

Lang Lang Foreshore Reserve Coastal Management Plan



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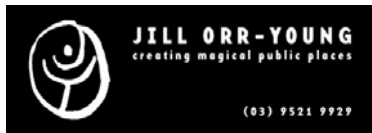
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The Lang Lang Foreshore Reserve Coastal Management Plan has been prepared for the Lang Lang Foreshore Reserve Committee Incorporated and the Department of Sustainability and Environment by Ainley Projects, Atkins Marine Engineering and Jill Orr-Young Landscape Architect.

Many organisations, groups and individuals have provided their input to the development of this plan. Their time and input is greatly appreciated and acknowledged:

Department of Sustainability and Environment
Lang Lang Foreshore Reserve Committee Incorporated
Lang Lang Boatshed Association
Parks Victoria
Bass Coast Shire Council
Cardinia Shire Council
Lang Lang Historical Society
Western Port Seagrass Partnership
Grantville and District Foreshore Reserve Committee of Management
Residents of Lang Lang and Jam Jerrup and surrounding areas



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Summary

The Lang Lang Foreshore Reserve is a narrow strip of coastal Crown land situated on the eastern side of Western Port, approximately 90 kilometres from Melbourne. The 45 hectare reserve extends along the coastline for approximately six kilometres and includes natural features at Red Bluff and Stockyard Point. It is included in the Western Port Ramsar Site of international environmental significance. In addition to its natural features, the reserve also provides for many recreational opportunities along its extensive coastline. It contains a boat ramp and associated car park, as well as a caravan and camping park, which includes boatsheds. The reserve is managed by a volunteer committee of management known as the Lang Lang Foreshore Reserve Committee Incorporated.

This Coastal Management Plan (CMP) has been prepared in accordance with the *Coastal Management Act 1995*. It is consistent with the Victorian Coastal Strategy (VCS) and the principles that underpin the VCS. This CMP provides direction and guidance to the committee of management in land management, appropriate actions and activities, and planned expenditure. A three year business plan has also been developed. Stakeholder and community input and participation has been an essential part of the development of this CMP. The time and ideas of all those who have contributed is greatly appreciated. While this CMP applies for a three year period, planning for the longer-term has been considered and is reflected in this CMP.

The vision for the Lang Lang Foreshore Reserve has been revised and updated, based on stakeholder and community input, and is outlined below:

Lang Lang Foreshore Reserve – Vision Statement

The Lang Lang Foreshore Reserve will be managed to ensure the protection and enhancement of its environmental, cultural heritage and recreational values.

It will be recognised for its:

- natural beauty (Western Port, the Red Bluff, Stockyard Point)
- protected habitat areas (Ramsar and internationally recognised bird species)
- Aboriginal cultural heritage.
- variety of recreational opportunities including fishing, boating, picnicking, beach play, nature appreciation, walking and photography.
- day use facilities, which are well maintained and easily accessible.
- caravan park, which promotes equitable and accessible accommodation options.
- boatsheds that are well maintained, meet required standards and comply with all relevant regulations.

The reserve will continue to be managed by the Lang Lang Foreshore Reserve Committee Incorporated in a sustainable and efficient manner based on sound decision making and government policy, with input and assistance from other key stakeholders.

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Abbreviations

Bass Coast Shire Council	BCSC
Bass Valley Landcare	BVL
Cardinia Shire Council	CSC
China-Australia Migratory Birds Agreement	CAMBA
Coastal Management Plan	CMP
Committees of Management (appointed by DSE)	CoM
Consumer Price Index	CPI
Country Fire Authority	CFA
Department of Sustainability and Environment	DSE
Ecological Vegetation Class	EVC
Japan-Australia Migratory Birds Agreement	JAMBA
Lang Lang Foreshore Reserve Committee Incorporated	LLFRC
Lang Lang Coastal Action Group	LLCAG
Parks Victoria	PV
Registered Aboriginal Party	RAP
Victorian Coastal Council	VCC
Victorian Coastal Strategy	VCS

1. Introduction

1.1 Lang Lang Foreshore Reserve Coastal Management Plan

The Lang Lang Foreshore Reserve is a narrow strip of coastal Crown land on the eastern side of Western Port approximately 90 kilometres from Melbourne. The 45 hectare reserve extends along the coastline for approximately six kilometres and includes natural features at Red Bluff and Stockyard Point. It is included in the Western Port Ramsar Site of international environmental significance. As well as its natural features, the reserve also provides for many recreational opportunities along its extensive coastline. It contains a boat ramp and associated car park, as well as a caravan and camping park, which includes boatsheds. The reserve is managed by a volunteer committee of management known as the Lang Lang Foreshore Reserve Committee Incorporated.

This Coastal Management Plan (CMP) has been developed in accordance with the *Coastal Management Act 1995*. The CMP is the primary guiding document for the future management of the Lang Lang Foreshore Reserve. It provides a vision, objectives, management framework and business plan to guide the sustainable management of the Lang Lang Foreshore Reserve as a place of environmental, heritage and recreational value.

Comprehensive stakeholder and community consultation has been undertaken in the preparation of this CMP.



Figure 1. Lang Lang Foreshore Reserve

1.2 Development of the Coastal Management Plan

A CMP is a public document that is prepared in accordance with the *Coastal Management Act 1995*. It must be consistent with the Victorian Coastal Strategy and any Coastal Action Plans applying to the area. A CMP should apply for a three year period, however, while this CMP is for a defined period, planning for the longer-term has been considered.

This CMP is underpinned by four hierarchical principles set out in the Victorian Coastal Strategy (VCS). These principles guide the long term planning and decision making for the Victorian coast.

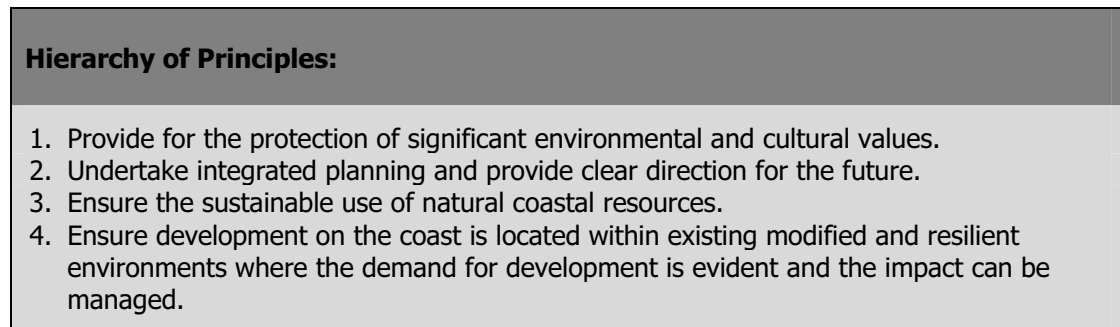


Figure 2. Hierarchy of Principles from the Victorian Coastal Strategy

A CMP provides direction and guidance to the committee of management in land management, appropriate actions and activities, and planned expenditure. A three year business plan is also developed as part of this process. In the management of the Lang Lang Foreshore Reserve, the committee of management must take all reasonable steps to give effect to an approved management plan.

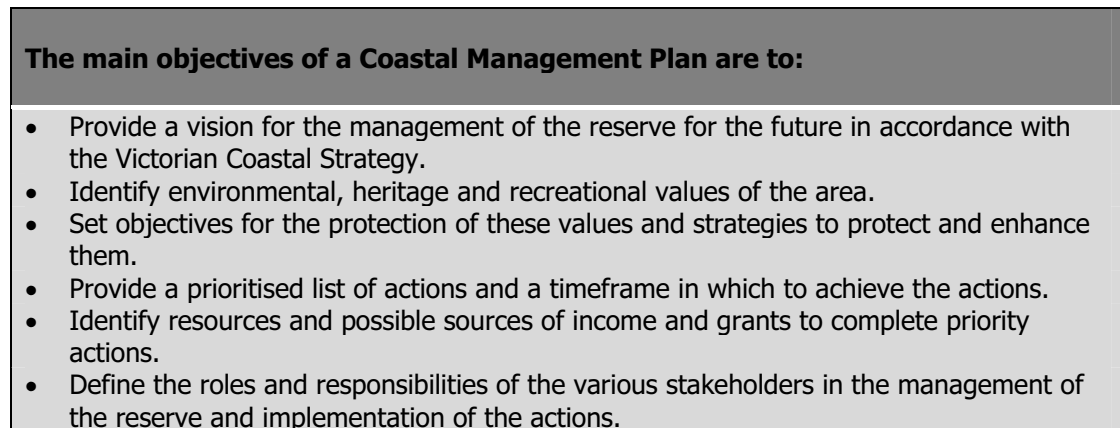


Figure 3. Objectives of a Coastal Management Plan (DSE 2004)

As part of the development of this CMP, actions from the previous CMP have been reviewed and are listed in Appendix 1.

Stakeholder and community input and participation is an essential part of the development of a CMP. Extensive stakeholder and community consultation has been undertaken during the development of this CMP and has included:

- Meetings with key management stakeholders
- Meetings with key community stakeholders
- Community workshop
- Discussions with groups and individuals as required
- Public exhibition of draft plan

1.3 Legislation, Policies and Strategies

Key legislation, policies and strategies apply to the management of the Lang Lang Foreshore Reserve. Further information on how these documents apply is contained in Appendix 7.

<p>Legislation</p>	<ul style="list-style-type: none"> • Environmental Protection and Biodiversity Conservation Act 1999 (Federal) • Native Title Act 1993 (Federal) • Coastal Management Act 1995 • Crown Land (Reserves) Act 1978 • Planning and Environment Act 1987 • Heritage Act 1995 • Aboriginal Heritage Act 2006 • Climate Change Act 2010 • Flora and Fauna Guarantee Act 1988
<p>Policies and strategies</p>	<ul style="list-style-type: none"> • Victorian Coastal Strategy 2008 • Port Phillip and Westernport Boating Coastal Action Plan 2006 • Port Phillip and Westernport Regional Catchment Strategy 2004 • State Planning Policy Framework • Improving Equity of Access to Crown Land Caravan and Camping Parks 2010 • Land Conservation Council Recommendations • Western Port Ramsar Site Strategic Management Plan 2003.
<p>Guidelines and other documents</p>	<ul style="list-style-type: none"> • Siting and Design Guidelines for Structures on the Victorian Coast 1998 • Landscape Setting Types for the Victorian Coast 1998 • Japan Australia Migratory Bird Agreement • China Australia Migratory Bird Agreement • Ramsar Convention • Impacts of Climate Change on Settlements in the Western Port Region - Climate Change Risks and Adaptation 2008 • Victoria's Native Vegetation Management - A Framework for Action 2002 • Land Conservation Council - Melbourne Area District 2 Review 1994

Figure 4. Legislation, policies and strategies that apply to the Lang Lang Foreshore Reserve

2. The Lang Lang Foreshore

2.1 The Study Area

The Lang Lang Foreshore Reserve is a narrow strip of coastal Crown land located on the eastern side of Western Port, about 90 kilometres south-east of Melbourne. The 45 hectare reserve extends from about 800 metres north of Jetty Road, south to Stockyard Point for a distance of almost six kilometres. It is bound by privately-owned farmland along the northern and eastern boundaries, and by Parks Victoria managed coastal reserve to the east of Stockyard Point (see Figure 5).

The reserve is somewhat remote from the Lang Lang Township at a distance of 9 kilometres. The main access to the reserve is via Jetty Road, off the Bass Highway, which also forms the municipal boundary between Cardinia Shire to the north, and Bass Coast Shire to the south. This is the only public access point to the foreshore within Cardinia Shire, with the majority of the reserve situated within Bass Coast Shire. Further south, the hamlet of Jam Jerrup provides access to the southern section of the reserve.

The reserve contains a diverse range of natural features and recreational opportunities in what is a relatively small area, and is well used by the local community and visitors to the area for fishing, boating, picnicking, walking and nature appreciation. The public recreation precinct once hosted a saltwater swimming pool (see Figure 6) and a long timber jetty (see Figure 11). However, the pool, which was popular in the 1950s, was closed in 1975, followed by the removal of the jetty in 2008.

The Lang Lang Foreshore Caravan Park sits within the reserve, and attracts both casual and regular users, particularly during the busy Christmas and Easter periods. Approximately one quarter of the Caravan Park users bring recreational motor boats with them. An increase in 'first-time' users of the caravan park was observed during the 2010/11 season. The caravan park is also home to 33 boatsheds.

Two sites of geological and geomorphological significance exist within the reserve, including the coastal cliff formation of Red Bluff and the sandy foreland spit of Stockyard Point.

The entire coastal waters of Western Port are designated as the Western Port Ramsar Site. This recognises international significance and responsibilities for management of migratory bird habitats in Western Port, including the shoreline of the Lang Lang Foreshore Reserve. The shoreline and waters provide diverse coastal habitats, including intertidal sandy beaches, salt marshes, mangroves, seagrass beds and sheltered intertidal flats in various remnant conditions.

The Western Port Ramsar Site Strategic Management Plan (DSE, 2003), places high importance on protecting habitats for internationally important migratory waders, including protecting all intertidal and saltmarsh feeding habitats from alteration, and ensuring important high tide roosting sites are not regularly disturbed by people.

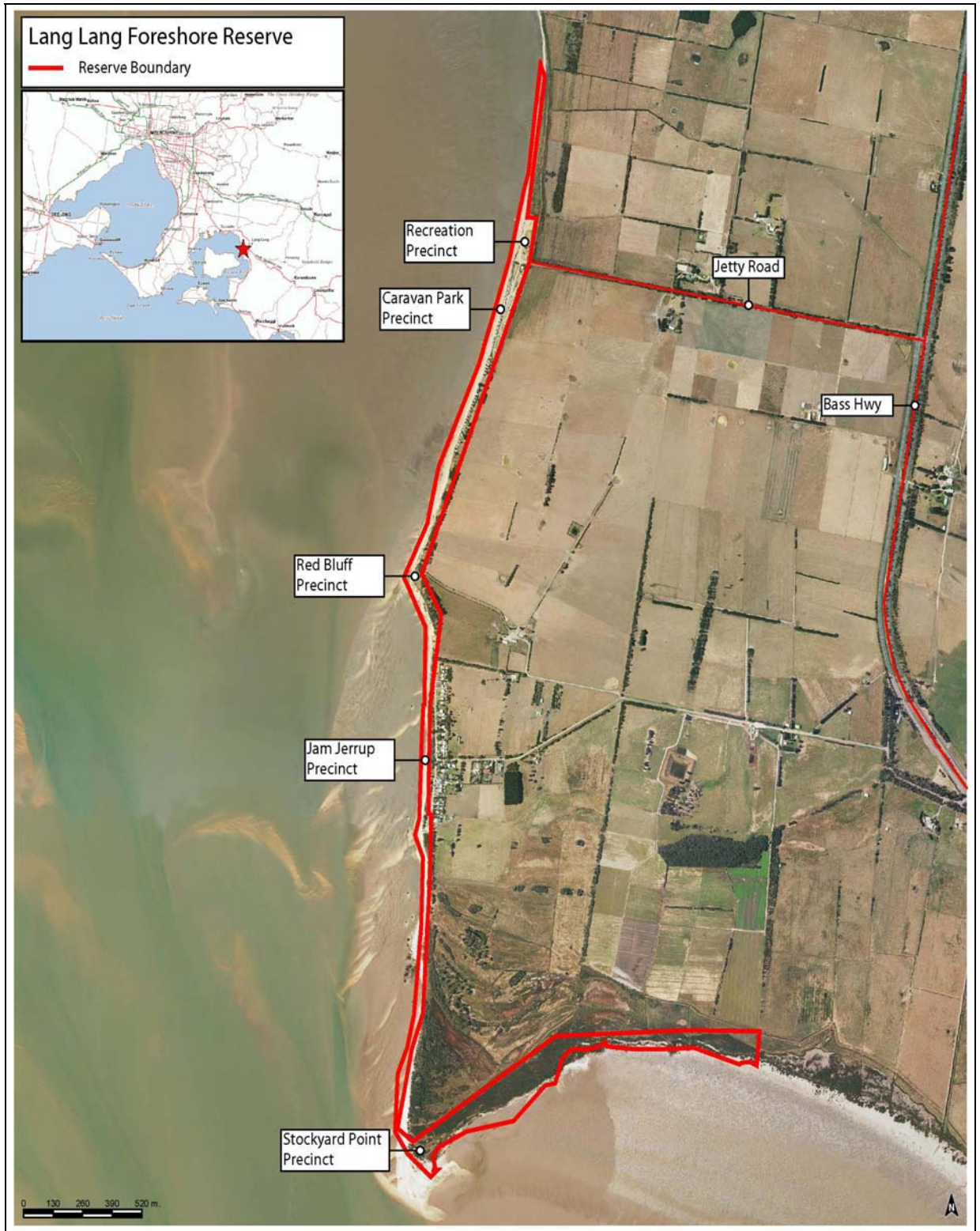


Figure 5. Aerial view showing the narrow coastal strip of Lang Lang Foreshore Reserve

2.2 Community Profile

The Lang Lang township and surrounding area has a recorded population of approximately 1300 people. Lang Lang is recognised as a large rural township with the potential for significant urban growth. However, the area has experienced minimal population growth over the last 10 years. According to the Lang Lang Township Strategy (Cardinia Shire Council, 2009) the population is expected to reach 1,733 by 2011 and increase to approximately 2,400 by 2021. There is a generally equal distribution of males and females and a higher proportion of young people (0-17 years) and older age groups (60+) than the rest of the municipality.

The hamlet of Jam Jerrup, which directly abuts the Lang Lang Foreshore Reserve, consists of approximately 45 residential dwellings with approximately one third of the dwellings permanently occupied, and the remainder presumably used as holiday homes. There is limited opportunity for any further development in Jam Jerrup due to its isolation, poor services, and vulnerability to foreshore erosion. However, there is potential for increased frequency of occupation of the existing dwellings.

There were 419 boat registrations recorded in 2009 for the Lang Lang postcode area (3984) which, in addition to Lang Lang, also includes the townships of Jam Jerrup, Pioneer Bay, Grantville, Corinella and Coronet Bay. Given that this area has a population of 4,177 people, it suggests that 10% of the population (or 1 in 10 people) own a registered boat. This is a high rate of boating ownership considering the Victorian average is 3%. However, these figures do not include recreational boats that are registered elsewhere but stored and used in the Lang Lang foreshore area. Anecdotally, use of the Lang Lang boat ramp for recreational boat launching is steadily increasing.

There is a sense of disconnection between the reserve and the Lang Lang township due to the connecting distance and limited access.

"The residents of Lang Lang display a strong sense of pride, commitment and involvement in their community. This is demonstrated by the dedication of many of the residents on various community committees and volunteer organisations"

– Lang Lang Township Strategy (Cardinia Shire Council, 2009).

2.3 Foreshore Management

The Lang Lang Foreshore Reserve is Crown land permanently reserved for the purpose of the 'protection of the coastline' under the *Crown Land (Reserves) Act 1978*. The Crown land is public land that is provided for the enjoyment and benefit of the people of Victoria. The *Crown Land (Reserves) Act 1978* allows the Minister for Environment and Climate Change to set aside (or reserve) land for a public purpose. A committee of management may then be appointed by the Minister to manage, improve, maintain and control the land for the purposes for which it is reserved, in line with statutory requirements, approved policies and guidelines.

The Lang Lang Foreshore Reserve Committee Incorporated (LLFRC) has been appointed as committee of management for the Lang Lang Foreshore Reserve. The LLFRC consists of volunteer members, appointed to the role for a three-year term via a public expression of interest process coordinated by DSE, and is responsible for the daily management of the reserve, deriving most of its income from caravan park fees and grants.

2.3.1 Stakeholders and Responsibilities

In addition to the LLFRC, a number of other agencies and groups are involved in the management of Lang Lang Foreshore Reserve. These key stakeholders include:

- **Department of Sustainability and Environment (DSE):** responsible for administering legislation relating to the management of Crown land in Victoria, on behalf of the Minister for Environment and Climate Change. Responsibilities include the creation of reserves and the appointment of committees of management, strategic planning and policy development, management of flora and fauna, the issue of leases and licences, and providing consent for the use and development of Crown land, including coastal Crown land.
- **Parks Victoria (PV):** the appointed Local Port Manager for Western Port, under the *Port Management Act 1995*, and is also the declared Waterway Manager for its waters, under the *Marine Act 1988*. Responsibilities include the management and operation of the port, including recreational boating activities, as well as the provision and maintenance of certain navigation aids, piers, jetties and other facilities. PV is also responsible for the management of various coastal reserves and marine protected areas around Western Port, including the foreshore and inter-tidal zone immediately south of the Lang Lang Foreshore Reserve, and is the lead agency for the implementation of the Western Port Ramsar Site Strategic Management Plan.
- **Lang Lang Boatshed Association (LLBA):** an organisation, founded in 2005, to represent the interests of boatshed owners and long-term caravan owners at Lang Lang Foreshore Reserve. Members share a vision to preserve and enhance the historical, cultural and environmental values of the reserve.
- **Bass Coast Shire Council (BCSC):** responsible for administering and enforcing the planning scheme, building regulations and local laws, for all the land south of Jetty Road, which includes the majority of the Lang Lang Foreshore Reserve.
- **Cardinia Shire Council (CSC):** responsible for administering and enforcing the planning scheme, building regulations and local laws, for all the land north of Jetty Road, which includes the Lang Lang Foreshore Reserve recreation precinct. CSC currently has minimal involvement in the management of the Reserve.

2.4 Values of the Lang Lang Foreshore Reserve

The Lang Lang Foreshore Reserve is a valuable public resource. It contains many environmental, cultural and recreational values, which contribute to its importance to the Western Port environment and surrounding communities.

2.4.1 Environmental Values

Environmental values of the reserve include:

- **Western Port Ramsar Site:** The reserve is part of the Western Port Ramsar Site. This recognises the internationally significant wetlands that provide habitat for a range of water birds, amphibians, fish, reptiles, invertebrates and plants.
- **Geomorphological significance of the Red Bluff:** The cliffs at Red Bluff are between 15 and 20 metres high and provide a good example of coastal cliff development and coastal formation. The cliffs originally extended south to the Jam Jerrup township area but regrading of the cliffs and construction of a rock wall have altered the natural state of the cliffs in this area.
- **Stockyard Point as a biologically diverse area (State Significance):** Stockyard Point is a unique and highly dynamic environment. The area supports the greatest plant diversity within the reserve and is an important roosting and feeding site in Western Port. The Western Port Tidal Watershed, between Pelican and Stockyard points, is considered to be of state geological and geomorphological significance.
- **Coastal Salt Marsh Ecological Vegetation Class (EVC):** The Coastal Salt Marsh EVC is of national significance and Lang Lang Foreshore Reserve contains the best representation of this type of vegetation in the southern hemisphere.
- **Threatened Species:** There are 26 migratory bird species and 14 terrestrial species found within Lang Lang Foreshore Reserve that are considered threatened.



Figure 6. Mangroves in the Stockyard Point area (regeneration since planting)

2.4.2 Cultural Heritage Values

Cultural heritage values of the reserve include:

- **Possible Aboriginal burial site at Red Bluff:** The exact nature of the Aboriginal significance of the Red Bluff area is unknown. However, sites of Aboriginal cultural heritage significance have been recorded within the reserve, which may need to be considered when planning any future works in the area.
- **Former jetty:** The Lang Lang jetty was removed in 2008. It was closely aligned with the history and the development of the area.
- **Boatsheds:** Some of the boatsheds have existed on the site for many decades and have been used by several successive generations of families.
- **WG Sullivan shelter:** The shelter was constructed in the 1950s when the area was developing as a seaside holiday area.
- **Former swimming pool:** The Lang Lang swimming pool was well used and is fondly remembered by many in the local community.

The cultural heritage values of the former jetty, boatsheds, WG Sullivan shelter and bluestone seawall are recognised through inclusion in the Bass Coast Shire Heritage Overlay.



Figure 7. The former Lang Lang swimming pool (courtesy of Lang Lang Historical Society)

2.4.3 Recreational Values

Recreational values of the reserve include:

- **Boat launching facilities:** Lang Lang is a popular boat launching area for small power boats. The location of the boat ramp provides high-tide access to renowned fishing areas in Western Port.
- **Caravan and camping area:** The Lang Lang Foreshore Caravan Park provides accommodation options on the foreshore in a tranquil and low-key environment.
- **Boatsheds:** The boatsheds provide a unique experience, allowing for the storage of boats and other beach equipment, and shade and shelter when visiting the beach. The number of boatsheds is limited.
- **Fishing:** Both shore based and boat based fishing can be enjoyed from Lang Lang Foreshore Reserve. The area is renowned for the variety of species that are close to shore.
- **Opportunities to explore the natural environment:** The Reserve offers many opportunities to explore and appreciate the natural environment through bird watching, exploring the inter-tidal zone and nature based play. The cliff top walking track provides an opportunity for bushwalking and enjoying views of the surrounding area.
- **Recreational beach use:** The sandy beach and day use area is well used in summer for general beach recreation and picnicking. It is also a popular location for exercising dogs.



Figure 8: Beach based fishing at Lang Lang Foreshore Reserve.

2.5 Key Issues and Threats

2.5.1 Management

The Lang Lang Foreshore Reserve is managed by a volunteer committee. As such, the committee relies on funding from a number of sources to assist with management of the reserve. These funding sources are limited and mainly include caravan park and camping fees, rental from boatshed licences, as well as grants from various sources. A caretaker is also employed on a part time basis and undertakes general maintenance tasks around the caravan park.

The Lang Lang Foreshore Reserve has undergone a reported increase in recreational use in recent years, and has become quite a popular spot for recreational fishing. The Recreation Precinct, including the boat ramp and day visitor area, sits entirely within the Cardinia Shire, and provides the Shire with its only public access to the foreshore and Western Port. However, Cardinia Shire Council has minimal involvement in the management of the reserve.

Bass Coast Shire Council is the authority responsible for administering and enforcing the planning scheme, building regulations and local laws (including dogs on beaches) for all the land south of Jetty Road, and has expressed a desire to have consistency across the Shire in relation to these matters.

There are a number of programs and projects, particularly pest plant and animal control, which would benefit from coordinated involvement of all groups and agencies in the local area. All management actions undertaken on the reserve need to give consideration to balancing the environmental, cultural heritage and recreational values of the area, to ensure the reserve is managed in a sustainable manner.

As the Lang Lang Foreshore Reserve is becoming increasingly vulnerable to the impacts of climate change, including foreshore erosion and flooding, there needs to be a high level of ongoing communication with stakeholders and park users to plan for the longer term future of the Caravan Park.

Objective 1- Management			
<i>Ensure ongoing sustainable and efficient management of the Lang Lang Foreshore Reserve, acknowledging the potential impacts of climate change.</i>			
Ref #	Action	Responsibility	Priority
1A	Ensure all new developments and works are consistent with the Victorian Coastal Strategy, Siting and Design Guidelines and other relevant policy documents.	LLFRC & DSE	1
1B	Undertake visitor surveys every 2 years to determine the level of use and satisfaction.	LLFRC & DSE	3
1C	Develop a list of annual grants and seek funding for appropriate projects as required.	LLFRC	1
1D	Identify additional funding sources and resources (e.g. assistance from Cardinia and Bass Coast Shire Councils on specific projects).	LLFRC	1
1E	Improve links and communication with Cardinia and Bass Coast Shire Councils, with a view to increasing shared knowledge and resources through regular updates on committee activities and projects, as well as an invitation to specific committee meetings.	LLFRC, BCSC & CSC	2
1F	Develop a Memorandum of Understanding (MoU) with Bass Coast Shire Council in relation to the enforcement of regulations relating to dogs on the foreshore, building standards for boatsheds and other structures, and any other regulatory matters affecting the reserve.	LLFRC & DSE	2
1G	Ensure compliance with CFA and Council guidelines as outlined for caravan parks	LLFRC & BCSC	1

1H	Identify opportunities to work with the Grantville and Districts Foreshore Reserve Committee of Management, Parks Victoria, adjoining landholders and other stakeholders on collaborative projects.	LLFRC & DSE	2
1I	Undertake an annual review of safety fencing and signage.	LLFRC	1
1J	Seek funding to undertake a Coastal Safety Signage audit for the reserve.	LLFRC	1
1K	Transfer management of Stockyard Point to Parks Victoria, to be managed as part of the Western Port Intertidal Coastal Reserve.	DSE, PV	2
1L	Install a sign at the Jetty Lane entrance to the Lang Lang Foreshore Reserve to alert visitors that they are entering the reserve	LLFRC	2

2.5.2 Erosion

The sediment present throughout Western Port typically consists of fine-grained, easily erodible material. This fine-grained sediment is readily mobilised during storm surge events, which results in transportation of the material throughout the bay. Retention of this sediment in one place is difficult as the material is too fine-grained to form a beach. Therefore, the material must be stabilised by other means to ensure it is retained.

Before European colonisation, zonation of vegetation types occurred along much of the shoreline around Western Port, based on elevation and distance from the water (see Figure 9). Seagrasses dominated the sub-tidal and inter-tidal zones, giving way to mangroves and other salt-tolerant plants as elevation increased. Above the inter-tidal zone, salt marshes gave way to less salt-tolerant woodlands comprising of melaleuca and eucalypt species. It is believed that this mix of vegetation species, in particular the relationship between seagrass, mangroves and salt marsh, promoted accretion and helped stabilise sediment against erosion.

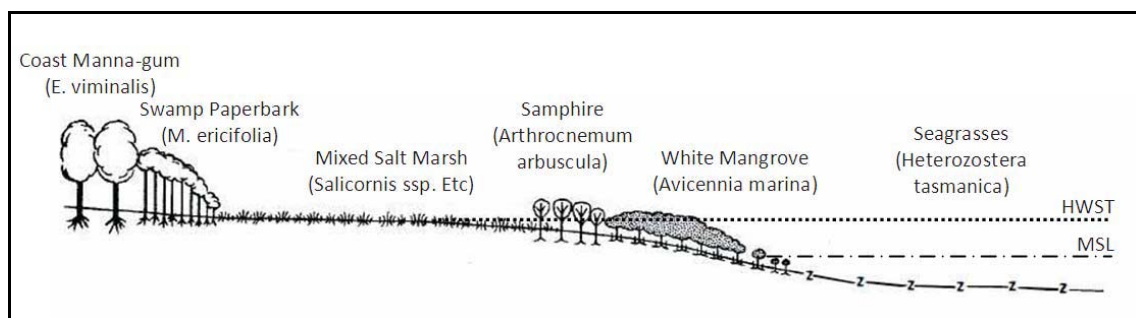


Figure 9: Ideal zonation with elevation of plant taxa in Western Port. (Adapted from: Bird, 1986; Bird, 1993)

During the mid-1800s, mangroves were harvested and burnt to obtain barilla ash for soap production. Land claiming and further clearing to allow for the construction of boat landings and piers led to a significant reduction in the mangrove fringe around Western Port. Where the mangrove fringe has been cleared, the terraces on which they sat have been scoured back by wave action, leaving a low, receding cliff exposing sections of peat and clay (Bird, 1986).

Since the 1970s, a decline in seagrasses has been observed throughout Western Port. Large areas of seagrass have been lost due to an increase in suspended sediments and nutrients associated with changing land use and poor water quality from the surrounding catchments. The suspended particles have a physical smothering effect, and consequently reduce the amount of light able to reach the seagrass leaves. The loss of seagrass from the intertidal zone subsequently resulted in an increased flow of suspended sediments and nutrients into Western Port, further inhibiting seagrass growth and recovery (Bulthuis and Woelkerling 1983b; Bulthuis et al. 1984).

The die-back and clearing of mangroves, in conjunction with the decline of seagrasses, has been linked to drifting sand and coastal erosion in Western Port (Bird and Barson, 1975).

Where mangroves have regenerated, the depositional terraces have rebuilt through accretion. Mangroves have facilitated sediment deposition by trapping and retaining sediment in their root systems (pneumatophores), which would otherwise have remained mobile in the intertidal zone. As well as contributing to wave energy attenuation, this trapped sediment results in a build up of the shoreline, which is then colonised and stabilised by salt marsh vegetation, helping to protect the shoreline from erosion (Bird, 1993).

Foreshore erosion has been identified by all stakeholders as being the most significant issue impacting the Lang Lang Foreshore Reserve. In some areas, this erosion puts infrastructure assets at risk, while in other areas, it results in extensive damage to vegetation and environmentally sensitive areas. This erosion has been increasing in recent years and is impacting on the usability of the reserve.

The majority of erosion at Lang Lang occurs during episodic storm events when water levels are raised due to storm events (GHD, 2007). There was a significant storm event during the Anzac weekend in April 2009, which caused significant erosion to the cliffs along the foreshore, and inundation of the caravan park. The rate of coastal recession at Lang Lang has been reported as being approximately 3 metres over 4 years (PB 2009).

Recent erosion of the Red Bluff area has been significant, with current rates of recession estimated to be around 5 metres per year based on local observations (PB 2009). This erosion threatens the viability of the cliff top walk which goes through this area, and poses a significant public safety risk (see Figure 10).



Figure 10: Active erosion at Red Bluff

An old masonry sea wall, which was constructed in the 1950s, runs for approximately 370 metres in front of the northern section of the caravan park. During the storm event which occurred over the Anzac weekend in April 2009, overtopping of the wall caused extensive damage, which has since been repaired. A rock revetment, constructed to a length of 350 metres in the 1980s, protects the foreshore at Jam Jerrup. This was extended by 120 metres in 2008, and by a further 100 metres in 2011, in an attempt to address continued erosion at the southern end of the revetment.

Many boatshed owners have constructed ad hoc seawalls or revetments made from timber, rubble and other materials. These have been constructed illegally and without approval, with no assessments undertaken to determine their effectiveness or what impact they have on the rest of the reserve. A Geotechnical Risk Assessment (Parsons Brinkerhoff, 2009) labelled these coastal defences as "poorly designed" and "largely ineffective" against erosion, highlighting the extensive damage to these structures suffered when exposed to episodic events. Erosion continues to threaten structures on the foreshore behind these ad hoc sea walls.

Foreshore erosion is a natural coastal process which does not always require protection options to be implemented. Erosion management is complex and resource intensive, and requires coordination from various land, water, catchment and environmental management agencies and groups. The costs and benefits of any erosion control measures must be balanced against the site-specific risks involved.

The Department of Sustainability and Environment (DSE) has commissioned a number of reports and investigations into shoreline erosion around Western Port.

A report, prepared for DSE as part of the Western Port Erosion Project (GHD, 2006), identified concept erosion control options, which would be suitable for trial along the east coast of Western Port, including the Lang Lang foreshore.

These options included:

- Revegetation
- Seawalls
- Revetments
- Beach Nourishment
- Rock Gabions
- Rock/Timber Groyne
- Breakwaters (including Detached, Reef, Floating and Pile Breakwaters)

A later report (GHD, 2007) focused on several engineered erosion control methods for the Lang Lang foreshore, adjacent to the caravan park and boatsheds.

These options included:

- Seawalls
- Beach renourishment
- Geotextile sandbags
- Rubber tyre crib wall

Any erosion control measures should be economically feasible, suited to the local conditions, easy and inexpensive to construct, and should significantly reduce the erosion of the particular subject coastline. Any engineered measures to control, mitigate or reverse erosion of the shorelines of Western Port should be considered to be short-term (i.e. < 10 years) solutions, and should be supplemented by the long-term (i.e., 50 years) strategy of mangrove revegetation (GHD, 2006).

Mangroves have been identified as a low cost and environmentally sustainable erosion control option. Although the benefits of protection from erosion are not as immediate as engineered solutions, mangroves are more cost efficient and are considered a long-term prospect for shoreline protection (Harty, 2011).

The Western Port Seagrass Partnership has been working with local community groups to improve shoreline protection along 3 kilometres of the Lang Lang coast through the planting of over 10,000 mangrove plants and over 60,000 seeds (Harty, 2011). Establishment of an adequately sized stand of mangroves may take a couple of decades, but may be the best longer-term solution in conjunction with other programs (GHD, 2006).

A project to trial artificial reefs (also known as 'geotextile breakwaters'), in conjunction with mangrove plantings, is proposed for specific pilot sites around Western Port, including the Lang Lang and Grantville foreshores. If successful this could be a viable option for reducing further erosion at Lang Lang.

Objective 2 – Erosion			
<i>Ensure that erosion is minimized throughout the Foreshore Reserve</i>			
Ref #	Action	Responsibility	Priority
2A	Monitor the erosion of the Red Bluff and the impact on the cliff top walk for safety and consider closing the path if it becomes dangerous to the public. Maintain fencing in this area to ensure visitor safety.	LLFRC, DSE	1
2B	Develop a priority list of erosion treatments (based on existing reports and specialist input) and identify funding opportunities for erosion control treatments.	LLFRC, DSE, PV	1

2C	Undertake trial of offshore geotextile reef.	DSE, PV	2
2D	Undertake mangrove plantings in conjunction with the offshore reef trial. Set up photo monitoring system to be able to measure the effects of the project.	LLFRC, DSE, PV	2
2E	Work with Western Port Seagrass Partnership and other partners on mangrove planting and other revegetation opportunities.	LLFRC, DSE, PV	2

2.5.3 Climate Change

Climate change poses real and serious threats to our coast. During this century, it is likely that sea level rise and increased frequency and severity of storm events will lead to inundation and erosion along Victorian coastline. It is the combined effects of sea level rise, storm surges, tidal and wave processes, and local conditions, such as topography, elevation and geology, which will produce climate change impacts and risks in coastal areas (VCC, 2008).

The Intergovernmental Panel on Climate Change (IPCC) is the authoritative international scientific advisory body on human-induced climate change science. Based on projections outlined in the IPCC's Fourth Assessment Report (IPCC, 2007), the Victorian Government adopted a policy of planning for sea level rise of not less than 0.8 metres by 2100, as outlined in the Victorian Coastal Strategy (VCC, 2008). This policy should be applied when planning for and managing development along the coast.

For existing development along the coast, there are three recognised adaptation options:

- protect - protection of beaches, dunes and infrastructure, land use and development
- accommodate - planning and building policies and provisions, redesign and rebuild
- retreat - relocation of infrastructure, land use and development

For new facilities, development in areas vulnerable to the impacts of climate change and sea level rise and susceptible to flooding, landslip and erosion should be avoided (VCC, 2008).

The South East Councils' Climate Change Alliance (formerly the Western Port Greenhouse Alliance) commissioned a report (Kinrade & Preston, 2008) into the impacts of coastal inundation arising from sea level rise on the Western Port region.

This report states that:

Sea-level rise in future decades will undoubtedly affect the coastlines of the Western Port region and drive progressive erosion in many locations. The effects of sea-level rise will however be most pronounced during storm events.

For example, storm surge inundation simulations for the region, undertaken by CSIRO for this assessment, suggest that a current 1 in 100 year storm surge could become a 1 in 1 to 1 in 4 year storm surge by 2070.

The impacts of climate change will threaten the usability of the Lang Lang Foreshore Reserve into the future. Inundation as a result of storm surge is already an issue for the Lang Lang Foreshore Reserve as was demonstrated by the major storm event during the Anzac weekend in April 2009. As stated above, events such as this are predicted to increase in intensity and frequency, which will impact on the usability of the reserve and associated infrastructure.

The Australian Government has developed a series of mapped scenarios for coastal areas, which highlight low-lying areas that are potentially vulnerable to flooding. Based on IPCC projections and more recent science and observations, these maps illustrate three plausible sea-level rise scenarios (0.5m, 0.8m and 1.1m) relevant to a 2100 time period.

The likely effect on the Lang Lang Foreshore Reserve of a sea-level rise scenario of 0.8m by 2100 (in line with the Victorian Government's adopted policy) is illustrated in Appendix 2. Based on this scenario, it can be seen that the recreation, caravan park, and Stockyard Point

precincts will be almost completely inundated, with adjacent private farmland inundated for as much as 1 kilometre inland. Although the more elevated portions of the foreshore around the Red Bluff and Jam Jerrup precincts appear to be unaffected by the change in sea-level, access to the foreshore via the Bass Highway, Jetty Road and Bay road may be compromised due to inundation of low-lying inland areas.

Increased erosion as a result of climate change and sea level rise impacts will result in significant loss of land from the reserve. Built assets within the caravan park, including the boatsheds and on site caravans, will become increasingly vulnerable to the impacts of sea level rise with tidal inundation and damage to the structures likely to occur more frequently.

Planning for these changes is essential. Any new works or developments in the reserve must give consideration to these projected impacts and their likely timeframes and consider the design life of new infrastructure. A long-term plan to consider retreat from the site is required for the caravan park, which could mean transition to a camping area only in the long term.

Adaptation strategies should be precautionary, that is, planning for likely future circumstances even if full scientific certainty is not possible (VCC, 2008). Although uncertainties are still present in some important aspects of climate science, the majority of these uncertainties operate in one direction – towards more rapid and severe climate change (DCCEE and Geoscience Australia, 2012).

Objective 3 – Climate Change			
<i>Continue to plan for the potential impacts of climate change at Lang Lang Foreshore recognising the need to access the most up to date information.</i>			
Ref #	Action	Responsibility	Priority
3A	Ensure the impacts of climate change are factored into any new works and other infrastructure developments along the foreshore, and that the approach is consistent with the Victorian Coastal Strategy.	LLFRC, DSE	1
3B	Based on the most up to date information, consider the longer term viability and sustainability of the Lang Lang Foreshore Caravan Park in its current location, and develop long term management options.	LLFRC, DSE	2

2.5.4 Protection of the Environment

The entire coastal waters of Western Port are designated as the Western Port Ramsar Site. This recognises international significance and responsibilities for management of migratory bird habitats, including the shoreline of the Lang Lang Foreshore Reserve. The shoreline and waters provide diverse coastal habitats, including intertidal sandy beaches, salt marshes, mangroves, seagrass beds and sheltered intertidal flats in various remnant conditions.

The Western Port Ramsar Site Strategic Management Plan (DSE, 2003) places high importance on protecting habitats for internationally important migratory waders, including protecting all intertidal and saltmarsh feeding habitats from alteration, and ensuring important high tide roosting sites are not regularly disturbed by people.

The narrow Lang Lang Foreshore Reserve, with its depleted vegetation, generally provides little opportunity for bird habitat. However, Stockyard Point is of particular significance and is listed as an important roosting and feeding site in Western Port. This area supports the greatest plant diversity within the reserve, containing examples of four Ecological Vegetation Classes (EVCs). This reinforces the significance of Stockyard Point for bird habitat. In addition, the Western Port Tidal Watershed between Pelican and Stockyard Points is considered to be of international geological and geomorphological significance.

Six distinctive EVCs have been identified in the reserve, including:

- Mangrove Shrubland EVC 140
- Berm Grassy Shrubland EVC 311
- Swamp Scrub EVC 53

- Estuarine Flats Grassland EVC 914
- Coastal Saltmarsh EVC 9
- Coastal Headland Scrub EVC 161

In addition, there are two remnant EVCs adjoining the reserve (Grassy Woodland EVC 175 and Swampy Woodland EVC 937).

Each of these EVCs contains a mix of plant species, which have adapted to particular site conditions. The bioregional conservation status of the EVCs Estuarine Flats Grassland, Swamp Scrub and Berm Grassy Shrubland identified that they are the most endangered EVCs in this bioregion, with the west-facing areas of Stockyard Point particularly vulnerable.

There are many opportunities for revegetation planting throughout the reserve. Revegetation projects present a good opportunity for community engagement and involvement, as well as grant funding opportunities. Planning for revegetation planting should include the use of locally indigenous species as identified in the EVCs.

Weeds are present throughout the reserve area and pose a range of threats. They compete with native plants and change the habitat values of the area. Many of the weeds are present as a result of dumping of garden waste that can become established in the reserve. The main infested areas are at Red Bluff, Jam Jerrup and Stockyard Point.

Weeds present include Boxtorn (*Lycium ferocissimum*), Blackberry (*Robus fruticosus*), Cape Broom (*Genista monspessulana*), Flax Leafed Broom (*Genista linifolia*), Mirror Bush (*Coprosma repens*), Periwinkle (*Vinca major*), Agapanthus (*Agapanthus sp.*), Prickly Pear (*Opuntia sp.*), Fleabane (*Conyza sumatrensis*) and Gorse (*Ulex europaeus*).

There is conflict between migratory bird habitat and seasonal fishing at Stockyard Point, due to it being an important bird roosting site at high tide. Stockyard Point has been promoted by the fishing community as the best land-based location on Western Port to catch Elephant Fish (*Calorhincus milii*) at low tide, due to direct shoreline access to a channel at the end of the point.

However, the peak fishing time (Feb to April) also coincides, and conflicts, with the pre-migration period of the migratory shore birds, a period when the birds gain weight in preparation for their migration.

Land-based fishing at Stockyard Point, as well as dogs on the foreshore, has been identified as a major disturbance to bird roosting. There is a requirement under the Japan Australia Migratory Bird Agreement (JAMBA) and China Australia Migratory Bird Agreement (CAMBA) to protect the migratory shore birds and their habitat. For this reason, vehicle access to Stockyard Point has been permanently blocked at the Jam Jerrup foreshore carpark. Education of all users of the foreshore, particularly the fishing community and dog owners, is a first step toward improving this situation.

Objective 4 –Protection of the Environment			
<i>Protect, enhance and promote the natural value, Ramsar significance and processes of the reserve and surrounding area.</i>			
Ref #	Action	Responsibility	Priority
4A	Work with other agencies to raise awareness of potential conflict between seasonal fishing and other activities and migratory bird habitat use. (A management approach may involve no dogs in the area at the most critical time. Bass Coast Shire may be able to assist with patrols into this area at that time).	LLFRC, PV, BCSC	2
4B	Work with adjoining land managers and others to undertake programmed pest plant and animal control works. Educate adjoining landholders against dumping garden waste on or over the reserve.	LLFRC, DSE, PV, BCSC & CSC	1
4C	Involve the local community in planting the reserve, in accordance with designated EVCs. Plant in conjunction with weed control and use	LLFRC	3

	local seed sources where available.		
4D	Investigate options to prevent vehicular access outside of designated parking areas.	LLFRC	3
4E	Install interpretive signage that explains value of bird habitat and crucial habitat areas in the shelter at Jam Jerrup car park.	PPWCMA & LLFRC	1
4F	Develop and implement an annual fisherman education program on the location and value of bird habitat. (3 year funding currently in place.)	LLFRC, PV, PPWCMA	1
4G	Improve beach access at Jam Jerrup.	LLFRC	2

2.5.5 Heritage and Culture

The Lang Lang Foreshore Reserve and surrounding area has strong heritage and cultural values. Research through Aboriginal Affairs Victoria and discussions with a Wurundjeri Elder have revealed that the whole of Western Port, including the reserve, is considered culturally sensitive. The previous Coastal Management Plan noting that sites of Aboriginal Cultural Heritage Significance exist within the reserve (Connell Wagner, 2005), with artefact scatters found at two prominent locations – the Red Bluff and Stockyard Point.

In addition to tangible cultural heritage, the name 'Lang Lang' is believed to be derived from an Aboriginal word meaning 'a group of trees', while 'Jam Jerrup' is believed to mean 'separated friends'.

Although the area is known as part of the traditional lands of the Boon Wurrung / Bunurong people, there is currently no appointed Registered Aboriginal Party (under the *Aboriginal Heritage Act 2006*). Any works or developments that eventuate from this management plan will need to consider the need for a Cultural Heritage Management Plan.

The Lang Lang Foreshore Reserve and some of its existing structures are of local historic and aesthetic significance. They demonstrate the use of the site as a recreation centre that became increasingly popular from the 1950s onwards. In recognition of this, a Heritage Overlay (HO120) under the Bass Coast Shire Planning Scheme was placed over some features of the reserve:

"A nominal curtilage of 20 metres all around the jetty and along the foreshore from the low water mark and to include an area of 20 metres all around the boatsheds, sea wall, WG Sullivan Shelter in a contiguous arrangement" (Bass Coast Shire Planning Scheme, 2012).

The section of coastline from Red Bluff to Stockyard Point is recognised for its local cultural and landscape values. It is listed on both the Victorian Heritage Register and National Trust Database, and includes the following description:

"An important area during the pastoral era of settlement, Red Bluff is the highest point of an eroding coastline that slopes south to Stockyard or Passage Point. The sandstones of the eroding cliffs have covered the mangrove mudflats" (Heritage Council of Victoria, 2012).

Objective 5 – Heritage and Culture			
<i>Recognise and protect the cultural and heritage values of the reserve and surrounding area.</i>			
Ref #	Action	Responsibility	Priority
5A	Consider Aboriginal cultural heritage and native title requirements when planning for any new development or works.	DSE & LLFRC	1
5B	Ensure consistency with the objectives of the Bass Coast Shire Heritage Overlay in the development of any infrastructure and management of the reserve.	LLFRC	2
5C	Work with the Lang Lang Historical Society to recognise on-site the location and contribution to the local community of the former swimming pool, jetty and other historical features.	LLFRC	3

2.5.6 Planning for the Recreation Precinct

The recreation precinct provides a coastal gathering area for the Lang Lang community and visitors. It includes the public carpark at the end of Jetty Road, the boat ramp, toilet facilities, former swimming pool site, rock wall, and foreshore areas. This precinct is currently in a depleted state.

The development of a landscape concept plan for the recreation precinct is included as part of this CMP (see Appendix 5). This plan seeks to find a balance between people, vehicles and nature in the recreation area. The implementation of this plan is a medium to long-term aspiration for the reserve, and will rely largely on securing funding and gaining a commitment from key stakeholders. The plan will require further consultation and development to further identify appropriate actions, funding sources, planning requirements and management responsibility for the area.

Many community members and other stakeholders have expressed a view to see on-site recognition of the former swimming pool which was removed in 1975, as well as improved picnic facilities, indigenous planting, shade trees, furniture, disabled toilets, kiosk/café or refreshment van, a hardened/sealed road surface, and drainage with water sensitive urban design elements.

The boat ramp is identified as a local facility in the Boating Coastal Action Plan (CCB, 2007). It is in poor condition, with visible damage to the top of the boat ramp. It has been reported that launching of boats can be difficult and that the car park is in poor condition and is limited. In peak use times this could be an issue and could restrict visitation and use of the area. Design of all facilities in the precinct to allow for access for all abilities could create an important regional asset and attraction, and has been reflected in the concept design for the recreation precinct.



Figure 11. Boat launching at Lang Lang Foreshore

"It is difficult to launch your boat at Lang Lang, you have to launch from the side of the ramp, but at least it stops it getting too busy."

- Local boater (November, 2010)

The Lang Lang Jetty was an important feature of the recreation precinct, and an important community asset for fishing and promenading. It was located at the termination of Jetty Road and extended for more than 100 metres into Western Port. Its condition had deteriorated to such an extent that removal of the structure was necessary. The jetty was removed in 2008 by Parks Victoria.

At the time, Parks Victoria, as lead agency, along with the Lang Lang Foreshore Reserve Committee, Bass Coast and Cardinia Shire Councils, made a commitment to work together to investigate the feasibility and develop options to establish an appropriate replacement structure at the Lang Lang foreshore.

There is strong support within the local community for the reinstatement of a structure for fishing and promenading. Several options were identified during a community workshop, including a replacement jetty, a fishing platform and a floating pontoon in association with the existing boat ramp.

Further discussion and development of these options is required to consider public need, assess the policy context and approvals required, and identify funding for construction and ongoing maintenance, as well as to identify a suitable manager for the facility.

Objective 6 – Recreation Precinct			
<i>Develop a day use recreational area that provides for a range of activities and is easily accessible.</i>			
Ref #	Action	Responsibility	Priority
6A	Consider disabled access in the design of all facilities in the recreation precinct, with the aim of creating a safe and accessible recreation area.	LLFRC & DSE	1
6B	Further develop the Recreation Precinct Landscape Concept Plan with timelines, costed activities and identified parties, to enable the committee of management to schedule the works over a number of years as the funds allow. The plan should consider: <ol style="list-style-type: none"> 1. Upgrade the recreation area and carpark in line with the Lang Lang Foreshore Reserve Recreation Precinct Landscape Concept Plan recommendations (as shown in Appendix 5) : 2. Seal the Jetty Road and car park surface (with granite toppings rolled in) 3. Delineate parking areas, including a disabled parking bay 4. Create an identifiable central picnic area with a granite sand surface and defined edge, low grass mounds and picnic tables 5. Create a long flat berm of coastal shrubs along the foreshore through additional plantings 6. Seal the surface and delineate the car and boat trailer parking area (with granite toppings rolled in) 7. Retain existing banksias and combine into mulched garden beds 8. Select and plant feature trees using timber planters for protection 9. Identify and install interpretive signage at the site of the former swimming pool 10. Relocate sign to the side of the road to preserve the long view to the water 	LLFRC,CSC & DSE	1
6C	Ensure integrated design of all recommended infrastructure and facilities with a selected palette of colours and materials which reflects the changing colours and moods of the reserve	LLFRC & DSE	2
6D	Incorporate interpretive signage into selected picnic table tops.	LLFRC	4
6E	Investigate solar lighting for the reserve (and caravan park) including increased lighting of the boat ramp.	LLFRC / CSC	2
6F	Create opportunities for passive recreation, nature based play and passive viewing of the foreshore (e.g. being able to enjoy views from a parked car).	LLFRC	2
6G	Investigate options to improve the management of runoff from the car park in vegetated drainage areas.	LLFRC & CSC	2
6H	Develop a feasibility study for a replacement structure at the recreation precinct.	LLFRC, DSE, PV, DPI, CSC & BCSC	3

2.5.7 Lang Lang Foreshore Caravan Park

The Lang Lang Foreshore Caravan Park comprises 46 powered caravan sites (33 boatsheds - discussed further in Part 2.5.8) and a number of unpowered campsites. Many of the onsite caravans have been occupied and used by families over a long period of time (in some cases several generations). Many of these caravans are no longer transportable due to their condition and do not comply with current regulations. The current income derived from caravans and camping at the reserve forms a significant component of the Lang Lang Foreshore Reserve Committee's (LLFRC) annual operating budget.

The 'Improving Equity of Access to Crown Land Caravan and Camping Parks' policy (DSE, 2012) applies to caravan and camping parks on Crown land in Victoria, and has been developed to improve equity of access to Crown land caravan and camping parks in Victoria, enabling affordable holidays for all Victorians. The policy aims to ensure that a range of accommodation options are accessible to all prospective users; and to discourage long-term exclusive occupancy (longer than 12 months) of caravan and camping sites.

A Master Plan for the caravan park area has been developed for the LLFRC (see Appendix 6). This plan proposes the staged relocation of caravan sites back from the foreshore, as well as the development of a new toilet block, which will include an onsite treatment plant. It is anticipated the development the toilet block, along with a camp kitchen, will support the relocation of sites. The plan is not to increase the number of sites, but to relocate sites away from the foreshore and ensure the caravan park complies with fire safety standards, and regulations relating to caravan parks. Where caravans do not meet regulations, they should be upgraded or removed from the foreshore.

The development of temporary on-site cabins for overnight accommodation has been suggested by some stakeholders. However, due to the low lying nature of the area it may be difficult to identify suitable sites. An investigation into the feasibility of the development of onsite cabins would be required before this became a viable option. An overhead power line, which services a row of on-site caravans along the eastern boundary of the park, has recently been identified as having reached the end of its useful life. The replacement will be costly, and its location will be influenced by the relocation of sites within the caravan park.

It needs to be acknowledged that the caravan park is situated on low-lying land. Based on current predictions of climate change impacts (as discussed in Part 2.5.3), the caravan park is likely to be permanently inundated in the future (see Appendix 2). A long-term plan for the future of the caravan park will need to be developed in light of the threats posed by climate change. This long-term plan will need to consider options based on the recognised adaptation strategies of protect, accommodate or retreat, and involve all relevant stakeholders.

Objective 7 – Caravan Park			
<i>Continue to plan for the sustainable management of the caravan park and associated infrastructure, recognising the potential impacts of climate change.</i>			
Ref #	Action	Responsibility	Priority
7A	Implement the Caravan Park Master Plan	LLFRC	2
7B	Redevelop the south end toilet block, including treatment plant, power, and camp kitchen	LLFRC	2
7C	Plan for the future of the caravan park, recognising that the location of the caravan park may not be viable in the long-term due to the impacts of sea level rise.	LLFRC, DSE & LLBA	4
7D	Investigate the feasibility and appropriateness of constructing temporary cabins in the Lang Lang Foreshore Caravan Park for overnight accommodation.	LLFRC	2
7E	Implement the 'Improving Equity of Access to Crown Land Caravan and Camping Parks' policy.	LLFRC & DSE	2
7F	Ensure that all caravans meet relevant guidelines and regulations including fire safety guidelines and DSE policies. (Those caravans that do not meet the regulations should be upgraded)	LLFRC	1

	or removed from the caravan park).		
7G	Maintain and update the emergency management plan	LLFRC	1

2.5.8 Boatsheds

Boatsheds are freestanding, non-commercial, non-habitable structures erected on coastal Crown land, which are used by private individuals and families primarily for the storage of boats and associated beach equipment.

There are 33 boatsheds located along the Lang Lang Foreshore Reserve, within the caravan and camping area. The interests of boatshed (and long-term caravan) owners are represented by the Lang Lang Boatshed Association (LLBA). The boatsheds currently occupy individual footprints on the Crown reserve under agreement with the Lang Lang Foreshore Reserve Committee (LLFRC), with owners paying an annual fee of approximately \$500. These annual fees make up a significant component of the committee's revenue, and go towards maintenance and improvements to the reserve for the benefit of the public.

Dating back to the 1950s, the original boatshed construction typically comprised of a gabled, corrugated galvanised steel roof, weatherboard or fibro-cement cladding, timber-framed double-hung sashes or casement windows, and double-leaf doors which opened onto the beach. A heritage places study, undertaken in 2004, considered the boatsheds to be of "historic significance as they demonstrate the use of the site as a recreation centre, one that became increasingly popular from the 1950s onwards" (Woodhouse, 2004).

The LLBA was pivotal in gaining the support of Council to apply heritage protection over the boatsheds in the form of a planning overlay (HO120) under the Bass Coast Planning Scheme. Not only does the application of the heritage overlay aim to "conserve and enhance heritage places of natural or cultural significance", it also aims to "ensure that development does not adversely affect the significance of heritage places".

The LLBA reiterates the importance of the application of the heritage overlay to the boatsheds via its website, advising its members that "the significance of these buildings is that they represent typical seaside resorts for the 1950s" and that "any restoration and decoration ... should, as far as possible, be in the 1950s style." The LLBA also acknowledges that "shed sizes are strictly controlled", and reminds its members not to "expand the sizes of the sheds in any way" as it is "strictly against the foreshore regulations" and "regulated by the dimensions as stipulated in the Boatshed licence that all owners sign and agree to each year" (LLBA, 2007).

Over time, the boatsheds at Lang Lang have been variously extended and altered from their original state. Most now comprise 'non-original' cladding, windows and doors, as well as decks, pergolas and other attachments such as water tanks and gas bottles.

Many boatsheds have also been internally renovated to include living and sleeping areas, as well as bathrooms and kitchens containing illegal discharge points which drain grey water onto the reserve and into Western Port. A small number of more recently constructed boatsheds, of a more substantial nature than the original sheds, are also present. Overall, the boatsheds now resemble 'shacks' or 'huts', and are often referred to as such when listed for sale through private and real estate websites.

Where boatsheds have been rebuilt or added to over time, this has occurred without DSE consent or Council planning or building approval. It is likely that many of the boatsheds do not comply with the current Building Code of Australia.

It is also evident that some boatsheds are being inappropriately used for overnight accommodation. This is against the accepted position across the state for the appropriate use of boatsheds. It is also a contravention of current occupation agreements with the LLFRC, as well as the regulations applying to the Lang Lang Foreshore Reserve, which state that "No person shall cause to be used, or use, any bathing box, boathouse, or shed for residential purposes." The LLBA reiterate this requirement to its members via its website, reminding them to bring a tent and pitch it near their boatsheds.

As discussed earlier in this coastal management plan, current and future erosion of the foreshore threatens all built assets on the reserve, including the boatsheds. In an attempt to address erosion issues and offer protection from the impacts of storm surge events, a number of *ad-hoc* retaining walls and other structures have been progressively erected by boatshed owners in front of their boatsheds. A Geotechnical Risk Assessment (Parsons Brinkerhoff, 2009) noted the "largely ineffective" and "poorly designed and constructed" nature of these structures as coastal defences.

The presence of these *ad-hoc* retaining walls, as well as the extensions and other ancillary structures, has increased the footprint of the boatsheds and pose additional trip and slip hazards, which may result in injury to the public (GHD, 2009). These hazards present a liability to boatshed owners, as well as the LLFRC and DSE.



Figure 12. Boatsheds on the Lang Lang Foreshore Reserve. (Photo courtesy: GHD, 2009)

Not only does the expanded footprint taken up by these private assets pose an unacceptable risk to public safety, it also decreases the ability for other beach users to access and use the foreshore, largely due to the perceived 'ownership' of these exclusively used portions of public land. This is becoming an increasing issue along all coastal reserves, and it is essential that all stakeholders work together to ensure that boatsheds keep within their licensed footprint.

Hazards and risks associated with the boatsheds have been assessed in the Coastal Risk Audit (GHD, 2009). The hazards identified include potential collapse of boatsheds due to a combination of structural instability and poor maintenance. This risk is further compounded by the effects of storm events and coastal erosion, and has the potential to result in risk of injury or fatality, particularly if boatsheds are occupied. A recent fire in one of the boatsheds during an overnight stay highlights the hazards and risks arising from the inappropriate use of these non-habitable structures.

The previous CMP for the Lang Lang Foreshore Reserve (Connell Wagner, 2005) considered that the current use and location of the structures was not sustainable or safe in the long term. It was recommended that, in the first instance, consideration should be given to reverting boatsheds to their former and approved use in order to reduce the liability issues that exist. This would include the removal of any *ad-hoc* erosion control measures that pose a risk to public safety or impact on the natural values of the reserve. This recommendation is supported by this plan.

In the longer term, it is envisioned that the caravan park may need to revert to a day visitor area and camping park only. A long-term plan for the future of the boatsheds will need to be developed in light of the threats posed by climate change. This long-term plan will need to consider options based on the recognised adaptation strategies of protect, accommodate or

retreat, and involve all relevant stakeholders. However, it is recommended that in the short-term, the immediate risks presented by the current condition of the boatsheds and their associated infrastructure should be addressed.

Objective 8 – Boatsheds			
<i>Ensure boatsheds are managed and used in accordance with relevant policies, regulations and standards.</i>			
Ref #	Action	Responsibility	Priority
8A	Develop a 'local' boatshed management policy for the Lang Lang Foreshore Reserve in consultation with key stakeholders, which will provide a framework for the future management of the boatsheds consistent with relevant legislation and government policy.	LLFRC, LLBA & DSE	1
8B	Develop and implement standard boatshed licence agreements consistent with relevant legislation and government policy.	LLFRC & DSE	1
8C	Initiate boatshed compliance audits and inspections, prior to renewal of licences.	LLFRC, DSE & BCSC	1
8D	Revert boatsheds to their original and approved use, and ensure boatsheds and associated infrastructure comply with current Building Code of Australia (BCA) requirements, consistent with relevant legislation and government policy and do not pose a risk to public safety.	LLFRC, LLBA & DSE	1

3. Vision for the Lang Lang Foreshore Reserve

The vision for the Lang Lang Foreshore Reserve has been revised and updated, based on stakeholder and community input, and is outlined below:

Lang Lang Foreshore Reserve – Vision Statement

The Lang Lang Foreshore Reserve will be managed to ensure the protection and enhancement of its environmental, cultural heritage and recreational values.

It will be recognised for its:

- natural beauty (Western Port, the Red Bluff, Stockyard Point)
- protected habitat areas (Ramsar and internationally recognised bird species)
- Aboriginal cultural heritage.
- variety of recreational opportunities including fishing, boating, picnicking, beach play, nature appreciation, walking and photography.
- day use facilities, which are well maintained and easily accessible.
- caravan park, which promotes equitable and accessible accommodation options.
- boatsheds that are well maintained, meet required standards and comply with all relevant regulations.

The reserve will continue to be managed by the Lang Lang Foreshore Reserve Committee Incorporated in a sustainable and efficient manner based on sound decision making and government policy, with input and assistance from other key stakeholders.

4. Objectives, Actions & Implementation

4.1 Objectives

Objective 1 - Management

Ensure ongoing sustainable and efficient management of the reserve, acknowledging the potential impacts of climate change.

Objective 2 – Erosion

Ensure that erosion is managed in areas that have high public values within the reserve.

Objective 3 – Climate Change

Continue to plan for the potential impacts of climate change on the reserve, recognising the need to consider the most up to date information.

Objective 4 – Protection of the Environment

Protect, enhance and promote the natural values, Ramsar significance, and processes of the reserve and surrounding area.

Objective 5 – Heritage and Culture

Recognise and protect the cultural and heritage values of the reserve and surrounding area.

Objective 6 – Recreation Precinct

Develop a day use recreational area that provides for a range of activities and is easily accessible.

Objective 7 – Caravan Park

Continue to plan for the sustainable management of the caravan park and associated infrastructure, recognising the potential impacts of climate change.

Objective 8 – Boatsheds

Ensure boatsheds are managed and used in accordance with relevant policies, regulations and standards.

4.2 Actions

The following actions respond to the site management issues and ideas discussed with stakeholders.

**Key: Priority 1 = 1 year
Priority 2 = 1-3 years
Priority 3 = 3-5 years
Priority 4 = 5 + years*

Objective 1- Management			
<i>Ensure ongoing sustainable and efficient management of the Lang Lang Foreshore Reserve, acknowledging the potential impacts of climate change.</i>			
Ref #	Action	Responsibility	Priority
1A	Ensure all new developments and works are consistent with the Victorian Coastal Strategy, Siting and Design Guidelines and other relevant policy documents.	LLFRC & DSE	1
1B	Undertake visitor surveys every 2 years to determine the level of use and satisfaction.	LLFRC & DSE	3
1C	Develop a list of annual grants and seek funding for appropriate projects as required.	LLFRC	1
1D	Identify additional funding sources and resources (e.g. assistance from Cardinia and Bass Coast Shire Councils on specific projects).	LLFRC	1
1E	Improve links and communication with Cardinia and Bass Coast Shire Councils, with a view to increasing shared knowledge and resources through regular updates on committee activities and projects, as well as an invitation to specific committee meetings.	LLFRC, BCSC & CSC	2
1F	Develop a Memorandum of Understanding (MoU) with Bass Coast Shire Council in relation to the enforcement of regulations relating to dogs on the foreshore, building standards for boatsheds and other structures, and any other regulatory matters affecting the reserve.	LLFRC & DSE	2
1G	Ensure compliance with CFA and Council guidelines as outlined for caravan parks	LLFRC & BCSC	1
1H	Identify opportunities to work with the Grantville and Districts Foreshore Reserve Committee of Management, Parks Victoria, adjoining landholders and other stakeholders on collaborative projects.	LLFRC & DSE	2
1I	Undertake an annual review of safety fencing and signage.	LLFRC	1
1J	Seek funding to undertake a Coastal Safety Signage audit for the reserve.	LLFRC	1
1K	Transfer management of Stockyard Point to Parks Victoria, to be managed as part of the Western Port Intertidal Coastal Reserve.	DSE, PV	2
1L	Install a sign at the Jetty Lane entrance to the Lang Lang Foreshore Reserve to alert visitors that they are entering the reserve	LLFRC	2

Objective 2 – Erosion			
<i>Ensure that erosion is minimized throughout the Foreshore Reserve</i>			
Ref #	Action	Responsibility	Priority
2A	Monitor the erosion of the Red Bluff and the impact on the cliff top walk for safety and consider closing the path if it becomes dangerous to the public. Maintain fencing in this area to ensure visitor safety.	LLFRC, DSE	1
2B	Develop a priority list of erosion treatments (based on existing reports and specialist input) and identify funding opportunities for erosion control treatments.	LLFRC, DSE, PV	1
2C	Undertake trial of offshore geotextile reef.	DSE, PV	2
2D	Undertake mangrove plantings in conjunction with the offshore reef trial. Set up photo monitoring system to be able to measure the effects of the project.	LLFRC, DSE, PV	2
2E	Work with Western Port Seagrass Partnership and other partners on mangrove planting and other revegetation opportunities.	LLFRC, DSE, PV	2

Objective 3 – Climate Change

Continue to plan for the potential impacts of climate change at Lang Lang Foreshore recognising the need to access the most up to date information.

Ref #	Action	Responsibility	Priority
3A	Ensure the impacts of climate change are factored into any new works and other infrastructure developments along the foreshore, and that the approach is consistent with the Victorian Coastal Strategy.	LLFRC, DSE	1
3B	Based on the most up to date information, consider the longer term viability and sustainability of the Lang Lang Foreshore Caravan Park in its current location, and develop long term management options.	LLFRC, DSE	2

Objective 4 –Protection of the Environment

Protect, enhance and promote the natural value, Ramsar significance and processes of the reserve and surrounding area.

Ref #	Action	Responsibility	Priority
4A	Work with other agencies to raise awareness of potential conflict between seasonal fishing and other activities and migratory bird habitat use. (A management approach may involve no dogs in the area at the most critical time. Bass Coast Shire may be able to assist with patrols into this area at that time).	LLFRC, PV, BCSC	2
4B	Work with adjoining land managers and others to undertake programmed pest plant and animal control works. Educate adjoining landholders against dumping garden waste on or over the reserve.	LLFRC, DSE, PV, BCSC & CSC	1
4C	Involve the local community in planting the reserve, in accordance with designated EVCs. Plant in conjunction with weed control and use local seed sources where available.	LLFRC	3
4D	Investigate options to prevent vehicular access outside of designated parking areas.	LLFRC	3
4E	Install interpretive signage that explains value of bird habitat and crucial habitat areas in the shelter at Jam Jerrup car park.	PPWCMA & LLFRC	1
4F	Develop and implement an annual fisherman education program on the location and value of bird habitat. (3 year funding currently in place.)	LLFRC, PV, PPWCMA	1
4G	Improve beach access at Jam Jerrup.	LLFRC	2

Objective 5 – Heritage and Culture

Recognise and protect the cultural and heritage values of the reserve and surrounding area.

Ref #	Action	Responsibility	Priority
5A	Consider Aboriginal cultural heritage and native title requirements when planning for any new development or works.	DSE & LLFRC	1
5B	Ensure consistency with the objectives of the Bass Coast Shire Heritage Overlay in the development of any infrastructure and management of the reserve.	LLFRC	2
5C	Work with the Lang Lang Historical Society to recognise on-site the location and contribution to the local community of the former swimming pool, jetty and other historical features.	LLFRC	3

Objective 6 – Recreation Precinct

Develop a day use recreational area that provides for a range of activities and is easily accessible.

Ref #	Action	Responsibility	Priority
6A	Consider disabled access in the design of all facilities in the recreation precinct, with the aim of creating a safe and accessible recreation area.	LLFRC & DSE	1

6B	Further develop the Recreation Precinct Landscape Concept Plan with timelines, costed activities and identified parties, to enable the committee of management to schedule the works over a number of years as the funds allow. The plan should consider: 11. Upgrade the recreation area and carpark in line with the Lang Lang Foreshore Reserve Recreation Precinct Landscape Concept Plan recommendations (as shown in Appendix 5) : 12. Seal the Jetty Road and car park surface (with granite toppings rolled in) 13. Delineate parking areas, including a disabled parking bay 14. Create an identifiable central picnic area with a granite sand surface and defined edge, low grass mounds and picnic tables 15. Create a long flat berm of coastal shrubs along the foreshore through additional plantings 16. Seal the surface and delineate the car and boat trailer parking area (with granite toppings rolled in) 17. Retain existing banksias and combine into mulched garden beds 18. Select and plant feature trees using timber planters for protection 19. Identify and install interpretive signage at the site of the former swimming pool 20. Relocate sign to the side of the road to preserve the long view to the water	LLFRC,CSC & DSE	1
6C	Ensure integrated design of all recommended infrastructure and facilities with a selected palette of colours and materials which reflects the changing colours and moods of the reserve	LLFRC & DSE	2
6D	Incorporate interpretive signage into selected picnic table tops.	LLFRC	4
6E	Investigate solar lighting for the reserve (and caravan park) including increased lighting of the boat ramp.	LLFRC / CSC	2
6F	Create opportunities for passive recreation, nature based play and passive viewing of the foreshore (e.g. being able to enjoy views from a parked car).	LLFRC	2
6G	Investigate options to improve the management of runoff from the car park in vegetated drainage areas.	LLFRC & CSC	2
6H	Develop a feasibility study for a replacement structure at the recreation precinct.	LLFRC, DSE, PV, DPI, CSC & BCSC	3

Objective 7 – Caravan Park

Continue to plan for the sustainable management of the caravan park and associated infrastructure, recognising the potential impacts of climate change.

Ref #	Action	Responsibility	Priority
7A	Implement the Caravan Park Master Plan	LLFRC	2
7B	Redevelop the south end toilet block, including treatment plant, power, and camp kitchen	LLFRC	2
7C	Plan for the future of the caravan park, recognising that the location of the caravan park may not be viable in the long-term due to the impacts of sea level rise.	LLFRC, DSE & LLBA	4
7D	Investigate the feasibility and appropriateness of constructing temporary cabins in the Lang Lang Foreshore Caravan Park for overnight accommodation.	LLFRC	2
7E	Implement the 'Improving Equity of Access to Crown Land Caravan and Camping Parks' policy.	LLFRC & DSE	2
7F	Ensure that all caravans meet relevant guidelines and regulations including fire safety guidelines and DSE policies. (Those caravans that do not meet the regulations should be upgraded or removed from the caravan park).	LLFRC	1
7G	Maintain and update the emergency management plan	LLFRC	1

Objective 8 – Boatsheds*Ensure boatsheds are managed and used in accordance with relevant policies, regulations and standards.*

Ref #	Action	Responsibility	Priority
8A	Develop a 'local' boatshed management policy for the Lang Lang Foreshore Reserve in consultation with key stakeholders, which will provide a framework for the future management of the boatsheds consistent with relevant legislation and government policy.	LLFRC, LLBA & DSE	1
8B	Develop and implement standard boatshed licence agreements consistent with relevant legislation and government policy.	LLFRC & DSE	1
8C	Initiate boatshed compliance audits and inspections, prior to renewal of licences.	LLFRC, DSE & BCSC	1
8D	Revert boatsheds to their original and approved use, and ensure boatsheds and associated infrastructure comply with current Building Code of Australia (BCA) requirements, consistent with relevant legislation and government policy and do not pose a risk to public safety.	LLFRC, LLBA & DSE	1

4.3 Implementation and Monitoring

Actions should be implemented progressively in line with committee of management budgets and priorities. To assist with implementation, a three year business plan has been developed (see Part 6).

There will be a need to obtain external grant funding for some actions. Potential sources of grant funding include:

- Department of Planning and Community Development
(includes opportunities for Communities, Disability, Local Government, Indigenous, Seniors, Sport and Recreation, Veterans, Women and Youth grants funding)
<http://www.dpcd.vic.gov.au/grants>
- Department of Sustainability and Environment
(includes community focused grants, such as the Coastcare Victoria Community Grants Program, and capital works and risk management grants, such as Coastal Risk Mitigation Program)
<http://www.dse.vic.gov.au/coasts-and-marine/coastal-community-grants>
<http://www.dse.vic.gov.au/coasts-and-marine/coasts/coastal-risk-mitigation-program>
- Regional Development Victoria
<http://www.rdv.vic.gov.au/community-programs>
- Department of Transport
(including the Boating Safety and Facilities Program - formerly administered by Marine Safety Victoria)
<http://www.transport.vic.gov.au/grants>
- Bass Coast Shire Council
http://www.basscoast.vic.gov.au/Community/Community_Grants
- Cardinia Shire Council
<http://www.cardinia.vic.gov.au/grants>
- Australian Government
<http://www.grantslink.gov.au/>

Monitoring is essential to track the success of the Coastal Management Plan in meeting the vision and objectives for the Lang Lang Foreshore Reserve. A monitoring program should measure the implementation of the plan, management effectiveness and visitor satisfaction.

Monitoring should specifically measure:

- % of actions implemented within their identified time frame, with a target of 50% implemented within the identified timeframe.
- visitor satisfaction and use of the site as determined by regular (every 2 years) visitor surveys, with a target of 80% of users satisfied.

The Lang Lang Foreshore Reserve Committee Incorporated should annually review this Coastal Management Plan to check the identified actions against their work plans and programs.


5. Precinct Plans

The Lang Lang Foreshore Reserve has been broken into several precincts based on predominant features and uses.

5.1 Recreation Area Precinct



5.2 Caravan Park Precinct



Actions identified for the Caravan Park Precinct.

1G – Ensure compliance with CFA and Council guidelines as outlined for caravan parks.

3B – Based on the most up to date information, consider the longer term viability and sustainability of the Lang Lang Foreshore Caravan Park in its current location, and develop long term management options.

7A – Implement the Caravan Park Master Plan

7B – Redevelop the south end toilet block, including treatment plant, power and camp kitchen

7D – Investigate the feasibility and appropriateness of constructing temporary cabins in the Lang Lang Foreshore caravan park for overnight accommodation.

7E – Implement the 'Improving Equity of Access to Crown Land Caravan and Camping Parks' policy.

7F – Ensure that all caravans meet relevant guidelines and regulations including fire safety guidelines and DSE policies.

7G – Maintain and update the emergency management plan

8A – Develop a 'local' boatshed management policy for the Lang Lang Foreshore Reserve.

8B – Develop and implement standard boatshed licence agreements.

8C – Initiate boatshed compliance audits and inspections.

8D – Revert boatsheds to their original and approved use, and ensure boatsheds and associated infrastructure comply with current Building Code of Australia (BCA) requirements, consistent with relevant legislation and government policy and do not pose a risk to public safety.

5.3 Red Bluff Precinct



Actions identified for the Red Bluff Precinct.

2A - Monitor the erosion of the Red Bluff and the impact on the cliff top walk

2C – Undertake trial of offshore geotextile reef

2D – Undertake mangrove plantings in conjunction with the offshore reef trial. Set up photo monitoring system to be able to measure the effects of the project.

2E – Work with Western Port Seagrass Partnership and other partners on mangrove planting and other revegetation opportunities.

5.4 Jam Jerrup Precinct



Actions identified for the Jam Jerrup Precinct.

4D – Investigate options to prevent vehicular access outside of designated parking areas

4E – Install interpretive signage that explains the value of bird habitat and crucial habitat areas in the shelter at Jam Jerrup carpark.

4G – Improve beach access at Jam Jerrup to prevent further erosion and impacts

5.5 Stockyard Point Precinct



Actions identified for the Stockyard Point Precinct.

- 1K** – Investigate other management options for Stockyard Point including management by Parks Victoria
- 4A** – Work with other agencies to raise awareness of potential conflict between seasonal fishing and other activities and migratory bird habitat use.
- 4F** – Develop and implement an annual fisherman education program on the location and value of bird habitat.

6 Business Plan

The income for the LLFRC is generated through caravan park fees, boatshed licences and various project grants. The majority of this income is expended on the ongoing management and maintenance of the reserve, in particular the caravan park.

The estimated annual income derived from caravan park fees, boat shed licences and other operational sources is \$80,000 to \$90,000 (based on previous years). This figure does not include grant income. Caravan park and boatshed licence fees should be increased annually in line with CPI.

The implementation of many actions identified in this Coastal Management Plan will rely on obtaining grants. Other actions could be funded through the LLFRC budget or a combination of the budget and grants.

The following business plan is for a duration of three years, commencing once the plan has been approved by the Minister for Environment and Climate Change.

Year 1			
Project	Estimated Cost	Funding Source	Action Ref #
Compliance with CFA and Council guidelines as outlined for caravan parks	\$2500	Budget	1G
Coastal Safety Signage Audit and implementation of priority actions	\$15,000	Grant	1J
Pest plant and animal control works	\$7500	Budget and grants	4B
Revegetation works	\$5000	Budget and grants	4C
Implement day use recreation area and car park upgrade	\$30,000	Grant	6B
Implement caravan park Master Plan	\$20,000	Grant	7A
Feasibility study into temporary cabins	\$15,000	Budget	7E
Total	\$95,000		

Year 2			
Project	Estimated Cost	Funding Source	Action Ref #
Install signage at Reserve entrances (Jetty Road and Jam Jerrup).	\$2500	Budget	1L
Mangrove plantings in conjunction with offshore reef trial	\$1000	Budget	2D
Pest plant and animal control works	\$7500	Budget and grants	4B
Revegetation works	\$10,000	Grant	4C
Maintenance of fencing around cliff top walk	\$5000	Budget	2F
Install dog control signage	\$2500	Seek funding/assistance from Bass Coast Shire	4A
Implement day use recreation area and car park upgrade	\$30,000	Grants	6B
Implement caravan park plan	\$15,000	Grants	7A
Total	\$73,500		

Year 3			
Project	Estimated Cost	Funding Source	Action Ref #
Design and install interpretive signage (picnic table tops and others)	\$15,000	Grant	-
Pest plant and animal control works	\$7500	Budget and grants	-
Revegetation works	\$5,000	Budget and grants	4C
Implement day use recreation area and car park upgrade	\$40,000	Grant	6B
Implement caravan park plan	\$15,000	Grant	7A
Total	\$62,500		

7 Appendices

Appendix 1 – Actions from previous CMP

Status of Actions from previous Lang Lang Foreshore Reserve Coastal Management Plan

Management Actions	Responsibility	Priority	Status
Implement management strategies identified in the <i>western Port Ramsar Site- Strategic Management Plan (2002)</i>	DSE PV CoM	High	Ongoing
Contribute to and assess the suitability of the Bass Coast Shire dog policy when available	CoM BCSC CSC	Medium	Not started
Develop and implement a Wildfire Management Plan for the whole of the Lang Lang Foreshore Reserve.	CFA CoM	High	Complete
Ensure land based activities do not adversely affect mangrove populations in the Southern and Stockyard Pont Precincts and investigate the possibility of planting mangroves.	BCSC CSC DSE BVL Adj. landowners CoM	High	Ongoing
All revegetation shall use locally indigenous flora (note- a permit is required from DSE to collect plant material from any public land in accordance with eth <i>Flora and Fauna Guarantee Act 1988</i> .)	CoM LLCAG	Ongoing	Ongoing
Monitor for the presence of pest animals. Promote awareness of the impacts of the pest plant and animals and how they can assist with controlling the impacts through the Foreshore Committee newsletter and the community working bees.	BCSC CSC DSE BVL Adj. landowners	Ongoing	Ongoing
Develop a pest animal control program ion the consultation with the 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 Adj. landowners	High	Not started
Liaise with the 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 minimize ham to indigenous flora, fauna and 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 CSC CoM DSE LLCAG BVL CoM Indigenous Communities	Ongoing	Ongoing
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, seat and signage.	CoM DSE Indigenous Communities	High	Ongoing
Assess level of disturbance and implement measures to reduce disturbance such as <ul style="list-style-type: none"> • Define and maintain walking track over Red Bluff • Implement rabbit control program • Assess the suitability of the Bass Coast Shire’s dog policy; and • Erect exclusively fencing, where appropriate 	CoM DSE Indigenous Communities	High	Ongoing
Consult with relevant indigenous communities prior to undertaking works within the reserve.	CoM Indigenous Communities DSE	High	Ongoing

Provide interpretative information on the cultural and heritage significance of the Lang Lang Foreshore Reserve.	CoM Indigenous Communities DSE	Medium	Not started
Assess the effectiveness of groynes and illegal seawalls and remove if necessary. Investigate the use of brush matting where appropriate e.g. treemax MaxJute' geotextile covering logs.	CoM DSE LLCAG Indigenous Communities	High	Ongoing
In Consultation with DSE, Lang Lang Coast Action Group, Bass Coast Shire Council, Cardinia Shire Council and indigenous communities develop a Foreshore Revegetation Plan.	CoM DSE LLCAG Indigenous Communities	High	Not started
When undertaking construction, maintenance or restoration work within the reserve, be aware of erosion control procedures.	CoM DSE LLCAG Indigenous Communities	High	Ongoing
Ensure that visitor activity in revegetation areas is minimised.	CoM DSE LLCAG Indigenous Communities	High	Ongoing
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	Not started
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	Complete
Subject to the risk assessment, regularly maintain the walking track ensuring a navigable path is accessible.	CoM LLCAG	Pending risk audit	Ongoing
Provide visitor information in features that can be observed along the walking track.	CoM LLCAG	Low	Ongoing
Subject to a risk assessment, install appropriate safety fencing and signage and, promote the lookout as one of the feature of the Red Bluff walking track.	CoM LLCAG	High	Complete
Provide recycling facilities where practical.	CoM	Medium	Complete
Investigate the opportunity of using either a compost bin or worm farm to dispose of perishable waste.	CoM	Medium	Complete
Install signage encouraging visitors to take their rubbish home.	CoM	Medium	Complete
Erect signage at boat ramp to educate users about importance of habitat for waterbirds and appropriate boating protocol to avoid disturbing birds.	PV	Low	Not started
Liaise with the Maritime Safety Victoria and Parks Victoria to ensure relevant signage is installed at the boat ramp and as required in waters adjacent to Foreshore Reserve.	CoM MSV PV	Medium	Complete
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>Sitting and Design Guidelines for Structures on the Victorian Coast (1998)</i> should be implemented.	CoM DSE	Ongoing	Ongoing
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	Complete

Ensure that all walking racks within the Reserve are appropriately fuel modified.	CoM DSE CFA	High	Ongoing
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	Ongoing
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	Complete
Expand and co-ordinate volunteer groups to assist committee in protection, fundraising and maintenance of the reserve.	CoM Community BVL LLCAG	Ongoing	Complete
Continue to prepare and circulate the Foreshore Committee newsletter.	CoM	Ongoing	Complete
Provide opportunity for committee involvement in key decisions regarding the Reserve's future management.	CoM	Ongoing	Ongoing
Include a 'Lang Lang Foreshore Reserve' section in the local Lang Lang Newsletter.	CoM	Ongoing	Ongoing
Identify the reserve boundaries.	DSE	High	
Investigate the opportunity of forming agreements with adjoining property owners or purchasing sections adjoining freehold land with the aim of enhancing Western Port Ramsar Site and improving the sustainability of the Caravan Park.	DSE Adj. landowners	Medium	Not started
Fence appropriate areas of the Foreshore Reserve boundaries.	CoM DSE Adj. landowners	High	Not started
Conduct a risk analysis of the entire Reserve, and implement appropriate actions to address the level of risk identified.	CoM DSE	High	Ongoing
Seek out alternative sources of funding (e.g. Coast Action and Landcare) to enable essential works to be completed.	CoM DSE	High	Ongoing
Implement a 3 year business plan for the Reserve and review annually.	CoM	Ongoing	Complete
Clearly define enforcements roles within the Reserve. Investigate the opportunity for a memorandum of understanding between enforcements agencies and the CoM assist in enforcement activities.	COM DSE BCSC	High	Not started
Investigate the opportunity to expand the caretaker's role to include enforcement duties. Provide education material to promote responsible fishing practices.	CoM DSE	Medium	Ongoing
Liaise with landholders adjacent to the precinct prior to any planning for works within this area.	DSE CoM	High	Ongoing
Investigate options to prevent vehicular access outside of designated parking areas.	CoM	Medium	Ongoing
Review the layout and functionality of the trailer parking area including landscaping options for increased habitat values and implement findings.	CoM DSE Adj. landowners		Not started
Investigate drainage improvement options such as grass swales to replace drainage pipes discharging storm water into Western Port.	CoM Adj. landowners CSC	Medium	Not started
Review the public liability insurance status of the Caravan Park to ensure that the site is appropriately insured.	CoM DSE	High	Complete
Undertake a hazardous materials and structure conditions audit of all buildings and structures within the precinct. Implement recommendations resulting from the audit.	DSE	High	Ongoing

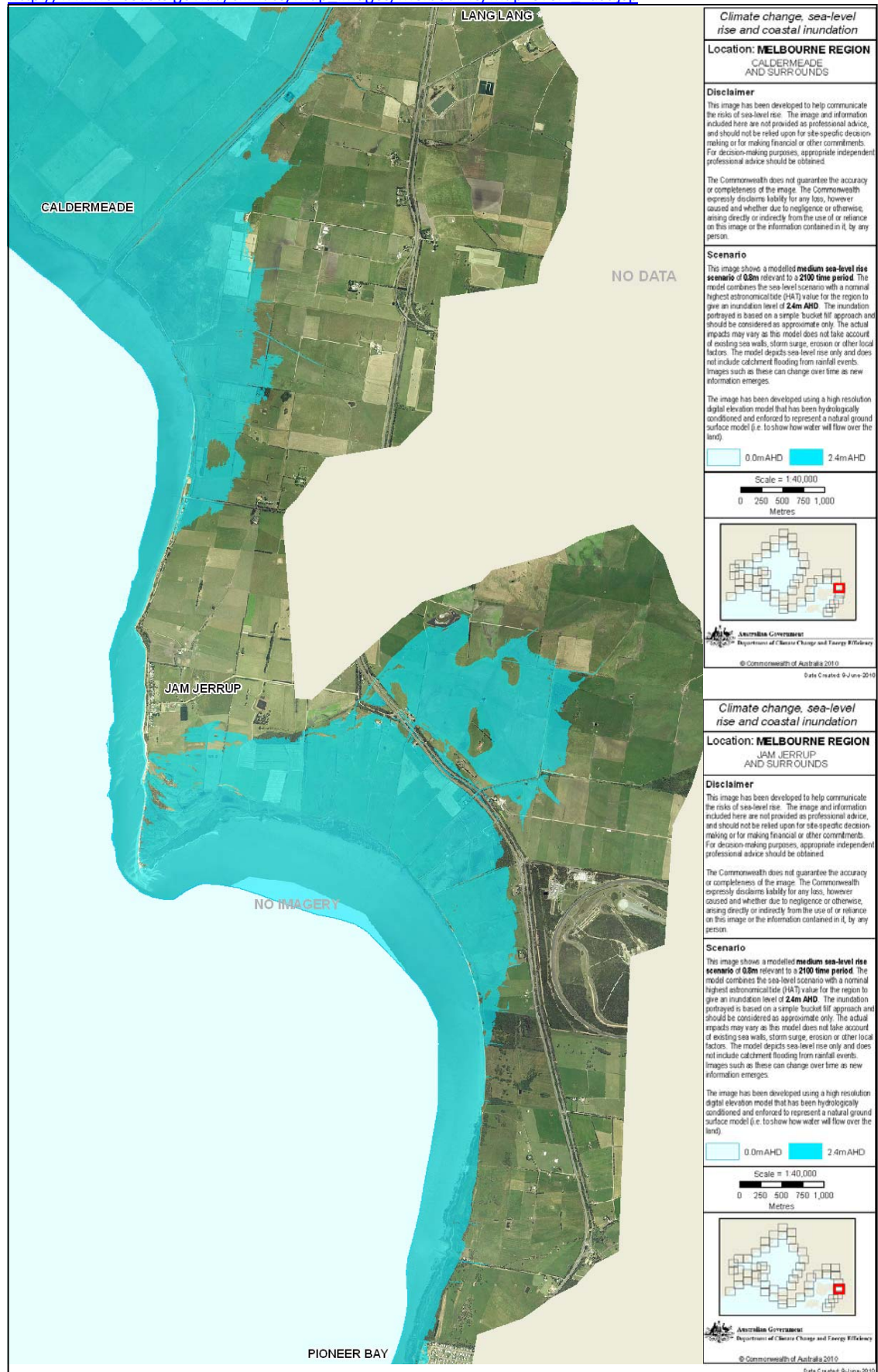
Ensure that all caravans meet the <i>Residential Tenancies (Caravan Parks and Movable Dwellings Registration and Standards) Regulations 1999</i> and the <i>Residential Accommodation Guidelines</i> . Those caravans that do not meet the regulations should be upgraded or removed from the caravan park.	CoM DSE	High	Ongoing
Undertake a fire safety audit of the Caravan Park and beach shacks and, implement recommended actions arising from the audit.	CoM CFA	High	Ongoing
Fence and install appropriate signage at the southern lookout in the Caravan Park.	CoM	High	Complete
Provide adequate safe lighting within the Caravan Park. Investigate the use of Solar Energy.	CoM	Ongoing	Complete
Ensure that signage is maintained to an appropriate standard.	PV CoM	High	Ongoing
Access gate to remain in current location in order to comply with requirements of the <i>Residential Tenancies (Caravan Parks and Moveable Dwellings Registration and Standards) regulations 1999</i> .	CoM	Ongoing	Complete
Investigate option to realign caravans to ensure adequate space between sites and to provide views of Western Port from within Caravan Park.	CoM DSE	High	Complete
Investigate alternative access options to Red Bluff farm	DSE CoM Adj. landowners	Medium	Complete
Investigate the opportunity to move the access road to the eastern boundary	CoM DSE	High	Complete
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	Not started
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	Complete
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	Not started
Ensure that the current septic tanks are maintained in accordance with the <i>Environmental 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	Ongoing
Redevelop the amenity block opposite the beach shacks to a suitable standard.	CoM	Medium	Ongoing
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 Access and Mobility, so that disabled visitors have equal access to facilities	Com	High	Complete
Assess the current size and condition of storage and equipment sheds, and replace if required. Ensure that there is adequate undercover storage for garden supplies.	CoM	Low	Complete
Remove defunct buildings and structures including the former single toilets (near the beach shacks) and kiosk be deemed safe to use, investigate uses, such as meeting venue for volunteer groups, scouts or, as a location for signage.	CoM	Low	Complete
Investigate options for historical interpretation of the former swimming pool pump if it is safe to do so. Otherwise remove.	CoM	Low	Ongoing
Install children's play equipment in an appropriate area	CoM	Medium	Complete
Promote low impact accommodation in the southern end of caravan park, in the form of designated camping area	CoM	Low	Ongoing
Investigate the possibility of providing on-site caravans	CoM	High	Complete

Level uneven pedestrian paths accessing facilities within the caravan park.	CoM	High	Complete
Investigate the opportunity to improve drinking water supply to the caravan park, such as rain water tanks.	CoM	Low	Ongoing
Investigate the possibility of developing a camp kitchen to accommodate large groups (i.e. school groups) within the existing weather shed/ pavilion.	CoM	Medium	Ongoing
Define official access tracks to assist in the stabilization of eroding areas.	CoM DSE	High	Complete
In conjunction with the beach shack license holders, revegetate the coastline to encourage sand deposition and to reduce the impact of erosion.	CoM DSE	High	Ongoing
In liaison with adjoining property owners, investigate the potential of developing a 20 meter vegetation buffer between the Caravan Park and freehold properties in order to mitigate storm water runoff from rural properties and subsequent drainage problems within the Caravan Park.	CoM DSE Adj. landowners	High	Not started
Investigate drainage improvement options such as grass swales to replace drainage pipes discharging storm water into Western Port to reduce untreated waste water discharging into Western Port	CoM Adj. landowners	Medium	Not started
Using the standard 17B 3 year license agreement prepare a beach shack license for use between beach shack occupiers and the Committee of Management	CoM DSE	High	Ongoing
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	Ongoing
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	Not started
Review 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	Complete
Obtain a coastal consent and relevant planning approvals in accordance with the <i>Coastal Management Act 1995</i> and <i>Planning and Environmental Act 1987</i> for the works within the Reserve	CoM	Ongoing	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	Ongoing
Review the caretaker's arrangements to ensure that adequate resources are available for the management of Caravan Park	CoM	High	Complete
Investigate the possibility of purchasing renewable energy or installing alternative energy for the Caravan Park	CoM	Medium	Ongoing
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	Complete
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	Not started
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	Not started

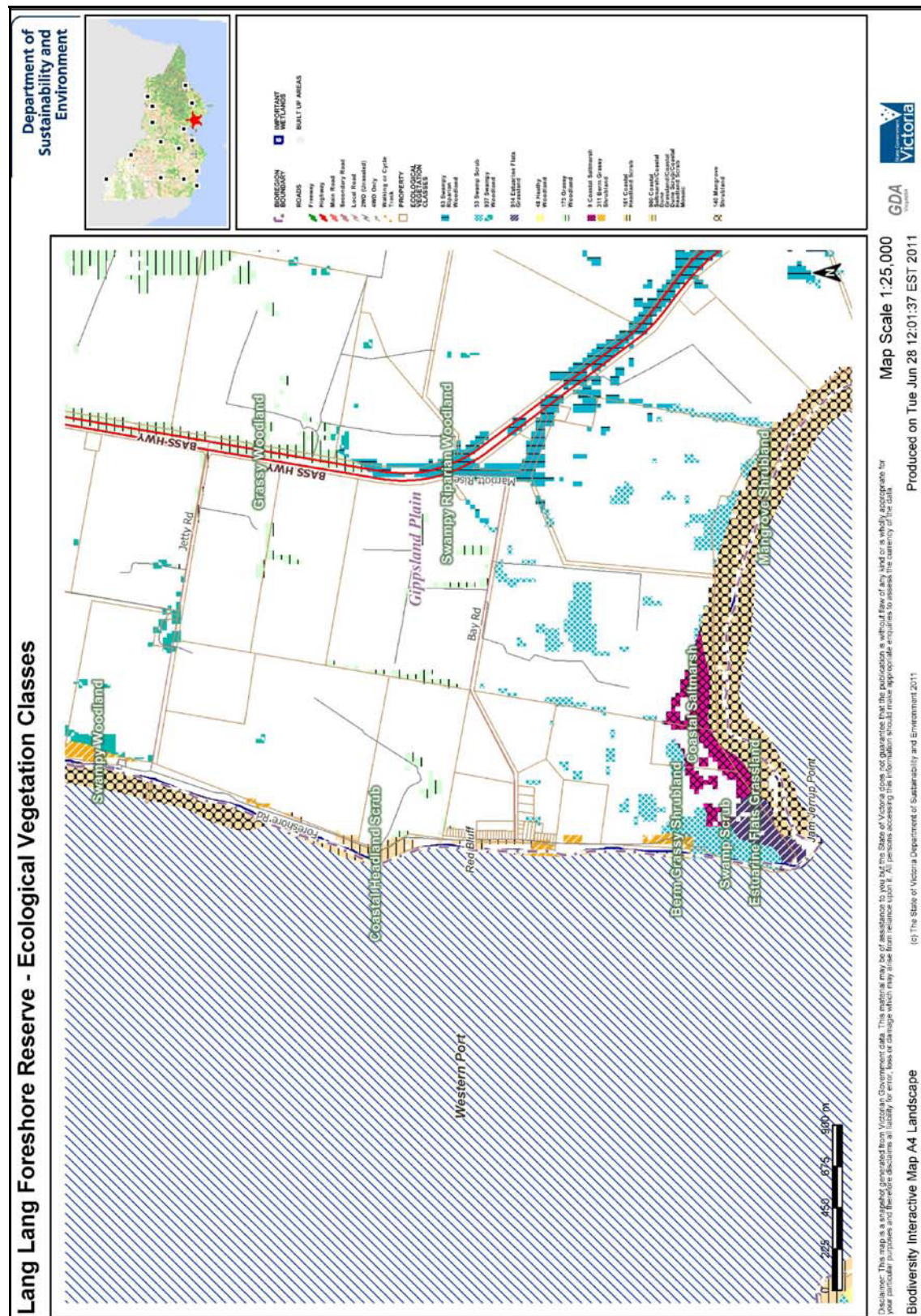
Appendix 2 – Sea Level Rise Scenarios (0.8m by 2100)

Taken from the Australian Government Department of Climate Change and Energy Efficiency website:

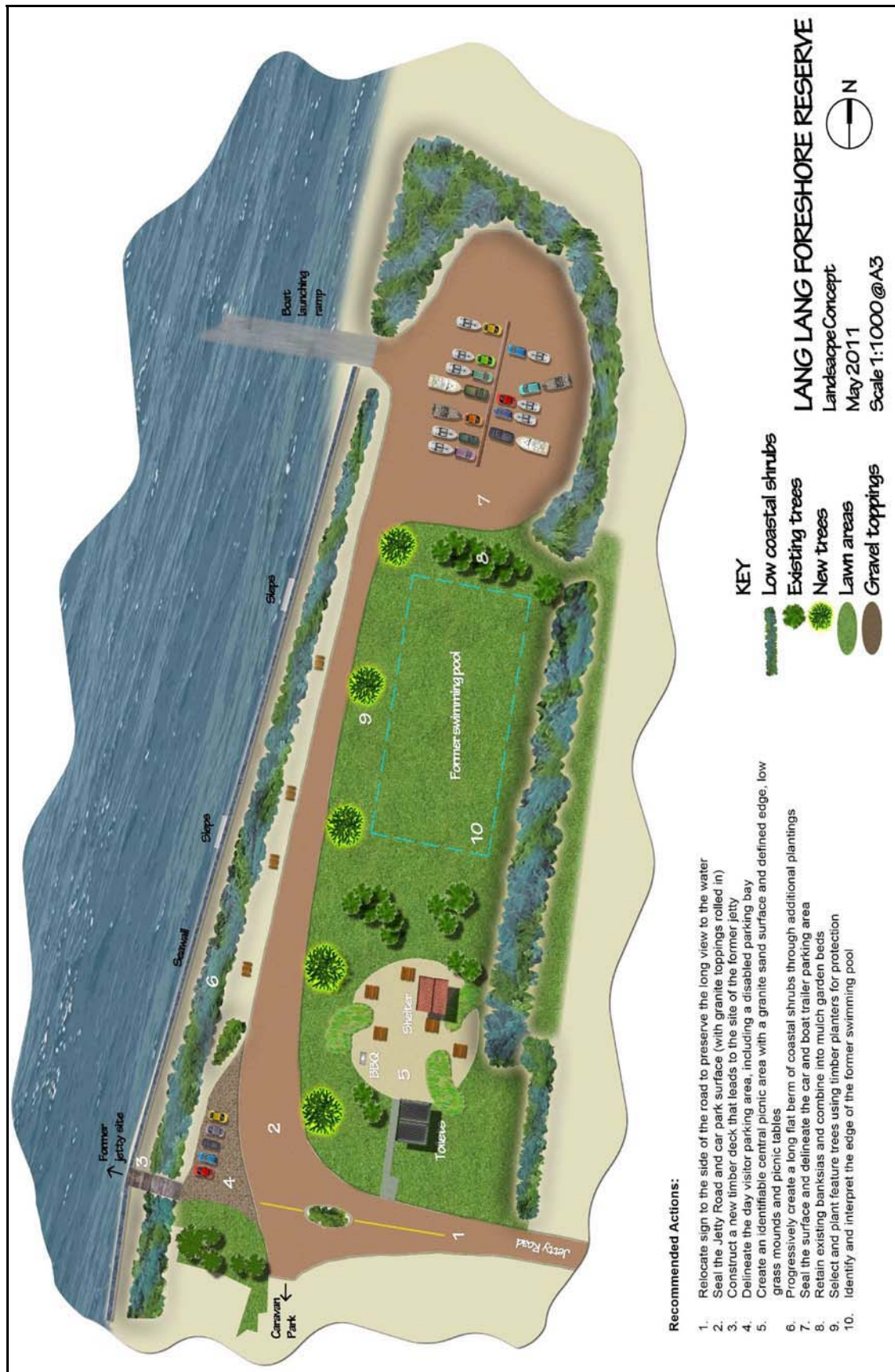
http://www.ozcoasts.gov.au/climate/Map_images/Melbourne/mapLevel2_East.jsp



Appendix 3 - Ecological Vegetation Class Map



Appendix 5 – Recreation Precinct Landscape Concept Plan



Appendix 6 – Caravan Park Master Plan



Appendix 6 – Caravan Park Master Plan (continued)



Appendix 7 - Summary of Legislation, Strategies & Policies

Legislation

- **Aboriginal Heritage Act 2006** (State)

Provides legislative protection for all Aboriginal cultural heritage sites, places and objects, with the involvement of Aboriginal people. Under the Act, coastal areas are considered to have high cultural heritage sensitivity and where works include high impact activities; a Cultural Heritage Management plan is required to be prepared.

The Act recognises Aboriginal people as the “primary guardians, keepers and knowledge holders of Aboriginal cultural heritage” and establishes the Aboriginal Heritage Council of 11 traditional owners and Registered Aboriginal Parties (RAPs). RAPs play a lead role in administering the Act, including evaluating Cultural Heritage Management Plans and providing advice on applications for Cultural Heritage Permits. Mornington Peninsula Shire Council does not currently have any RAPs recognised under the Act.

- **Coastal Management Act 1995** (State)

Was developed 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 and Climate Change, for the area of coast from Breamlea, which is the western boundary of the City of Greater Geelong, to Anderson’s Inlet at the eastern boundary of the 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 for Environment and Climate Change to use, develop or change the use of coastal Crown land. When considering an application, the Minister 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.

- **Conservation, Forests and Lands Act 1987** (State)

Provides for the administrative restructure that originally created the Department of Conservation, Forests and Lands in 1983 and it centralised the legislative machinery necessary for the efficient operation of that Department. It provides for the delegation of powers by the Ministers and the Secretary and for public participation in formulation of codes of practice.

The Act applies to catchment management, coastal management, crown land management, fisheries management, flora and fauna, forests management, heritage rivers, land, national parks, reference areas and wildlife management. The Act is administered by the Minister for Environment and Climate Change except for the matters which relate to the Fisheries Act 1995 which are administered by the Minister for Agriculture.

- **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 the leasing and licensing of reserves for purposes approved by the Minister for Environment and Climate Change.

- **Environmental Protection and Biodiversity Conservation Act 1999** (Federal)
Delineates areas of Commonwealth and State responsibility for the natural environment. It defines the Commonwealth's role in managing the environment as limited to matters of national environmental significance.
- **Flora and Fauna Guarantee Act 1998** (State)
Incorporates a wide range of measures for conserving Victoria's native plants and animals. Its broad aims include preventing the extinction of any more plants and animals, both by saving those that are threatened and by preventing those that are currently secure from being threatened.
- **Heritage Act 1995** (State)
Provides legislative protection and conservation of places and objects of cultural heritage significance and allows for the registration of such places and objects. It established the Heritage Council and the Victorian Heritage Register.
- **Land Act 1958** (State)
This Act makes provision for sale and occupation of Crown land, and authorises the issue of various types of leases and licences. The Act is administered by the Minister for Environment and Climate Change except for certain specified areas of land managed by other agencies such as the Office of Corrections, Courts Services and the Department of Health.
- **Native Title Act 1993** (Federal)
Native Title describes the rights and interests of Aboriginal and Torres Strait Islander people in land and waters, according to their traditional laws and customs. As a common law right, native title may exist over areas of Crown land or waters, irrespective of whether there are any native title claims or determinations in the area. Native Title will therefore be a necessary consideration when Government is proposing or permitting any activity on or relating to Crown land that may affect native title. All works and dealings involving the Crown land and waters within the reserve will be undertaken in a manner consistent with the *future act* provisions of the *Native Title Act 1993*.
- **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 an area to which it applies. It helps regulate the use and development of land through planning provisions to achieve those objectives and policies.

Every planning scheme includes the State Planning Policy Framework. The framework comprises 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.

Policies and Strategies

- **Victorian Coastal Strategy 2008**

The Victorian Coastal Strategy 2008 provides a comprehensive integrated management framework for the coast of Victoria. It is established under the Coastal Management Act 1995. The Act directs the Victorian Coastal Strategy to provide for long-term planning of the Victorian coast for the next 100 years and beyond.

The purpose of the strategy is to provide:

1. a vision for the planning, management and use of coastal, estuarine and marine environments
2. the government's policy commitment for coastal, estuarine and marine environments
3. a framework for the development and implementation of other specific strategies and plans such as Coastal Action Plans, management plans and planning schemes
4. a guide for exercising discretion by decision-makers, where appropriate.

- **Port Phillip and Westernport Boating Coastal Action Plan 2006**

The Port Phillip and Westernport Boating Coastal Action Plan provides for the long term development of recreational boating facilities in Port Phillip and Westernport Bays.

- **Port Phillip and Westernport Regional Catchment Strategy 2004**

The main focus of the RCS is management of land, water and biodiversity in the region, including the coastal and marine areas. It describes catchment assets and how they are interrelated indicating what needs to be done to manage and use the assets in a sustainable and integrated way. It outlines goals and priorities for the future.

- **Improving Equity of Access to Crown Land Caravan and Camping Parks 2010**

Was developed to enable parks to better respond to increasing demand for sites and facilities to ensure affordable holiday on Crown land caravan and camping parks in Victoria.

- **Westernport Ramsar Site Strategic Management Plan 2000.**

The primary purpose of the Strategic Management Plan for the Western Port Ramsar site is 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.

Guidelines and Other

- **Siting and Design Guidelines for Structures on the Victorian Coast 1998**

Prepared in 1998 by the Victorian Coastal Council to assist 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 along Victoria's coast.

- **Landscape Setting Types for the Victorian Coast 1998**

The Landscape Setting Types for the Victorian Coast aim to provide a better understanding of the landscape character of the coast by identifying significant features and characteristics of various sections of the coast. The identified landscape character should be considered and respected in the development of proposals for structures at specific locations in order to achieve an integrated development which is sympathetic to the surrounding landscape.

- **Japan Australia Migratory Bird Agreement**

The Japan Australia Migratory Bird Agreement (JAMBA) is a treaty between Australia and Japan to minimise harm to the major areas used by birds which migrate between the two countries. JAMBA provides for cooperation on measures for the management and protection of migratory birds, birds in danger of extinction, and the management and protection of their environments, and requires each country to take appropriate measures to preserve and enhance the environment of birds protected under the provisions of the agreement.

- **China Australia Migratory Bird Agreement**

The China Australia Migratory Bird Agreement (CAMBA) is a treaty between Australia and China to minimise harm to the major areas used by birds which migrate between the two countries

- **Ramsar Convention**

The Ramsar Convention's broad aims are to halt the worldwide loss of wetlands and to conserve, through wise use and management, those that remain. This requires international cooperation, policy making, capacity building and technology transfer.

- **Impacts of Climate Change on Settlements in the Western Port Region - Climate Change Risks and Adaptation 2008**

This project is a 2 year study that examines climate change impacts on the built environment and communities of the Western Port region. The study has four major phases, regional climate change and biophysical impacts, socio-economic and infrastructure impacts, risk assessment, and adaptation response

- **Victoria's Native Vegetation Management - A Framework for Action 2002**

Establishes the strategic direction for the protection, enhancement and revegetation of native vegetation across the State. It addresses critical native vegetation issues from a whole of catchment perspective.

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