibians and mammals. Further fragmentation or disturbance of this vegetation is strongly discouraged.

**Sites of Botanical Significance (Opie *et. al.*, 1984)** presents field data collected in 1980/1982 describing the vegetation of the Western Port region. The objective of the study was to identify areas and sites that had significant values so that land-use planning and management in those areas can take these values into account. A numerical analysis of data describes communities, sub-communities and their significance. Changes in vegetation types over time and threats to floristic composition are also detailed. Salt marsh communities such as those commonly found in the southern precincts of the Reserve are identified as being of national significance.

## 3.4 Local Context

### Lang Lang Foreshore Reserve Management Plan 1978 (approximate date)

The Department of Crown Land and Survey prepared a Lang Lang Foreshore Reserve Management Plan in the late 1970's. The main objective of the Plan was to manage the Reserve for balanced land use due to the increased pressure placed on the Foreshore Reserve from an expanding population. Further capital improvements were viewed as being unsuitable due to the continually changing land uses, the derelict state of structures, the clash between day users and holiday makers, the lack of roads servicing the area and the associated problems of finance, maintenance and restoration.

### Ecological Vegetation Mapping

The Department of Sustainability and Environment has conducted broad scale mapping of Ecological Vegetation Classes (EVC) on public and private land in the Port Phillip and Western Port region. This was achieved through interpretation of aerial photography and fieldwork. EVC mapping was completed due to the intensification of threats to remnant vegetation brought about by expanding populations and pressures of urban and industrial development and a corresponding lack of broad scale mapping. Through mapping EVCs, conservation and management of remnant vegetation can be based on more accurate information.

## 4. Site Analysis

### 4.1 Existing Conditions, Issues & Opportunities

The Lang Lang Foreshore Reserve is a diverse environment ranging from cliffs and sandy beaches to wetlands and patches of mangroves along the shoreline. The Reserve is situated on the eastern shore of Western Port. The northern portion of the reserve was formerly swamp land.

A significant feature of the Reserve is the internationally significant wetland, adjacent to the reserve that supports a range of water birds, amphibians, fish, reptiles, invertebrates and plants. The wetland is protected under the international Ramsar Convention (1971).

#### 4.1.1 Geological and Geomorphological Conditions

Geological and geomorphologically significant sites extend from Red Bluff to the southern most point of the Foreshore Reserve. These areas are of state significance due to the nature of the cliff development, the unique exposure of the coastal formation and the opportunity to study soil and vegetation succession (Rosengren, 1984, p. 250-258 and p. 469). Red Bluff is a 15-20m high coastal cliff that has developed as an outcrop of the Tertiary Baxter Formation. At its base, *en echelon* sand bars extend to the south, which are created as a result of tidal movement and erosion. The vertical cliffs south of Red Bluff formerly extended in front of the Jam Jerrup township. However, these cliffs were regaded in the early 1990's and a rockwall constructed at the base. Stockyard Point is located to the south of Red Bluff and is a highly dynamic environment comprising sandy foreland created through the accretion of spits and beach ridges that are continually moving and changing. The shoreline east of Stockyard Point is gradually sloping sand dunes vegetated primarily with Salt Marsh and Coastal Tea-Tree.

#### *Erosion*

Erosion is a natural process involving the gradual wearing away of land caused by any combination of wind, water, weather conditions and human activities such as recreational pursuits and development. The impacts of erosion can include a loss of useable land, reduced visual amenity, safety hazards and increased sedimentation in waterways. The dominant process contributing to erosion within the Foreshore Reserve would appear to be a combination of wind and wave action resulting in the deposition of sediment off shore rather than along shore. However, human activities and developments are accelerating this process.



Erosion adjacent to a beach shack.



The Bass Coast Planning Scheme also identifies parts of the coastline as being vulnerable to sea level rise resulting from the Greenhouse Effect. This in turn affects the stability of coastal landforms. Erosion is a significant issue affecting large areas of the Reserve due to the threat it poses to the longevity and safety of beach shacks and caravans, impingement on land boundaries and the threat to public safety. It has been an issue for many years, as the original Lang Lang Reserve Management Plan (c.1978) detailed that between 1939 and the 1970s the area between the Lang Lang jetty and Lang Lang River receded 10 metres.

Engineered erosion control structures have been used within the Reserve with varying degrees of success. Within the Caravan Park a seawall was constructed in the 1930's either side of the jetty. An ad-hoc, homemade seawall has been constructed in front of the beach shacks and tea-tree groynes are scattered along the length of the reserve. Such structures are generally expensive, require ongoing maintenance and often contribute to further erosion problems. Structures such as seawalls frequently have terminal scour at either or both ends of the wall. The groynes have disturbed the natural cycles of sand transportation along the shoreline causing some areas of the beach to erode at an accelerated rate.



Ad-hoc, homemade seawall in front of the beach shacks

Opportunity: The option of extending the existing seawall further south within the Caravan Park has been identified by some community members as a means of reducing the rate of erosion notably in front of the beach shacks. Depending on the type, depth and materials used in the construction of seawalls, costs for such structures could be expected to be in the order of \$250 per square metre. It should be noted that a significant proportion of a seawall is located below ground level.

Alternatives to erosion control measures that deflect wave energy are those measures that absorb wave energy.

Opportunity: Alternative soft-engineering solutions for erosion control include planting mangroves, trapping of sand and revegetation of foreshore areas. Mangroves absorb and dissipate wave and wind energy, consequently reducing the impacts on the foreshore. Trapping sand, through the use of geotextile materials and sand fences, provides greater protection of the foreshore and will eventually allow the establishment of vegetation. Revegetation of the foreshore will assist in stabilising the soil and consequently reduce the rate of erosion. Such



measures absorb the wave and wind energies that cause erosion and over time may contribute to the stabilisation of the foreshore.

The erosion control strategy for the Lang Lang Foreshore Reserve should incorporate:

- Preparation of a risk assessment of actively eroding areas.
- Design & implementation of soft engineering solutions eg. sand trapping & wave abatement measures.
- Revegetation of foreshore areas (including mangroves).
- Investigation of the possibility of importing appropriately sized sand.
- Provision of interpretative material to visitors.
- Removal of concrete debris in the Recreation Precinct.

#### 4.1.2 Flora

The whole of Western Port is protected under the Ramsar convention, due to the international significance of its flora and fauna. An appropriate level of management and protection is, therefore, required.

From initial observation and Ecological Vegetation Class (EVC) mapping, conducted by the Department of Sustainability and Environment, the Lang Lang Foreshore Reserve supports a number of EVCs. However, there is a large gap in information available on vegetation type, quality and status, as limited research has been conducted in the area. Due to this, information for this CMP has been taken from EVC mapping and personal observation.

The Northern Precinct supports a ground layer of salt tolerant grasses and low shrubland known as Berm Grassy Shrubland of which the dominant species is Coast Saltbush *Atriplex cinerea*.

The Recreation Precinct is a cleared area that is used as the Lang Lang Caravan Park. Hence, there are no original vegetation communities present within this Precinct, only introduced plants, weed species and some natives that have been recently planted.

Opportunity: The ecological communities that are present in the Reserve play an important role in minimising the impact of erosion. There is the potential to increase vegetation cover within the Caravan Park after a Vegetation Survey and Assessment has been conducted, to provide improved shelter from the strong winds of Western Port for local fauna and visitors, while at the same time reducing long term erosion.

Remnants of a garden that was established in the 1800's are present in the Red Bluff Precinct, including orchard trees and some emergent pines. Some native species are present. Coastal Headland Scrub is the dominant EVC comprising scrub or shrubland on rocky, steep and exposed coastal headlands that are often exposed to salt-laden, gale force winds. Dominant species include: Coast Wattle *Acacia longifolia* var. *sophorae*, Coast banksia *Banksia integrifolia*, Coast Tea-Tree *Leptospermum laevigatum* and Seaberry Saltbush *Rhagodia candolleana*. However, from ground truthing within the Precinct it seems that there is very little of this vegetation remaining, and its quality is questionable.

Vegetation is highly disturbed in the Jam Jerrup Precinct and has consequently not been identified as a specific EVC. The severely modified vegetation of the Jam Jerrup township has resulted from clearing and possibly inappropriate disposal of garden cuttings. This precinct is dominated by introduced species such as *Agapanthus*, scattered *Acacia* species and pasture grasses, several of which are serious environmental weeds.



Weed invasion on the Jam Jerrup foreshore

The Stockyard Point Precinct is the most biologically diverse within the Reserve, evident in the number of EVCs identified:

- Damp Sands Herb Rich Woodland is present within the northern end of this Precinct, which consists of a woodland overstorey of species such as Coast Manna Gum *Eucalyptus viminalis*, Black Wattle *Acacia mearnsii* and Messmate *Eucalyptus obliqua*, with a grassy or bracken-dominated understorey. Common shrubs include Prickly Tea-tree *Leptospermum continentale*, Common Heath *Epacris impressa* and Honey-pots *Acrotriche serrulata* as well as the invasive Coast Tea-Tree *Leptospermum laerigatum* (not indigenous to this EVC). There is also a ground layer rich in herbs, grasses and orchids supporting species such as Creeping Wood sorrel *Oxalis corniculata*, Hairy Pennywort *Hydrocotyle hirta* and Knobby Club-sedge *Isolepis nodosa*. Dominant climber species include Common Apple-berry *Billardiera scandens* var. *scandens*.
- Estuarine Brackish Wetland/Estuarine Swamp Scrub Mosaic is dominated by Swamp Paperbark *Melaleuca ericifolia*, and includes herbs, sedges, rushes and reeds as ground cover. Swamp Scrub is also dominated by an overstorey of Swamp Paperbark, with a moss/lichen/liverwort or herbaceous ground cover.
- Mangrove Shrubland, *Avicennia marina* ssp. *australasica*, associated with Coast Saltmarsh and Estuarine Flats Grassland covers most of the tip of Stockyard Point and is dominated by Coast Saltbush *Atriplex cinerea*, Hairy Spinifex *Spinifex sericeus* and Prickly Spear-grass *Austrostipa stipoides*.
- Coastal Saltmarsh has not been documented as an EVC present in this Precinct, however, it is evident that it is a common vegetation type in both the Southern and Stockyard Point Precinct. The lower zone is frequently inundated and is dominated by species such as Beaded Glasswort *Sarcocornia quinqueflora* and Austral Seablite *Suaeda australis*. Grasses such as Streaked Arrowgrass *Triglochin striatum*, Creeping Brookweed *Samolus repens* and Shiny Swamp-mat *Selliera radicans* dominate the next most landward zone.

The Southern Precinct lies adjacent to the protected waters of Pioneer Bay and has Mangrove Shrubland and Coastal Saltmarsh lining its shores, with Estuarine Brackish Wetland/Estuarine Swamp Scrub Mosaic and Estuarine Flats Grassland growing directly behind it. Several of these EVC's including Berm Grassy Shrubland, Estuarine Flats, Grassland and Damp-Sands Herb

Rich Woodland are known to be threatened in the Gippsland Plains Bioregion and some are threatened statewide (A. Muir, DSE, pers. comm.).

The Coastal Salt Marsh EVC within the Southern Precinct is of National Significance since it is the best representative of this vegetation type in southern Australia. Coastal Salt Marsh represents an important, uniquely Australian component of a worldwide ecosystem (Opie *et al*, 1984). Opie *et al*, (1984) recommend that every effort be made to preserve as much as possible of the salt marsh in its natural state. This is because salt marsh communities in the Reserve are one of the few remaining communities that are not significantly affected by industry or heavy grazing. This vegetation also provides feeding and nesting grounds for birds, mammals, reptiles and invertebrates which in turn are important in salt marsh species reproductive cycles (Opie *et al*, 1984).

Mangrove Shrubland (*Avicennia marina* subsp. *australasica*) is present in scattered stands along the intertidal areas of the foreshore, in the Stockyard Point and Southern Precincts, where it helps to stabilise substrate and provide habitat for wildlife. Its distribution has decreased since the early 1800s, either directly or indirectly due to human activity (Environment Protection Authority, 1996). Seagrass has also been negatively affected by land use practices, resulting in a 70% decline in Western Port between 1973 and 1983 (Environment Protection Authority, November 2001, 2000 and 1996). Past photos of the Lang Lang foreshore also show the dramatic loss of seagrass over this time. Activities taking place in the Reserve should aim to have minimal effect on the waters of Western Port, in order to maximise the opportunity for mangrove and seagrass populations to re-establish.



Mangrove Shrubland (*Avicennia marina* subsp. *australasica*) in the intertidal zone at Stockyard Point

Opportunity: There are no threatened ecological communities listed on the Environment Australia database identified within the study area, however, there are records of six plant species within the vicinity of the study area that are listed as either endangered or threatened. It is unknown whether any of these persist within the Foreshore Reserve, and a vegetation survey at the appropriate time of the year would be required to determine this. *Atriplex paludosa* subsp. *paludosa* is known to occur within the study area and is listed as poorly known in Victoria (NRE 2000 Rare or Threatened Vascular Plants in Victoria, Department of Sustainability and Environment, East Melbourne). As the quality of the vegetation in the study area is variable, a vegetation survey and assessment is required to identify which areas of indigenous vegetation in the Lang Lang Foreshore Reserve are significant.

**Opportunity:** To effectively manage vegetation within the Reserve, a comprehensive vegetation study is necessary to identify which species and vegetation communities are present and those which are significant, their distribution, quality and status. This study should also identify which pest species are present and their status within the Reserve, such as highly invasive or species detrimental to the growth of indigenous flora and fauna or present with no recognised impact. Once this information is collected a Revegetation Plan can be designed and implemented in recognition of the Reserve's needs. DSE has identified and mapped vegetation present in the Western Port region prior to the year 1750 (scale 1:100,000). This information should be used as a guide to vegetation which grew in the region prior to human impacts and development.

#### **Pest Plants**

Weeds threaten the natural and cultural values of the Reserve by crowding indigenous vegetation and providing habitat for pest animals. The control of weeds is a critical management action for the next five years of the Reserve's management and will need to be undertaken in conjunction with the assistance of Bass Valley Landcare. Consultation with DSE and Landcare is important for the overall long term health of the Reserve due to the effect that large scale removal of weeds may have on foreshore erosion.

Weeds such as Gorse *Ulex europaeus*, Mirror Bush *Coprosma repens*, Blackberry *Rubus fruticosus* and non-indigenous plants are present within the Foreshore Reserve. Mirror Bush grows as dense bushes up to 8m high and is of primary concern in the Caravan Park due to its ability to grow from disposed garden cuttings. Blackberry and Gorse are highly invasive species that spread quickly, affecting environmental and social values.



*Coprosma repens* is the most common vegetation within the Caravan Park

Coastal Tea-Tree is indigenous to some coastal areas of Victoria, however, it is an environmental weed in other parts or in areas inland from its natural coastal habitat (Greening Australia, 1998). A large stand of Coastal Tea-Tree, bordering the beach near Stockyard Point is non-indigenous having invaded beyond its natural range. This stand should to be brought under control and gradually replaced with indigenous species.

**Opportunity:** As described above, a comprehensive vegetation study is necessary to identify which pest species are present and their status within the Reserve. Once this information is

collected an appropriate Vegetation Management and Revegetation Plan can be designed and implemented in recognition of the Reserve's needs.

### ***Fauna***

Birds are the main faunal group inhabiting the Reserve. The intertidal mudflats are of International Significance under the Ramsar Convention due to the varied bird life they support. The *Environment Protection and Biodiversity Conservation Act 1999* identifies twenty-six migratory species and fourteen terrestrial species that are either classified as endangered or vulnerable (refer to Appendix C). East of Stockyard Point is a Nationally Significant feeding and roosting area for migratory waders in Western Port. *Sites of Zoological Significance in the Western Port Region* recommends that a 0.5km buffer zone be established around Stockyard Point to protect this feeding ground and roosting area from unnecessary disturbance, when approaching from either land or water. Consequently, boat and pedestrian access should be restricted around the point to protect migratory bird populations. *Western Port Ramsar Site Strategic Management Plan* identifies the values of the Western Port Ramsar site, associated policies, risk management and site management strategies.

North of Stockyard Point important feeding grounds for bird species such as the Royal Spoonbill are recognised as areas of state significance. Thirty-two species of migratory waders forage in these areas. In order to protect these species it is recommended that dredging be avoided and water quality closely monitored. It is not the responsibility of the Committee of Management to implement these recommendations. However, land based activities taking place in the Reserve should not negatively impact upon the waters of Western Port.

Opportunity: More detailed description of migratory endangered or vulnerable species distributions and occurrences within the Reserve is required in order to effectively manage the populations. There is limited information available on the fauna inhabiting the Foreshore Reserve. Consequently, further research is required to identify the relevant populations and their significance.

### ***Pest Animals***

The presence of burrowing activity suggests that rabbits are present within the Reserve. These animals diminish the natural and cultural values through grazing on native vegetation and preventing its natural regeneration. Their burrows also contribute to erosion and land degradation, which is listed as a key threatening process under Schedule 3 of the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*.

Opportunity: There are many pest animal control methods that can be employed. To be effective they must be continuously engaged and carried out in conjunction with the efforts of adjoining property owners. Methods such as shooting, trapping, poisoning and releasing disease have been used in the past. However, the only effective long-term control method to remove rabbits from an area is the erection of exclusionary fencing.

### ***Drainage***

The Reserve is often subject to flooding during king tides and periods of high rainfall. Mounds of clay/topsoil were deposited along the foreshore (in the boat ramp and Caravan Park areas) in an effort to reduce the incidence of flooding. The natural drainage flow has been significantly altered as a consequence, and run-off from adjoining rural land often enters the Reserve and in some areas is unable to drain to Western Port due to the clay/topsoil mounds. The drainage within the Reserve will impact on the use of the Caravan Park.

Opportunity: liaise with adjacent landowners to manage stormwater more effectively prior to discharge to Western Port via the foreshore reserve.





Rural land immediately landward of the caravan park

The *Bass Coast Strategic Framework for Coastal Towns* (GHD, September 2003) notes that the Foreshore Reserve at Jam Jerrup ‘is weed infested; rubbish dumping has occurred over time, many informal tracks and drainage lines exist down the cliff faces. These have been damaging the condition of the reserve.’

Opportunity: define official access tracks and investigate the removal of drainage lines across the reserve to assist in the stabilisation of the eroding cliff and reduction of wastewater discharging into Western Port.

#### **4.1.3 Cultural and Historical**

##### ***Indigenous Heritage***

The Bunurong People (Yallok Bulluk Bunurong clan) are the indigenous group from southeast Victoria whose traditional land includes part of the Western Port catchment. They are part of a larger group or Nation known as Kulin. The Bunurong tribe occupied the higher ground, while the Bulug-Wilan sub-tribe regularly camped at Red Bluff. The presence of the Bunurong within the Lang Lang area means that there are significant archaeological and historical sites within the Western Port region that must be treated with respect.

Opportunity: Prior to works being undertaken outside the Recreation precinct, an archaeological survey should be undertaken. This will allow for more informed decision making when assessing the proposed location of facilities, such as walking tracks, seats and signage, so that significant sites are protected.

Opportunity: provide more accessible information regarding the use of the area by indigenous communities. This information could be available either on site or at a more central location such as a tourist information centre.

##### ***Non-Indigenous History***

In 1840 pastoral activity spread to the Lang Lang region. The first major ‘developments’ of the area in the 1850s, were primarily land clearing and swamp drainage, although successful drainage was not achieved until the 1890’s. In 1863 sheep were grazed on the drained areas of Red Bluff, and in the same year dairying and commercial potato growing commenced in the region. Many pioneering families were established on Red Bluff by the 1870’s due to the priority the location was given as a settlement. A farm was established on Red Bluff in 1868

and is now entered in the Register of the National Estate. The original farm stretched from Red Bluff to the Koo-Wee-Rup swamp and covered 16,000 acres. It was originally a cattle run and then diversified to sheep, pigs, dairy cows, potatoes, marigolds and turnips. Significant use of the foreshore began in the 1920s, when fishing and picnicking in the Reserve became popular. With increase human impacts, the Committee of Management was formed in 1924.

By the 1950's, camping was popular within the Reserve and the Committee of Management issued permits for the construction of 33 boatsheds. The camping area is now predominantly used for caravans and motor homes, with some tent sites. In the 1920's, a seawater swimming pool was constructed within the reserve immediately north of Jetty Lane. The old kiosk at the entrance to the reserve sold tickets to the swimming pool, ice creams and snacks. The old pump that maintained the pool levels and pumped clean seawater into the pool remains *in situ*.



Remains of the pool pump with old pool site in background.

Opportunity: Information on the immediate past history of the reserve is available via a number of sources. Collation and preservation of this valuable resource should be a task that is coordinated by the Committee of Management and could be used to enhance the visitor experience to the reserve.

#### 4.1.4 Recreation

##### **Caravan Park**

Lang Lang Caravan Park and day visitor area has developed since the 1950's. A concentrated line of beach shacks, caravans and adjoining annexes occupy the immediate foreshore with infrastructure such as a laundry, toilet blocks, weather shed, caretaker's residence, storage sheds and many water tanks. Development has taken place in an ad-hoc and unregulated fashion and the existing infrastructure is in a poor condition. The Caravan Park and day visitor area is of high recreational value due to facilities such as the jetty, boat ramp, shallow beach and picnic area. This section of the Foreshore Reserve was a social focal point during the 1950s and 1960s but as the local population structure changed, so did the Reserve's primary function. Since then, the Caravan Park has primarily been used as a holiday destination for both local and regional visitors.

The layout of the Caravan Park and beach shacks has developed in an ad-hoc manner over a number of years. Consequently there are a number of issues that have arisen as a result of the area's layout and supporting infrastructure. Public access to the coast is greatly impeded by the proximity of the caravans and beach shacks to the coastline. The long term presence of

caravans and beach shacks is threatened by coastal erosion and there is limited space to revegetate this vulnerable section of the coast. A wide gravel access road dissects the Caravan Park, and detracts from the areas visual appearance contributes to speeding vehicles and occupies valuable space. Nevertheless, the overall ambience of the Caravan Park is one of stepping back in time to the 1950's and this old-fashioned feel is a feature that attracts many visitors to return to the location.

Opportunity: review the layout of the Caravan Park including the facilities and their current standard whilst maintaining the ambience of an old-fashioned 1950's Caravan Park.



Wide gravel access road through Caravan Park

Visitors to the Lang Lang Caravan Park value the area for its tranquillity and peacefulness. On site caretakers are responsible for the day to day management of the Caravan Park which comprises 46 powered caravan sites and a number of unpowered campsites. In addition, there are 33 beach shacks. The Caravan Park is utilised by visitors as a weekend and holiday destination. The same families for a number of generations have occupied many of the on-site caravans and visited the beach shacks. The Caravan Park has recently become a popular destination for motor homes due to the availability of treeless areas. The beach shacks are located west of the caravan sites and were formerly utilised as boatsheds. The condition and current use of the beach shacks for overnight stays has resulted in Bass Coast Shire Council placing a health and building encumbrance on all beach shacks.

There are a number of permanent private caravans located within the Caravan Park. The majority of these caravans are not readily transportable due to the removal of their wheels, storage of materials beneath the vans, development of garden beds around their perimeters and construction of permanent annexes. The *Residential Tenancies (Caravan Parks and Movable Dwellings Registration and Standards) Regulations 1999* outlines the standards required for caravans and the requirement for an Emergency Management Plan to be developed by the Committee of Management and approved by local Council in consultation with the CFA. Caravans that do not comply with the Regulations should be upgraded or removed from the site. The Country Fire Authority *Residential Accommodation Guidelines* also provide guidance on the management of caravan parks.

The beach shacks have developed over a period of approximately thirty to forty years and are constructed of various materials including asbestos sheeting, mud brick, weather board and brick veneer. The beach shacks are not connected to reticulated services, however many have chimneys, gas bottles and water tanks and plumbing pipes apparently discharge greywater into Western Port. It is evident that the beach shacks have been developed and modified over time without relevant planning or building approvals and, that some are being utilised for uses



contrary to the *Lang Lang Foreshore Reserve Committee of Management Regulations Relating to Boatsheds and Buildings 1960*. The Committee of Management governs use of the beach shacks and is responsible for enforcing the Regulations. Beach shack occupiers should be informed of the safety issues associated with using the structures for purposes contrary to the Regulations.

Opportunity: The structural condition and building materials of the beach shacks, caravans and associated annexes vary and the viability and safety of some structures is uncertain. Consequently, it is recommended that a structural conditions and hazardous materials audit be undertaken and actions arising from the audit be implemented.

As mentioned above, the Caravan Park currently accommodates 46 powered caravan sites, a variable number of unpowered camping sites and 33 beach shacks which are located within the boundary of the Park. In its current condition, it is unlikely that the Caravan Park will be able to accommodate this level of use into the future in an environmentally sustainable manner given the lack of suitable supporting infrastructure (such as sewers, stormwater and potable water) and the actively eroding coastline. The layout and type of accommodation offered within the Reserve will need to be reviewed.

Opportunity: through aging and disrepair, beach shacks should be removed or rebuilt in a more suitable location further back from the coastline. If the beach shacks are to be rebuilt, licence conditions should prescribe building sizes, materials and permitted uses. No additional beach shacks should be permitted within the Reserve.

Opportunity: It should be recognised that the future management of the Caravan Park will need to be based on the principles of sustainability including:

- **Energy consumption conservation and minimisation** through purchasing electrical energy from renewable sources and reducing consumption by using appropriate and feasible energy efficient technologies. An opportunity also exists for the Committee to explore the possibilities of alternative energy generation within the Reserve for the purpose of powering the Caravan Park. Excess power could be sold and the revenue generated used for expenditure within the Reserve.
- **Water conservation, stormwater and waste-water management** through design for stormwater and waste-water collection and treatment with consideration for collection to allow for reuse. Alternative sewage treatment and disposal methods should be investigated and the current septic tank systems decommissioned.
- **Construction materials** assessment taking into consideration the most environmentally appropriate products, considering life cycle performance and performance in coastal conditions.
- **Waste avoidance and minimisation** in the purchasing of materials and for ongoing maintenance. Additional, opportunities for recycling and composting wastes generated within the Recreation precinct should be explored.
- **Sustainable operating practices** should be considered in assessing social, economic and environmental impacts.

The Caravan Park is an important source of revenue for the Committee of Management. The Committee of Management has made substantial improvements to the Caravan Park. However, past management invested little in the ongoing maintenance and upgrade of infrastructure within the Reserve. As a consequence, significant resources are required to improve the Reserve's infrastructure to an acceptable standard. There is a need for the Committee to be able to diversify its income stream through providing alternative accommodation and attracting a broader market base (such as motor home visitors, seasonal vegetable pickers and school groups).

Opportunity: A sound business plan will be required to address the issues of upgrade, maintenance and in certain circumstances, replacement. A review of Caravan and beach shack annual fees and overnight/visitor fees will be a component of the business plan to ensure the long-term viability of the Reserve.

***Walking***

Since the Foreshore Reserve has limited development and infrastructure, constructing and maintaining walking tracks would increase the recreational value and access to the area without jeopardising its environmental significance. An overgrown walking track exists between the southern end of the Caravan Park and the Jam Jerrup township.

Opportunity: conduct a risk assessment of areas experiencing erosion (such as Red Bluff) and if suitable upgrade and extend the walking track from the southern end of the Caravan Park, through Jam Jerrup township onwards to Stockyard Point. Consider incorporating fenced lookouts for views over French Island including signage detailing observable landforms and features.

Opportunity: provide interpretation material to increase visitor understanding of local ecological communities, archaeological history and sites of geological significance.

***Water Based Sports (Fishing, Boating, Swimming)***

Water based recreation is limited within most of the Reserve's precincts due to the tidal wetland that borders the foreshore. Fishing is popular along the length of the Reserve. However, this activity is concentrated at the jetty and Stockyard Point. Four wheeled motor bikes are commonly used to access Stockyard Point due to its distance from the car park. Vehicle access in this area is affecting fragile vegetation and formations such as sand dunes and wetlands resulting in increased rates of erosion.

Opportunity: Motor bikes are accessing Stockyard Beach through a broken fence before riding down sand dunes and onto the beach. Hence, there is a need for upgrading the fence, educational signage and enforcement to prevent vehicles accessing the beach.

A fish cleaning facility is located in the car park adjacent to the boat ramp and jetty. Fish scales and other waste accumulate around the fish cleaning table attracting insects and emitting a foul odour.

Opportunity: Improved litter disposal facilities are required, such as a bin or composting facilities located adjacent to the end of the scaling table. Information leaflets educating anglers to take their waste home would also assist in managing this issue. The possibility of using a worm farm or composting system to break down the waste should be investigated.

Boating facilities comprise a boat ramp, jetty and trailer park located at the northern end of the Caravan Park. Due to the extreme variation between low and high tides, the boat ramp can only be accessed at high tide and hence there is no opportunity to charge fees for its use. The ramp also requires ongoing maintenance as it is subject to continual sand accumulation. During low tide there is no water beneath the jetty thereby restricting fishing activities.



Boat ramp to the north of the Caravan Park

Opportunity: rationalising the area required for the trailer park would improve management of the space and provide an opportunity for revegetation. Changing the surface of the trailer park and revegetation would also reduce coastal erosion. Planting suitable vegetation will provide shade and shelter for visitors using the boat ramp.



Boat ramp parking area

### ***Dogs***

Anecdotal evidence suggests that the number of dogs in the Caravan Park increases over peak holiday periods. Altercations between dogs' present a safety issue for visitors and waste left behind by dogs is a health hazard and potential hazard to water quality in Western Port.

Opportunity: Bass Coast Shire Council is currently preparing a dog policy that should be reviewed by the Committee of Management and its suitability for use in the Reserve assessed. If adopted, the Committee of Management will need to consult with Bass Coast Shire Council regarding enforcement of the regulations.

#### 4.1.5 Built Environment

##### Facilities

Facilities available for day visitors include a barbecue and picnic area, sheltered picnic table and chairs, toilets, an open grassed area and as previously mentioned boat trailer parking, a boat ramp, jetty and fish cleaning table. The grassed day visitor picnic area has been built on the site of the old swimming pool.



Day visitor picnic area

Although rubbish bins are located within the Reserve, littering is an issue. Rubbish dumping appears to occur throughout the Reserve. Tyres and mattresses have been left in the Northern precinct whilst a fridge and other building waste have been dropped over the cliff in the Red Bluff and Jam Jerrup precincts.

Opportunity: improved regulation and education signage may assist in reducing littering. Restricting vehicle access to the Red Bluff precinct would also reduce the incidence of dumping of waste over the cliff.

Facilities servicing the Caravan Park include two amenity blocks. The first amenity block is situated within the Caravan Park and comprises toilets, showers, and a laundry. The second amenity block is located nearer the beach shacks and comprises toilets and (cold) showers. The amenity blocks are maintained to a high standard. However, they are both ageing and the status of both the septic systems is uncertain.

Opportunity: alternative sewerage treatment/disposal methods need to be investigated such as composting toilets. Minor improvement works are required to the Caravan Park amenity blocks including non-slip flooring and repair of access paths where cracks or uneven surfaces appear.

Also within the Caravan Park are a caretaker's residence, storage sheds and water tanks. A former caretaker residence is located adjacent to the current residence and is utilised as a workshop and storage space.



Storage sheds adjacent to caretaker's residence

Opportunity: rationalisation and grouping of these facilities would improve space management within the Caravan Park. Installation of water tanks to collect stormwater from suitable roof surfaces would provide valuable drinking water for use within the Caravan Park.

A separate sheltered barbecue, a weather shed/pavilion and a brick building formerly used as the swimming pool kiosk are also located within the Caravan Park.



Former swimming pool kiosk

Opportunity: Assess the structural integrity of these buildings prior to giving consideration to potential uses.

#### **4.1.6 Management**

##### ***Public Safety***

Coastal erosion is one of the most pressing issues facing the Lang Lang Foreshore Reserve due to its long term effect on the natural environment and the risk it poses to public safety. The southern end of the Caravan Park, Red Bluff and Jam Jerrup are the areas of principal concern due to their lack of fencing and the height of the cliffs.





Eroded access steps at the base of Jam Jerrup cliff

Opportunity: a risk assessment should be undertaken both on top of and below the cliffs. Fencing is needed within high-risk areas at a suitable distance from the cliff edge. Clear signage should be installed to inform visitors of the public safety risk.

The disposal of garden waste on the reserve bordering Foreshore Road, Jam Jerrup and the beach is of primary concern within the Jam Jerrup Precinct. There is a relatively steep hill that is covered in garden waste, facing Western Port. Disposal of garden waste had led to the growth of species such as *Agapanthus*. At the base of the cliff, significant erosion is occurring, particularly terminal scour at the southern end of the rockwall.



Weeds at the top of Jam Jerrup cliff

Opportunity: Access to the foreshore via the cliff and across the rockwall is dangerous and should be restricted by use of fencing and signage at the top of the cliff.

Opportunity: A hazardous materials and structural conditions audit of all built assets (for example, the beach shacks, caretaker's residences, weather shed, kiosk, caravan annexes and toilet blocks) needs to be conducted and actions resulting from the audit implemented.

### ***Boundaries and Fencing***

The Foreshore Reserve boundaries have been subjected to long-term coastal erosion and consequently, where the foreshore reserve has been completely eroded, freehold titles may now abut high water mark. *The Crown Land Management 3.8 Doctrine of Accretion* states that where any gradual or imperceptible erosion of the freehold land by the water diminishes the boundary of that land then *ipso facto* it extends the area of the body of water (Crown land). Access to fishing areas around Stockyard Point, for example, between high and low water marks is, therefore, Crown land.

Opportunity: The exact location of Reserve boundaries needs to be identified so that the correct area of land and its associated issues are managed.

Opportunity: If, after investigation of public and private land boundaries, walking tracks are located on private land and no suitable arrangements can be made, then consideration should be made to constructing boardwalks between, for example, the Caravan Park and Jam Jerrup and between Jam Jerrup and Stockyard Point.

Opportunity: Areas bordering private land need to be fenced, to prevent stock accessing the foreshore.

### ***Visitation***

The Lang Lang Foreshore Reserve is an important recreation and open space resource attracting both local and regional visitors. The Recreation Precinct is the most heavily visited precinct. It is important that the capacity of this area to accommodate visitors is not exceeded so that the intrinsic values of the Reserve are protected. Factors influencing the capacity of the Recreation Precinct include the facilities that service the area (septic tanks, roads, power and water), the available space and layout of sites/facilities and the rate of erosion. The area's amenity should also be considered as many visitors have indicated that they visit the Reserve because it is a tranquil place. Based on the above factors, it is considered that the capacity of the Caravan Park is at its peak. Anecdotal evidence suggests that peak visitor numbers within the Caravan Park and beach shacks totals 80 people (including children). The rate of erosion will significantly impact on the capacity of the Caravan Park. Rearrangement of the Caravan Park's layout will be integral in the management of erosion along the coastline and the subsequent capacity of the Caravan Park.

Opportunity: maintain the capacity of the park at maximum 80 visitors (including children).

## 5. Key Issues

The initial stakeholder meeting on 5 April 2002 highlighted a number of key issues that require a more comprehensive consideration as part of the development of the CMP. Stakeholders identified three key issues: erosion, the beach shacks and sewage. Each key issue was considered and a number of management options developed for each issue. The following is a summary of the preferred options for each key issue. All options discussed for each issue is provided at Appendix E whilst the existing conditions and associated issues are listed in section 4.1

The *Victorian Coastal Strategy* (2002) is the guiding document to conserve and manage the Victorian coast for present and future generations. The Strategy's vision highlights that the coast will remain the property of the Victorian people and that access to the coast will be managed so that it does not detract from the environment itself. The Strategy establishes principles to underpin decision making to protect the broad public interest in the long term within a framework of Ecologically Sustainable Development (ESD).

The Strategy provides relevant direction for the future use, development and management of the coastline at Lang Lang. The Lang Lang Foreshore Reserve is within the Strategy's Coastal Protection Zone, reflecting the significant bird habitat protected by the Ramsar Convention. This zone should be primarily managed to protect the natural values of the Foreshore Reserve and the surrounding landscape.

### 5.1 Erosion

Specific objectives and actions in the *Victorian Coastal Strategy* (2002) relevant to the issue of erosion at Lang Lang include:

- 1.1.2 Opportunities will be actively pursued to better understand ecological processes and determine and address key management requirements in enclosed marine waters;
- 1.1.3 A strategic approach to protecting and improving the condition of coastal and estuarine wetlands, including mangrove, seagrass and saltmarsh areas will be developed;
- 1.3.3 The impact on intertidal areas will be a major consideration when providing access to beaches and estuarine areas to ensure sensitive areas are protected and enhanced;
- 2.4.3 Opportunities will be actively sought to restore, rehabilitate and manage coastal vegetation, habitats and communities;
- 3.1.4 Beach renourishment works will be targeted using environmental, social and economic criteria including risk management;
- 3.3.2 A program of vulnerability and risk assessment will be undertaken to identify coastal buffer zone widths required to maintain biological and physical processes and to accommodate public infrastructure, use and access for a 100 year planning period; and
- 3.3.4 Revegetation of cleared land abutting very narrow coastal reserves, that are likely to be threatened by erosion will be encouraged to establish improved natural buffers to future erosion activity.

#### Recommendations for managing erosion in the Lang Lang Foreshore Reserve

A number of engineered erosion control structures have been used within the Reserve with varying degrees of success. Such structures are generally expensive, require ongoing maintenance and often contribute to further erosion problems.

Traditional engineered erosion control measures generally operate on the basis of deflecting wave energy. This type of erosion control where wave energy is deflected can often create significant problems further along the coast. Alternatives to erosion control measures that deflect wave energy are those measures that absorb wave energy.

The erosion control strategy for the Lang Lang Foreshore Reserve should at least incorporate the following:

- Preparation of a risk assessment of actively eroding cliffs.
- Methodology for the trapping of sand to provide a basis for supporting vegetation.
- Plans for revegetation of foreshore areas (including mangroves) to absorb wave energy.
- Investigation of the practicality of importing appropriately sized sand.



- Provision of interpretative material to visitors.
- Removal of concrete debris in the Recreation Precinct.

In 2002, GHD consultants on behalf of the Department of Natural Resources and Environment (now DSE) undertook a study of erosion in Western Port. The report states (p.6, section 3.2.1.1)

"At Lang Lang Beach, sediment transport is episodic and would only be significant when storms coincide with high tides and storm surge elevates water levels to enable waves to transport sediment off shore. Nonetheless, there is ample evidence of recession of the coastline at Lang Lang".

The Report estimates a recession rate, during the last 50 years, of between 0.3 and 0.5 metres per year. "The seawall extending from the boat ramp to the southern extremity of the caravan 'section' of the Lang Lang Caravan Park is approximately 370 metres long. The seawall crest is slightly below the Highest Astronomical Tide of 3.3 metres. ....overtopping of the seawall is likely to occur on a regular basis. South of the seawall 'ad hoc' protective structures have been installed by locals, these too are likely to experience frequent overtopping" (p7, section 3.2.1.1).

"There is a risk that severe overtopping of the seawall during large storm events may cause damage and eventual failure" (p7, section 3.2.1.2). "The individual 'ad hoc' protection measures installed by locals are of varying standard and may be subject to complete failure during a large storm event. Such failures may be caused by a lack of toe protection leading to slumping and/or by severe overtopping leading to scour of supporting material from behind the structures and consequent collapse. They provide minimal protection to the coast and create a trip/fall hazard for pedestrians" (p7, section 3.2.1.2).



Erosion of the seawall close to Lang Lang Jetty

The GHD Report recommends a planned retreat/relocation of the various structures within the reserve by 15 to 20 metres to land at a level of +3.5m (Chart Datum). Rebuilt structures would be required to have a floor level of 3.7m (Chart datum) to allow the development to be free of inundation in all but extreme storm events. The Report also recommends mangrove replanting, seagrass replanting and replanting of coastal dune buffers with appropriate coastal vegetation in order to slow the rate of erosion within the Reserve.

## 5.2 Beach Shacks

As discussed in sections 4.2 and 5.1 coastal erosion presents a significant threat to the longevity of the beach shacks. In addition, the condition and proximity of the structures to the coastline presents a public safety risk notably where they are being utilised for overnight accommodation purposes (discussed in more detail in section 4.2).

Specific objectives and actions in the *Victorian Coastal Strategy* (2002) relevant to the beach shacks at Lang Lang include:

- 1.3.1 - Protect intertidal areas;
- 1.3.2 - Increase understanding, protection and monitoring of vulnerable habitats particularly sea grass, mangroves and saltmarsh;
- 1.4.3 - Improve water quality through catchment management to reduce unnatural inputs into marine and estuarine environments;
- 1.6 - Reduce impacts of effluent in marine and estuarine environments;
- 1.6.2 - Proponents of development in non-sewered areas will demonstrate no adverse impacts on receiving waters;
- 2.4.3 - Restore, rehabilitate and manage coastal vegetation, habitats and communities;
- 3.2.1 - Increase community awareness of catchment, coastal and marine issues;
- 3.2.7 - Increase opportunities for community involvement and participation in coastal management;
- 3.3.3 Vulnerability assessments will provide the basis for determining set back lines to indicate coastal land which may be unsuitable for the location of buildings and infrastructure of varying levels of investment;
- 5.2 - Provide direction for the location and scale of use and development on the coast;
- 5.3.4 - Improve or relocate existing activities and infrastructure on coastal Crown land. Determine priorities for improvement, removal or relocation of infrastructure to less physically and visually sensitive inland sites through management plans.

The Strategy also defines suitable or appropriate development on the coast. The Strategy's objectives are that the extent of existing settlements and recreational nodes are defined, and that areas between settlements and recreational nodes (most of the coast) should remain largely undeveloped. Appropriate coastal development is defined as that which:

- enhances protection and rehabilitation of the natural environment and biodiversity;
- results in increased public benefit, having regard to environmental, social and economic implications;
- is sensitively design, having regard to the 'Siting and Design Guidelines for Structures on the Victorian Coast' and 'Landscape Setting Types for the Victorian Coast';
- minimises public risk;
- is set back from the coast as far as practicable in line with vulnerability assessments;
- facilitates multiple use of sites and existing infrastructure, without resulting in over-use;
- facilitates improvements of sites or existing developments that have poor environmental or social performance; and
- is consistent with the requirements of coastal planning strategies and plans, and relevant planning schemes.

The *Siting and Design Guidelines for Structures on the Victorian Coast* (VCS 1998) aim to create awareness of more sensitive design and development options for the Victorian Coast. Together with the *Landscape Setting Types for the Victorian Coast* (VCS 1998), the Guidelines provide detailed recommendations on how developments should respond to the coastal landscape. Guidelines applicable to the Lang Lang Foreshore Reserve include:

- development should be contained, and should be minimised near the water's edge;
- significant habitat areas require protection;
- structures should not unnecessarily impede public access to and along the shoreline except where this is the intended primary role of the structure;
- structures on coastal public land should not impair existing views to the water and should enrich views to and from the Coast; and

## Recommendations

As outlined in section 4.1.4, the purposes for which the beach shacks are being used and the location of the structures on the foreshore is not sustainable in the long term. Reverting the beach shacks to their former usage as boatsheds (as described in Options 2 and 3) would significantly improve personal safety and reduce liability risks. Maintaining the beach shacks at their current location (option 2) provides a slightly cheaper option but presents a higher risk in relation to the impacts of erosion. In addition to reverting the beach shacks to boatshed usage, relocation of the beach shacks to an area(s) not subject to coastal processes (option 3) would involve higher costs but would reduce the risks associated with coastal erosion. The Western Port Erosion Report (2002) has been conducted to provide expert advice in relation to the long-term sustainability of the beach shacks.

Reverting the beach shacks to boatshed usage in conjunction with the implementation of the recommendations identified in section 5.1 (sand trapping and revegetation) presents a feasible means of improving the long-term sustainability of the structures and the coastal environment. The 2002 GHD Report also recommends a planned retreat/relocation of the various structures within the reserve by 15 to 20 metres to land at a level of +3.5m (Chart Datum). Rebuilt structures would be required to have a floor level of 3.7m (Chart datum) to allow the development to be free of inundation in all but extreme storm events.

## 5.3 Sewage

Specific objectives and actions in the *Victorian Coastal Strategy* (2002) relevant to the issue of sewage at Lang Lang include:

- 1.3.1 - Protect intertidal areas;
- 1.3.2 - Increase understanding, protection and monitoring of vulnerable habitats particularly sea grass, mangroves and saltmarsh;
- 1.4.3 - Improve water quality through catchment management to reduce unnatural inputs into marine and estuarine environments;
- 1.6 - Reduce impacts of effluent in marine and estuarine environments;
- 1.6.2 - Proponents of development in non-sewered areas will demonstrate no adverse impacts on receiving waters;
- 1.6.4 Public amenities on the coast will be reviewed through management planning processes to ensure that sewerage systems have sufficient capacity to cope with high visitation periods such as summer, large festivals and events;
- 1.6.9 Reuse and water conservation programs will be pursued as a way to minimise volumes of discharge; and
- 2.4.3 - Restore, rehabilitate and manage coastal vegetation, habitats and communities.

## Recommendations

Further investigation is required in order to identify the most efficient sewerage system for the Reserve. However, based on the available information, it would appear that the Wormwaste Aerated System (Option 2) is the most viable option. Currently, it is recommended that further investigation be undertaken to determine whether this system is suitable for Lang Lang. Issues to be considered include the soil capability to support such a System and whether the System will be able to process the waste levels generated within the Reserve. If the conditions are deemed to be suitable, this System provides a relatively low maintenance, sustainable means of treating and disposing of waste in an energy and cost efficient manner.

## 6. The Future Direction

The Reserve will continue to provide a valuable opportunity for visitors to participate in active and passive recreational pursuits. The Committee of Management will aim to facilitate visitor experiences and at the same time conserve and protect the Reserve's natural environment and cultural values. Visitor facilities will be in keeping with the Reserve's character and will strive to adopt the principles of environmentally sustainable development.

### 6.1 Vision

The Lang Lang Foreshore Reserve will be managed in an ecologically sustainable manner ensuring the long-term protection of the area's environmental, cultural and recreational values including the Western Port Ramsar site. The Reserve's Caravan Park will be redeveloped to be consistent with the principles of Ecologically Sustainable Development and will provide a sound financial basis to assist in the management of the Reserve. Recreational activities including fishing, boating, walking, picnicking, caravanning, camping and nature appreciation will be provided for within the Reserve. Community participation will be paramount in the on-going management of the Reserve.

### 6.2 Management Actions

In order to achieve the Reserve's vision and objectives, management actions have been developed. The management actions have been divided into the following sections:

- Overall Reserve Management: these actions apply to the entire Reserve;
- Northern Precinct: these actions apply to the area from the boat ramp to the northern boundary of the reserve;
- Recreation Precinct: these actions apply to the area between the boat ramp and the southern end of the Caravan Park;
- Red Bluff Precinct: these actions apply to the area from the southern end of the Caravan Park to the start of the Jam Jerrup township, where the walking track ends;
- Jam Jerrup Precinct: these actions apply to the area from the start of the Jam Jerrup township where the walking track ends to the roundabout at the end of Foreshore Road;
- Stockyard Point Precinct: these actions apply to the area from the roundabout to approximately 40 meters east of Stockyard Point; and
- Southern Precinct: these actions apply to the area from approximately 40 metres to the east of Stockyard Point to 1.35km towards Pioneer Bay or the boundary of the reserve.

Responsible agencies and priorities are identified for each Management Action. In most instances, more than one agency has a role in the implementation of the Management Actions.

Priorities are also allocated against each Management Action. High priority Management Actions should be undertaken within the next two years. Medium priority Management Actions should be undertaken within the next five years. Low priority Management Actions should be undertaken within the next ten years or at least re-assessed within this timeframe. There are also a number of ongoing Management Actions that constitute part of the Reserve's ongoing maintenance.

### 6.3 List of Abbreviations

Throughout the tables a number of agencies are referred to in the column titled Responsibility. The abbreviated titles are provided below.

BCSC	Bass Coast Shire Council
BVL	Bass Valley Landcare
CSC	Cardinia Shire Council
CoM	Committee of Management
CFA	Country Fire Association
Indigenous Community	Wurundjeri Community Bunurong Community Boonerwung Community
LLCAG	Lang Lang Coast Action Group
MSV	Marine Safety Victoria
DSE	Department of Sustainability and Environment
PV	Parks Victoria

## Overall Reserve Management

Management Aim	Management Issue	Management Action	Responsibility	Priority
<b>Fauna</b>				
To manage and protect migratory birds.	The Lang Lang Foreshore is of international significance under the Ramsar Convention.	Implement management strategies identified in the <i>Western Port Ramsar Site- Strategic Management Plan (2002)</i> .	DSE PV CoM	High
Conserve native fauna and maintain genetic diversity.	Habitat disturbance and destruction threatens native fauna.	Contribute to and assess the suitability of the Bass Coast Shire dog policy when available.	CoM BCSC CSC	Medium
<b>Vegetation</b>				
To minimise the threat of wildfire and to manage wildfire appropriately.	Lang Lang Foreshore Reserve is at threat of wildfire.	Develop and implement a Wildfire Management Plan for the whole of the Lang Lang Foreshore Reserve.	CFA CoM	High
Protect remaining mangrove populations.	Mangrove populations have been in decline.	Ensure land based activities do not adversely affect mangrove populations in the Southern and Stockyard Point Precincts and investigate the possibility of planting mangroves.	CoM LLCAG	Ongoing
Identify and protect remaining indigenous vegetation communities.	There is very limited vegetation information available which means communities and individual species may not currently be effectively managed.	Conduct a vegetation study identifying what species and vegetation communities are present, their distribution, quality and status. Identify indigenous species.	BCSC CSC DSE BVL Adjoining property owners CoM	High
Conserve or re-establish indigenous plant communities and maintain their diversity.	The diversity and health of indigenous flora is low.	All revegetation planting shall use locally indigenous flora (note – a permit is required from DSE to collect plant material from any public land in accordance with the <i>Flora and Fauna Guarantee Act 1988</i> ).	CoM LLCAG	Ongoing

Management Aim	Management Issue	Management Action	Responsibility	Priority
<b>Pest Plants and Animals</b>				
Minimise the introduction and spread of pest plants and animals.	Public require explanation of the problem to better understand reasons for the selected management strategies.	Monitor for the presence of pest animals. Promote public awareness of the impacts of pest plant and animals and how they can assist with controlling the impacts through the Foreshore Committee newsletter and community working bees.	BCSC CSC DSE BVL Adjoining property owners CoM	Ongoing
Control pest plants and animals in the short-term with the long-term goal of eradication.	Pest plants and animals degrade the natural and cultural values of the Reserve.	Develop a pest animal control program in consultation with Bass Coast Shire, Cardinia Shire, DSE, Landcare and adjoining property owners. Design and implement a Vegetation Management and Revegetation Plan after the vegetation study has been completed, including identification of which pest species are present and their status within the Reserve.	BCSC CSC DSE CoM Adjoining property owners	High
Minimise the impact of control programs on indigenous flora, fauna and geology.	Inappropriate pest plant and animal control programs can adversely affect indigenous flora and fauna, sites of cultural significance and rates of erosion	Liase with Bass Coast Shire Council, Cardinia Shire Council, Bass Valley Landcare, Lang Lang Coast Action Group, Indigenous Communities and adjoining property owners to improve the control of rabbits and vermin, ensuring that selected eradication techniques minimise harm to indigenous flora, fauna and sites of cultural significance. Establish an indigenous vegetation regeneration program prior to removing weeds (as removing all weeds at once from along the Foreshore will increase the rate of erosion).	BCSC CC CoM DSE LLCAG BVL CoM Indigenous Communities	Ongoing

Management Aim	Management Issue	Management Action	Responsibility	Priority
<b>Culture and Heritage</b>				
Identify, monitor and protect cultural heritage values and sites of significance.	Culturally significant sites are present in the Reserve however, redevelopment, pest plants and animals and recreational activities could potentially disturb them.	Conduct an archaeological and cultural heritage survey prior to any works being undertaken. Use these surveys to assist planning the location of facilities such as walking tracks, seats & signage.	CoM DSE Indigenous Communities	High
		Assess level of disturbance and implement measures to reduce disturbance such as: <ul style="list-style-type: none"> <li>• Define and maintain walking track over Red Bluff;</li> <li>• Implement rabbit control program;</li> <li>• Assess the suitability of the Bass Coast Shire's dog access policy; and</li> <li>• Erect exclusionary fencing, where appropriate.</li> </ul>	CoM DSE Indigenous Communities	High
		Consult with relevant indigenous communities prior to undertaking works within the Reserve.	CoM Indigenous Communities DSE	High
Raise public awareness of the cultural and heritage significance of the Foreshore Reserve.	The cultural significance of the Foreshore is not widely recognised.	Provide interpretive information on the cultural and heritage significance of the Lang Lang Foreshore Reserve.	CoM Indigenous Communities DSE	Medium

<b>Erosion and Geology</b>				
<b>Management Aim</b>	<b>Management Issue</b>	<b>Management Action</b>	<b>Responsibility</b>	<b>Priority</b>
To reduce the impact of erosion on the foreshore.	Erosion is threatening the long-term future of beach shacks and caravans.	Assess the effectiveness of groynes and illegal seawalls and remove if necessary.	CoM DSE LLCAG Indigenous Communities	High
		Investigate the use of brush matting where appropriate eg treemax MaxJute' geotextile covering and logs.		
		In consultation with DSE, Lang Lang Coast Action Group, Bass Coast Shire Council, Cardinia Shire Council and Indigenous Communities develop a Foreshore Revegetation Plan.		
		When undertaking construction, maintenance or restoration work within the Reserve be aware of erosion control procedures.		
		Ensure that visitor activity in revegetation areas is minimised.		
Educate Reserve users on the importance of the Reserves geological values.	Visitors may not be aware of the impact their activities can have on the rate of foreshore erosion and geological values.	Inform visitors of how their activities can have least impact on foreshore erosion and geological values through the preparation and distribution of informative pamphlets.	CoM	High
<b>Recreational and Visitor Experience</b>				
<b>Management Aim</b>	<b>Management Issue</b>	<b>Management Action</b>	<b>Responsibility</b>	<b>Priority</b>
Protect the Reserve's values and the experience of other visitors.	Dogs can impact negatively on the Reserve through disturbing fauna, visitors and litter.	Assess the suitability of the Bass Coast Shire's Dog Policy where it applies to the Reserve and investigate the opportunity of disposing of dog waste in a worm farm or compost.	CoM BCSC	Medium



Improve opportunities for bush walking in the Reserve.	Many visitors are unaware of the walking track through the Reserve and the track over Red Bluff.	Undertake a risk assessment to determine the viability of promoting the walking track from the northern most point of the Reserve to Stockyard Point as a feature of the Reserve.  Provide information at the Caravan Park office about recreational facilities within the Reserve, including the Red Bluff walking track.	CoM LLCAG	High
	Lack of maintenance on the Red Bluff walking track reduces the quality of visitor experience.	Subject to the risk assessment, regularly maintain the walking track ensuring a navigable path is accessible.	CoM LLCAG	Ongoing (pending outcome of risk assessment).
	There are significant ecological, geological and heritage sites along the walking track.	Provide visitor information on features that can be observed along the walking track.	CoM LLCAG	Low
	There is a spectacular view of French Island and the Western Port coast line from the lookout at the southern end of the Caravan Park and the top of Red Bluff.	Subject to a risk assessment, install appropriate safety fencing and signage and, promote the lookout as one of the features of the Red Bluff walking track.	CoM LLCAG	High
Reduce the occurrence of rubbish being dumped in the Reserve.	Rubbish detracts from the Reserve's values and is often difficult and costly to remove.	Provide recycling facilities where practical.	CoM	Medium
		Investigate the opportunity of using either a compost bin or worm farm to dispose of perishable waste.		
		Install signage encouraging visitors to take their rubbish home.		
Minimise potential impacts of boating on bird behaviour and feeding patterns.	Boating activities can have negative impacts on waterbirds in the Ramsar listed area.	Erect signage at boat ramp to educate users about the importance of habitat for waterbirds and appropriate boating protocol to avoid disturbing birds.	PV	Low

Ensure water based recreation takes place in accordance with relevant legislation and in relative safety.	Appropriate signage to alert water users of conditions or dangers and relevant boating laws is required.	Liaise with the Marine Safety Victoria and Parks Victoria to ensure relevant signage is installed at the boat ramp and as required in waters adjacent to the Foreshore Reserve.	CoM MSV PV	Medium
To ensure that present and future visitors are able to appreciate the Reserve's natural and cultural values.	Visual intrusions detract from the Reserve's natural landscape.	Proposed new infrastructure and upgrades to existing infrastructure within the Reserve (including roads, tracks, seats, stairs, fencing, signage and buildings) should be sympathetic to the environment. The Victorian Coastal Council <i>Siting and Design Guidelines for Structures on the Victorian Coast (1998)</i> should be implemented.	CoM DSE	Ongoing
<b>Public Safety</b>				
<b>Management Aim</b>	<b>Management Issue</b>	<b>Management Action</b>	<b>Responsibility</b>	<b>Priority</b>
Prevent and manage potential emergency situations within the Reserve.	Emergency planning is an integral part of safety within the Reserve.	Develop, implement and maintain a comprehensive set of emergency procedures within the Foreshore Reserve. The plans shall identify which emergency situations may arise, what actions need to be taken and by whom.	CFA CoM DSE Council PV	High
Ensure the safety of all walkers within the Reserve.	Wildfire may put at risk the safety of walkers.	Ensure that all walking tracks within the Reserve are appropriately fuel modified.	CoM DSE CFA	High
Ensure that the Reserve is as safe as practicable for all users.	The level of safety in some areas of the Reserve is questionable.	Conduct a risk analysis of the entire Reserve, and implement appropriate actions to address the level of risk identified. Assess the risk associated with facilities such as car parks, walking tracks, picnic areas, the Caravan Park, beach shacks and camping areas.	CoM DSE	High

Promote and encourage safe practices among visitors to the Reserve.	The Reserve's topography and coastal location present inherent dangers and risks to Reserve visitors.	Install signage informing visitors of walking track locations and, Reserve and boating regulations. Erect signage explaining the dangers to personal safety associated with erosion of cliff areas.	CoM PV	High
<b>Community Involvement</b>				
<b>Management Aim</b>	<b>Management Issue</b>	<b>Management Action</b>	<b>Responsibility</b>	<b>Priority</b>
To have an active community involvement in achieving the vision for the Reserve.	The involvement of a committed group of volunteers will assist in implementing the Management Plan and achieving the desired vision for the Reserve.	Expand and co-ordinate volunteer groups to assist the Committee in protection, fundraising and maintenance of the Reserve.	CoM Lang Lang community BVL LLCAG	High
Allow for community involvement in all aspects of the Reserve's management.		Continue to prepare and circulate the Foreshore Committee newsletter.	CoM	Ongoing
		Provide opportunity for community involvement in key decisions regarding the Reserve's future management.	CoM	Ongoing
To improve local understanding of the Lang Lang Foreshore Reserve,	Members of the local community have conflicting ideas about the Lang Lang Foreshore Reserve.	Include a 'Lang Lang Foreshore Reserve' section in the local Lang Lang Newsletter.	CoM	Ongoing
<b>Reserve Boundaries</b>				
<b>Management Aim</b>	<b>Management Issue</b>	<b>Management Action</b>	<b>Responsibility</b>	<b>Priority</b>
Accurately define current Reserve boundaries.	Erosion has modified the boundaries of the Reserve.	Identify the Reserve's boundaries.	DSE	High
		Investigate the opportunity of forming agreements with adjoining property owners or purchasing sections of adjoining freehold land with the aim of enhancing the Western Port Ramsar Site and improving the sustainability of the Caravan Park.	DSE Adjoining property owners	Medium

	Stock intermittently grazes the foreshore due to lack of fencing and insufficient definition of Reserve boundaries.	Fence appropriate areas of the Foreshore Reserve boundaries.	CoM DSE Adjoining property owners	High
	Public may be accessing freehold land.			
<b>Financial and Management</b>				
<b>Management Aim</b>	<b>Management Issue</b>	<b>Management Action</b>	<b>Responsibility</b>	<b>Priority</b>
Ensure that the Reserve is as safe as practicable for all users.	The level of safety in some areas of the Reserve is questionable.	Conduct a risk analysis of the entire Reserve, and implement appropriate actions to address the level of risk identified.	CoM DSE	High
Seek external funding for priority works through grants process.	Some works that require implementation are too expensive for CoM to solely fund.	Seek out alternative sources of funding (eg. Coast Action and Landcare) to enable essential works to be completed.	CoM DSE	Ongoing
Ensure the long term financial security of the Reserve through effective financial management.	Ensure sound business management.	Implement a 3 year business plan for the Reserve and review annually.	CoM	Ongoing
Ensure appropriate resources are available to manage, promote and enforce the Reserve's Regulations and relevant legislation.	Ensure that activities undertaken within the Reserve are in accordance with Reserve Regulations and relevant legislation.	Clearly define enforcement roles within the Reserve. Investigate the opportunity for a memorandum of understanding between enforcement agencies and the CoM to assist in enforcement activities.	CoM DSE BCSC	High
Ensure appropriate resources are available to manage and promote responsible fishing within the Reserve.	Recreational fishing is a popular activity that needs to be managed to ensure its long term sustainability.	Investigate the opportunity to expand the caretaker's role to include enforcement duties. Provide education material to promote responsible fishing practices.	CoM DSE	Medium

The following outlines the specific Management Actions relevant to each of the precincts.

## Northern Precinct

The Northern precinct is predominantly sandy beach, adjacent to internationally significant wetland extending from the end of the sandy beach in the north of the Reserve to the boat ramp. Berm Grassy Shrubland is the main vegetation type growing in the Northern Precinct. It comprises a ground layer of salt tolerant grasses and low shrubland of which the dominant species is Coast Saltbush *Atriplex cinerea*. Wader birds are common along the intertidal area, while vegetation is limited to a strip between the high-water mark and farm title boundary. However, the farm title boundary is unmarked and the erected fences do not align with the title boundary.

Erosion is prevalent where there is a lack of vegetation due to the strong winds and wave action originating from Western Port and stormwater runoff generated by the increase in impervious surfaces on the recently constructed Bass Highway. Rubbish dumping is a problem within this precinct. The layout and functionality of the trailer parking area and its interface with the adjoining property also requires addressing.

Due to the limited access to this area, fishing and walking along the beach are the main recreational activities that occur. There are no visitor facilities or infrastructure within this section of the Reserve.



View of Northern Precinct from boat ramp

**Aims**

- Increase stability of the coastline through revegetating the foreshore with indigenous vegetation and improving drainage.
- Prevent rubbish dumping.

Management Actions	Responsibility	Priority
Liaise with landholders adjacent to the precinct prior to any planning for works within this area.	DSE CoM	High
Revegetate foreshore with indigenous vegetation, following consultation with DSE and adjacent property owners and in accordance with the <i>Native Biodiversity Assessment report for 'Bayview Farm'</i> .	CoM Adjoining property owners DSE	High
Investigate options to prevent vehicular access outside of designated parking areas.	CoM	Medium
Review the layout and functionality of the trailer parking area including landscaping options for increased habitat values and implement findings.	CoM Adjoining property owners DSE	
Investigate drainage improvement options such as grass swales to replace drainage pipes discharging stormwater into Western Port.	CoM Adjoining property owners CSC	Medium
Remove existing seawall (comprising tyres) and revegetate.	CoM	High

Please refer to Northern Precinct Management Actions.pdf



## Recreation Precinct

Most of the Reserve's visitor activity occurs within this precinct which comprises the Lang Lang Foreshore Reserve Caravan Park, 33 beach shacks, a day visitor area, boat ramp and associated trailer park and jetty with public parking. Facilities available for day and overnight visitors include barbecues, a picnic shelter and open areas, camping and caravan sites and three amenity blocks. Sandy beach and wetland abuts the foreshore, providing opportunities for walking, relaxing and bird watching. The boat ramp and jetty provide facilities for recreational anglers and boaters. Parks Victoria is responsible for the management and maintenance of the jetty and its associated signage.



Lang Lang Jetty

There is little original vegetation remaining within the Recreation Precinct, having been largely cleared for use as a Caravan Park. Vegetation in this Precinct is severely limited to introduced plants, weed species and some natives that have been recently planted. Due to this, no EVC has been identified for this Precinct.

All caravans within the Caravan Park must meet the requirements of the *Residential Tenancies (Caravan Parks and Movable Dwellings Registration and Standards) Regulations 1999*. Beach shacks have been sited and alterations made without the relevant approvals (required in accordance with the *Coastal Management Act 1995* and *Planning and Environment Act 1987*). The standard of construction varies and it is unlikely that the beach shacks or caravan annexes comply with the relevant building regulations, thereby presenting a public safety risk. A number of beach shacks have been advertised as providing kitchen and shower facilities. Untreated greywater from these facilities is discharged into Western Port. Overnight accommodation/residential uses are prohibited in accordance with the current Reserve Regulations. The beach shacks have not been designed for such use and the visitor facilities in this section of the Reserve are suitable for day visitor activities only.

Erosion is a key issue within this precinct (see section 5 and Appendix E for further details).

The existing septic amenity blocks are aged and are impacting on the environment. Disabled access is limited to these facilities and needs to be addressed. There are a number of structures within the precinct that are no longer functional and could be removed to improve the visual amenity of this section of coastline. The visual amenity of the area could be improved through further revegetation and screening of structures.

Management actions for the Recreation precinct have been categorised and are detailed below.

### Safety

#### Aims

- Provide a safe environment for day and overnight visitors.
- Ensure that all facilities within the Caravan Park, such as beach shacks, caravans and associated annexes, meet the required standards.

Management Actions	Responsibility	Priority
Review the public liability insurance status of the Caravan Park to ensure that the site is appropriately insured.	CoM DSE	High
Undertake a hazardous materials and structural conditions audit of all buildings and structures within the precinct. Implement recommendations resulting from the audit.	DSE	High
Ensure that all caravans meet the <i>Residential Tenancies (Caravan Parks and Movable Dwellings Registration and Standards) Regulations 1999</i> and the <i>Residential Accommodation Guidelines</i> . Those caravans that do not meet the Regulations should be upgraded or removed from the Caravan Park.	CoM DSE	High
Undertake a fire safety audit of the Caravan Park and beach shacks and, implement recommended actions arising from the audit.	CoM CFA	High
Fence and install appropriate signage at the southern lookout in the Caravan Park.	CoM	High
Provide adequate safety lighting within the Caravan Park.	CoM	Ongoing
Ensure that signage is maintained to an appropriate standard. Investigate the use of solar energy lighting.	PV CoM	High
Access gate to remain in current location in order to comply with the requirements of the <i>Residential Tenancies (Caravan Parks and Moveable Dwellings Registration and Standards) Regulations 1999</i> .	CoM	Ongoing

### Layout

#### Aims

- Improve the layout and alignment of facilities within the Caravan Park.
- Provide views of Western Port from within the Caravan Park.
- Reduce the visual impact of the internal road through the Caravan Park.

Management Actions	Responsibility	Priority
Investigate options to realign caravans to ensure adequate space between sites and to provide views of Western Port from within the Caravan Park.	CoM DSE	High
Investigate alternative access options to Red Bluff farm.	DSE CoM Adjoining property owners	Medium
Investigate the opportunity to move the access road to the eastern boundary.	CoM DSE	High
Landscape and redesign the layout of the boat ramp and trailer parking area and manage and improve runoff and drainage, for example through the use of wetlands.	CoM	Medium

Ensure that the number of caravan sites and beach shacks does not exceed the current capacity (46 caravan sites and 33 beach shacks).	CoM	Ongoing
Revert the beach shacks to boatshed usage further back from the coast (in accordance with the recommendations of the coastal vulnerability study).	CoM DSE	Medium

## Facilities

### Aims

- Improve and maintain the standard of built facilities.
- Improve current sewage treatment and disposal methods.

Management Actions	Responsibility	Priority
Ensure that the current septic tanks are maintained in accordance with the <i>Environment Protection Act 1970</i> and AS/NZ Standards 1546.1:1998 and, investigate alternative sewage treatment and disposal methods for the three amenity blocks, such as storm water re-use for flushing or composting toilets.	CoM	High
Redevelop the amenity block opposite the pavilion to a suitable standard consistent with the recommendations in the GHD Erosion Report and Australian Standards 1428, Part 1 Design for Access and Mobility, so that disabled visitors have equal access to facilities.	CoM	High
Redevelop the amenity block opposite the beach shacks to a suitable standard.	CoM	Medium
Assess the current size and condition of storage and equipment sheds, and replace if required. Ensure that there is adequate under cover storage for garden supplies.	CoM	Low
Remove defunct buildings and structures including the former single toilets (near the beach shacks) and kiosk should it be deemed unsafe for use. Should the kiosk be deemed safe to use, investigate uses, such as a meeting venue for volunteer groups, scouts or, as a location for signage.	CoM	Low
Investigate options for historical interpretation of the former swimming pool pump if it is safe to do so. Otherwise remove.	CoM	Low
Install children's play equipment in an appropriate area.	CoM	Medium
Promote low impact accommodation in the southern end of the Caravan Park, in the form of a designated camping area.	CoM	Low
Investigate the possibility of providing on-site caravans.	CoM	High
Level uneven pedestrian paths accessing facilities within the Caravan Park.	CoM	High
Investigate the opportunity to improve drinking water supply to the Caravan Park, such as rain water tanks.	CoM	Low
Provide recycling and composting facilities for visitor wastes including wastes from fish cleaning.	CoM	Medium
Investigate the possibility of developing a camp kitchen to accommodate large groups (ie. School groups) within the existing weather shed/pavilion.	CoM	Medium

### Erosion, Drainage and Revegetation

#### Aims

- Reduce the impact of erosion on the foreshore.
- Minimise the introduction and spread of pest plants and animals.
- Improve drainage through the Caravan Park.
- Reduce the incidence of flooding in the Caravan Park.

Management Actions	Responsibility	Priority
Define official access tracks to assist in the stabilisation of eroding areas.	CoM DSE	High
In conjunction with beach shack licence holders, revegetate the coastline to encourage sand deposition and reduce the impact of erosion.	CoM DSE	High
In liaison with adjoining property owners, investigate the potential of developing a 20 metre vegetation buffer between the Caravan Park and freehold properties in order to mitigate stormwater runoff from rural properties and subsequent drainage problems within the Caravan Park.	CoM DSE Adjoining property owners	High
Develop a pest plant and animal control program and promote public awareness of their impacts. Establish an revegetation program prior to weed removal and remove weeds on the foreshore over time, so as not to exacerbate the rate of erosion.	CoM DSE BCSC and CC Indigenous Communities BVL	Ongoing
Investigate drainage improvement options such as grass swales to replace drainage pipes discharging stormwater into Western Porto reduce untreated wastewater discharging into Western Porto.	Com Adjoining property owners BCSC	Medium

### Management

#### Aims

- Ensure the long term environmental, social and financial sustainability of the Caravan Park.
- Ensure that the Caravan Park is appropriately resourced.

Management Actions	Responsibility	Priority
Using the standard 17B 3 year license agreement prepare a beach shack licence for use between beach shack occupiers and the Committee of Management.	CoM DSE	High
Ensure that beach shacks are utilised for the purposes allowed in accordance with the Reserve <i>Regulations Relating to Boat Sheds and Buildings, 1960</i> and the new 3 year beach shack license.	DSE	High
Install a sign at the Jetty Lane entrance to the Lang Lang Foreshore Reserve, to inform visitors that they are entering the Reserve.	CoM DSE	Low
Review the regulations and ensure that the revised Reserve Regulations incorporate regulations relating to the use of the beach shacks.	CoM DSE	High
Reassess the current licence fees and overnight/visitor fees for the Caravan Park and beach shacks to ensure that the Committee of Management has sufficient funds to undertake the necessary infrastructure works and improvements to the area. Consideration should be given to loading rates during peak periods.	CoM DSE	High

Obtain coastal consent and relevant planning approvals in accordance with the <i>Coastal Management Act 1995</i> and <i>Planning and Environment Act 1987</i> for works within the Reserve.	CoM	Ongoing
Keep an annual photographic record of the four sides of every beach shack and annexe so that changes can be noted and acted upon.	CoM	Ongoing
Liaise with Bass Coast Shire Council in relation to Regulation enforcement matters and investigate the option of preparing a Memorandum of Understanding between the Committee and enforcement agencies.	CoM DSE BCS CSC	Ongoing
Review the caretaker's arrangements to ensure that adequate resources are available for the management of the Caravan Park.	CoM	High

### Sustainable Development

#### Aims

- Redevelop and promote the Caravan Park as an environmentally sustainable accommodation facility.

Management Actions	Responsibility	Priority
In liaison with adjoining property owners, investigate the potential for wastewater reuse on land adjacent to the Caravan Park.	CoM DSE Adjoining property owners	High
Investigate the opportunity to collect rainwater from building roofs (ensuring that any asbestos roofing material is removed) and make fit or replace existing water tanks.	CoM	Medium
Investigate the use of worm farms and composting bins for disposing of perishables. These facilities could be located near the Caravan Park amenity block.	CoM	Medium
Investigate the possibility of purchasing renewable energy or installing alternative energy sources for the Caravan Park.	CoM	Medium
Provide recycling collection facilities for materials such as glass, plastic and paper in proximity to the Caravan Park amenity block. Options for glass and plastic recycling collection facilities should also be explored for the day visitor area.	CoM	Medium

Please refer to Recreation Precinct Management  
Actions.pdf

## Red Bluff Precinct

Red Bluff is a geological and archaeological site of regional significance dominated by a 15-20m high coastal cliff. This cliff line is an area of active erosion, which modifies the dynamic sandbars that are found at its base. Pine trees and overgrown orchard trees exist as a reminder of the farms that existed in this area. A scattering of native species and weeds also inhabit the top of the Bluff, from where a spectacular view can be observed. Coastal Headland Scrub has been identified as the dominant EVC, however, from ground truthing it appears that there is very little of this vegetation remaining, and its quality is questionable. Evidence of former indigenous peoples activity has been recorded in this area however, it is uncertain as to whether the sites still exist due to the rate of coastal erosion.

There is a formal walking track that continues over Red Bluff, below rows of pine trees, past agricultural land with views of Western Port and French Island. The stability of the cliff is uncertain and a safety audit is required prior to promoting the walking track.



Red Bluff from Jam Jerrup

### Aims

- Enhance visitor appreciation of the area's geological and archaeological significance.
- Identify, protect and monitor sites of geological significance.
- Maintain the Red Bluff walking track through to Jam Jerrup if safe for public access.
- Improve public safety in the vicinity of the cliff top.
- Control, and where possible eradicate, pest plants and animals.

Management Actions	Responsibility	Priority
Conduct a risk and safety audit of Red Bluff to determine if the area is safe prior to upgrading and promoting the walking track.	CoM DSE	High
Subject to the outcomes of the risk and safety audit, maintain the walking track if safe through regular maintenance of native and introduced vegetation.	CoM Indigenous Community	Medium
Produce interpretative material to inform visitors of the walking track and associated significant features such as lookouts, views and geological, environmental and historical	CoM Indigenous Community	Medium



significance.		
Investigate incorporating fenced lookouts for views over French Island.	CoM Indigenous community	Medium
Conduct Geological survey of Red Bluff and develop a constraints map for future works. Assess level of disturbance and implement measures to reduce disturbances such as fencing and pest control.	CoM DSE	Medium
Implement and monitor the effectiveness of pest plant and animal control measures.	CoM Adjoining property owners Indigenous Community	Ongoing
Restrict vehicle access to the Bluff as a safety measure and discourage littering over the cliff.	CoM Adjoining property owners Indigenous community	Medium

Please refer to Red Bluff Management Actions.pdf

## Jam Jerrup Precinct

This precinct is characterised by residential housing and a steep sloping hill continuing down to the sandy beach. Wetlands and associated wader birds are often observed in the intertidal area, while vegetation is limited to growth from domestic garden waste and an infrequent cover of species such as *Acacia*. The sloping hill opposite residential properties is unstable due to the lack of compaction of surface material, and may present a risk to visitors appreciating the coastal views.

The bush walk over Red Bluff ends at Jam Jerrup. However, many walkers continue along Foreshore Road to Stockyard Point. Fishing takes place on the sandy beach below Bay Road.

A 350 metre long rockwall, constructed in the early 1990's, protects part of the Jam Jerrup township. Terminal scour at the southern end of the wall is causing slumping of the vegetated foreshore.



Rockwall at Jam Jerrup with terminal scour

#### Aims

- Improve public safety in the vicinity of the hilltop.
- Identify, protect and monitor sites of geological significance.
- Prevent the disposal of household green waste along the hilltop.
- Control, and where possible eradicate, pest plants and animals.

Management Actions	Responsibility	Priority
Install signage and fencing informing visitors of unstable sections along the hill.	CoM	High
Clearly identify foreshore access points and restrict access at non-designated points.	CoM DSE	High
Inform local residents of the impact of disposing garden waste along the hill and upgrade waste water disposal methods particularly where wastewater lines are located across the foreshore reserve.	BCSC	High
Conduct Geological survey of Jam Jerrup and develop a constraints map for future works. Assess level of disturbance and implement measures to reduce disturbances such as fencing and pest control.	CoM DSE	Medium
Liaise with Bass Coast Shire in relation to the mowing of the foreshore area and investigate the potential for revegetating with low shrubs.	CoM BCSC	Low
Consider management options to protect the shorebirds during breeding and roosting periods including, but not limited to, information and/or interpretation signage, dog restricted areas, toilet facilities, boardwalk.	CoM BCSC Shorebird experts	Medium
Implement pest plant and animal control measures.	CoM Adjoining property owners	Ongoing

Please refer to Jam Jerrup Management Actions.pdf

## Stockyard Point Precinct

This precinct is a natural area with little infrastructure or development. There is a fenced and grassed car park/ turning circle at the northern end of the precinct that provides access to the sandy beach. Stockyard Point itself is accessed via an informal walking track through past agricultural land, sand dunes and wetland vegetation such as coastal tea-tree.

The Stockyard Point Precinct appears to be the most biologically diverse within the Reserve, which is reflected in the number of EVCs identified (see section 4).

Fishing and walking are the main recreational activities that occur within this precinct due to the remote location. Fishing takes place on Stockyard Point at all times of the day and night. Motor bike riding also occurs here as a recreational activity and to aid anglers accessing their fishing destination. On the eastern side of Stockyard Point the health of fragile vegetation such as Coast Saltmarsh is threatened due to the impact of motorised vehicles. Introduced species such as gorse are a problem in the bushland areas of Stockyard Point.



Car Park at entrance to Stockyard Point

**Aims**

- Conserve indigenous communities.
- Identify, protect and monitor sites of geological significance.
- Enhance visitor appreciation of the area's environmental and geological significance.
- Prohibit the use of motorised vehicles on the foreshore.
- Control, and where possible eradicate, pest plants and animals.

Management Actions	Responsibility	Priority
Install regulation and interpretative signage to inform visitors of the impact of vehicles driving on the foreshore, secure fences and create an official entrance to the beach at Stockyard Point to prevent motorised vehicles on the foreshore.	CoM DSE	High
Identify boundaries and investigate the opportunity to negotiate an agreement with adjoining property owners or to purchase appropriate sections of land.	DSE CoM Adjoining property owners	High
If access is restricted on public land and alternative arrangements are unsuitable across private land, investigate public access to Stockyard Point via a boardwalk	CoM DSE	Medium
Ensure that management of this precinct follows management strategies identified in <i>Western Port Ramsar Site- Strategic Management Plan</i> .	DSE PV CoM	
Implement pest plant and animal control measures.	CoM Adjoining property owners Indigenous Communities	Ongoing
Conduct Geological survey of Stockyard Point and develop a constraints map for future works. Assess level of disturbance and implement measures to reduce disturbances such as fencing and pest control.	CoM DSE	Medium
Liaise with adjoining property owners to formulate an action plan to ensure the long-term conservation of the Estuarine Brackish Wetland / Estuarine Swamp Scrub Mosaic.	CoM Adjoining property owners Indigenous Communities	Ongoing



Please refer to Stockyard Precinct Management Actions.pdf

## Southern Precinct

The Southern Precinct lies adjacent to the protected waters of Pioneer Bay and has Mangrove Shrubland and Coastal Saltmarsh lining its shores, with Estuarine Brackish Wetland/Estuarine Swamp Scrub Mosaic and Estuarine Flats Grassland growing directly behind it. This is a natural area with little recreational activity occurring and is therefore the most pristine precinct within the Reserve. In order to maintain these values, further recreational activity is discouraged. The use of motorised vehicles such as four-wheeled motor bikes needs to be prevented in order to protect the natural and cultural values of the precinct.

### Aims

- Protect and enhance the natural environment.
- Encourage nature appreciation and bird watching activities.
- Prevent the use of four-wheeled motorbikes.
- Identify boundaries between the Reserve and adjoining property owners.

Management Actions	Responsibility	Priority
Where natural regeneration is insufficient or improbable, undertake works to reinforce habitat.	CoM BCSC	Ongoing
Ensure that management of this precinct follows management strategies identified in <i>Western Port Ramsar Site- Strategic Management Plan</i> .	DSE PV CoM	High
Conserve the fragile vegetation communities through limiting and monitoring recreational activities such as fishing, motor bike riding, walking and horseriding.	CoM	Ongoing
Identify boundaries and investigate the opportunity to negotiate an agreement with adjoining property owners or to purchase appropriate sections of land.	DSE CoM Adjoining property owners	High
In liaison with DSE, determine whether there are any joint future recreational opportunities in accordance with the 0.5 kilometre buffer zone outlined in the <i>Sites of Zoological Significance in the Western Port Region</i> .	CoM DSE	Low

Please refer to Southern Precinct Management Actions.pdf

## 7. Responsibilities

There are a number of groups involved in the management of the Lang Lang Foreshore Reserve. The following outlines the legal requirements, roles and responsibilities of the Lang Lang Foreshore Reserve Committee of Management, the Lang Lang community, the Department of Sustainability and Environment, Bass Coast Shire Council, Cardinia Shire Council and Parks Victoria.

### 7.1 Lang Lang Foreshore Reserve Committee of Management

The Committee, comprising eleven volunteer members, has a responsibility to the wider community to manage the area to the best of its abilities. In a general sense, this should include, but not be limited to:

- Implementing the actions and strategies detailed in this Management Plan;
- Providing a high quality recreational experience for both locals and visitors;
- Providing sound financial management of the Reserve's key assets and prudent expenditure of funds;
- Allowing the Community to assist in the management of the Reserve, where appropriate;
- Preserving and enhancing the natural, cultural and geological values of the Reserve; and,
- Ensuring a safe environment for visitors.

As an Incorporated entity, the Committee has the authority, with the Minister's approval, under Section 17D, to lease land within the Reserve for a period not exceeding 3 years.

Under the *Crown Land (Reserves) Act 1978*, the Committee is required to undertake the following:

- Keep a full set of accounts (income and expenditure) which must be presented annually to the Secretary of DSE. This requires maintaining accounting and other records to sufficiently explain the transactions and financial position of the committee (s.15 ss.8);
- Manage, improve, maintain and control the land for the purpose for which it is reserved and may employ staff for that purpose (under s.13);
- The consent of the Minister administering the *Coastal Management Act 1995* must be obtained when undertaking works or improvements on the Reserve, and the works must be carried out in accordance with any Management Plan prepared in accordance the *Coastal Management Act 1995* that relates to the land; and,
- The works or improvements carried out must solely maintain improve and control the land (s 15 ss 1, Crown Land (Reserves) Act 1978).

Under the *Coastal Management Act 1995*, the Committee must give effect to the approved management and business plan in carrying out a function involving the management of the Reserve. The Committee must also apply for the Minister's consent to use or develop land within the Reserve and, may be required to obtain planning approval to use or develop land within the Reserve in accordance with the *Planning and Environment Act 1987*. In accordance with the *Environment Protection and Biodiversity Conservation Act 1999*, actions that may have a significant impact on a matter of national environmental significance (such as the Western Port Ramsar site) must be referred to Environment Australia for consideration and possibly approval.

### 7.2 Lang Lang Caravan Park Caretakers

The Committee of Management employs the Caravan Park caretaker on a part time basis. The caretaker role includes the following:

- Collect caravan and beach shack fees.
- Maintain records of financial transactions and to present these on a monthly basis to the Committee of Management treasurer.
- Provide a site booking service.
- Prepare site fee lists.
- Maintain drains and vegetation within the Caravan Park.
- Inspect and maintain Caravan Park infrastructure (including three amenity blocks).
- Undertake a regular inspection of beach shacks to identify vandalism.
- Maintain access road through the Caravan Park.
- Organise tradespeople to undertake repair works.

- Provide information to visitors.

The caretaker's role would appear to represent the workload equivalent to a full time position and as such it is recommended that the current arrangements between the Committee of Management and caretaker be reviewed. The role of the caretaker might also be further expanded to include management of the reserve as a whole.

### **7.3 Lang Lang Community and Other Reserve Visitors**

Users of the Reserve are bound to abide by any directives and regulations set by the Committee or Minister that are deemed to be necessary for managing, improving and maintaining the Reserve, as set out under Section 15 of the *Crown Land (Reserves) Act 1978*.

Successful management of the Reserve requires a partnership between the community and Committee of Management. The management actions outlined in the Plan aim to maintain the Reserve's integrity as a natural and cultural asset that can be enjoyed and appreciated by generations to come.

### **7.4 Department of Sustainability and Environment**

As the previous custodian of the Reserve, DSE has valuable knowledge that can be shared with the Committee. They can also assist the Committee in applications for funding and provide advice on State policy on a variety of matters relating to management of Crown Land.

Under the *Crown Land (Reserves) Act 1978* and the *Coastal Management Act 1995*, the Department, with the Minister's approval is required to undertake the following:

- Facilitate the development of Management Plans;
- Call for Expressions of Interest for representatives on the Committee of Management every three years;
- Advise the Minister on the appointment of the Committee of Management for a term of three years (Section 14);
- Review the Committee's financial position annually, or more frequently if needed;
- Scrutinise and approve or refuse the granting of licences for purposes other than that which the Reserve was established for (Section 17D);
- Make regulations pertaining to a variety of issues relating to the management of the Reserve (Section 13); and,
- Grant consent for the use and development of coastal crown land as delegated under the *Coastal Management Act 1995*.

### **7.5 Environment Protection Authority**

The Environment Protection Authority (EPA) has statutory responsibilities under the *Environment Protection Act 1970*, for the protection of Victoria's environment from pollution and controlling waste and noise. The EPA is responsible for the regulation of activities that impact on the quality and uses of water environments, including Western Port. A key tool in achieving this is State Environment Protection Policies (SEPPs) such as *Waters of Victoria- Schedule F8 Western Port and Catchment*.

### **7.6 Bass Coast Shire and Cardinia Shire**

The Shires administer the Bass Coast Planning Scheme and Cardinia Planning Scheme and should assist the Committee in managing the public recreation assets of the Reserve and provide relevant policy advice. Under the *Coastal Management Act 1995*, the Shires must give effect to the approved management plan in carrying out a function involving the management of the Reserve.

### **7.7 Indigenous Communities**

The indigenous communities, including the Wurundjeri, Bunurong and Boonerwung, have an important role in the Reserve's management. Their input into management decisions is crucial to conserving the Reserve's cultural integrity and significance. Likewise, their advice on local flora would be invaluable when developing and undertaking revegetation plans.

It is a statutory requirement under both the *Archaeological and Aboriginal Relics Preservation Act 1972* and *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* that the relevant indigenous communities be consulted prior to any works being undertaken that may affect sites of significance.

The management actions outlined in the Plan aim to ensure the integrity of the Reserves indigenous heritage.

### **7.8 Parks Victoria**

Parks Victoria is manager of the waters of Western Port. This includes management of recreational boating, the Lang Lang jetty, navigational aids, moorings and signage.

## 8. Key Issues for Implementation within the Life of This Plan

The key issues for the next three years were identified in section 5. Analysis of the financial statements for the Lang Lang Foreshore Reserve shows that the Reserve has been trading at a deficit for the last two financial years. Given the number of major works that are required to bring the Caravan Park up to an acceptable standard, one of the key issues will be securing the financial viability of the Caravan Park to support works across the whole foreshore. The business plan is, therefore, of vital importance for the future of the Lang Lang Foreshore Reserve. The on-ground works are also a vital element in securing the financial viability of the Foreshore Reserve. The following is a brief task list works proposed over the next three years that will address the key issues that if successful will secure the economic, environmental and social future within the Lang Lang Foreshore Reserve.

### **Erosion and Beach shacks:**

1. Review the recommendations of the Vulnerability Assessment (Western Port Erosion Study 2002).
2. Revert boatsheds to original use. In particular:
  - (a) provide adequate drinking water for the recreation precinct
  - (b) ensure blackwater and greywater are not discharged to Western Port
3. Negotiate 3 year license agreements for boatsheds
4. Install sand trapping measures and monitor results
5. Revegetate intertidal areas and monitor results
6. Remove ad-hoc erosion control measures.

### **Erosion and Caravan Park safety:**

1. Liaise with Bass Coast Shire and adjacent landowner to relocate the access point into the farm adjacent to the Caravan Park.
2. Redesign the Caravan Park layout in consultation with the community and to comply with the *Residential Tenancies (Caravan Parks and Moveable Dwellings Registration and Standards) Regulations 1999*.
3. Design revegetation and weed removal programs including species, timings and ongoing maintenance for terrestrial areas.
4. Source funding and make an application.
5. Prepare Emergency Management Plan in accordance with *Residential Tenancies (Caravan Parks and Moveable Dwellings Registration and Standards) Regulations 1999*.
6. Ensure Caravan Park is registered in accordance with *Residential Tenancies (Caravan Parks and Moveable Dwellings Registration and Standards) Regulations 1999*.



## 9. Business Plan

The Committee of Management comprises volunteer members who commit substantial amounts of time to the management of the Reserve. Income for the management and maintenance of the Reserve is generated primarily through Caravan Park and beach shack fees. Additional income for specific projects is sought through various grants. All funds raised by the Committee of Management are expended on the management and maintenance of the Reserve.

The objective of the Business Plan is to provide financial guidance to agencies and the Committee of Management in relation to the on-going management of the Reserve.

### 9.1 Committee of Management Aim

The aim of the Committee of Management is to manage the area in an environmentally sustainable manner ensuring the long-term protection of the area's environmental, cultural and recreational values.

This aim will be achieved by:

- Improvements to visitor facilities in order to reduce environmental impacts and provide enhanced visitor amenities.
- Preparation and implementation of a vegetation management and revegetation plan.
- Investigation and implementation of erosion management measures.
- Review and update of the Foreshore Reserve Regulations.
- Investigation of potential funding opportunities to contribute to on-going environmental and facility improvements.
- Ensuring staff and Committee of Management members have adequate knowledge and training to undertake their roles.
- Continued communication with Reserve visitors and the local community.

### 9.2 Situation and Background Considerations

#### *Caravan Park*

Lang Lang Foreshore Reserve Caravan Park has 46 powered caravan sites. In addition to the caravan sites are 33 beach shacks. Many of the sites are occupied by vans that are located on the site year round. The same families for a number of generations have occupied beach shacks and most of the on-site vans.

Facilities servicing the Caravan Park and beach shack visitors include 2 amenities blocks. The first amenity block is situated within the Caravan Park and comprises toilets, showers and a laundry. The second amenity block is located nearer the beach shacks and comprises toilets and (cold) showers. The amenity blocks are maintained to a high standard although both are ageing and the status of the septic systems is uncertain.

Recently, the Caravan Park has become a popular destination for motor homes given the availability of open sites (without trees) and proximity to the coast. Camp sites are also available within the Caravan Park.

The Committee of Management employs a part time Caravan Park caretaker.

The Caravan Park is an important source of revenue for the Committee of Management. The Committee of Management and caretakers have made substantial improvements to the Caravan Park. However, past management invested little in the ongoing maintenance and upgrade of infrastructure within the Reserve. As a consequence, significant resources are required to improve the Reserve's infrastructure to an acceptable standard.

#### *Boat Ramp and Car Park*

Boating facilities comprise a boat ramp, jetty and trailer park. Due to extreme tidal range found in Western Port the boat ramp can only be accessed at high tide, hence there is no opportunity to charge fees for its use. The ramp also requires ongoing maintenance as it is subject to sand accumulation.

Tidal movement equally influences the jetty, as during low tide there is no water beneath it. No revenue is generated from these facilities.

### ***Foreshore Reserve***

Facilities available for day visitors include a barbecue and picnic area, sheltered picnic table, chairs and toilets.

Revenue is generated from the barbecue facilities.

### ***Management Structure***

In accordance with the *Crown Land (Reserves) Act 1978*, the Department of Sustainability and Environment has delegated management responsibility of the Foreshore Reserve to the Lang Lang Foreshore Committee of Management Inc.

In order to implement the actions contained within this Plan, additional sources of revenue in the form of grants will be required. This Plan will assist the Committee of Management when applying for grants although there is no certainty of obtaining funding.

The Committee of Management is required to keep a full set of accounts (income and expenditure). This requires maintaining transparent accounts and other records to sufficiently explain the transactions and financial position of the Committee. The audited accounts are presented to the Department of Sustainability and Environment on an annual basis.

## **9.5 Improvements**

The following table identifies an implementation schedule for the project specific management actions recommended in section 6 of this CMP. Management Actions identified as ongoing should be undertaken as required. Where estimated costs have been provided, it should be noted that these estimates are indicative and that professional quotes should be sought prior to commissioning works.

### ***Caravan Park***

Project	Estimated Cost	Funding Opportunities
<b>2002/03</b>		
Undertake a hazardous material and structural conditions audit of buildings within the Caravan Park and beach shacks.	\$15,500	CLIP &/or a replacement program
Undertake a fire safety audit of the Caravan Park and beach shacks in conjunction with the CFA.	\$2,000	Current Budget
Assess effectiveness of existing groynes and sea walls and remove where necessary.	\$10,000	Coastal Risk Program
Review status of Caravan Park public liability insurance.	N/A	N/A
Develop a long-term revegetation plan for the Caravan and beach shack foreshore area.	Caravan Park \$7,000 Jam Jerrup \$1,000 Remainder of Reserve \$5,000	CLIP &/or a replacement program

Reassess Caravan Park and beach shack fees.	N/A	N/A
Investigate and identify a preferred alternative sewage treatment and disposal method for the three amenity blocks.	\$2,000	Current Budget
Maintain formal circulation paths accessing visitor facilities.	\$2,500	Coast Action

<b>2003/04</b>		
Redesign and rearrange the layout of the Caravan Park to facilitate access to the foreshore, open views from within the Caravan Park, comply with safety regulations and revegetate the foreshore.	\$15,000	CLIP &/or a replacement program
Investigate the opportunity to provide on site caravans/cabins within the Caravan Park. If appropriate, purchase suitable accommodation facilities.	Cost dependant on outcome of review	
Liaise with property owner(s) adjacent to the Caravan Park and beach shacks to determine the feasibility of developing a 20m vegetation buffer between the Reserve and freehold land.	N/A	N/A
Upgrade Caravan Park amenity block.	\$30,000	CLIP &/or a replacement program

<b>2004/05</b>		
If feasible, develop a vegetation buffer between the Reserve (Caravan Park and beach shacks) and freehold land (assuming five 50 x 20 metres plots).	\$25,000	Coast Action

<b>2005/06</b>		
Upgrade amenity block near beach shacks.	\$30,000	CLIP &/or a replacement program

***Boat Ramp and Car Park***

<b>Project</b>	<b>Estimated Cost</b>	<b>Funding Opportunities</b>
<b>2004/05</b>		
Rearrange and resurface boat trailer parking area to include landscaping.	\$7,500	CLIP &/or a replacement program

***Foreshore Reserve (General Projects)***

<b>Project</b>	<b>Estimated Cost</b>	<b>Funding Opportunities</b>
<b>2002/03</b>		
Identify current Reserve boundaries.	N/A	N/A
Undertake a public safety and risk assessment of Red Bluff.	\$20,000	CLIP &/or a replacement

		program
Conduct a vegetation study and develop a vegetation management and revegetation plan (notably within the Northern, Stockyard Point and Southern Precincts).	\$15,000	CLIP &/or a replacement program

<b>2003/04</b>		
Maintain Red Bluff walking track and install fencing to prevent public access to the edge of the cliff.	\$5,000	Coast Action
Install barriers / fencing and signage to discourage vehicle access to the Southern Precinct beach.	\$3,000	Coast Action

<b>2005/06</b>		
Install a children's play ground.	\$8,000	Coast Action
Remove defunct buildings from the Reserve.	\$10,000	CLIP &/or a replacement program

### ***Ongoing Actions***

- Develop and implement a pest plant and animal control program.
- Maintain indigenous revegetation throughout the Reserve.
- Liaise with Bass Coast Shire and Cardinia Shire Councils in relation to regulation enforcement matters.
- Maintain the standard of beach shacks, caravans and associated annexes through keeping an annual photographic record.
- Protect the conservation status of the Southern Precinct.
- Ensure land based activities do not adversely affect mangrove populations or the water quality of Western Port.
- Monitor Reserve and freehold boundaries and the impact of erosion on the boundaries

## **9.5 Marketing**

A number of opportunities exist to expand the Caravan Park's market base. It should be noted that at this stage, it is not environmentally viable to increase the capacity of the Caravan Park. However, it may be possible to encourage visitors to the area out of peak visitation times. Active marketing and promotion of the Reserve should not proceed until the risk assessment, hazardous materials and structural conditions audit and fire safety audit have been undertaken and sewerage treatment and disposal methods improved. Once these actions have been completed, active promotion of the Reserve can be undertaken in the knowledge that the Reserve is capable of accommodating visitors in a safe and environmentally sustainable manner.

### ***Current and Future Attractions***

#### **Current**

People currently visit the Reserve for its intrinsic values including its peacefulness, the scenery and the recreational opportunities provided by the coastal location. The Caravan Park is located in close proximity to Melbourne (approximately 1.5 hours drive) and provides low budget accommodation.

#### **Future**

The Caravan Park is located within a highly sensitive coastal environment and the long-term future of the Caravan Park will be reliant on the implementation of sustainable management practices. As such, the opportunity exists to promote the Caravan Park on the basis of its

sustainable management and operational practices (including recycling, composting and alternative energy). Promotion of the Caravan Park in this manner will be a long term goal as there are a number of actions that need to be undertaken in the short to medium term in order to implement sustainable operations (as detailed in section 5 of this Plan).

Promotion of the Reserve's environmental and geological values (ie. nature appreciation opportunities) would attract additional visitors to the area and increase and foster visitor understanding and appreciation of these values.

### **Target Areas**

Anecdotal evidence suggests that the Reserve currently attracts young families and mature visitors. It is proposed that marketing activities focus on this market group as the level of infrastructure required to service these groups is relatively low.

In the short term, marketing activities should focus on attracting visitors to the Caravan Park during off peak periods including:

- Seasonal vegetable pickers
- Motor home visitors

In the long term, marketing activities will be able to focus on a wider market base including:

- School groups
- Visitors interested in sustainable management practices and operations
- Visitors wanting on-site accommodation

### **Marketing Tools and Resources**

Short term marketing tools include the following.

- The development of a brochure promoting the Reserve's environmental values and recreational opportunities such as fishing, nature appreciation and walking. Such a brochure would assist in raising the level of public interest and knowledge of the Reserve and could be distributed shops and businesses within the Lang Lang township, the nearby service and petrol station on the Bass Highway and the Tooradin information centre.
- Direct marketing to groups such as the Motor Home Association in the form of advertisements in motor home association newsletters would build on the current client base.
- Direct marketing to nearby vegetable growers promoting the availability of accommodation for seasonal workers.

Once the Caravan Park has been redeveloped to be consistent with the principles of environmental sustainability, new tools will be appropriate for marketing this section of the Reserve. Possible marketing tools include:

- The development of a brochure outlining the Caravan Park's facilities and promoting the sustainability principles on which the Park is managed and operated.
- Direct marketing to conservation groups/organisations through advertisements in newsletters.
- Direct marketing to school groups (including primary, secondary and tertiary).
- Facilitation of an open day inviting the local community and interest groups to the Caravan Park to learn about the sustainable management and operational activities.
- Events such as a local produce/art/craft market to promote the foreshore to the local community.

## **9.5 Finances**

### **Grants**

The Committee of Management will not be able to solely fund many of the Management Actions identified in this CMP. However, the Management Plan will provide support for grant

applications to undertake these and other projects. Further information regarding grant opportunities can be sourced from [www.ourcommunity.com.au](http://www.ourcommunity.com.au).

#### **Federal Government**

##### **Natural Heritage Trust – Australian Government Enviro Fund**

Available for community group environmental and natural resource management projects of up to \$30,000.

#### **State Government**

##### **Coast Action / Coastcare Community Program (Department of Sustainability and Environment)**

Provides funds for a range of coastal and marine community projects. These include revegetation, habitat restoration, improving recreation opportunities and education.

##### **Parks Victoria's Grants Program – Conservation Support Grants and Priority Conservation Grants**

Available to community groups whose objective is to develop projects that will enhance the natural, cultural and/or heritage values of parks and reserves that are not managed by Parks Victoria.

##### **Marine Board of Victoria / State Boating Council (Department of Infrastructure) - Boating Safety (Facilities) Grants Program**

The program is designed to provide funds to statutory bodies (ie Municipal Councils, Committees of Management or Government Agencies) for the provision of public facilities accessible to the community at all times.

#### **Community Support Fund**

##### **Community Facilities Funding Program (Sport and Recreation Victoria)**

Only Councils are eligible to apply directly to Sport and Recreation Victoria for funds. However, community organisations have the opportunity to access funds from the Minor Facilities Category by applying directly to their local Council (Bass Coast and Cardinia Shire Councils). Minor Facilities grants assist local community groups, in partnership with their local government authorities, in the development and upgrading of community sport and recreation facilities.

##### **Public Heritage Program – Capital Works Program (Heritage Victoria)**

The program provides capital funding for the protection and interpretation of public heritage places for the benefit of the community. The program includes municipal as well as State Government owned buildings and places.

#### **Revenue**

##### **Existing**

The Committee's financial position has varied slightly over the last ten years (refer to Appendix D for the Reserve's revenue and expenditure for the past nine years). Between 1993 and 2001 the total income fluctuated in the range \$31,000 to \$48,000 per annum and was approximately \$48,339 for the 2000/01 financial year.

Revenue is generated predominantly through the Caravan Park and beach shack fees (refer to Appendix D). Other revenue sources include the public phone, barbecue and washing machine fees and grants.

For the 01/02 and 02/03 financial years, the reserve traded at a deficit.

##### **Foreshore**

Revenue collected from foreshore facilities is limited to the barbecue.

### **Boat Ramp and Car Park**

No revenue is collected from the boat ramp or car park. Due to the tidal range of Western Port and the conditions of these facilities, it is not considered practical to introduce fees for these facilities.

### **Caravan Park and Beach Shacks**

The most current revenue details from the Caravan Park and beach shacks operations have been sourced from the 2000/2001 financial statements.

Boat sheds	\$13,262
Caravans/camping	\$29,652
Pay phone	\$806
Washing machine	\$632
Other	\$3,987
<b>Total Revenue</b>	<b>\$48,339</b>

### **Current Fee Structure**

#### **Short Term (including 2 adults and 2 children)**

Powered site  
\$13.20 per night  
\$79.20 per week

Unpowered site  
\$7.70 per night  
\$46.20 per week

#### **Long Term Site Fees**

Storage on-site  
\$572 per year (\$11 per week)

Storage off-site  
\$286 per year (\$5.50 per week)

Additional cost when occupied  
\$8.80 per night  
\$52.80 per week

#### **Boatshed**

Visitor \$3.30 per day

#### **Overnight Vans**

From \$25 per night

### **Projected**

The predominant income sources are anticipated to remain unchanged. However, one of the Management Actions arising from the CMP (refer to section 6, Recreation Precinct) is that the fees be reviewed to assist with infrastructure improvements and subsequently to encourage greater occupancy rates throughout the year in the longer term. It is considered that an increase of at least 10 per cent per annum should be considered over the coming three financial years. A minimum fee increase of 10 per cent per annum will be required to contribute to the funding of the management actions. Future fees could incorporate a structure where sites are levied

according to peak and off-peak periods. This may encourage a greater distribution in occupancy rates across the year and provide additional revenue.

The increase in fees is required to ensure the long term financial and environmental sustainability of the Caravan Park. Without additional income, the Committee of Management will not be able to implement basic infrastructure upgrades to support visitor activities within the Reserve. Caravan Park revenue projections assume that occupancy rates will remain constant for the next three financial years given that significant increases in occupancy are not expected until service upgrade works have been undertaken.

In addition to reviewing the current fee structure for the Caravan Park and beach shacks, the potential for grants also needs to be investigated. There are a number of grants available to assist Committees of Management with the ongoing management of Reserves. However, due to the intermittent nature of this funding, it can not be relied upon as a consistent source of income. Many of the recommended management actions that are high priority are also high cost and will not be implemented without significant grant funding.

Opportunities to increase revenue from the foreshore facilities include the potential to rent the former kiosk building to local community groups (should it be deemed structurally safe) and the possibility of holding a market on the open grass area (on the site of the former swimming pool). Revenue may also be generated through the sale of old equipment owned by the Committee of Management and through the provision of storage space for caravans.

### ***Expenditure***

#### **Existing**

Total expenditure for the previous nine years has fluctuated between \$31,000 and \$70,000 and, for the 2000/01 financial year it was approximately \$70,000. Expenditure within the Reserve includes salaries (for the Caravan Park caretaker), electricity and gas, capital improvements and general maintenance.

#### **Projected**

Expenditure on capital improvements and general maintenance within the Caravan Park appears to have been insufficient in the past. As a consequence, significant expenditure is required within the Caravan Park in order to update supporting infrastructure, such as amenity blocks and drainage.

Refer to Appendix D for expenditure predictions. Due to the uncertainty of the financial reporting for the years prior to the current Committee of Management, the 2000/01 figures have been used as a basis for preparing expenditure projections.

Expenditure relating to Audits/Plans/Studies and New Works is based on the indicative cost estimates provided in section 9.3 relating to projects arising from the recommended management actions. Expenditure on other items has assumed a 4 per cent per annum increase with the exception of expenditure on items relating to General Maintenance and Upgrades. It is expected that expenditure in this category will decline over the coming years as new works are undertaken to upgrade existing infrastructure (such as amenity blocks).



## *Appendices*

*Please refer to  
Appendix A.pdf;  
Appendix B.pdf;  
Appendix C.pdf;  
Appendix D.pdf;  
Appendix E.pdf*

Andrews, D. L, Lumsden, L. F, Dixon, J. M. *Sites of Zoological Significance in the Western Port Region*, Department of Conservation, Forests and Lands, ESP No. 327.

Coastal Investigations Unit (Port Melbourne Authority), *Victorian Coastal Vulnerability Study*.

Department of Crown Land and Survey (1978), *Lang Lang Foreshore Reserve Management Plan*.

Department of Natural Resources and Environment (2000), *Rare or Threatened Vascular Plants of Victoria*.

Department of Natural Resources and Environment (June 2002), *Draft Western Port Erosion Project Report - Stage One - Overview of Coastal Processes*, prepared by GHD consultants on behalf of the Department of Natural Resources and Environment.

Environment Australia (2002), *Environment Protection and Biodiversity Conservation Act Database* (<http://epbcweb.ea.gov.au/images/index.html> or [www.ea.gov.au](http://www.ea.gov.au))

Environment Australia website ([www.ea.vic.gov.au](http://www.ea.vic.gov.au)), Environment Protection and Biodiversity Conservation Act - Threat Abatement Plans for European Red Fox, Rabbit and Cat.

Environment Protection Authority (November 2001), *Protecting the Waters of Westernport and Catchment (Draft)*.

Environment Protection Authority (2000), *Protecting the Waters of Western Port and Catchment*.

Environment Protection Authority (1996), *The Western Port Marine Environment*.

Gaughwin, D (1981), *Sites of Archaeological Significance in the Western Port Catchment*, Volume 1, Ministry for Conservation, Victoria.

Greening Australia (1998), *Coastal Weed Treatments Handbook*.

National Weeds Strategy, ([www.weeds.org.au](http://www.weeds.org.au))  
Weeds of National Significance- Guidelines for Developing Weeds Strategies.

Oates, A & Taranto, M. (2001), *Vegetation Mapping of the Port Phillip and Western Port Region*, Arthur Rylah Institute for Environmental Research.

Opie, A. M, Gullan, P. K, Van Berkel, S. C. and Ven Rees, H. (1984), *Sites of Botanical Significance in the Western Port Region*, Department of Conservation Forests and Lands.

Parks Victoria and the Central Coastal Board (2000), *Western Port Perspective (Full Report)*, prepared by PPK Environment and Infrastructure on behalf of Parks Victoria and the Central Coastal Board.

Parks Victoria and the Central Coastal Board (2000), *Western Port Perspective (Maps)*, prepared by PPK Environment and Infrastructure on behalf of Parks Victoria and the Central Coastal Board.

Port Phillip and Western Port Catchment and Land Protection Board (August 2000), *Draft Port Phillip and Westernport Native Vegetation Plan*.

Rosengren, N. (1984), *Sites of Geological and Geomorphological Significance in the Westernport Bay Catchment*, Department of Conservation, Forests and Lands.

Ross, R. (June 2000), *Mangroves and Salt Marshes in Westernport Bay, Victoria*, Arthur Rylah Institute for Environmental Research.

Shapiro, M. A, (1973-1974), *Westernport Bay Environmental Study*, Ministry for Conservation.

Victorian Coastal Council (2002), *Victorian Coastal Strategy*.

Western Port Regional Planning and Co-ordination Committee (1994), *Western Port Coastal Villages Strategy (Abridged Version)*.

Western Port Regional Planning and Co-ordination Committee (1992), *Western Port Bay Strategy*.



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# Lang Lang Foreshore Reserve *Stakeholder Consultation*

## Questions for Consideration

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1/ What is your interest in the Lang Lang Foreshore Reserve?

2/ What is your vision for the Lang Lang Foreshore Reserve in 10 years time?

3/ What opportunities do you envisage for an increased community involvement in the protection and enhancement of the Reserve?

4/ List in order of priority, the type of facilities that will protect and enhance the values of the Reserve.



Please return by 5<sup>th</sup> April 2002, to:

Emily Nagle  
Connell Wagner Pty Ltd  
PO Box 321  
South Melbourne, VIC 3205

Lang Lang Foreshore  
Reserve Committee  
of Management

# Appendix E

## Discussion of Options for Key Issues

### Erosion

Issues associated with erosion are discussed in section 4.2.

#### Recreation Precinct

An overview of options available to manage erosion within the Recreation Precinct are outlined below. It should be noted that significant investigations would be required prior to any traditional engineering erosion control measures or sand relocation measures being implemented. The list of options below is intended to be utilised as an overview only.

Option	Advantages	Disadvantages	Relative Cost
1. Maintain current situation or do nothing	Minimal cost in the short term.	Damage to beach shacks, caravans and eventual loss of the coastal reserve that will contribute to accelerated rising sea levels.  Public risk due to unofficial erosion control structures.	Nil up front cost.
2. Construct a rock wall (similar to Jam Jerrup rock wall) to provide protection against a 50 year return period storm from the boat ramp to the southern most beach shack.	Protection of the area immediately behind the rock wall.	Any seawall will increase the scour due to wave reflection and create problems further along the coast.  Height of seawall would impact on views to & from the area.	\$400 per lineal metre for 1000 metres would cost \$400,000. This estimate does not take into account the predicted rise in sea level.
3. Construct groynes.	There are no advantages to constructing groynes in an environment where sand movement is offshore.	Sand movement is predominantly offshore not long shore drift. There is therefore insufficient sand in the nearshore environment to form a stable beach.	Dependant on structure type and size.
4. Construct groynes to contain a beach renourishment	Creation of a sandy beach.	There is no suitable supply of sand in the area.	In excess of \$1 million.
5. Increase height of existing 370 metre seawall to reduce the frequency of overtopping.	Protection of the area immediately behind the sea wall.	The existing wall is currently 3.3 Chart datum and needs to be 3.5 for the current situation plus 0.3 to account for the predicted sea level	Approximately \$23,000.

Option	Advantages	Disadvantages	Relative Cost
		<p>rise.</p> <p>Unlikely to provide a long term solution.</p>	
<p>6. Upgrade wooden seawall &amp; remove concrete debris.</p>	<p>Improved amenity and safety.</p>	<p>Increase toe depth and remove and replace fill material to prevent scouring from behind the wall.</p> <p>Unlikely to provide a long term solution.</p> <p>Would potentially create erosion problems further along the coast.</p>	<p>Approximately \$175,000.</p>
<p>7. Retreat of infrastructure to less vulnerable locations.</p> <p>Should this option be pursued, foreshore revegetation works should also be implemented (refer to Option 8). Foreshore revegetation will assist in reducing the rate of erosion and hence the risk to infrastructure.</p>	<p>Reduces the potential for infrastructure to be affected by erosion and coastal hazards.</p> <p>If historical erosion rates remain constant, this would allow the reserve to be relatively free of coastal hazards for approx. 40 years (excluding the predicted rise in sea level).</p>	<p>Land needs to be at least 3.5 metres Chart Datum and floor level of structures should be 3.7 metres Chart Datum for current situation. An additional 0.3 metres should be added to take sea level rise into account.</p> <p>Some infrastructure may not be relocatable due to the type of structure (brick veneer) or due to dilapidated conditions.</p>	<p>Cost is likely to be significant and will be dependent on location. Likely to be expensive if land purchase is required.</p>
<p>8. Trial vegetation management techniques such as mangrove, coastal dune and coastal vegetation replanting in conjunction with sand trapping.</p>	<p>Provides a means of adsorbing wave energy rather than deflecting wave energy and hence is less likely to create erosion problems further along the coast.</p> <p>Would contribute to the stabilisation of the foreshore and reduce the rate of erosion overtime.</p> <p>Would contribute to improving the habitat value and amenity of the foreshore.</p> <p>Sand trapping through the use of geotextile materials and sand fences will facilitate the</p>	<p>Requires ongoing community commitment and coordination.</p>	<p>Approximately \$9,000 over the next three years.</p> <p>Relatively low cost option in comparison to traditional engineered erosion control measures.</p>

<b>Option</b>	<b>Advantages</b>	<b>Disadvantages</b>	<b>Relative Cost</b>
	establishment of vegetation.		
9. Monitoring & review of current situation and adopted option.	Opportunity to improve knowledge and understanding of coastal processes and to identify effective solutions.	Requires ongoing community commitment and coordination.	Nil.
10. Undertake further detailed studies on erosion within the Reserve.	The chance of implementing the most effective management actions to manage erosion will be maximised, due to the information obtained through this process, and the expertise of those collating the information.	Expense.	Upwards of \$50 000.

### Jam Jerrup

An overview of options to manage erosion within the Jam Jerrup Precinct are outlined below.

<b>Option</b>	<b>Advantages</b>	<b>Disadvantages</b>	<b>Relative Cost</b>
1. Maintain current situation or do nothing	Minimal cost in the short term.	Terminal scour would continue, resulting in further loss of vegetated buffer. Under this option, there is no threat to Foreshore Road and the Jam Jerrup township during the next decade (this estimate does not consider predicted sea level rise).	Nil up front cost.
2. Fence seaward side of Foreshore Road for public safety & erect signage.	Improve public safety and encourage access to beach at designated locations.	Visual impact of fence.	Approximately \$28,000.
3. Reduce mown grass area and revegetate with dense coastal vegetation to stabilise remaining cliff surface	Assist in stabilising the cliff surface and improve habitat value.	May impact on coastal views from nearby residences and will change the appearance of the cliff surface.	Approximately \$70 per square metre (for plants, mulch and tree guards).
4. Extend the rockwall to the end of Jam Jerrup township	Protection of the area immediately behind the sea wall.	Terminal scour would be transferred to the new southern end resulting in loss of beach amenity.	350 metres of rockwall costing \$450 per lineal metre would cost approximately \$157,500.
5. Extend rock wall to end of steep dropoff to prevent	Protection of the area immediately behind the sea wall.	Would potentially create erosion problems further along the coast and is unlikely to provide a long	50 metres of rockwall costing \$450 per lineal metre would cost

<b>Option</b>	<b>Advantages</b>	<b>Disadvantages</b>	<b>Relative Cost</b>
further undercutting.		term solution.	approximately \$22,500.
6. Construct groynes and conduct beach renourishment	Creation of a sandy beach.	There is no suitable supply of sand in the area.	In excess of \$1 million.
7. Annual sand carting from Stockyard Point to Jam Jerrup and associated revegetation using sand dune and mangrove vegetation.	Sand carting involves the removal of sand from one section of a beach to another.  The impacts associated with sand carting would require further investigation.	Removal of sand at Stockyard Point may impact on the natural coastal processes and create negative impacts.  Requires ongoing community commitment and coordination.	Approximately \$5,000 per annum for sand carting and revegetation.
8. Revegetation to reduce sand transport using a combination of artificial sand trapping and revegetation to slow the rate of erosion.	Provides a means of absorbing wave energy rather than deflecting wave energy and hence is less likely to create erosion problems further along the coast.  Would contribute to the stabilisation of the foreshore and reduce the rate of erosion overtime.  Would contribute to improving the habitat value and amenity of the foreshore.  Sand trapping through the use of geotextile materials and sand fences will facilitate the establishment of vegetation.	Labor intensive.	Approximately \$9,000 over the next three years.  Relatively low cost option in comparison to traditional engineered erosion control measures.
9. Monitoring & review of current situation and adopted option.	Opportunity to improve knowledge and understanding of coastal processes and to identify effective solutions.	Requires ongoing community commitment and coordination.	Nil.

## 1.1 Beach Shacks

As discussed in sections 4.2 and 5.1 coastal erosion presents a significant threat to the longevity of the beach shacks. In addition, the condition and proximity of the structures to the coastline presents a public safety risk notably where they are being utilised for overnight accommodation purposes (discussed in more detail in section 4.2).

Options to address these issues are described below.

Option	Advantages	Disadvantages	Relative Cost
1. Maintain current beach shack use.	Revenue source for foreshore maintained. Potential source of volunteer labour.	Inconsistent with the <i>Victorian Coastal Strategy (2002)</i> .  Significant public safety and liability risk especially when structures are being utilised for accommodation purposes.  Sea level rise and high tides continue to present flooding risks.  Limited public access along the foreshore as beach shacks discourage and in some instances prevent public access to the immediate coastline.	Nil up front cost.
2. Revert beach shacks to boatshed usage* and protect from coastal processes using preferred option from section 5.1 (dependent on coastal vulnerability study).	Consistent with the <i>Victorian Coastal Strategy (2002)</i> .  Decreases personal safety and liability risks.  Risk associated with coastal processes reduced over the long term.	Loss of overnight beach shack accommodation to licensees.  Costs associated with reversion to boatshed usage.	\$10,000 per boatshed plus erosion protection costs (see section 5.1 for preferred option).
3. Revert beach shacks to boatshed* usage and relocate boatsheds set back from the coastline in an area(s) not subject to coastal processes (in accordance with a coastal vulnerability study).	Consistent with the <i>Victorian Coastal Strategy (2002)</i> .  Decreases personal safety and liability risks.  Risks associated with sea level rise and high tides reduced.  If located within the Foreshore Reserve, the income stream from the boatsheds will be maintained.  Potential source of volunteer labour maintained.  Improves public access to the Foreshore Reserve.  Opportunity to revegetate area currently occupied by the beach shacks with indigenous species would assist in stabilising the coastline.	Alternative site required (this may require significant funds).  Costs associated with the removal and relocation of the structures.  Loss of coast front location to licensees.  Limited nearby land available that is not subject to overland flooding.	\$18,000 per boatshed if relocated on coastal Crown land.  Higher cost if shacks are relocated on private land.
4. Removal of beach shacks which are inconsistent	Consistent with the <i>Victorian Coastal Strategy (2002)</i> .	Alternative accommodation required.	Demolition, waste removal and site



<b>Option</b>	<b>Advantages</b>	<b>Disadvantages</b>	<b>Relative Cost</b>
with Government policy.	<p>Eliminates public safety and liability risks associated with beach shacks.</p> <p>Creates additional open space within the Foreshore Reserve.</p> <p>Opportunity to revegetate area currently occupied by the beach shacks with indigenous species would assist in stabilising the coastline.</p> <p>Improves public access to the foreshore.</p>	Loss of income stream.	reinstatement costs - approximately \$9,000 per beach shack.

\* A bathing box / boatshed is defined as a structure erected on coastal Crown land, used for the storage of boats and beach / boat accessories and for the convenience and comfort of licensees, but excludes any overnight accommodation.

## 1.2 Sewage

Refer to section 4.2 for details of the issues regarding the sewage disposal.

The following provides an overview of the options available in relation to improving sewage treatment and disposal within the Foreshore Reserve.

<b>Option</b>	<b>Advantages</b>	<b>Disadvantages</b>	<b>Relative Cost</b>
1. Septic Tank Upgrade	Septic tanks provide a relatively low cost solution and are currently utilised within the foreshore.	<p>Efficient disposal depends on land capability/soil type. Given the proximity of the Reserve to Western Port and the frequency of flooding (from both land and sea), septic systems are not ideal due to their inability to operate efficiently.</p> <p>Potential local environmental impacts to groundwater and water quality.</p> <p>Requires regular maintenance and desludging.</p> <p>Potential for odours due to anaerobic nature of the system.</p> <p>Continual flow/load required for efficient treatment.</p>	Approximately \$6,000 per septic tank.
2. Wormwaste Aerated System	All in one system which treats solids, liquids and organic matter (food wastes etc).	Efficient disposal of treated effluent requires land capability/soil assessment.	Low to medium costs depends on size of system required. Estimated cost

<b>Option</b>	<b>Advantages</b>	<b>Disadvantages</b>	<b>Relative Cost</b>
	<p>Low maintenance.</p> <p>Does not require desludging.</p> <p>The potential for odour generation is minimal as the system is aerated.</p> <p>Low energy costs.</p> <p>Potential for effluent reuse.</p>		<p>for 1 system is between \$60,000 to \$70,000.</p>
<p>3. Aerated Mechanical Treatment Plant</p>	<p>Low maintenance.</p> <p>Continual flow/load not required for efficient treatment.</p> <p>Minimal environmental impact if effluent is reused.</p> <p>Potential for effluent reuse.</p>	<p>Requires desludging (although not as frequently as septic systems).</p> <p>Medium to high energy costs.</p> <p>Medium maintenance requirements.</p>	<p>Approximately \$100,000 - \$120,000.</p>
<p>4. Connection to reticulated sewer</p>	<p>Complies with State Environment Protection Policy.</p> <p>No maintenance requirements.</p> <p>Reduces on site environmental impacts.</p>	<p>Availability of reticulated sewer.</p>	<p>South East Water are not likely to extend the reticulated sewer to the Lang Lang Foreshore Reserve in the near future.</p>