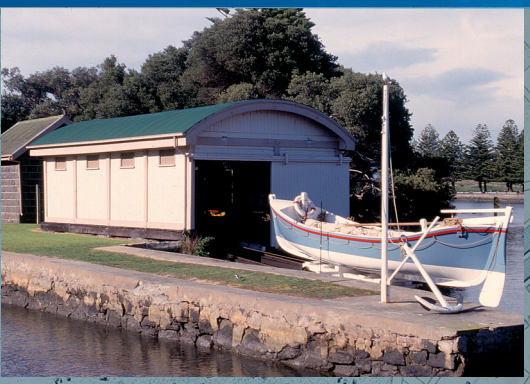
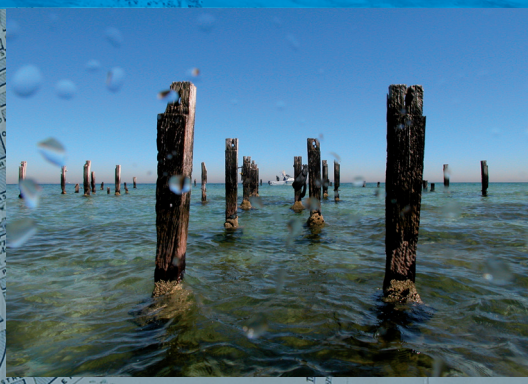
Jetties and Piers





A background history of maritime infrastructure in Victoria

Prepared by Jill Barnard

HERITAGE COUNCIL
HERITAGE COUNCIL
HERITAGE COUNCIL

Heritage
VICTORIA

Victoria
The Place To Be

Department of Planning
and Community Development

Jetties and Piers

A background history of maritime infrastructure in Victoria

Prepared by Jill Barnard

HERITAGE COUNCIL
HERITAGE COUNCIL
HERITAGE COUNCIL

Heritage
VICTORIA

Victoria
The Place To Be
Department of Planning and Community Development

Published by the Heritage Council of Victoria
8 Nicholson Street East Melbourne Victoria 3002
(03) 9637 9475

January 2008

Authorised by the Victorian Government, Melbourne.

ISBN 978-1-74208-156-4

For more information visit our website at www.heritage.vic.gov.au

Contents

About the author

Historian Jill Barnard was contracted by the Heritage Council of Victoria in 2003 to work with Heritage Victoria's Maritime Heritage Unit on a thematic history of maritime infrastructure in Victoria.

Jill Barnard is an accredited member of the Professional Historians Association (Vic) Inc. Her research projects have spanned a diverse range of interests, including heritage, child welfare and maritime infrastructure in Victoria. Previous publications by Jill include *Welcome and Farewell –The Story of Station Pier* (with Sonia Jennings) and *Holding on to Hope A History of the Founding Agencies of MacKillop Family Service*s (with Karen Twigg). Jill is a member of the Living Histories team of professional historians.

Foreword

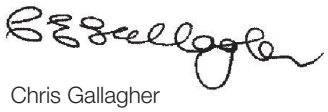
While Victoria's maritime heritage is typically associated with shipwrecks, our coastline is also rich in infrastructure that has made a significant contribution to the State's economic and social development. Until now, the history of these breakwaters, rocket sheds, sea baths, pile lights, jetties and piers has remained largely untold.

This absorbing thematic study will be invaluable for those interested in completing the picture. Funded by the Heritage Council of Victoria and supervised by Heritage Victoria, the study traces the development of our maritime infrastructure across the State. It unlocks the stories associated with the physical fabric to provide readers with a greater understanding of the breadth of Victoria's maritime inheritance.

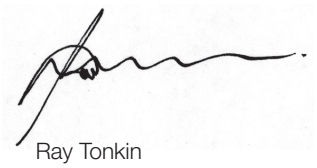
The very 'working' nature of our maritime heritage also means much has been altered over the years. Some infrastructure has disappeared altogether. This study contains valuable clues about where to look for, and how to understand, any remaining physical evidence.

Although some of the sites described are already included on the Victorian Heritage Register, this project will also help to identify others of potential cultural significance, providing a valuable context for comparative assessment.

We expect this study will be a trusted, even indispensable, resource and hope you enjoy its insights into our maritime past.



Chris Gallagher
Chair, Heritage Council of Victoria



Ray Tonkin
Executive Director, Heritage Victoria

Acknowledgements

This study was initiated in 2003 by the Maritime Heritage Unit of Heritage Victoria to provide a thematic background history to an extensive maritime infrastructure site inventory by maritime archaeologist, Brad Duncan. I am indebted to Brad as a colleague and contributor to the study and for detailed information related to many sites. I am also grateful to Peter Harvey who coordinated the project and Patrick Miller, Jeremy Smith and Frances O'Neill who provided welcome guidance. Cassandra Philippou also provided advice, editorial assistance and guidance with image selection.

Preface

Sitting outside a glassy café at New Quay, in Melbourne's Docklands, it is hard to imagine what the Port of Melbourne has looked like in all of its previous incarnations. Like many of Victoria's maritime or marine precincts, the Port of Melbourne has undergone almost continuous evolution since Europeans first settled here in the mid-1830s. Enormous amounts of money have been invested in altering maritime infrastructure to meet the changing demands of an expanding population and economy and technological advances that rendered some infrastructure redundant. Disasters such as storms, floods and fires have also altered the face of Victoria's maritime infrastructure, as has human error in the siting or construction of structures.

Because maritime infrastructure is on the 'edge' of the state, it has often been overlooked in state or regional historical or heritage studies. Yet it has played, and continues to play, a crucial role in the development of Victoria's society and economy, while the delights of the coastline have had an ever more important part in Victorians' social and recreational life. Apart from maritime enthusiasts, however, few historians have paid attention to the history of Victoria's maritime sites. Even published local and community histories often contain scant information about jetties, piers and fishermen's sheds, unless they are located in a distinctly maritime precinct, such as Williamstown.

The aim of this report is to trace the development of maritime infrastructure across the state since European settlement and to place this development within the context of Victoria's history. The work is intended as a broad background study and readers may be disappointed that more space has not been allocated to particular sites or regions.

Ironically, primary sources of information about maritime infrastructure sometimes provide too much information for a background history such as this. The reports of the Melbourne Harbor Trust Commissioners, for instance, or the records of the Public Works Department, describe in detail the various works performed on particular sites over time. While this is a boon to researchers following one particular site, it makes the task of compiling a general background history of maritime infrastructure difficult. There are still many gaps in this background history. Aspects of the development of the theme of recreation, for instance, could still be explored in much greater detail.

Another limitation of this background history was imposed by the thematic approach. In the first place, for the very earliest decades of Victoria's European development, when private initiative and government efforts combined to establish facilities and then struggled to keep up with the demands of the chaotic goldrush years, it was almost impossible to divide infrastructure development in a thematic way. Primitive navigational aids, rough jetties and wharves served government and private purposes and were used by immigrants, merchants, fishermen and postal services and customs officers. Geographic accidents, such as the existence of natural harbours, the depth of water and the safety of coastal approaches dictated landing places and the sites of settlement. The geological formation of the Victorian coastline directed the siting of defence installations and navigational aids. In this draft I have attempted to rectify this problem by dealing with the 1830s-1850s period chronologically, without overt reference to themes, before moving on to a thematic approach after the 1850s period, using the Australian Historic Themes developed by the Australian Heritage Commission. Moving from a chronological to a thematic approach has obvious problems, as it is difficult for the reader to simply follow particular sites or themes through from the beginnings of European settlement to the present day.

Another problem with the thematic approach is that many infrastructure sites can be linked to a number of themes, as layers of use over time have changed their function, or as they have been adapted to serve a number of purposes. This is perhaps particularly the case with sites such as jetties, many of which now largely have a recreational focus, but may have originally been constructed to help 'settlers on the land' move their produce or move people from one part of Victoria to another. Though I have tried to cover particular sites within the context of the theme for which they were originally built, this is not always successful. Some sites have been mentioned in the context of numerous themes. Furthermore, it has sometimes been difficult to ascertain the central purpose behind a particular site or piece of infrastructure. This is particularly true of jetties and piers, especially in regional areas. Because the sea provided such an important transport and communication

link for much of Victoria for such a long time, it is not always easy to neatly box these sites into 'recreation', 'moving people' or 'transporting goods' because they have probably served all of these purposes and others beside. Despite the limitations of the thematic approach, however, it is difficult to think of a better way of approaching such a vast subject. A purely chronological or geographically-based approach would be far too cumbersome.

Finally, it would be hard to find a piece of maritime infrastructure in Victoria that has not been substantially altered over the course of its life. This is only natural when it is considered that much maritime infrastructure is 'working' infrastructure, needing to be repaired, maintained, upgraded and replaced in order to perform its functions properly. The Public Works Department summary contracts books (VPRS 2143) contain page after page of lists of works carried out on jetties, piers and other structures up and down the Victorian coastline. Other public records indicate how much the 'natural' environment has been altered by almost 200 years of dredging, major engineering works and land reclamation. Yet, while pointing to the fact that very little original 'fabric' survives in the twenty-first century, these sources also indicate the importance of maritime infrastructure to Victoria's economic and social development. Furthermore, many infrastructure sites and landscapes are etched into Victorians' individual and collective cultural memories as places where they first came ashore, enjoyed endless summer days, or participated in popular recreational activities. Though the significance of such sites is often less easy to document than that of sites which influenced the economic development of the state, the outpouring of public grief over the destruction of the St Kilda kiosk in 2003 indicates that such 'emotional' significance, though less tangible, is very real.

Within all the limitations, I have tried to present an overview of the development of maritime infrastructure in Victoria. Readers may find that there is too much space allotted to the nineteenth century and to maritime sites around Melbourne at the expense of regional areas of the state. This is probably partly because Melbourne has been by far the most significant port, but also because time to follow all the themes thoroughly through to the present day ran out. Perhaps this report can provide the starting point for further contextual work on Victoria's maritime heritage.

Part One

1800–1850s

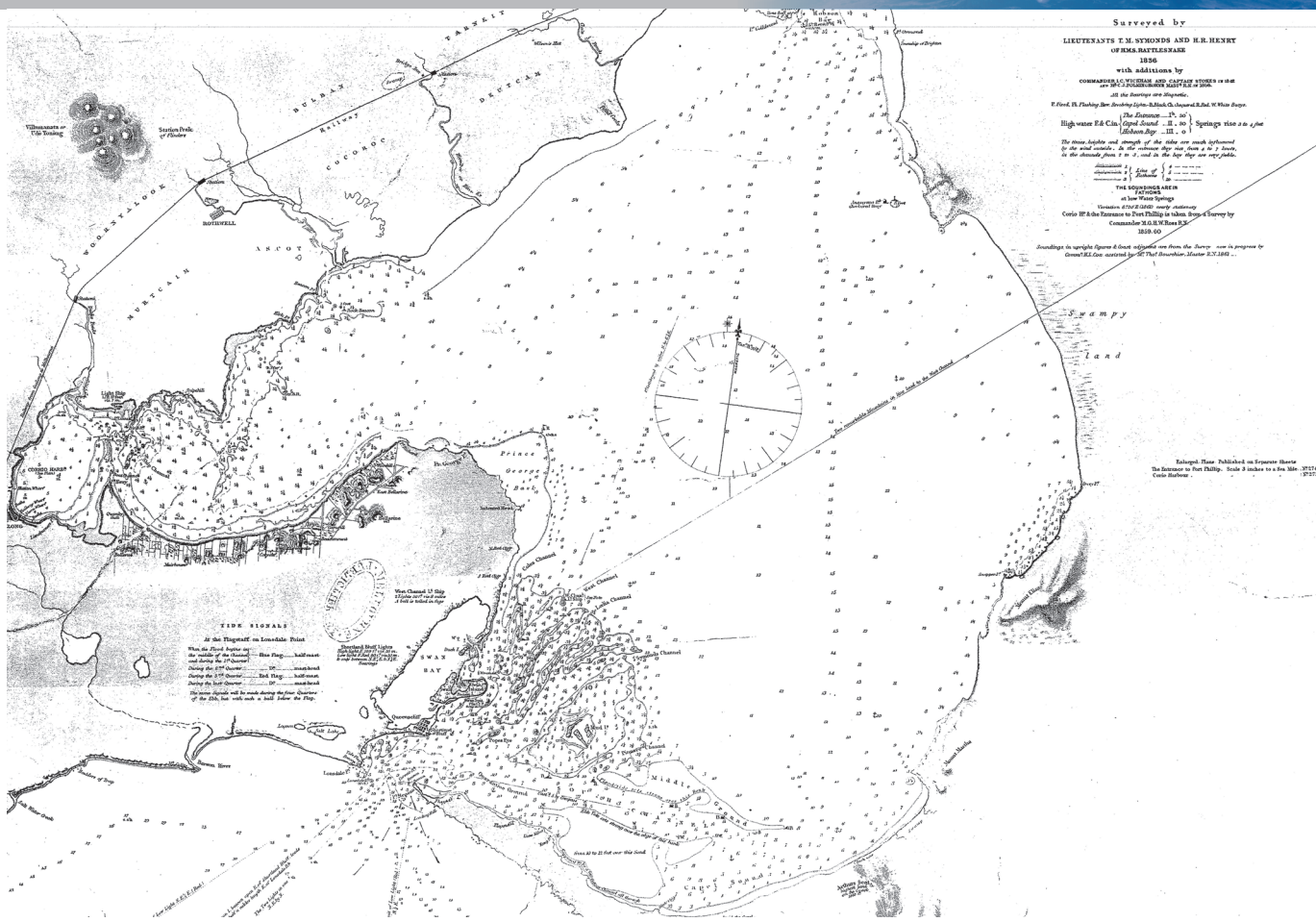


Chart of Port Phillip Bay 1862, based on the first survey of the bay by T.M. Symonds and H.R. Henry on the Rattlesnake in 1836, with additions to1862. *Map Collection, State Library of Victoria*.

First approaches to Victoria by sea

Indigenous Australians exclusively occupied the territory we now call Victoria for at least 50,000 years before the first non-Aboriginal migrants arrived. Though it is unlikely that these first residents arrived via the Victorian coast, their original journey to the Australian continent is assumed to have involved the sea. The earliest Australians are thought to have 'island-hopped' from southeast Asia, in eras when lower sea levels made the journey less hazardous. Whether the movement from island to island was gradual or purposeful is not known. Once they had made their way to what is now Australia, it is thought that, over time, Aboriginal people used coastal routes to spread southward along the continent as far as Tasmania which was, at that time, connected to the mainland. [1]

Victorian Aborigines were able to witness great changes in the coastline. Though geological and climatic changes altered the Victorian landscape many times over hundreds of millions of years, Aborigines were certainly here to witness the formation of Bass Strait by rising sea-levels about 10,000 years ago.[2] The *Kurnai* people of Gippsland told of the formation of Bass Strait in a story about their creator, *Mungan-ngaua*, who flooded the land as retribution when he discovered that some women had seen an initiation ceremony.[3] *Kulin* people handed down stories of the formation of Port Phillip Bay, with its narrow opening at Port Phillip Heads, about 8,000 years ago.

For many millennia the sea insulated the Aboriginal occupants of Victoria from further encroachments through migration. Though Aboriginal and Torres Strait Islanders of northern Australia had contact with islanders from the north, there is little evidence

to suggest any sea transportation into the southern part of Australia. Despite theories that European explorers might have ventured along the south-east coast of Australia in the sixteenth century, the first documented European contact with the Victorian coast was from James Cook's *Endeavour* in 1770. On 19 April Lieutenant Hicks sighted the promontory on the coast of East Gippsland that was eventually named after him. Cook's exploration of the eastern coast led to the establishment of a British penal settlement at Sydney Cove in 1788, but there was no European knowledge of the Victorian coastline until 1797, when the captain of the Sydney Cove, that beached itself on Preservation Island, north east of Tasmania, suspected that there was a channel of water between Tasmania and the mainland. Later that year George Bass sailed partway through Bass Strait. In 1798, Matthew Flinders, in the *Norfolk*, sailed right through the strait, proving that Tasmania (then called Van Diemen's Land) was separate from mainland Australia. Flinders named the strait after George Bass. In 1800 and 1801 the Brig, *Lady Nelson*, investigated the Victorian coastline more thoroughly. The vessel entered Westernport Bay before finding the entrance to Port Phillip Bay. Anchoring off Arthur's Seat, the crew made several short land investigations.

These coastal surveys did not necessarily lead to a rush of European settlement into Victoria. The most important immediate result of the discovery of Bass Strait was that it shortened the voyage for vessels travelling from the northern hemisphere to south east Asia or to the British colony in New South Wales. The accepted route had been to sail in an easterly direction from Capetown then south of Tasmania, before heading north along the east coast of Australia. The discovery of Bass Strait reduced this voyage by at least 700 miles.[4]

Temporary European settlements

There were only temporary British settlements in Victoria between 1801 and 1834. Twice in that period the British Government, motivated by the desire to prevent their imperialist rivals, the French, from claiming territory on Australia's coast, attempted to establish settlements. The first was at Sullivan's Cove, near Sorrento on the Mornington Peninsula. The party of soldiers, convicts and free settlers only remained here a few months, but they constructed Victoria's first maritime infrastructure, a gun battery on the shore. They also built a long pier, but only to help reload their vessels when the settlement's commander, David Collins, decided to move the party to the Derwent River in Van Diemen's Land (now Tasmania).[5] The second government settlement in Victoria was also related to defence. Hamilton Hume and William Hovell came overland to explore the country at Port Phillip in 1824. Their description of the fine country they had found rekindled the government's fear that the French would attempt to annex the territory. A small party of twenty soldiers, some convicts and some explorers were despatched to Western Port Bay where they remained at Settlement Point (near present day Corinella) from November 1826 to January 1828. Once again, the group set up batteries to guard the entrance to the bay, but no threats emerged and they returned to Sydney.[6]

Unofficial visitors to the Victorian coast used it as a base from which they plundered the sea. From the late eighteenth century at least, small parties of sealers were based at Sealers Cove on Wilson's Promontory, and in Western Port, on Phillip Island. Others based themselves at Port Fairy or Portland Bay. Here they clubbed and skinned seals in primitive camps, before shipping their fur for sale in Sydney or foreign ports. Crews of whaling ships from as far away as North America chased whales in the southern ocean, harvesting their blubber for oil and their bones for corsets. From the 1820s whalers established bases at Portland Bay and Port Fairy on the Victorian west coast.

Permanent European settlers and their early landing sites

Officially, the area now called Victoria was off-limits. It was the Port Phillip District of the Colony of New South Wales and the British Government refused to sell land within it. But by the mid-1830s, when the available land in Van Diemen's Land and New South Wales was becoming scarce, adventurous and ambitious pastoralists turned their attention to the promising pastures of the Port Phillip District. The first arrivals came by sea from Van Diemen's Land (Tasmania).

The Henty family had arrived in Van Diemen's Land in 1832 hoping to take advantage of free land grants to emigrants. They were disappointed to discover that these grants had been discontinued.[7] In November 1834 one son, Edmund, crossed Bass Strait to Portland Bay with four other men, some animals and materials with which to build a house. He was later joined by other family members, who began to

build a whaling station and pastoral empire at Portland. In the same year a Vandemonian, John Batman, representing a syndicate called the Port Phillip Association, sailed through Port Phillip Heads in the Rebecca. Landing first at Indented Heads, he explored the Bellarine Peninsula and Corio Bay, then sailed to the head of Port Phillip Bay where he anchored off Point Gellibrand (Williamstown). Batman explored the Maribyrnong and Yarra Rivers, before deciding that the latter provided a good site for a village. Negotiating a 'treaty' with the *Wurrundjeri,* which he felt gave his Association a right to all the land between the Yarra and Indented Heads, Batman left some men at Indented Heads and returned to Van Diemen's Land with the news of his purchase. Before he returned another Vandemonian, John Pascoe Fawkner, sent a party across the strait on the schooner, *Enterprise*. Fawkner's party took the *Enterprise* up the Yarra to a place where a rocky ledge across the river (near present-day Queens Street) prevented vessels from proceeding any further. The ledge, which came to be known as the Falls, marked the boundary between fresh and salt water. The action of the freshwater tide as it washed over the falls meant that a large natural basin had been scoured in the river, wide and deep enough to allow small vessels to turn. The crew of the *Enterprise* are said to have created Melbourne's first 'wharf', by cutting down a few trees and fixing them in the mud.[8] The nucleus of a permanent settlement, a couple of huts, was soon established near this point, where the river provided access to the sea, but also fresh drinking water above the falls.

The Fawkner and Batman parties were soon followed by other eager immigrants, most of them from Van Diemen's Land, though some travelled overland from New South Wales, bringing sheep or cattle. Aspiring pastoralists who arrived at the head of Port Phillip Bay usually landed their stock at the 'landing place' at Point Gellibrand, on a beach now reclaimed as Commonwealth Reserve, Williamstown. There were no sites where vessels drawing deep water could anchor close to the beach, so large vessels anchored in the deep water off Point Gellibrand and transferred sheep by boat to the shore. From here they fanned out with their flocks to the west and north. Newcomers without stock transferred to smaller vessels, such as whaling boats, which conveyed them up the Yarra River to the settlement at the Falls. In these early years some goods may have been transferred by lighter (flat-bottomed boats) to 'the beach' opposite Point Gellibrand (now called Port Melbourne). When William Lonsdale arrived in 1836 he chose to land his possessions on this beach and have them hauled to the little settlement on the Yarra by prisoners, though he himself travelled up the river to the settlement.[9]

Geelong was another early entry point for squatters and their stock. Some squatters landed their sheep at Cowie's Creek (now Corio) on the north shore of Corio Bay, but most landed them at Point Henry.[10] By 1838 new arrivals could shelter in a hut at Point Henry before pushing on to claim land in the vicinity of Corio Bay. Some settlers arrived by sea in Portland Bay, on Victoria's west coast. In June 1839, 293 Europeans were reported to be at Portland, with more expected from England and Van Diemen's Land.[11]

The flow of settlers into the district – there were 177 by June 1836[12]- forced the government to officially sanction settlement and to send an army captain, William Lonsdale, to represent government. As he and his successor, Lieutenant-Governor Charles La Trobe, attempted to impose order; the establishment of maritime infrastructure and port-related government services, such as customs offices, were amongst the highest priorities.

The importance of the sea for early Victorian development

It was the land that attracted squatters to the Port Phillip District, but it was the sea that was their route and their lifeline. Along with the ever-growing white population, the sea brought the livestock from which squatters hoped to make their fortunes, along with food, tobacco and alcohol, building material, furniture, clothing and sometimes whole houses. It provided the transport route for exports to Van Diemen's Land, particularly cattle and wool, but also timber, wattle bark, fish and meat. The sea was essential to the spread of white settlement across Victoria. It provided transportation routes for people and goods between isolated parts of the colony. The communication of official orders, laws, government decisions and news from other colonies and from England, all depended on the sea and it was from the sea that the government feared that threats to the colony's security would come.

The importance of sea transport to the young Port Phillip District can be judged by the number of ship arrivals recorded for the first years of settlement. Between 1835 and 1839 338 vessels arrived in Victorian ports, the vast majority of

them at Melbourne. Many of these vessels plied between Van Diemen's Land and Victoria. Some came and went from Sydney and, by 1839 the first vessels to sail directly from Britain had arrived in Port Phillip Bay, bringing the first of some 90,000 immigrants who arrived in the Port Phillip District by 1851. But sea transport was not only essential for the import and export of goods and people. The economic development of the hinterland of the district relied on the sea, while the young, but rapidly-growing settlement at Melbourne relied on the transportation of products from other coastal settlements. Though settlers spread further away from the centres of Melbourne and Geelong in the 1830s and 1840s, the infrastructure to assist overland travel was non-existent. Travelling between Melbourne and the 'country' could be dangerous and arduous when there were no made roads, bridges or punts. For many, coastal transport was the quickest, cheapest and fastest mode of transport. It was also the most convenient way to transfer the produce of local industries, such as timber-felling, wattle bark stripping and vegetables to the growing urban markets in Melbourne. By 1841, 4479 people lived in Melbourne, along with another 600 in Williamstown and South Melbourne and 454 in Geelong.[13] Their needs for building materials were partially met by limeburners, operating on the Mornington Peninsula near what later became Sorrento, Portsea, Rye and Blairgowrie, and near Geelong. Limestone was burnt in kilns, to produce lime, which was then shipped to Melbourne where it was mixed with sand and water to use as mortar. By 1850 a fleet of fifty lime boats operated between Point Nepean and Melbourne and a little dock was cut into the north bank of the Yarra near Spencer Street to accommodate this fleet.[14] Other building supplies, such as timber, were also harvested on the Mornington Peninsula and moved by sea to Melbourne. Facilities for loading and unloading produce were rough and dangerous. At Mount Martha, for instance, timber was reputedly dumped from clifftops into the water below from where it was loaded onto small boats moored to iron rings attached to rocks.[15]

Maritime infrastructure development 1834–1851

Most Victorian shipping arrivals and departures, from the very earliest years, were concentrated on Hobsons Bay, which stretched from a rocky promontory named Point Gellibrand, to the sand dunes and beaches of present day Port Melbourne, South Melbourne and St Kilda. It was here, near Newport, that the Yarra River entered the sea. By the end of 1836, 87 vessels had arrived in Hobsons Bay (many of them making several crossings between Van Diemen's Land and the Port Phillip District). When William Lonsdale arrived that year, it was to Melbourne, rather than Geelong, Portland or Port Fairy, that he came. Once here, he had to decide between Point Gellibrand or the Yarra settlement as the centre of government business. Point Gellibrand offered better access to the deep water anchorages in the bay, but unfortunately offered no fresh drinking water. The Yarra settlement therefore won.

Surveying Port Phillip Bay

The crew of the *Rattlesnake*, captained by William Hobson, stayed on to survey Port Phillip Bay after conveying Lonsdale to the district. Hobson, reporting on the survey, identified some of the dangers and limitations, as well as the advantages of Port Phillip Bay, for shipping. Being such a large bay, more like an 'inland sea', Port Phillip offered relatively protected water for ships, though the narrow entrance through Port Phillip Heads was very dangerous. Heavy ocean tides running through the entrance caused a barrier when they confronted outgoing tides. Moreover, just inside the heads, shoals and reefs ran out from both Point Lonsdale and Point Nepean, with very narrow channels between them.

Despite Port Phillip Bay's great size, there seemed to be very few good harbours within it. Hobson, like the earlier visitors, favoured the harbour off Point Gellibrand where the water, partly sheltered by the promontory of Point Gellibrand, was deep enough to provide safe anchorages for vessels 1,200 feet off shore. Hobson recommended building wharves at Point Gellibrand for he believed that, though the Yarra settlement would undoubtedly attract population, Point Gellibrand was more suitable for development as a port. A sand bar prevented vessels drawing more than six or seven feet from proceeding past the Yarra's mouth,[16] while mudflats in some sections of the river made it impossible for even smaller vessels to pass each other. William Hobson also liked the deep water harbour at Geelong, which gave easy access to the lush pastures of western Victoria. The problem was that a bar between the outer and inner harbours prevented vessels drawing more than nine feet of water from entering the inner harbour. They had to anchor off Point Henry. Like

Point Gellibrand, Point Henry lacked any obvious source of fresh water, making it ineligible as the site of a settlement. It would take almost until the turn of the twentieth century before the harbour limitations at both Melbourne and Geelong were resolved. In the meantime, the government began to erect infrastructure to cope with immediate requirements.

First government maritime infrastructure

William Hobson was to set down the first navigation instructions for Port Phillip Bay, using natural features such as the You Yangs and Arthur's Seat as leading marks. But he also recommended the installation of some basic port infrastructure in the form of navigational aids –buoys to mark the channels near the entrance to Port Phillip Bay and a lighthouse at Point Nepean, as well as a wharf out to deep water at Point Gellibrand. The buoys were in place by 1837, though all but one had sunk by early 1838. It was not until July 1839 that Captain J.M. Scott was able to report to William Lonsdale that he had laid the replacement buoys down. This was too late for the captain of the who spent three days trying to negotiate a path through the channels and shoals inside the Heads in June 1839.[17]

I have the honour to inform you that I have laid down the buoys in the western channel of this port in the following places:

1. *A red buoy on a shoal called the Pope's Eye on the southern part of it, so as to make a leading mark for the west or south channel, in three fathoms at low water.*
2. *A small black buoy on the extreme edge of the spit off Swan Point in 2½ fathoms at low water.*
3. *A white buoy on the westernmost spit of the west sand abreast of Swan Point in 2¾ fathoms at low water.*
4. *A black buoy on the spit running off from Indented Head and forming the northern entrance to the channel in 2½ fathoms at low water.*
5. *As the buoys have all been laid on the sands it will be advisable that no vessel should approach them nearer than two cables length.[18]*

Pilots and lighthouse at Shortlands Bluff

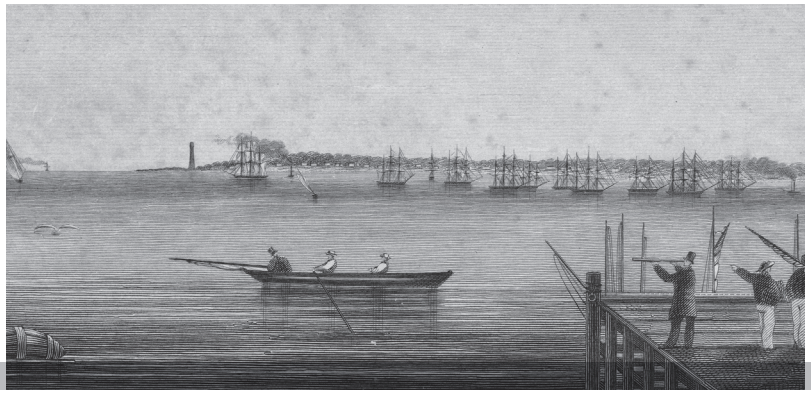
Mariners familiar with the passage through the Port Phillip Heads were already offering to guide vessels through the narrow passage. In April 1839, however, the government appointed an officially-licensed pilot, who was soon joined by a colleague. The pilots boarded ships entering or leaving Port Phillip Bay, guiding them through the 'Rip'. Ships' masters paid them for their services. The pilots were based, like the lighthouse, at Shortlands Bluff (later known as Queenscliff), initially living in tents.[19] Though Hobson had suggested Point Nepean as the site for a lighthouse to guide vessels through Port Phillip Heads, other ships' masters who frequented Port Phillip argued for one to be located at Swan Point (renamed Shortlands Bluff by William Hobson) on the western channel that led through the heads. Work was underway by 1838 to assess the size and material that would best serve to build this lighthouse and it was completed between 1841 and 1843.

Jetty and light at Point Gellibrand

By the time that the lighthouse at Shortlands Bluff was completed, other port infrastructure had been started at Point Gellibrand. In 1837 Richard Bourke, the Governor of New South Wales, visited the Port Phillip District. The strategic location of Point Gellibrand, motivated Bourke to instruct Robert Hoddle, the government surveyor, to lay out quays, piers and a town here. Bourke suggested that a navigational light was also needed here, as well as a battery (or small fort) to defend the settlement and shipping. The battery was put off until 1855,[20] but by early 1839 a jetty formed 'of huge stones piled up'[21] and 110 feet in length, was located at the 'landing place' at Williamstown. A similar jetty for Geelong, also in stone, was being planned by 1841.[22] An oil-burning 'plain stationary light' on a timber frame was shown at Gellibrand's Point as of August 1st, 1840.[23] By this time a Harbour Master, Captain Charles Lewis, had been appointed, with an office at Williamstown near the light. The Harbour Master had responsibility for all navigation of the bay, including Geelong and Port Phillip Heads.

The context of early government infrastructure

The reason for the settlement of the Port Phillip District by British subjects lay in its usefulness as a source of wool for the growing English market. The development of mechanised textile mills in Britain in the nineteenth century created a demand for raw products, such as fleece, that could not be met by European flocks. The early squatters who flooded



Hobsons Bay and Williams Town, Port Phillip, circa 1850. Ham Brothers Engravers. *La Trobe Picture Collection, State Library of Victoria*.

VViewed from Sandridge (Port Melbourne) this engraving shows vessels at anchor in Hobsons Bay and the Gellibrand light at Williamstown in the background. The jetty in the foreground is probably the beginnings of Town Pier.

into the Port Phillip District recognised the chance to make profits by supplying wool, which was easy to transport, to this market. The government recognised its duty to facilitate this trade by imposing order and control on the Port Phillip District, by making the seaway safe for trading vessels and by defending the ports and seaways from attempts to disrupt trade by rival imperialist powers, such as France or Russia. It could also assist the Port Phillip pastoralists by supplying vital labour, in the form of emigrants from the home country. Navigational aids, jetties and wharves would assist settlers to carry out their trade and make it safer for new emigrants arriving from Van Diemen's Land or even from Europe.

But port-related infrastructure was also necessary to assist colonial government to control and harness the productivity of the settlement. The importance of customs collection, for instance, was evidenced by the fact that the first customs employees in the Port Phillip District arrived at the same time as William Lonsdale in 1836. Although their first headquarters was located at the landing place on the Yarra (where a permanent customs house was later established), by the following year the New South Wales Controller of Customs recognised that customs houses were also required at other popular landing places: Williamstown, Sandridge and Geelong. In 1840 Portland also gained a customs office. Customs duties regulated and tabulated the goods imported or exported from the colony. But more importantly, they provided virtually the only government revenue outside of the sale of Crown Land.

The rapid population and economic growth of the Port Phillip District outstripped the government's ability to introduce infrastructure to deal with it. This was partly a problem because Port Phillip was just a distant district of New South Wales. But once Victoria achieved separate government from New South Wales in 1851, the difficulty of providing adequate coastal infrastructure became more acute. In the same year gold was discovered in Victoria. Thousands of people began arriving in the colony, at first from other colonies and then from overseas. The constant arrival of vessels at Victorian ports put immense strain on maritime resources but, due to the chaos into which the colony had been thrown, the Government struggled to adapt Victoria's primitive infrastructure to cope with these new demands. The development of infrastructure that could adequately cope with the traffic into and out of the colony was also influenced by natural obstacles.

Early years of Victorian ports

Problems with the early Port of Melbourne

Williamstown

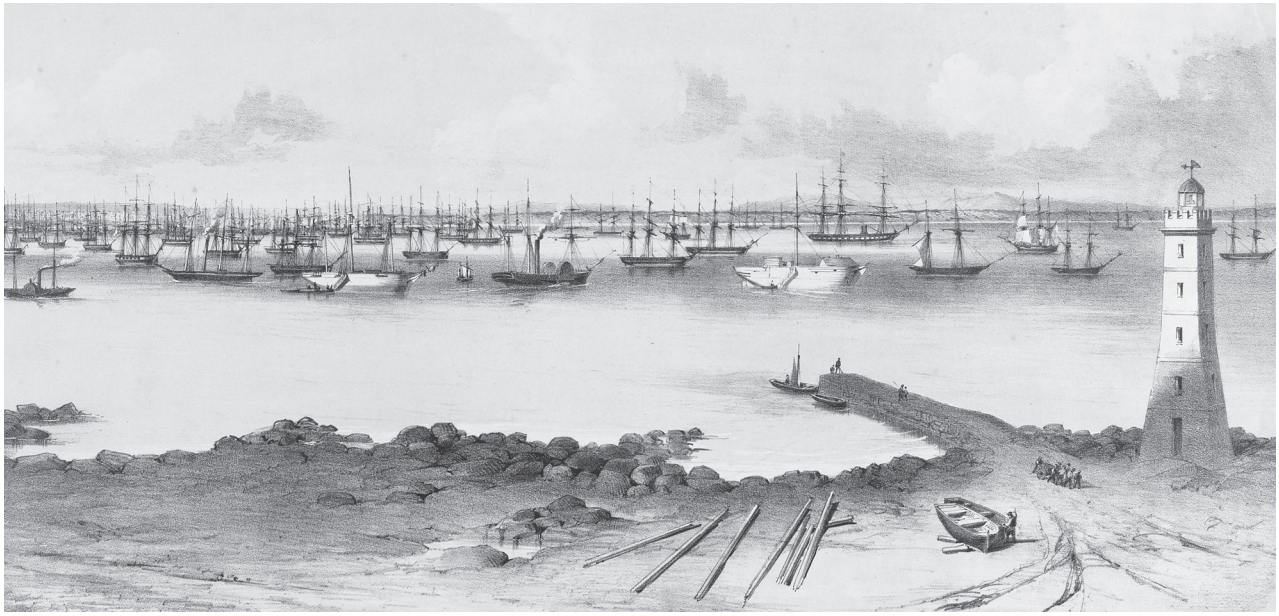
There were three alternative landing sites in early Melbourne but each of them presented difficulties. Williamstown (known at first as Point Gellibrand) had the advantage of being close to the deep water anchorages in Hobsons Bay. The ships and the early jetty here were sheltered from heavy winds by the curve of Point Gellibrand. But Williamstown lacked any obvious source of fresh water and was several miles from the main settlement on the Yarra, making it very difficult to transfer passengers and cargo overland to the settlement until the Melbourne-Williamstown railway line was built in the 1850s. Williamstown therefore took on the role of being a 'transfer' station, where lighters and other vessels were based to unload larger vessels and ferry people and products up the Yarra or across to the beach at Sandridge. Privately-owned rowboats could be hired to transfer passengers and cargo across Hobsons Bay to the beach at Sandridge. By 1838 the first ferry steamer began offering a service up the Yarra River to Melbourne, but it was not until 1853 that a regular ferry service, offered by the paddle steamer *Comet*, commenced.[24]

Sandridge (Port Melbourne)

The 'north beach' or Sandridge, offered a landing place that was much closer to Melbourne, being only about two miles overland from the settlement at the Falls. It was for this reason that the Controller of Customs argued in 1837 that a Customs House, along with a wharf and jetty, should be established here, 'on the north-east' side of Hobsons Bay, a spot 'convenient to the shipping, and within a reasonable distance of Melbourne where the merchants and traders will probably fix their residences and warehouses'.[25] But strong south-westerly winds often made the water here too choppy for safe landings. Nevertheless, the first assisted immigrants from Britain were transferred from the *David Clark* to this beach and then walked along a well-used track to Melbourne. Robert Hoddle, Melbourne's first surveyor, was amongst those who saw the possibilities of Sandridge, planning a pier and railway line connecting the beach to the Yarra Settlement in 1838.[26] Though nothing immediately came of this plan, one immigrant

Approach to Melbourne from Abattoir, 1857. J. Tingle engraving. *La Trobe Picture Collection, State Library of Victoria*.

The Melbourne abattoirs were located on the Yarra downstream from Melbourne from 1851 until they were moved to the banks of the Maribyrnong in the late 1850s. The difficulties of navigating the Yarra are demonstrated in this engraving.



Hobson's Bay from the signal staff, Williamstown, 1853. Picture Edmund Thomas. *La Trobe Picture Collection, State Library of Victoria.*

Taken from the perspective of the signal staff, from which messages were conveyed from Williamstown via flags to Flagstaff Hill, this 1853 view of Hobsons Bay demonstrates the rapid growth in shipping to Hobsons Bay during the gold rush era. The bluestone lighthouse, completed in 1849 to replace an earlier timber light, was later converted to a time-ball tower, which still stands at Williamstown. The rough stone jetty, which was later extended to become Breakwater Pier, was used to land convict labourers from the prison hulks moored just offshore.

to the district, Wilbraham F. Liardet, installed his own private infrastructure, constructing a hotel and pier on the 'beach' in 1839-1840. Liardet won the contract to convey mail from vessels to the Yarra settlement, and claimed that, in addition to many passengers, Customs and Police boats made use of his jetty.[27] While many early travellers recalled travelling up the Yarra when they first arrived in the Port Phillip District, clearly many passengers alighted at Sandridge and, possibly because it was cheaper, assisted immigrants may have been more likely to come ashore here than on the Yarra. Early in 1849 the government called for tenders for timber to construct a jetty at Sandridge. A small pier, capable of serving four to six ships, it was intended for use mainly by passengers and not for handling heavy goods.[28] It became known as the Town Pier.

The Yarra

As the Controller of Customs had predicted, the Yarra, near the Falls, was favoured by merchants as the site for unloading cargo. Early vessels using the Yarra tied up at the 'stakes' that had been driven into the mud by the crew of the *Enterprise*. Work began on a government wharf in 1841, but was still continuing the next year.[29] In the meantime, Captain George Ward Cole built a private wharf, 45 feet long and 110 feet deep, between King and Spencer Street.[30] This was at least partially in place when Georgiana McCrae arrived in the colony in March 1841. Despite the existence of these and another private wharf, Raleigh's wharf, wharfage space was clearly in short supply even in the 1840s, when some newcomers to Melbourne described being landed 'in the mud' on their arrival in the colony. By the 1850s the river was choked with traffic. When William Kelly arrived in 1853 it took nearly two hours for a steamer to transport him from Hobsons Bay to Melbourne. 'When at our destination, the boat was made fast to a weather-worn stake … We managed to land somehow without leaving our boots as hostages in the mud.'[31]It was not only passengers who were being landed in the mud.

'The north bank of the Yarra, at that time, from the falls down to the slaughter-houses, was a slough of dark mud in a state of liquidity, only a very few degrees removed from that of the river, and along it the entire distance was a line of lighters and intercolonial vessels, four deep, discharging promiscuously into the mire bales of soft goods, delicate boxes of dry goods, cases of brandy, barrels of flour, packages of Glenfield's patent starch ….and a hundred-and –one other and sundry articles , piled up in mountains in the muck, of which the "dry goods" not unfrequently constituted the lower stratum or foundation.'

Though Governor Bourke had decided that the permanent Customs House should be located at Williamstown, by late 1837 the Controller of Customs had convinced him that, as the Yarra settlement was where merchants were most likely to reside, this was where the permanent Customs House, along with a bonded warehouse should be. By the early 1840s merchants had begun to build warehouses in the streets adjacent to the wharf area and most cargo was transferred from ships to lighters in Hobsons Bay and ferried up the river to be unloaded.

Geelong

Geelong's population grew more slowly than Melbourne's in the 1840s. Yet, by 1850 the government had erected three jetties at Geelong in Corio Bay: Stony Pier, the Yarra Street Pier and the Moorabool Street Pier.[32] Plans were in hand to dredge a ship channel through the sand bar at Point Henry to the inner harbour, but this was not achieved until 1861, when a channel with a depth of eighteen feet was dredged.[33] While the sand-bar hampered water traffic, Geelong was also disadvantaged by the fact that it was not declared a free warehousing port until 1848. Until then, any imports bound for Geelong had to first pass through the Port of Melbourne. Yet, by the late 1840s, Geelong's connection to the pastoral western district meant that more exports left the district via Geelong than via Melbourne.[34]

Portland

Far more vessels visited Portland than Geelong in the 1830s. Portland Bay offered a deep harbour that was comparatively calm, except when gales swept in from the relatively unprotected southwest, but ships were forced to anchor offshore. Not only had the Hentys based themselves here from 1834, but there was already a substantial whaling station. Marten Syme records vessels arriving and departing from here from 1828, bringing in sealers and their supplies, and then whalers. After 1835 vessels were bringing in livestock and supplies and leaving Portland Bay with oil, wool, whalebone and potatoes. By 1841 emigrants were arriving at Portland Bay. In 1846 a government jetty, of 500 feet, was constructed. Extensions soon after included a double rail track on the pier.[35] But the pier, apparently, did not extend into deep enough water for large vessels to come alongside and lighters still had to be used to ferry goods from ship to shore.

Port Albert

European settlement of Gippsland was much slower than the rest of the state. Partly this can be attributed to the lack of any accessible coastal entry points to Gippsland. The earliest pastoralists in the Gippsland area came overland from eastern New South Wales. While parts of Gippsland looked promising for pastoralists, it was necessary to find a coastal outlet from which products could be exported and supplies brought in. The great swamp at Koo-Wee-Rup made land access via Melbourne difficult, while the high country in the east made it difficult to move products to New South Wales. Pastoralist Angus MacMillan made several attempts to find a land route through to the coast at Corner Inlet between 1839 and 1841. He was finally successful in 1841 and was soon after followed by explorer Count Paul Strezlecki. Coincidentally, in January 1841, the steamer *Clonmel*, en route from Sydney, was grounded at Corner Inlet. Though a disastrous occurrence for the owners and passengers, the event proved that there was at least a potential port here. The government surveyed a town, Albert Town, now known as Port Albert, and declared it to be Gippsland's Port in 1842. But the first port facilities here, including a jetty constructed in 1846, were privately-built.

Early coastal lights

Port Phillip residents, ships' crews, visitors and representatives of the government were well-aware of the shortcomings and dangers of the Victorian coastline and harbours. Though navigational lights and buoys had been erected at Port Phillip Heads and Hobsons Bay, the approaches to Port Phillip Bay, through Bass Strait and along the Victorian coastline, were fraught with danger. In the west, vessels had to negotiate a path between Cape Otway and islands such as King Island. Strong winds and unfamiliarity with currents could spell doom for ships unfamiliar with the territory. The eastern entrance, between Wilsons Promontory and the Kent Group of Islands was equally dangerous.

In 1835 a convict ship, the *Neva*, was wrecked on King Island, with 300 lives lost. Though a New South Wales Parliamentary Committee recommended that a light be placed on King Island, there were several more wrecks in the vicinity before the tragic loss of the immigrant ship, the *Cataraqui*, with 414 souls, in 1845. The wreck of the *Cataraqui* was seen as compelling evidence of the pressing need for a lighthouse at Cape Otway. But the building of a lighthouse was further delayed by the search for a route over which building supplies and workmen could be conveyed to the rugged and remote cape. It was not until 1848 that the Cape Otway lighthouse began operating. Although a parliamentary committee had recommended four additional coastal lights for Bass Strait, none of these were operating before the 1850s.

Projected harbor and port improvements

As early as the 1840s it was recognised that more permanent work would be needed to make the Port Phillip District's ports more accessible. The government contracted to have a dredging machine constructed to make both the Yarra River and the Geelong harbour navigable for larger vessels. The natural 'basin' at the falls in Melbourne was deepened and Henry Ginn, the Colonial Architect, authorised surveys of both the Melbourne and Geelong harbours. By 1851 Ginn, along with the Colonial Engineer and the Melbourne Town surveyor, had made recommendations about improving port access to the centre of Melbourne. There were a number of suggestions of how this could be done: either with a canal cut through from the bay to Melbourne, by straightening the tortuous course of the Yarra above its junction with the Maribyrnong River or with railway lines connecting Melbourne with piers at Sandridge and Williamstown. The canal was the most popular scheme, but before a decision was made on which of these improvements might be carried out, and even before the dredge was finished, the discovery of gold in Victoria threw the young society into turmoil.

The impact of gold discoveries in the 1850s

In July 1851 Victoria was declared a separate colony from New South Wales. A few weeks later, gold was discovered near the Yarra River and then in central Victoria, initiating a period of madness in the new colony as men flocked to seek their fortunes, first from across Victoria, then interstate and, by 1852, from overseas. Between 1851 and 1861 584,000 people migrated to Victoria, most by sea.[36]

This huge influx of immigrants obviously impacted on the colony's maritime infrastructure, greatly increasing traffic into Victorian ports, straining existing facilities and making the expansion of facilities an urgent necessity. The increased population also created a demand for all manner of goods that could not be manufactured in Victoria and had to be imported.[37] Harbour facilities, such as jetties, wharves and navigational aids were clearly inadequate to cope with the increased shipping. In addition, the greater influx of goods and passengers necessitated the creation of other kinds of infrastructure, such as expanded customs houses and associated sheds, headquarters for water police at major ports, immigration depots and barracks, increased accommodation for harbour masters, coastal pilots and their staff and ship repair facilities. But the shortage of labour, occasioned by the fact that almost all able-bodied men fled their jobs to seek gold, meant that finishing, or even beginning construction work on a range of projects was difficult. Even the steam dredge that had been begun in the 1840s was not finished by 1853.[38] The labour problem was eased after 1854, when disillusioned gold seekers began to drift back to Melbourne or Geelong in search of other employment, but the government also had to resort to using prisoners' labour for some maritime building projects. The prisoners were housed in a number of hulks moored off Point Gellibrand.

The labour shortage, combined with the need to provide a range of public works needed to administer the colony, meant that large projects, such as the proposed canal linking Hobsons Bay to the Melbourne wharves, were placed on hold.[39] Instead, a Select Committee of the Legislative Council recommended that wharves be erected running parallel to the coast at Williamstown, along with a stone breakwater at Point Gellibrand. As well as this, pile wharves, running out from the jetties already existing at Geelong, were recommended.[40] Existing jetties and wharves were extended and extra jetties were constructed at the major ports: Melbourne, Geelong, Port Albert and Portland. At Williamstown the old pier was extended, the Anne Street Pier was constructed and attempts were made to begin a breakwater pier, by building onto an existing stone jetty used to land convicts from hulks moored off Point Gellibrand. It was not until 1860, however, that this work got under way. In addition a Harbour Master' Office, Water Police Quarters and a patent slip were built, along with

additions to the lighthouse.[41] Other ports, such as Port Fairy and Warrnambool gained their first government-constructed infrastructure during this decade. As well as jetties and piers, navigational aids and life-saving equipment such as life boats and rocket sheds helped to make these ports safer. Gold rush immigration and trade not only stimulated the growth of existing ports, but helped to develop other water-transport systems, such as that on the Gippsland Lakes. Another effect of the gold rushes on the shape of Victoria's coastal infrastructure was the impetus to construct infrastructure to protect the busy trade of the port of Melbourne. Batteries were erected at Point Gellibrand and the 'beach' (present-day Middle Park) in 1855[42] and Select Committees on the Defence of the Colony continued to investigate adequate defences throughout the 1850s. Work began on the Queenscliff Battery in 1859.

Victoria's growing population stimulated the demand, not only for imported goods, but also locally-produced products, such as firewood, lime, timber, building stone, fish, vegetables, meat and grain. Jetties or piers were built at several coastal locations, such as Mornington, Frankston, Portarlington, Hastings and Welshpool, to improve the transportation of such produce in the 1850s. At St Kilda, a growing suburb, a pier helped with bringing building materials into the locality, while also offering a route for Prahran firewood cutters to transport their produce to central Melbourne.

Along with the labour shortage of the early 1850s, there was also often a shortage of suitable materials for constructing port infrastructure, delaying projects while materials were imported from Van Diemen's Land or from Europe. Sometimes pre-existing private facilities were leased or purchased for government purposes. At Sandridge, for instance, the government purchased private premises from Patrick Hayes to serve as a Customs Office and quarters for Tide Officers in 1854.[43] Much of the infrastructure constructed during this period very soon needed to be extended, added to or improved. Some hastily-constructed infrastructure proved to have been placed in the wrong place. The first government jetty at Port Fairy, for instance, which was built in 1856, was built in shallow water. It was not used and was eventually allowed to disintegrate.[44]

Some infrastructure development of the 1850s was carried out by private companies. St Kilda's first pier, which was destroyed soon after its construction in 1853, was built by the St Kilda Pier and Jetty Company. Three other projects were the work of private railway companies. In August 1852 the Melbourne and Hobson's Bay Railway Company was formed to build a pier at Sandridge, together with a railway line connecting it to Melbourne. When officially opened in 1854 the line became Australia's first public steam railway. The pier, known as Railway Pier and replaced by Station Pier in the 1920s, was less than 600 feet long, but extensions in the 1850s and early 1860s brought it up to 2,171 feet by 1862. Another private railway company, the Melbourne, Mount Alexander and Murray River Railway Company, also formed in 1852, began constructing a railway line from Spencer St, Melbourne, across the Maribyrnong River to Footscray and then parallel to the Yarra to terminate at Williamstown. The company's aim was to build a railway line connecting the Murray River trade with Melbourne to enable produce from the Riverina district to be easily exported. The company began by letting a contract for a pier at Williamstown, before the first sod for the railway line was turned at Point Gellibrand in June 1854. Before the line between Melbourne and Williamstown was finished, the company's financial difficulties prompted the Victorian Government to take over the project. The Melbourne-Williamstown line was soon put into service carrying railway equipment imported from Britain and unloaded at the Railway Pier at Williamstown (now called Gellibrand Pier). The equipment was used to continue the construction of the Melbourne-Bendigo line. The Victorian Railways Department also took over the pier and railway line built by another private company, the Geelong and Melbourne Railway Company in 1857. This company's railway pier was located on the site of what is now known as Cunningham Pier, Geelong.

The gold rushes of the 1850s changed Victoria into a far more complex society, with a population concentrated in large centres throughout the goldfield's regions as well as in Melbourne and Geelong. Melbourne had been confirmed as the gateway to the colony, but successive Victorian Governments would attempt to encourage rural settlement throughout the colony. The remainder of this background history will use a thematic approach to trace the development of maritime infrastructure in the colony and then state.

Part Two

Thematic history of maritime infrastructure

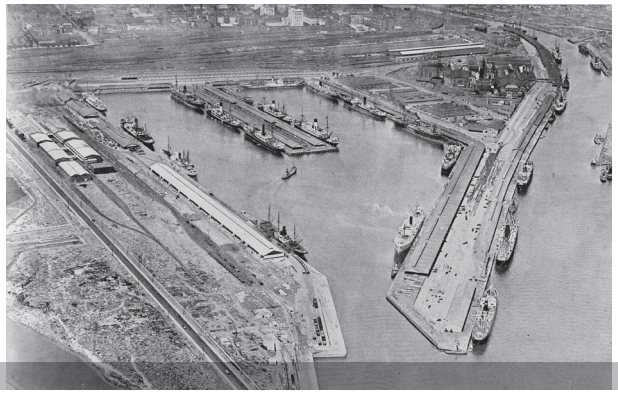
Melbourne and Hobson's Bay Railway Company's Pier, Sandridge, 1860. *La Trobe Picture Collection, State Library of Victoria*.

1. Improving Victoria's ports and harbours

Australian Historic Theme: 3. Developing local, regional and national economies

Major works

Vast amounts of money were expended on improving Victoria's port facilities in the nineteenth century. In some cases, jetties or breakwaters were inadvisably placed and had to be replaced. In some cases the improvements were not sufficient to keep up with the changing size of sea transport and the ports fell by the wayside. Sometimes the improvement of the ports and waterways involved large-scale engineering works, such as the altering of the course of the Yarra River and excavation of Victoria Dock, the creation of the artificial entrance to the Gippsland Lakes at Lakes Entrance and the building of breakwaters and training walls at Warrnambool, Port Fairy and, much later, Portland.



Aerial View of Victoria Dock, including the central pier in 1927.
Public Record Office Victoria, VPRS 12800 P1, H1240.

Infrastructure to load or unload cargo often began with simple jetties or piers to replace the dangerous system of 'lightering' goods to and from vessels. While a jetty, with attached tramway, crane or storage shed was sufficient for the carriage of goods in smaller settlements, the increasing traffic in some Victorian ports in the nineteenth century, along with the complexity of cargoes coming into and out of the ports, demanded port improvements on a larger scale. Some harbours, such as Warrnambool or Port Fairy, could be dangerous for ships lying at anchor when gales blew in from the south-west. Improvements to harbours such as these aimed to improve protection for shipping, as well as offering increased berthage.

Victoria's economic development in the second half of the nineteenth century came at a time when ships were evolving from wooden sail-powered vessels to larger, iron steam-powered ships. In that century, as well as during the twentieth century (and the twenty-first century) there were imperatives to constantly improve port facilities to accommodate ever larger vessels. Port facilities have also had to keep up with changing methods of loading and carrying cargo. The need to constantly adapt the major ports over the last one hundred and fifty years has meant that the shape and facilities of such ports have constantly evolved. The axes of maritime activity have shifted and major pieces of infrastructure, such as wharves, docks and jetties have been twisted, improved, extended, replaced or demolished to suit new purposes. Very little of the maritime fabric of Melbourne, for instance, would be instantly recognised by mariners or stevedores who used it one hundred or even fifty years ago. By contrast, Port Fairy, which had its heyday between the 1830s and the 1870s and then declined in importance, retains many of the features that were put in place by harbour works in the 1870s.

Major developments in the Port of Melbourne

The gold decade added several piers to Williamstown and the Railway and Town Piers at Port Melbourne . Despite the major developments at Williamstown and Port Melbourne, the Yarra remained the favoured site for unloading imported cargo in Melbourne. It was here that warehouses and commercial activity were concentrated. Moreover, the siting of a railway reserve at Spencer Street, gave close access to potential rail transport from the wharves. The government spent considerable amounts of money expanding and improving the Yarra wharves in the 1850s and 1860s. Sheds and cranes were added and the wharves extended along both sides of the Yarra downstream from the Falls. Constant dredging was carried out to keep the Yarra navigable for ships but the increasing use of steam-powered vessels, which were often larger than sailing craft, meant that, despite the dredging, many vessels could not make it up to the Yarra wharves. Many imported goods still had to be double-handled, unloaded at either Sandridge or Williamstown and moved by rail or smaller vessels to Melbourne. Double handling increased the cost of imported goods.

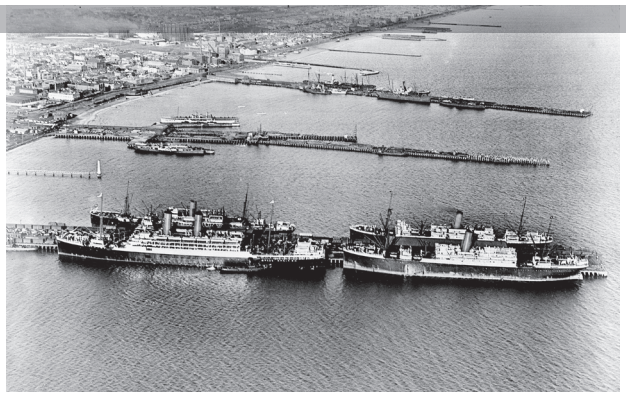
In 1860 a Royal Commission on Harbour Improvements joined the Melbourne Chamber of Commerce in strongly recommending the formation of a harbour trust which could oversee all facilities in the port of Melbourne. In addition the Royal Commissioners reiterated earlier views that a canal connecting Hobsons Bay with the river wharves was desirable. The considerable expense involved in creating such a canal, however, was not thought justified at the time. In the meantime, the Yarra would be deepened yet again.

It was not until 1877 that an Act of Parliament established the Melbourne Harbor Trust. The Trust's wide powers covered shipping and shipping–related infrastructure on the Yarra and Saltwater (Maribyrnong) Rivers up to Hopkins St, Footscray and in Hobsons Bay. Though this area encompassed Williamstown and Port Melbourne, the Trust was determined to make it easier to bring cargo directly to the hub of Melbourne. Soon after its formation, the Trust engaged Sir John Coode, a British Engineer, to report on possible engineering improvements to the port. In contrast to earlier commentators, who had recommended cutting a straight canal from Hobsons Bay to the city wharves, Coode recommended that the Yarra River's course be altered and therefore shortened, by cutting a new canal below the Yarra's natural junction with the Saltwater River. The river would also be deepened and widened and the falls at Queens Street blasted away. Coode also recommended the formation of a series of docks north of the new canal on the West Melbourne swamp and adjacent to the Spencer Street railyards. The creation of the canal, which became known as the Coode Canal, was a major public work, taking from 1884 to 1887 to complete. But work did not begin on a dock, to be named Victoria Dock, until 1888. Built on the West Melbourne swampland, it enclosed 96 acres of water. It was not until 1896 that the dock was ready to be inundated with water, unfortunately at the height of probably the worst

Sir John Coode's plan for improvements to the Port of Melbourne, 1879. *Map Collection, State Library of Victoria.*

Coode's proposed new course for the Yarra River is shown in blue. This plan also features jetties, piers and sea baths along the coastline at Williamstown, Port Melbourne and St Kilda.

Geelong wheat silos, wharf and loading equipment on the North Shore circa 1939.
Public Record Office Victoria VPRS 12903P1 Box 313–12F.



Aerial View of Port Melbourne Piers circa 1926 when Station Pier (centre) was under construction. *Public Record Office Victoria, VPRS 12800 P1, H1239.*

The piles of the old Railway Pier can still be seen extending at an angle from the new pier, while the wing piers constructed for the bay steamers are already in use. Princes Pier is in the bottom of the picture and Town Pier above Station Pier. The small boat harbour constructed at the Sandridge Lagoon is above Town Pier.

depression that Victoria has experienced. But the role of Victoria Dock soon became clear. By 1908, 90 per cent of Victoria's imports came through it.[45]

The opening of Victoria Dock did not spell the end of traffic at the Yarra River wharves. Indeed added wharfage and a 'swinging basin' were constructed in the 1880s.[46] Smaller vessels, on the interstate or coastal trade, supplying coal or timber to industries along the river, to the Melbourne Gasworks or to the railways, continued to make the river wharves a busy scene. It was not until the construction of the low-lying Spencer Street Bridge across the Yarra in 1927–1928, that the river upstream of here was effectively blocked to river traffic.[47]

Nor did Victoria Dock mean the end of the use of piers at Port Melbourne and Williamstown for export cargo. At the request of the Victorian Railways Department, which supervised railway piers at both Port Melbourne and Williamstown, the Melbourne Harbor Trust deepened and widened the Port Phillip Bay channels in the late 1880s and early 1890s. The channel to Port Melbourne - 600 feet wide, and 28 feet deep – was blamed for diverting much of the export traffic away from the Williamstown piers.[48] But even with this improvement, by the first decade of the twentieth century Melbourne's berthage facilities and channels were becoming inadequate for the increasingly larger overseas shipping.[49]

Between 1914 and 1920 a central pier was added to Victoria Dock, enlarging its capacity. In 1925 its entrance was widened to allow for larger ships to enter. Plans for further and far reaching improvements were interrupted by World War I, which saw a decrease in trade at the Port of Melbourne because of the restrictions on international shipping.[50] Plans for the 1920s included the extension of wharves on both sides of the Yarra from Victoria Dock down to the river mouth.

In the same decade the Melbourne Harbor Trust began excavating a new dock on the north of the river. This dock, not completed until 1956, was named Appleton Dock. It was only three years later, in 1959 that a third large dock, at Fishermen's Bend at the entrance to the Yarra, was opened. This dock had been years in the planning and when it was opened in 1959, named Webb Dock, offered a new kind of cargo handling. Facilities at Webb Dock offered a 'roll on/rolloff' system, in contrast to traditional methods of loading cargo onto ships by crane. [51] The rollon/rolloff method of handling cargo, developed by military authorities during World War II, allowed cargo to be driven directly into a ship's hold from the wharf.[52] But even as Webb Dock was opening, there were further developments in the loading of cargo. In 1957 the world's first 'container ship' sailed between New York and Miami. This marked the beginning of a revolution with far-reaching consequences for the Port of Melbourne. Loading cargo by container rather than the traditional 'break bulk' meant a change to new and more powerful wharfside cranes, the end of the need for wharfside goods and storage sheds and a far smaller dependence on manpower to load and unload ships. But containerisation demanded far larger open storage areas adjacent to wharves.

To accommodate this new method of handling cargo, yet another dock was begun at Melbourne. Swanson Dock, carved out of land on Coode Island, was begun in 1966. The first stage of this new dock was opened in 1969, but improvement and extensions of the berthage and facilities continued until the late 1980s. As these newer docks came into use, the usefulness of Victoria Dock for cargo shipping declined and thoughts turned to reusing the old docklands area for other purposes. Since 1997 when the Bolte Bridge across the Yarra finally removed access to Victoria Dock for larger vessels, the dock has been progressively developed as the gleaming new Docklands.

Remains of the Corio Freezing Works and Abattoir Wharf (H7721–0147) in 2004. *Heritage Victoria.*

Major developments in the Port of Geelong

The bar at the entrance to the inner harbour at Geelong was blamed for the lack of early development at that site, in comparison with the early port of Melbourne. In the 1860s a 'South Channel' was dredged to a depth of 18 feet, but this channel constantly silted up. Sir John Coode, when consulted in 1879, prepared plans for a channel following a different course. Work began on dredging this channel in 1881 and continued until 1895. Named the Hopetoun Channel after the Victorian Governor, the Earl of Hopetoun, it unlocked the Port of Geelong to larger ships. Unfortunately, the depth of water at the existing piers at Geelong: at Moorabool Street, Yarra Street and Railway Pier, was not sufficient for these larger ships. The north shore of Corio Bay was found to offer much deeper water. In 1905, the Victorian Government purchased 195 acres of land at North Shore, adjacent to the North Geelong Railway Station. This was handed over to the newly-formed Geelong Harbor Trust which began to plan for new wharves and facilities, while continuing to dredge the Hopetoun Channel, to provide access for even larger vessels.[53] The main axis of the port began to move from the old piers at Geelong to the north shore where new wharves, called Corio Quay, were gradually constructed.

One of the aims of establishing the Geelong Harbor Trust was to decentralise port facilities, especially for the handling of primary produce, such as wheat, from the western portion of the state. The GHT began work on a grain shipping wharf at Corio Quay, also establishing a meat freezing works and wharf and a log pond for the Oriental Timber Company, which leased land from the Trust at Corio Quay.[54] The Trust also had plans for expanding and modernising existing Geelong piers, such as Moorabool Street Pier, which was used mainly for passenger traffic. Railway Pier, an inconvenient shape, was rebuilt. Today it is still in use as Cunningham Pier.

Despite the intention to develop Geelong as a port for primary produce export, it was industry that really provided the impetus to improve facilities in the twentieth century. A wharf was constructed for the Ford Motor Company in 1927. The Grain Elevators Board Pier was built in 1939. But it was not until after World War II that port facilities on the North Shore at Geelong really began to take shape as wharves were constructed or lengthened to provide facilities for refineries, wire industries, and fertiliser plants.

Moorabool Street Pier was demolished in 1949, its site having been reclaimed and now serving as a park. The old Stony Pier, the first stone jetty erected at Geelong in 1842, is still in existence.

Portland

Portland harbour offered deep water that was relatively calm, except when winds prevailed from the unprotected southwest. The second pier, built here in 1857, was extended in 1880, soon after the Hamilton-Portland railway line was completed. The railway line was carried out onto the pier, allowing for the direct transfer of cargo onto vessels. Nevertheless, this extended jetty did not offer much accommodation for the increasingly large steamers that called along the Australian coastline and some cargo continued to be 'lightered' out to vessels anchored in the harbour. In 1902 a third pier, called the long pier, was extended 3,200 feet out from the railway station.

From the 1850s, the need for a breakwater to protect the harbour at Portland, had been discussed by select committees of the Victorian Parliament, but the prohibitive cost of the work delayed it. Sir John Coode's advice was sought on how to make the harbour safe for all vessels at all times. Coode submitted a number of plans for a Portland breakwater and jetties. In 1887 he submitted his third modification, which extended an existing breakwater that had been built near the mouth of the creek in 1878–1880. This breakwater offered shelter for fishing boats, but not larger ocean-going vessels. A series of other engineering plans proposed solutions to the problem of providing shelter in deep water, without inducing silting or sand drift in the bay. But the immense cost involved meant that they were never carried out. At the beginning of the twentieth century, the Victorian Government, in the interests of decentralisation, made plans, once again, to construct the necessary infrastructure to make Portland a modern port. Just as construction had commenced on a new pier, World War I broke out and works were put on hold. Despite the fact that little progress had been made, during the 1920s, Portland played a role as wheat export port. Wheat was conveyed to Portland by rail from the Wimmera and about 55 ships transported it from the port. But when the transition came from bagged wheat to bulk handling of wheat, Portland lost out in favour of Geelong, which offered much calmer water.[55]

Finally, near the end of World War II, the Victorian Government once again investigated whether Victorian port facilities would

Postcard of the entrance at Lakes Entrance (Cunninghame) circa 1900–1909 before the entrance was reconstructed in granite.
La Trobe Picture Collection, State Library of Victoria.

be enough to cater for increased trade in the post-war period. In the light of this investigation, Portland finally achieved the infrastructure that had been suggested for almost a century. The Portland Harbour Trust was established in 1950 and two years later work began on a new breakwater and wharf. The new harbour facilities were unveiled in 1960. Portland then became an export location for grain, wool and other commodities and an import location for petroleum products. However, it was the decision to locate an aluminium smelter here in the 1980s, that boosted the port's activities.

Warrnambool

Improvements made to Warrnambool harbour in the 1850s aimed at making it safe for shipping. There were problems here with shallow water, siltation, and openness to the sea. Two jetties had been constructed here by the time it was decided that a breakwater was needed. Although work began in 1878, it soon halted and Sir John Coode was called in to submit modified breakwater plans. This work was completed in 1890, but the breakwater's effect was to increase the siltation in the bay, and constant dredging was required. Although Warrnambool interests urged the continuing improvement of the harbour facilities, by this time railway connections had been made to Warrnambool, providing an alternative for the transport of local produce and inward supplies. In 1914 the breakwater was extended about 300 feet, but the work done was unsatisfactory. Built on sand, not stone, the extension subsided within a few years and large bluestone boulders had to be placed on one side to bolster it.[56]

By the 1920s the siltation problem meant that two thirds of the harbour was unsuitable for the increasingly larger shipping. Ironically, this was at a time when soldier settlement of the Wimmera and parts of the Western District was occurring. Royal Commissioners argued that improving the harbour would assist the 'struggling' soldier settlers, by offering access to coastal transport via the railway line to Warrnambool. In 1930-1931, the Port of Warrnambool was exporting more overseas than Portland was, although the major incoming cargo appeared to be coal.[57] But by 1942, the Shipping Control Board had prohibited even coal delivery ships from entering Warrnambool Harbour because of the 'restricted depth of water there'.[58]

Port Fairy

Despite the bustle and activity at Port Fairy in the 1850s, it was not until the 1870s that engineer John Barrow's plan to remove a bar on the River Moyne and construct training walls to carry silt into the bay beyond the mouth of the river, were put in place. This work continued until the 1890s, by which time a railway line linked Hamilton to Warrnambool, making that port far more convenient for moving goods and people into and out of the hinterland.

The Gippsland Lakes and Lakes Entrance

Port Albert had been a busy coastal port in the 1840s and 1850s. But when a navigable entrance from the ocean into the Gippsland Lakes complex was discovered in the late 1850s, Port Albert's role as an important port declined. Private companies began to offer steamer services on the network of lakes and rivers in East Gippsland and, at least one trader, Malcolm Campbell, operated between the lakes settlements and Melbourne, using the lakes entrance.

The natural entrance to the sea at Cunninghame (Lakes Entrance) was unreliable. It moved about and, in some years, disappeared altogether as sands shifted. In 1868 the Government Inspector-General of Public Works prepared a plan for an artificial entrance. This involved cutting a 400ft wide channel through the sand hills and reinforcing the sides with timber and stonework. The work on this began in 1870, but in 1874 a storm filled the entrance with sand.

Sir John Coode was then called upon to present a proposal for an artificial entrance, which was opened in 1889. Immediately there was drastic erosion at the entrance and siltation at the lakes. In the early 1920s the entrance was reconstructed in granite.

At the same time as work was carried out on creating Coode's artificial entrance, other infrastructure was installed in the lakes network. River wharves were built at a number of locations, such as Sale, Bairnsdale, Paynesville, McLennan's Straits, and Mossieface. In 1883 a swing bridge was erected on the La Trobe River at Sale to allow vessels to get closer to the heart of the town. And in 1888 a canal was dredged connecting the Thomson River with the new Sale Railway Station. Cargo could now be ferried via the river to Sale, then despatched by rail to Melbourne.

2. Migrating to Victoria

Australian Historic Theme: 2. Peopling Australia

First European immigrants

It was individual enterprise that brought the first permanent non-aboriginal migrants to the shores of Victoria. These migrants came across the sea from Van Diemen's Land. Though the first arrivals in 1834 and 1835 represented only a trickle, by 1837, when Governor Bourke visited the Port Phillip District, he found that the non-aboriginal population 'exceeded 500 souls' and more than 100,000 sheep. [59] Bourke recognised the reason for this migration from Van Diemen's Land, reporting to his superiors that many of the residents of Port Phillip had found that it was '*difficult to extend their possessions or to establish their families to their liking on the land remaining for selection in that Colony'.* He noted that in the Port Phillip District the '*general character of the country is such as to render it a very desirable position for settlers, whether graziers or agriculturalists and there is I think little doubt of its soon becoming the resort of emigrants from Europe'*.[60]

After the initial wave of migration from Van Diemen's Land and then New South Wales, a third wave of immigrants, also intent on making a fortune through pastoralism, arrived directly from Great Britain. Edward Kerr sailed on the *Midlothian,* the first ship to sail directly from Great Britain to Port Phillip, in 1839. He remembered that, as well as cargo the *Midlothian 'bore away a living freight of many young and hopeful human beings, who were carrying their energies to the new land which was dawning in the far antipodes*.'[61] By 1840 there were over 10,000 non-aboriginal residents of Victoria.

Assisted immigrants

These early migrants spread quickly across much of the Port Phillip District, leasing tracts of land from the government for their sheep runs. They were followed by many other immigrants who had the means to make the long and quite expensive journey from Britain. Once in Port Phillip, however, their greatest need was for labour to help shepherd sheep and reap crops. There were few immigrants of the labouring classes in the district because they could not afford to pay for their passages from Great Britain. To meet the need for labour, immigration schemes were implemented. From 1839 two methods of assisted immigration were practised in the colony. One was operated solely by the government which appointed Emigration Commissioners in England to select suitable applicants to emigrate to the colony. Their passages to the colony were paid from the proceeds of the sale of Crown Land. The first immigrant ship, the *David Clarke*, arriving directly from Greenock in Scotland in October 1839, though some unemployed immigrants in New South Wales had been forcibly moved by the Governor to Port Phillip earlier that year. Some employers, unhappy with the government scheme, operated their own 'bounty' system, employing their own agents in Britain to select migrants and then claiming back most of the cost of their passage from the government. Bounty immigrants were bound to work for a certain period of time for their employers on arrival in the colony. By the mid-1840s squatters in the Port Phillip District were so desperate for labourers that two 'immigration societies' had been formed, at Melbourne and Geelong, to transport workers, who were usually ex-convicts, from Van Diemen's Land. It was to Geelong that 200 'exiles', Pentonville prisoners and youths from Parkhurst Reformatory arrived in 1847. Many were hired immediately, their freedom depending on their staying out of trouble, preferably in a country district.[62] Between 1839 and 1850 28,632 assisted migrants arrived in the Port Phillip District.[63]

The immigrants found ready employment. Georgiana McCrae, an unassisted migrant who arrived here aboard the *Argyle* in 1841, noted that as soon as the ship anchored off Williamstown, 'All kinds of people came on board, chiefly for the purpose of hiring servants; but our emigrants aren't yet at liberty to engage'.[64] The immigrants, however, were supposed to be landed and processed through an immigration depot before they were able to be employed.

Gold era immigrants

The discovery of gold in Victoria in 1851 hastened a huge rush of unassisted immigrants, at first from other colonies, then

Portsea Quarantine Station hospital buildings, 1983. Photographer John T. Collins. *La Trobe Picture Collection, State Library of Victoria.*

from Britain and Ireland, and then from Europe, America and China. Despite this increase in people entering the colony, there was almost a greater need for assisted immigrants than before, as most immigrants, as well as workers already resident in Victoria, were more interested in seeking gold than minding sheep, reaping crops or constructing urgently-needed buildings. Of the 584,000 immigrants who arrived in Victoria between 1851 and 1859, 86,227 were assisted.[65] Furthermore, the Victorian Government attempted to encourage the landing of assisted immigrants in rural areas needing labourers, investigating the safety of the harbour at Warrnambool for the direct transport of immigrants to this port and building immigration depots and barracks at a number of the 'outer ports'. Not all of the immigrants arrived in Victoria by sea. In 1855, in an effort to limit the immigration of Chinese goldseekers, the Victorian Government imposed limits on the number of Chinese a ship could bring into Victorian ports, as well as a £10 tax on each Chinese immigrant. As a result many ships landed their Chinese passengers in adjacent colonies and the Chinese made their way into Victoria on foot.

After the gold rush

Immigration declined in the 1860s and 1870s and assisted immigration was discontinued in 1873. During the booming 1880s, Victoria again attracted large numbers of immigrants, but in the depression of the following decade far more people left the colony than migrated into it. It was the loss of population around the turn of the century, and the fear that rural Victoria was underpopulated and underdeveloped, that led to calls to reintroduce assisted immigration. A modified form of assisted migration was introduced in 1907, to settle immigrants in the irrigation districts of the state. In the 1920s, the Commonwealth and British Governments shared the cost of assisting British immigrants to settle in Australia. 80,414 immigrants arrived in Victoria between 1921 and 1929.[66]

Post-war migrants

Commonwealth Government policy after World War II was based on the motivation to 'populate or perish'. Under Immigration Minister, Arthur Calwell, both British and non-British (European) migrants were assisted to migrate to Australia, among them refugees and others displaced during and just after the war. In the first two decades after the war, 1.7 million migrants came to Victoria, though not all of them stayed. In the 1970s the 'White Australia Policy', which had restricted Asian immigration into Australia since Federation, was broken down, but so was the assisted immigration program into Australia. Numbers of migrants into Victoria dropped dramatically.

Quarantine

Early migrants by sea to Victoria faced a perilous journey. From Britain the journey by sail took an average of fifteen weeks,[67] with assisted passengers often confined together in cramped spaces below decks, with few opportunities to go above for fresh air. The better off, who paid for their own passages, could dine with the captain and have the relative luxury of their own cabins, but even they still had to endure the weather, sea-sickness, and the fear of the ship going down at sea. For many the Victorian coastline, which should have been greeted with relief, was a source of tragedy as ships foundered and were wrecked within sight of the shore.

Infectious diseases aboard ship also posed a great danger. In 1840, for instance, one in every 51adults and one in every ten children among assisted immigrants died en route to the colonies.[68] The government paid ships' surgeons and officers a gratuity for every live immigrant they landed.[69] Nevertheless crowded conditions, inadequate ventilation in steerage and the impossibility of keeping clean made mortality by infectious disease a real possibility. From the earliest years authorities at Port Phillip attempted to prevent infectious diseases from entering the colony by placing ships carrying fever victims, into quarantine.

One of the earliest immigrant ships to Port Phillip, the *Glen Huntly*, arrived in Hobsons Bay in April 1840, carrying typhus fever suffers. Passengers were put out at Red Bluff (Point Ormond) and housed in tents. Those who died are said to have been buried there.[70] In 1841 another quarantine camp was set up at Point Gellibrand, close to an early burial ground for fever victims. The camp housed typhus victims from the Agricola and at least one victim from this ship is said to have been buried at Point Gellibrand.[71] The following year the *Manlius* arrived, with 44 passengers already dead from fever. All passengers were landed at the public jetty at Williamstown and transferred by cart to the quarantine camp at Point Gellibrand. Here, where the survivors spent two months, another 17 victims died. They were buried in the adjacent burial ground, which became the 'Old Williamstown'

Relatives greeting newly-arrived immigrants at Station Pier in the 1960s.
Public Record Office Victoria, VPRS 8362/P2, Unit 4, P6878021.

cemetery.[72] (The remains of those buried in this cemetery were exhumed and reburied at Williamstown Cemetery in 1899.)

By 1849 another quarantine site was reserved on the Yarra River at Spotswood. At least one ship, the *John Thomas Forde*, was quarantined here. But the great fear of 'plague', which had led government authorities to enforce quarantine in the first place, motivated public objections to the siting of quarantine stations so close to settled areas and by 1852 the Victorian Government had decided on a site for a permanent quarantine station that was remote from settlement, but close to the entrance to Port Phillip Bay. The site was Point Nepean at the tip of the Mornington Peninsula. The Colony's Health Officer, Dr Thomas Hunt, thought its isolated position, good anchorage and accessibility to both Shortlands Bluff and ships entering the Heads, made it 'admirably adapted' to the purpose of a sanitary station (quarantine station).[73]

The decision to establish a new quarantine ground coincided with the increased overseas shipping occasioned by the gold discoveries. It has been said that fever was more likely to occur on the gold rush immigrant ships than on those that had previously entered Victoria waters. Because many of the gold rush ships carried unassisted immigrants, the conditions on board were less likely to be supervised. Also the huge demand for fast passages from Britain meant that some obsolete ships were brought back into service. In addition, ships from non-British ports were often less strictly inspected than British ships. In 1852, the death rate on Victorian-bound ships doubled.[74]

Before the government's plans for Point Nepean had proceeded very far, the *Ticonderoga* arrived in port, with 300 passengers ill with fever. One hundred had died on the voyage out.[75] The Harbour Master directed the ship to the Point Nepean sanitary station where limeburners, who occupied the area under lease, were hastily moved to adjoining properties. Tents and the lime burners' cottages formed the accommodation for the *Ticonderoga* passengers. William Kelly, who entered Port Phillip Bay in 1853 remembered noticing the 'few ragged tents' of the quarantine station as his ship passed through the Heads. Six years later he was able to report that a 'fine capacious stone structure of handsome architectural elevation, has lately been erected for a hospital, laid out and fitted up in the most liberal style, and embracing all those sanitary improvements and adjuncts which the latest scientific and professional skill in the old countries has found to be beneficial'.[76] This 'structure' consisted of five dormitory buildings: one to house the sick and four for healthy passengers of quarantined ships. Like the ships themselves, the 'healthy' dormitories were divided along class lines for saloon, second class and steerage.[77] To these were added a jetty, doctors' quarters and police quarters. In 1900 a disinfection and bathing block was added.[78]

After the emergency of the *Ticonderoga*, there was never a need to accommodate so many passengers from one ship at a time. A leper colony was located within a section of the quarantine station between 1885 and the 1930s, while a Tuberculosis Colony was also located there in the 1880s. But, once passengers were offered the choice of vaccination or quarantine, from the 1880s, there was little need to quarantine whole ships.

The post World War I flu pandemic temporarily altered this situation. It was feared that Australian servicemen, returning from overseas, would carry the flu with them. Almost 300 ships, carrying over 11,800 passengers were quarantined at Point Nepean at this time and twelve emergency huts were built to house them.[79]

From 1951 the main buildings at the Quarantine Station were occupied by the Officer Cadet School of the Australian Army, with the proviso that they vacate the premises should they be needed for quarantine.[80] The last quarantine patient spent three days at Point Nepean in 1977. After it was officially closed, quarantine cases were sent to Fairfield Infectious Diseases Hospital for isolation.

Landing places for immigrants

The landing places used by the earliest non-Aboriginal pioneers to the Port Phillip District continued to be used by immigrants for some time. Melbourne, Geelong, Portland and Port Fairy were all points of landfall during the 1830s. While Melbourne became the dominant landing place for ship loads of immigrants in the 1840s, there were also some direct arrivals of immigrant ships at Geelong and Portland Bay. In the 1850s the Victorian Government's Immigration Agent recommended that more assisted immigrants be landed at Geelong, Portland, Port Fairy and Port Albert and the government also investigated the improvement of Warrnambool Harbour so that immigrant ships could land

there. Landing assisted immigrants at ports distant from Melbourne was one way of distributing labourers and servants to the country areas where they were needed. It also cost less to have ships sail directly to ports such as Portland, than to have immigrants landed at Melbourne and then transported by another vessel to one of the 'outer ports'. Many immigrants landed at Geelong, Portland and Port Fairy in the 1850s. Some landed at Port Albert.

But Melbourne was the predominant landing place for immigrants in the 1850s and became the major landing place after that decade. There were three choices for landing once large ships had anchored in Hobsons Bay and passengers had transferred to smaller vessels or lighters. Apart from those early pioneers who brought stock ashore, very few passengers seem to have alighted at Williamstown. If they did land at the jetty here, they soon transferred by smaller boat or ferry, either up the Yarra River or across Hobsons Bay to Sandridge. Williamstown was an inconvenient place to land because it was not the population centre.

Women and children and migrants with some means appear to have often chosen to be ferried up the river to the wharves at the city centre. Strong winds could make a landing at the beach at Sandridge precarious.[81] The river journey was slow and tortuous as well as expensive. Nevertheless, even during the 1850s, many passengers chose to be landed at the Yarra wharves and 'official' arrivals, such as that of Lieutenant-Governor La Trobe, in 1835, took place on the river.

The first assisted immigrants to arrive in the district were ferried to the beach at Sandridge, to walk along 'a well-defined track, which was the only visible path through the wilderness of sober-coloured verdure [that] led straight to Melbourne'.[82] The government began building a pier, known as Town Pier, here in 1849, extending it in the 1850s. The Colonial Engineer expected that this pier would be most useful for passengers and their luggage.[83] The completion of the Melbourne and Hobson's Bay Railway Company's pier and railway line from Sandridge to Melbourne in 1854 increased Sandridge's convenience for passengers and it gradually became the focal point for overseas arrivals and departures

By the beginning of the twentieth century, most overseas passengers arrived at the Railway Pier at Port Melbourne,[84] though it had become obvious that the pier was becoming inadequate for the larger passenger steamers then in use. The larger vessels towered over the Railway Pier, the deck of one being '19 feet above the floor of the pier' and the pier was too narrow to allow for shelter sheds for baggage or accommodation of the public.[85] Though there were delays, a new railway pier was built between 1912 and 1916, with passenger accommodation provided in the upper levels of central sheds erected on the piers. Passengers could thus embark and disembark via moveable gangways on this upper level, while cargo was handled on the lower level of the pier.[86] In 1921 this new railway pier was renamed Prince's Pier in honour of the Prince of Wales, who had been aboard HMS *Renown* when it had docked at the pier the year before. Between 1923 and 1930 another new pier, Station Pier, was built on the site of the old Railway Pier. This pier also offered facilities for passengers that separated them from cargo and, once it was completed, became the primary embarkation and disembarkation point for passengers arriving in the Port of Melbourne.[87]

For many Victorians, the Port Melbourne piers, particularly Station Pier, were their first point of contact with their new home. In the decades after World War II, when 735,000 displaced persons or assisted immigrants arrived in Victoria, their usual place of arrival was at Port Melbourne. But the increase in migration after World War II, coupled with the increasing size of passenger vessels, meant that further facilities were developed in the post-war period. This included not only extension of the wharf space, but also, in 1956-58, the remodelling of the outer passenger terminal, which included baggage hall, customs' checking section and waiting hall.[88] It was not until 1965, however, just before the annual intake of post-war migrants peaked, that facilities such as a cafeteria were included in another modernisation.[89] Improvements to the inner terminal building (now used for the Bass Strait passenger ferries) waited until the 1970s.

It was not long after this that the Port Melbourne piers' role as landing sites for migrants began to decline. In 1969 Prince's Pier was closed to passenger shipping.[90] The following year Melbourne's Tullamarine airport opened for international flights and the number of passengers arriving at Station Pier declined from 86,700 in 1970 to 6,944 in 1979.[91] At the same time, changes in federal immigration policy limited the number of arrivals in Victoria during the 1970s. The last immigrant ship to call at Melbourne, the *Australis*, berthed at Station Pier in 1978,[92] though the pier continued to be used for occasional visits by cruise liners and, from 1985, by the Bass Strait ferries. As the twenty-first century dawned, there was a resurgence of

cruise ship visits to Station Pier. At the same time, the Victorian Department of Infrastructure carried out much-needed improvements, replacing decking on many areas of the pier's surface, refurbishing the terminal buildings and constructing a new gangway at the outer berth.

Sheltering the immigrants: immigration depots and barracks

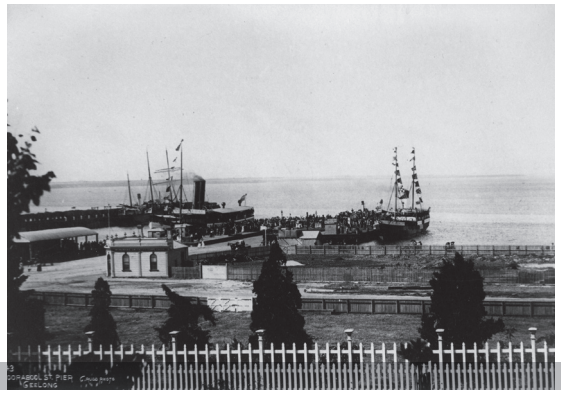
Early assisted immigrants usually secured employment as soon as they arrived in Port Phillip and did not, therefore, desperately need accommodation. Nevertheless, William Lonsdale requested his superiors to have a building erected for the reception of immigrants. He hoped that this would assist him to supervise the immigrants, but also that it would offer them shelter. Many of those who had arrived on the first immigrant ships from New South Wales '*who were not engaged upon leaving the ship were without a place to go to and were the first night sleeping in the open air*'.[93] Two of the immigrants, who were ill when they landed, died. The Colonial Government was reluctant to allow Lonsdale to erect any permanent buildings for immigrants, perhaps fearing that they would remain at the government's expense, rather than seek employment. By late 1839, when the first immigrants from Great Britain were expected, Lieutenant-Governor La Trobe was permitted to accommodate them in tents. The tents were pitched on the south bank of the Yarra, 'opposite the town'[94] (of Melbourne). This site, or one nearby, continued to be used as a camp for immigrants until the early 1850s. On the west side of St Kilda road, it accommodated 7,000 gold seekers in 1852.[95]

Assisted immigrants were channelled through immigration depots, where prospective employers could hire them. In the crisis days of the 1850s, the Victorian Government established immigration depots at Geelong, Portland and Port Fairy, possibly to encourage direct immigration of labourers and servants in rural areas away from the goldfields. Soon, the need for accommodation for immigrants seemed to surpass the need for depots. The government established two immigrants' homes in Melbourne in 1852. One was in a converted abattoir on Batman's Hill (Spencer St), the other was at Princes Bridge. Hastily-constructed immigration barracks went up in Geelong, Portland and Port Fairy in 1852. At Geelong, the pressing need for accommodation for immigrants meant that an imported prefabricated 'iron house' was used as an immigration barracks until a more permanent building could be built.[96] At Portland, temporary additions were made to the Customs House to accommodate immigrants. The shortage of building supplies meant that 'broad palings and bush stuff' had to be used.[97]

Immigration barracks came later in the 1850s at Warrnambool and Port Albert. The first evidence found for Warrnambool's immigration barracks is in 1862. The Port Albert Immigration barracks were constructed in 1857, following requests from local residents. Perhaps because they were built after the crisis years of the early 1850s, they were built of brick. They were little used by immigrants, and were later handed over to the Police Department. Possibly the fabric of the Port Albert barracks (H498) made them more durable than the others, because they appear to be the only 1850s immigration barracks to have survived.

After the crisis of the 1850s, immigration barracks often reverted to other uses. The Princes Bridge Barracks, in Melbourne, became an immigrants' home for destitute people and, for a while, an industrial school for neglected children. Geelong's immigration barracks were also used as an industrial school in the 1860s.

It was not until the massive immigration programs after World War II that accommodation again had to be found for large groups of migrants. Assisted migrants were then often placed in disused army or prisoner of war camps, many of them very distant from the sea, though one, Wiltona, was fittingly sited not very far away from the early landing place at Point Gellibrand, on the old Williamstown Racecourse at the mouth of the Kororoit Creek.



Moorabool Street Pier, Geelong, circa 1892–1902.
Photo Charles Rudd.
La Trobe Picture Collection, State Library of Victoria.

3. Moving people

Australian Historic Theme: 3.8. Moving goods and people

Moving people along the coast and in Port Phillip Bay

In the nineteenth century and for much of the early twentieth century water travel was often more convenient, faster and cheaper than road or rail around Victoria. To begin with, roads were non-existent, rough, or impossible to traverse in winter, when they became boggy and in fact many all-weather roads in some remote parts of Victoria were not completed until the twentieth century. The timber, farming and holiday settlement of Apollo Bay, for instance, was mostly accessed by sea until the late 1920s when an all-weather road through the Otways connected Apollo Bay to the railway line at Forrest. Swamps and unbridged rivers and creeks also made overland travel difficult, making water transport, where it was available, more desirable. When gold was discovered on the Nicholson River in East Gippsland in the 1850s, prospective miners had to make their way from Port Albert via Sale and Bairnsdale, crossing several rivers, until a local hotel owner began using a whaleboat to ferry passengers and cargo between the Nicholson River via Lakes Victoria and King, to Lake Wellington. Travellers still had to then go overland to Port Albert, but this way avoided major rivers. In 1858, when Malcolm Smith managed to manoeuvre a ship through the natural entrance to the Gippsland Lakes at Cunninghame, an even easier route, by water along the coast and then via the Lakes network, was opened up. This was soon complemented by a road from Melbourne to Sale, which connected to the lakes network.

Even after rail services became available from Melbourne to coastal districts, some people preferred to travel by coastal steamer. The journalist, John Stanley James, who wrote as the Vagabond, seemed especially keen to promote the virtues of coastal travel over rail travel through Victoria. In 1884 he advised that:

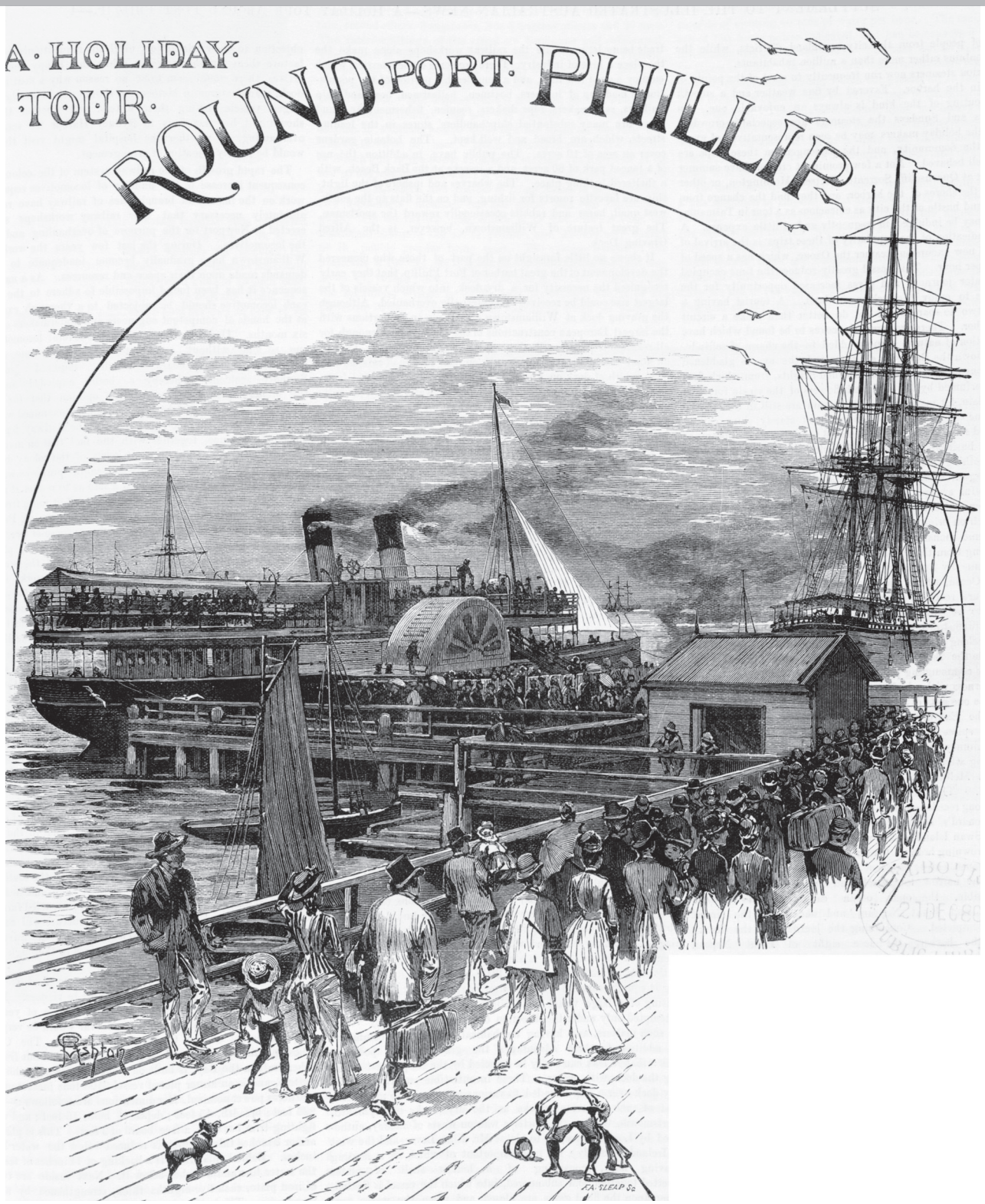
One approaches Portland either by land or sea. In the former case the metropolitan visitor has a 13 hours' journey via Geelong, Ballarat, Ararat, and Hamilton, the fare 45s. By water the passage money is ridiculously low, the cabin fares being only 12s 6d and 10s, meals of course extra, time of voyage about 24 hours. …Calls are made at Warrnambool and Belfast, and the traveller can have a few hours ashore at the former place. The coast scenery is very wild and picturesque, and, altogether, I advise visitors to the west to travel by sea…[98]

The railway line from Melbourne to Sale which opened in 1880, was an example of how nineteenth century rail lines often connected to passenger water transport services. Almost as soon as the Melbourne and Hobson's Bay Railway Company opened the pier and railway line at Sandridge, it began an hourly train and ferry service from Melbourne to Williamstown. Trains from Flinders Street connected with the steamer *Comet* at Sandridge Railway Pier. This service (using different vessels) continued until 1930. Ferguson Street Pier at Williamstown was built in the 1920s at the request of the Williamstown Council who wished for a new pier to be run in conjunction with the ferry service to Port Melbourne.[99] The third ferry to operate on the Port Melbourne - Williamstown route, which carried vehicles as well as foot passengers, was in service until 1974, when it was rendered redundant by the West Gate Bridge. From 8th January 1855 morning and afternoon trains connected at Sandridge with the steamers *Duncan Hoyle* and *Citizen* for Geelong.[100] At Geelong, the steamers berthed at Moorabool Street Pier.[101]

Bay paddle steamers

Within Port Phillip Bay, regular services between Melbourne, Geelong and other smaller sites were augmented, from the 1850s, by 'excursion' steamers, which carried passengers between Sandridge and settlements dotted around Port Phillip Bay.

In 1872 the first regular first class service was established between Queenscliff and Sorrento.[102] The best remembered of the Bay steamers are the *Ozone*, the *Hygeia* and the *Weeroona*, paddle steamers capable of conveying enormous numbers of people, but at times there were eight excursion steamers operating on Port Phillip Bay.[103] The steamers carried holiday-makers, day-trippers and often trade picnics to resort



A Holiday Tour Round Port Phillip Bay,
F. A. Sleap engraving from original drawing by George Rossi Ashton, 1886.
La Trobe Picture Collection,
State Library of Victoria.

Crowds descend on Sandridge Railway Pier to embark on the bay paddle steamer shown at left.

towns such as St Kilda, Mordialloc, Queenscliff, Sorrento, Portsea and Mornington. The popularity of the coastal steamers lasted from the 1870s to 1942, when the last of the steamers, the Weeroona, was sold to the United States Navy.

Steamers' affect on infrastructure

In Melbourne the excursion steamers left from the Sandridge Railway Pier. When Station Pier was built to replace this pier in the 1920s, two 'wing piers' protruding from the main pier near the shore were included to accommodate the bay steamers. The steamer trade was essential to the development of many of the Port Phillip Bay resorts in the nineteenth century. At Queenscliff, which began to develop as a resort in the 1850s, one thousand people arrived via steamer in one day in 1855. A number of grand hotels were built in the ensuing two decades. Though travellers could arrive at Queenscliff by train after 1879, the trip by steamer was shorter and much cheaper. Queenscliff, in the 1880s, acquired a second pier, complete with a shelter shed to accommodate the steamer trade.

Entrepreneur George Coppin promoted the resort development of Sorrento from the late 1860s, building the Continental Hotel, swimming baths and a tramway to transport visitors between the back and front beaches. He also invested in the Bay Excursion Company Limited, which purchased the steamer, *Ozone*, in 1885 to ply between the Port Phillip Bay resorts. The government built a jetty at Sorrento in 1870.

Other developers of coastal resorts also hoped to rely on the steamer trade and built piers to accommodate them. At Clifton Springs near Geelong, the healthful qualities of the mineral water springs, discovered here in 1870, prompted the construction of a hotel and swimming baths in the late 1880s. At the same time a jetty was constructed to allow the bay steamers to ferry visitors to the resort.[104] An attempt to market Altona as a seaside resort in the same decade included the construction of a pier so that coastal steamers could call at the resort. Though the pier remains, Altona itself did not really develop until the twentieth century.

Some pre-existing piers were modified to accommodate the enormous traffic associated with the bay steamers. Special 'wallings and moorings' for excursion steamers were added at the St Kilda pier in 1893.[105] Mornington jetty acquired an 'L-shaped' extension (now removed) early in the twentieth century to enable greater accommodation of steamers and passengers.[106]

Intercolonial/state travel

Passengers travelling outside the metropolis usually shared their journey with assorted cargo in the nineteenth century, as steamers plied regularly along the coast of Victoria, stopping at the various ports along the way. Many of these vessels also worked on interstate routes and in fact, even in the early twentieth century, most interstate travel in Australia was done via the sea.[107] Though this form of travel declined after World War II in the face of improved rail connections, air travel and more widespread car ownership, vessels specifically allocated to interstate travel continued to operate until 1961, when they were replaced by international liners that called at various Australian ports.[108] The exceptions, of course, were the Bass Strait ferries which continue to operate between Tasmania and Victoria, nowadays berthing at Station Pier, Port Melbourne.

Stockyard Creek, engraving, J MacFarlane.
La Trobe Picture Collection, State Library of Victoria.

Gold discoveries in the early 1870s stimulated the development of Foster, initially known as Stockyard Creek. Before the railway reached Foster in 1892, water transport was the most reliable method of moving goods into and out of the region.

4. Moving goods and cargo

Australian Historic Theme: 3.8. Moving Goods and People

In the second half of the nineteenth century a great deal of money and government effort was spent developing port and harbour infrastructure. To a large extent, this development was linked to efforts to stimulate the economic development of the colony by assisting the growth of agriculture and settlement on the land. Port and harbour development was also linked to the development of local industry, a movement which became even more important in the twentieth century when two world wars and a depression emphasised the need for Australia to become self-sufficient. The most massive maritime infrastructure work in the nineteenth century was carried out at the Port of Melbourne, which the gold era had confirmed as the gateway to Victoria. A considerable amount of effort was put into further developing the 'outer ports' along Victoria's west coast, as well as to developing a reliable network of infrastructure on the Gippsland lakes and waterways. But there were also many more modest infrastructure works, such as jetties, piers and sheds, installed at smaller coastal settlements around Victoria to help local and regional producers move their goods to market.

From the late 1850s until the mid-twentieth century, Victorian Government policy aimed to settle small-scale farmers on the land. In the nineteenth century this policy was carried out through a series of government legislation, commonly known as the Selection Acts. In the first decades of the twentieth century, the 'closer settlement' and soldier settlement schemes continued this process. One of several factors that determined the success or failure of selectors and closer settlers was the ease and cost of transporting their produce to market. Providing access to such transportation was a major incentive for government-installed maritime infrastructure. By the early twentieth century, the government was also actively trying to encourage decentralisation, establishing facilities whenever it could, away from Melbourne. The push for decentralisation was one reason for the establishment of the Geelong Harbor Trust in 1905.

Providing transport networks for settlers on the land

Access to transport for their produce is essential to primary producers. But the rapid population development of Victoria in the nineteenth century, particularly during the 1850s meant that infrastructure such as good all-weather roads, bridges and railway lines were often inadequate. Even as major roads were constructed, they were often financed by tolls, adding financial burden to farmers attempting to convey their produce to market. It is little wonder that during the 1850s, for instance, when a rapidly growing population provided a market for grain, fruit and vegetables, most of these products were grown near the major centres of population, such as near the major goldfields or close to Melbourne and Geelong. Farmers with access to water transport had an edge over those without it. In 1859, for instance, a Melton farmer complained that it cost him more to transport his grain 25 miles to Melbourne than it would cost to convey it by ship from Liverpool.[109] But in the same year farmers on the Bellarine Peninsula were able to convey their goods to the jetty at Portarlington (constructed in 1859) for quick access to Melbourne.[110]

Early facilities for despatching goods by water were primitive. Many, such as jetties and wharves, were built by private companies, as at Wye River and Apollo Bay, where timber companies built the earliest jetties. But as selection and closer settlement opened up more of the colony after the gold rushes, the Public Works Department contracted for the construction of jetties at a number of coastal and river locations. Along with the jetties there were often tramways on which produce could be conveyed by cart or railway truck onto the jetty, goods sheds where goods could be stored and sheltered as they awaited transportation, and cranes to lift heavy goods onto and off vessels.

Amongst the jetties and facilities built by the government for handling cargo at the 'smaller' harbours in the years between the 1860s and 1890s were: a jetty and crane at Hastings, in 1864, a jetty and crane at Dromana in 1862 and 1864, a jetty at Drysdale in 1871, a jetty at Rye in 1866, a jetty, goods shed and crane at Apollo Bay between 1882 and 1884, a jetty and tramway at Andersons Inlet in 1884, with a crane added in 1889, a jetty at Grantville in 1884, with a goods shed added in 1889, and wharves and sheds at East Gippsland river locations in 1886 and 1887.[111]

Remains of wharves on Stockyard Creek, near Foster in South Gippsland, 2006 (H8120–0022). *Heritage Victoria.*

Transport links not only assisted the settlement of farmers on the land, they encouraged the growth of export industries for Victoria. As selectors moved across Victoria in the second half of the nineteenth century, they developed industries in grain, wool, meat and fruit. The growth of such industries sometimes necessitated the installation of specific infrastructure, such as bulk grain handling facilities in the twentieth century. But the successful export of these products also relied on developing technology, which, in turn, influenced port infrastructure. Meat preserving and canning, for example, allowed Victorian-grown cattle to be slaughtered and exported overseas in the mid to late nineteenth century. Experimentation with refrigeration in the late nineteenth century, enabled meat to be frozen, usually at a point near a port, and then shipped overseas.

Developments in shipping also assisted the growth of Victoria's rural industries. Iron-hulled sailing ships, and then steamships, gradually replaced wooden sailing vessels in the second half of the nineteenth century. They were better equipped to carry bulky cargoes, such as wheat, from Victoria to European markets.[112] The increasing use of steam, rather than sail, meant that perishable goods, such as dairy produce, could be more rapidly transported to other Australian localities. The changing size and construction of ships in turn influenced the infrastructure at Victoria's ports. Jetties had to be lengthened, channels and canals had to be constantly deepened and widened and more berths provided to keep up with developments in shipping and increasing volumes of export material.

In the late nineteenth century, major engineering works were carried out at a number of Victorian ports in order to improve their accessibility and safety for larger vessels. Some Victorian ports, despite successive infrastructure developments, could not keep up and became redundant for international or even interstate trading vessels. Major ports, such as Melbourne and Geelong, have undergone successive improvements in order to keep up with developments in shipping size and methods of handling cargo.

Inefficient harbour works and the evolving size and nature of vessels (particularly those used for international transport) were partly to blame for the declining roles that 'outer ports' played in moving cargo in the latter nineteenth and early twentieth centuries. But another factor was the increasing availability of other forms of transport. The Victorian country rail network, developed between the 1870s and 1920s, gradually connected inland agricultural areas, as far away as the Riverina in New South Wales to the major ports of Melbourne or Geelong, directing commodities away from regional ports. Areas less well serviced by railways, such as Gippsland, continued to depend on water transport far longer than those in the west and central Victoria. For some farming communities in South Gippsland, for instance, it was not until good all-weather roads were constructed in the twentieth century, that transportation problems were solved.

Railways provided relief for many primary producers, by conveying their produce relatively efficiently to central markets or ports. In some districts, such as East Gippsland, the railway connected with a local inland water transport system, steadily replacing the need to ship produce along the coast to major ports. But there were some parts of the state which were not easy to access by rail. Selectors moved into the hilly, timbered South Gippsland region between the 1870s and 1890s. With only distant rail connections and roads that were impassable in winter, they relied on goods being shipped to Lang Lang (then called Tobin Yallock) then hauled by dray over pack tracks.[113] Dairying became the main local industry and butter was despatched to Melbourne via Lang Lang, Griffiths Point (San Remo) or Anderson's Inlet, though settlers in the north or east of the region were able to eventually connect with the Gippsland railway.[114] The last region of South Gippsland to be settled by hopeful farmers was the remote eastern Strezlecki area, between Corner Inlet and the towns of Morwell and Traralgon, in the first decade of the twentieth century. The sheer difficulty of clearing blocks and attempting to reach market towns on impassable roads, meant that many settlers eventually abandoned their land.[115] In the 1920s, the Victorian Government determined to resettle this abandoned territory with soldier settlers or British immigrants. The1920s Royal Commission on Outer Ports recommended that the success of such resettlement would depend, among other things, on the settlers' ability to transport products, such as root crops, to interstate markets. Thus, along with a network of roads, the Commissioners recommended that the port be developed at Port Welshpool, by first reconditioning and improving the existing pier (first built 1850s) which was connected by trolley to the Welshpool Railway Station. A new railway pier was also proposed, though prudently the Royal Commissioners suggested that this should not be constructed until there had been some signs of successful resettlement of the hill country.[116] A new jetty at Welshpool was not added until 1937. The same Royal Commissioners recommended the

Wheat Traffic Railway Pier, Williamstown, nd.
Public Record Office Victoria, VPRS 12800P1, H2163.

Railway Pier, constructed in the 1850s, was later renamed Gellibrand Pier.

improvement of Warrnambool and Portland Harbours, as well as the re-establishment of Lakes Entrance, to assist farmers in other areas, such as the Mallee, which were then being 'closely settled'. But major works were not achieved at Portland until after World War II, making that port safer and more convenient for the loading and unloading of products from the west of the state.

Exporting primary produce

Wool

When the Thistle left Portland Bay for Van Diemen's Land on 12 March 1836 it carried Victoria's first export cargo of wool.[117] Wool soon became Victoria's major overseas export, despatched from Williamstown and Port Melbourne piers and from Geelong. Railway piers built at Williamstown, Port Melbourne and Geelong in the 1850s formed the nucleus of a transport system that, as it expanded in the following decades, allowed wool to be transported from country Victoria directly to the major ports. When the Bendigo to Echuca Railway line was completed in 1864, for instance, Murray River steamers were able to convey bales of wool down the river to the wharf at Echuca, from where trains could carry them to Williamstown or Port Melbourne. Similarly, when the Geelong to Colac railway line was completed in 1877, wool could be transported directly to the wharf at Geelong. Despite the fact that Portland was connected by rail to Hamilton, the centre of the rich wool-producing Western District, in the 1870s, Victorian Railways' freight charges favoured the transportation of primary produce directly to Melbourne or Geelong.[118] It was from these ports that wool was primarily exported in the nineteenth and early twentieth centuries.

Ballast

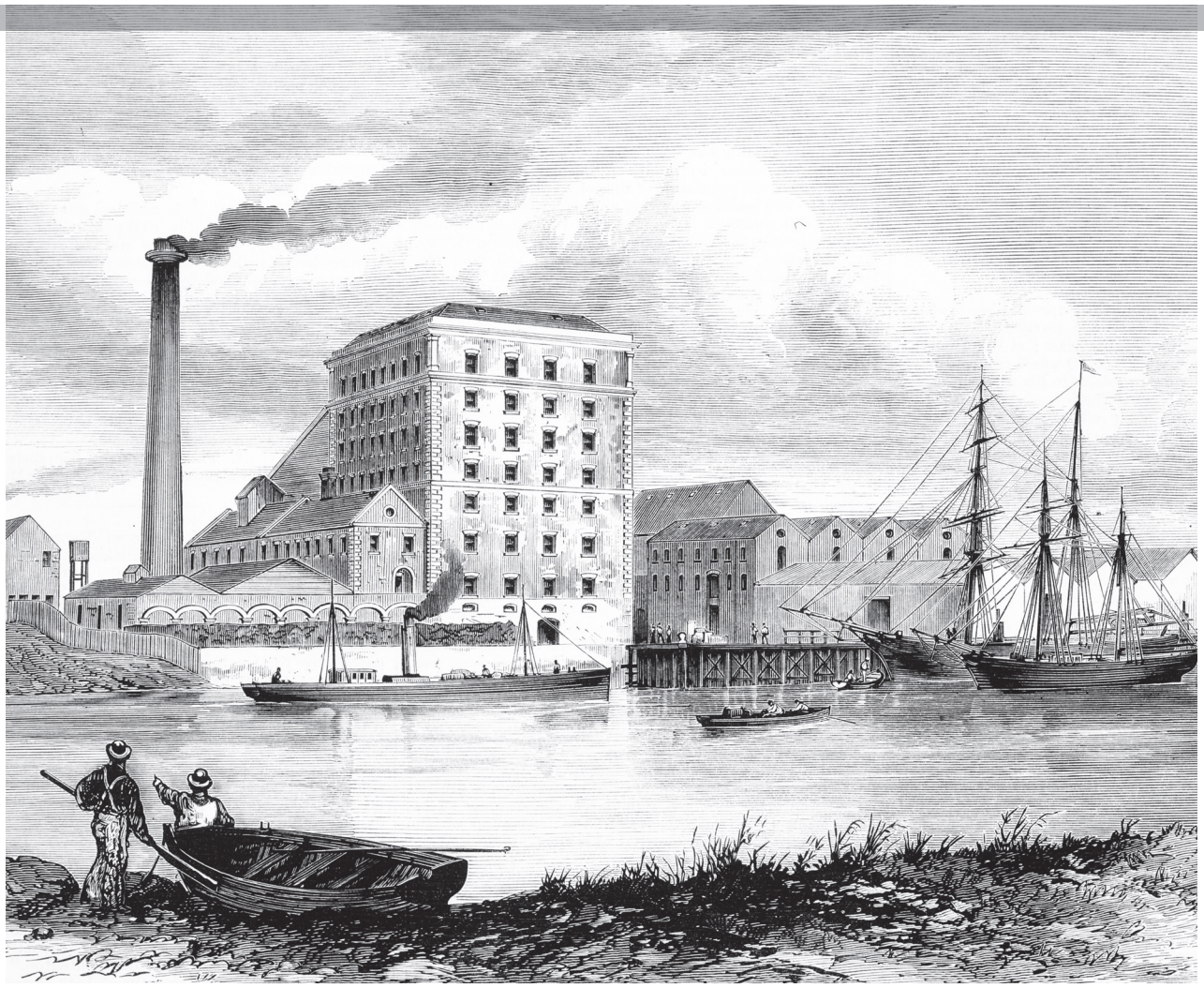
Prior to the development of an export industry in bulk cargoes, many cargo ships that entered the Port of Melbourne had to carry ballast on their outward journey. One of the most conveniently-located forms of ballast was basalt or bluestone, which was the basis of the plain to the west of the Maribyrnong River. Basalt was quarried on many sites in Melbourne's western region, but early quarries were located at Point Gellibrand and near what is now Spotswood on the Stony Creek. From the quarries at Stony Creek, basalt was conveyed on wooden tracks to jetties and then transported by lighter or 'ballast craft' to vessels in Hobsons Bay. Once the export of bulk cargoes such as wheat, grew in the 1880s, ballast was not needed so much and the ballast trade declined.[119]

Wheat

The 'unlocking of the land' in the second half of the nineteenth century created new export industries for Victoria. By the end of the nineteenth century more than two million acres of Victorian land was sown to wheat, much of which was exported to Britain.[120] As a heavy and bulky cargo, wheat had to be preferably loaded at deep water anchorages. Trains carried bagged grain to the Geelong and Williamstown railway piers in the nineteenth century. But there were problems with these sites. At Geelong, the railway pier was found to be 'extremely inconvenient', while at Point Gellibrand, which offered deeper water, there was 'congestion and consequent delay and loss to producers'.[121] Nevertheless, Williamstown got most of the trade. The inadequacy of the grain handling facilities at both Williamstown and Geelong, together with a desire on the part of the Victorian Government to encourage decentralisation, were major incentives for the formation of the Geelong Harbor Trust in 1905. It was hoped that the Trust would develop facilities for handling bulk wheat on the north shore of Corio Bay. The North Shore offered far deeper water for anchorages than what was found at the 'old port' in Geelong. It seemed ridiculous that grain was being transported from western Victoria, past Geelong, and on to Williamstown. Once established, the Geelong Harbor Trust began to plan for a wheat loading wharf and facilities on the North Shore. To encourage the export of grain from this port, the Victorian Railways Commissioners after 1910 began offering concession rates to transport grain from country areas to any port that was closer to the producer than Williamstown.[122]

Although new methods of handling grain in bulk had been used in New South Wales from about the beginning of the twentieth century, it was not until the mid-1920s that a Victorian Government-appointed board recommended that grain elevators be constructed at 132 Victorian country railway stations, with terminal elevators at Breakwater Pier in Williamstown and on the North Shore at Geelong. The board also recommended a terminal at Portland, subject to the construction of a breakwater to make vessels berthing at this port more stable.[123]

The Yarraville Sugar Refinery on the Maribyrnong River, 1876. Engraving. *La Trobe Picture Collection, State Library of Victoria.*



But it was not until 1934 that the Victorian Government established the Grain Elevators Board to oversee the erection of these elevators. The Geelong terminal was intended to service the main wheat growing districts of the state, in the western area, while Williamstown would serve the north. Work on the Geelong elevator began first, in 1936. Along with sheds and storage house, a special pier was constructed. At the same time as the elevator at Geelong was completed, in 1938, work began on laying the foundations and basement of the Williamstown Grain terminal.[124] This was never completed, however, and Williamstown's role as an export site for wheat declined, as Geelong's grew.

Bagged wheat was despatched from Portland during the 1920s and early 1930s,[125] but Portland's long-awaited port improvements did not occur until the 1950s. After this bulk grain handling facilities were developed and Portland and Geelong continue to share the grain export trade for Victoria.

Meat

Victoria's first meat exports were live cattle, shipped from Port Albert to Van Diemen's Land in the 1840s to supply convicts with fresh meat. By 1856, when numerous 'inhabitants of Gippsland' petitioned the government to provide land for public wharves and stockyards at Port Albert, an average of six or seven vessels were engaged in shipping cattle from here.[126] The end of transportation to Van Diemen's Land coincided with the rising demand for meat in gold rush Victoria, and Port Albert's cattle trade was then directed

Loading coal from the Powlett River coalfields at Inverloch, 1910. *Public Record Office Victoria, VPRS 12800 P1, H3329.*

more to Melbourne than Van Diemen's Land.[127] Developing techniques in meat preserving encouraged the growth of an export trade in meat from the 1860s. Meat preserving and canning companies were located on the lower Yarra River and the Maribyrnong River at Maribyrnong, Footscray, Yarraville and Newport and on the north shore of Corio Bay.

The successful development of refrigeration by about 1880 offered a means of exporting frozen meat. The Australian Frozen Meat Export Co. established a slaughtering and freezing plant at Newport in 1882. This later became the Newport Freezing Works and Sims Cooper.[128]At Geelong in 1896, the Western District and Wimmera Freezing Company began operating at the mouth of Cowie's Creek, on a site later occupied by International Harvesters. Portland also had a freezing works,the Portland and Western District of Victoria Freezing Co. Ltd, from 1896. Thomas Borthwick and Sons purchased this site in 1904.

Victoria's export of frozen meat increased by five times in the period between 1900 and World War I.[129] One of the first actions taken by the Geelong Harbor Trust after its establishment in 1905 was the construction of the 'Corio Freezing Works'. in 1909 at Corio Quay. A wharf and railway siding were installed along with the freezing works, though the wharf was also used for loading grain.[130] From 1913 the freezing works were leased by private companies, later becoming Port Geelong Cold Storage Pty.Ltd.[131]

Fruit

Refrigeration had application in the Victorian fruit growing industry too, because it enabled orchardists to store their fruit in 'cool stores' and market it over a longer period. Between 1905 and 1914 the Victorian Government attempted to assist fruitgrowers by constructing coolstores in fruit-growing regions, along with one at the Port of Melbourne, near Victoria Dock, in 1912.[132] Canned fruit, transported by rail from fruit-growing regions, was also despatched overseas from the Port of Melbourne.

Imports and the growth of industry

In the early decades, Victoria was dependent on importing most manufactured goods. It was the expenses and effort involved in 'lightering' imports from ships in the bay to Melbourne that prompted members of Melbourne's Chamber of Commerce to argue for the establishment of a Melbourne Harbor Trust and the construction of docks close to the city centre.[133] As Victoria began to develop its own industries, raw materials were often transported by water from interstate or overseas. Often infrastructure that was connected to early industry was privately developed. In the twentieth century the development or redevelopment of some major Victorian ports was specifically linked to the relocation of major industries and the growth of new ones. In the twentieth century, disruption to international sea transport during both World Wars was an impetus to the development of local industries. In the wake of World War II, Australian Government policy actively sought to encourage national economic stability and independence and the further development of secondary industry was part of this plan. Publicly provided infrastructure was sometimes turned over to industrial uses. Moreover, the improvement or development of port infrastructure, particularly after World War II, was often tied to encouraging the development of industry and therefore Victoria's and Australia's independence.

Transporting raw materials and finished products by water

In early Melbourne some industries, such as slaughtering, fellmongering, tanneries, etc situated themselves on the banks of both the Yarra and the Maribyrnong Rivers. This positioning had more to do with using the river water for washing or scouring purposes and as a drain for waste products, than as a transport route. Such noxious industries were pushed away from the Yarra in the 1870s, many of them relocating on the Maribyrnong at Footscray and Flemington.[134]

But many of the early industries at Port Melbourne, Footscray, Yarraville or Williamstown and later at Geelong, Portland or Westernport, were located near the water so that raw materials could be easily shipped to them. Victoria's first sugar refinery, for instance, was established at Sandridge, near the Railway Pier in 1855. In the 1870s, another sugar refinery was built on the Maribyrnong at Yarraville. Sugar cane from northern New South Wales and Queensland was shipped to these sites for processing. When the Sandridge sugar mill was destroyed by fire in 1889, the company took over the Yarraville premises. Near the Colonial Sugar Refinery at Yarraville, a number of other industrial concerns clustered on the river. Each used their own river wharves until the Melbourne Harbor

Remains of the Maribyrnong Sand Company's loading chute, Maribyrnong River, Essendon (H7822–0512).
Heritage Victoria.

Sand was mined at this site on the Maribyrnong River for many years from the early twentieth century. It was loaded from the chute into barges for transportation.

Trust took control and established a continuous line of wharf at Yarraville between the late 1870s and 1900.[135] The Harbor Trust (later the Port of Melbourne Authority and now the Port of Melbourne Corporation) continued to provide maintenance and renewal of these wharves in the twentieth century.[136]

World War I gave an impetus to the development of Victorian secondary industries and this development continued through the 1920s. The motor car industry was one that began to develop on a local scale in this decade, when chassis and engines were imported from the USA, but bodywork was assembled locally. Vehicles assembled in Victoria were 'exported' to other Australian states. The Ford Motor Company established its assembly plant at Geelong in 1925. A few years later, General Motors Holden established a plant at Fishermen's Bend, in Melbourne.

With the Australian mineral boom from the early 1960s came another wave of water-located industries using raw materials transported from other parts of Australia. At Westernport BHP established a steel rolling mill with associated jetty in the 1960s–1970s. In the 1980s an aluminium smelter was constructed at Portland.

Coal

A predominant cargo brought into Victorian ports in the nineteenth and for much of the twentieth century was coal. Black coal, heated in sealed containers or 'retorts', generated gas for lighting, heating and industrial purposes. Coal was also used to generate steam to power trains, steamships and factories. Until Victoria developed its own coal resources, it was dependent on importing coal from Newcastle in New South Wales. While coal was unloaded at general cargo wharves, there were also some facilities dedicated to unloading coal for gasworks, the railways and industry. The City of Melbourne Gas and Coke Company, formed in 1850, for instance, built its gasworks on the north of the Yarra River on the West Melbourne Swamp between 1854 and 1855. The first stage of construction involved the excavation of a dock from the river so that coal could be delivered directly to the gasworks.[137] In the 1870s, this dock was filled in and a wharf on the Yarra built to supply coal to the works.[138] In the next decade an overhead tramway linked the wharf with the gas company's retort houses. Cranes lifted buckets of coal from the holds of steamers, and deposited it into tram trucks which then delivered it to the retort houses. The South Melbourne Gasworks, operated from the 1870s. In the 1880s a special berth for coal steamers was set aside at the nearby Sandridge Town Pier. It was planned that a special tramway from the pier would carry the coal to the gasworks.[139] By 1929 the Town Pier serviced the gasworks exclusively. The railways' dependence on coal was acknowledged in the early 1890s by the creation of a coal canal from the newly-constructed Coode Canal, north along the course of the Moonee Ponds Creek to the North Melbourne Railyards.[140]

Victoria's search to develop its own coal resources also impacted on maritime infrastructure. Coal seams had been noted in South Gippsland in the 1840s and 1850s and in 1852 the Victorian Government offered a reward for 'workable black coal' found in Victoria.[141]In the late 1850s coal was mined at Cape Patterson, but the operation here ceased in 1864. In the 1870s the coal seam at Kilcunda, which had been discovered in 1840, was being worked. The Public Works Department contracted for a jetty and truck at nearby Griffiths Point (San Remo) in 1871.[142] A wooden tramway ran from the mine at Kilcunda, to the jetty.[143] In the late 1880s coal mining switched to Korumburra, Outtrim and Jumbunna, which were linked by rail to Melbourne. In 1909 the State Coalmine at Wonthaggi was opened. Although a branch railway was soon established to transport the coal to Melbourne, initially it was hauled to Inverloch and despatched to Melbourne by sea.[144]

The need to transport coal by sea waned over the course of the twentieth century. In the 1920s brown coal, mined from open cuts in the La Trobe Valley, was used to generate electricity for industry and domestic uses. Between 1919 and 1962 Melbourne's trains were transformed from steam-operated to electricity-driven. Coal to generate electricity for this network was transported by rail to the Newport Power station. Finally the discovery of natural gas in Bass Strait in the 1960s spelt the end of the old coal-burning gas works. From the 1970s natural gas was now available for domestic and industrial uses.

Kerosene, oil and petrol

At the beginning of the twentieth century, kerosene and oils became increasingly important as domestic and industrial fuels. As motor transport became more widespread in the middle of the twentieth century, oil and petrol became essential. Initially products such as oil and kerosene were imported to Australia and, until there were facilities for refining oil, petrol also was imported in cans and distributed from

distribution centres located near the coast. From 1901 the Shell Company began importing these products at Williamstown and Geelong. At Williamstown the company used an old wool store (now demolished) as a distribution depot. At Geelong, it stored the oil near the Geelong railway yards.[145] By 1914 the company had moved to a bulk handling facility on the river at Newport, where the Melbourne Harbor Trust built a wharf and railway sidings.[146] At Newport tankers berthed at the wharf and bulk products were pumped to nearby storage tanks. Meanwhile, in 1928 the company established storage on Geelong Harbor Trust Land at North Shore, where the Oriental Timber Mills had been established in the early twentieth century.[147]

In 1922 the Commonwealth Government, in partnership with the Anglo-Persian Oil Company, established Australia's first oil refinery on the Kororoit Creek at Altona. A pipeline linked the refinery to a wharf at Newport (this was replaced in 1971 by the Holden Oil Dock).[148] The company also established oil storage facilities on the newly-opened up Fishermens Bend in 1923. But, within a few years, this site had become an oil storage and distribution depot for naval vessels.[149]

Commonwealth Oil Refineries were sold to BP Australia in 1952. By this time new refineries were begun at both Altona and Geelong. At Altona, Standard Vacuum Oil built a new and enlarged refinery but also set about reclaiming four and a half acres of land between the Breakwater and Gellibrand Piers at Williamstown and erecting huge storage tanks there. The company also substantially rebuilt Breakwater Pier for delivery of crude oil, which would be piped to the Altona refinery. At Geelong Shell established a refinery on the North Shore. Refinery Pier alongside, was built between 1954 and 1961.[150]

By the 1960s oil was Australia's largest single import and, as oil tankers became ever larger, the need to provide deeper shipping lanes and anchorages turned attention to the development of port facilities at the hitherto-ignored Westernport. An added impetus to the development of facilities at Westernport was the discovery of the Bass Strait oil-fields off the Victorian coast in 1965. BP Australia built a refinery and oil terminal jetty at Crib Point in 1966. This refinery ceased production in 1985.

Timber

From the early years of settlement, timber for building purposes was imported into the colony from overseas and interstate, while timber-felling districts, such as the Otways in Victoria's south-west, also produced supplies for the Melbourne market. Timber for houses continued to be imported throughout the late nineteenth century and early twentieth century. Baltic pine was popular and it was not until the First World War era that Victorian hardwoods were widely used for home building. It took until the next decade for the local pine industry to produce enough timber for use as weatherboards.[151] While timber was landed at Sandridge Beach and the piers, it was also lightered up the Yarra River to Melbourne. Requesting a site to erect timber sheds on the south side of the Yarra, near the falls, Mr John Steele observed in 1853 that 'the timber trade of the City of Melbourne is much inconvenienced by the present mode and manner of landing wood at the Queen's Wharf from the Hobson's Bay lighters….then dragged through the mud – to cross the public road – to be laid down on a partial swamp, and open at all times to pilfering.'[152]

By 1885 the Melbourne Harbor Trust Commissioners had decided that land in or near the city was far too valuable to be used as timber yards. Furthermore, large stacks of timber posed a fire risk. The Trust asked the Victorian Government to reserve a site on the east side of the Yarra River opposite Yarraville and Spotswood. Here, in 1889, the Trust began building six jetties and a wharf specifically for the landing of timber.[153] One of the first actions of the Geelong Harbor Trust was to grant a lease to the Oriental Timber Company for a log pond at Corio Quay.[154]

Fort (at) Queenscliff overlooking sea baths and jetty, circa 1880–1890.
La Trobe Picture Collection, State Library of Victoria.

5. Defending our shores

Australian Historic Themes: 7.1. Governing Australia as a Province of the British Empire 7.7. Defending Australia

Coastal defences

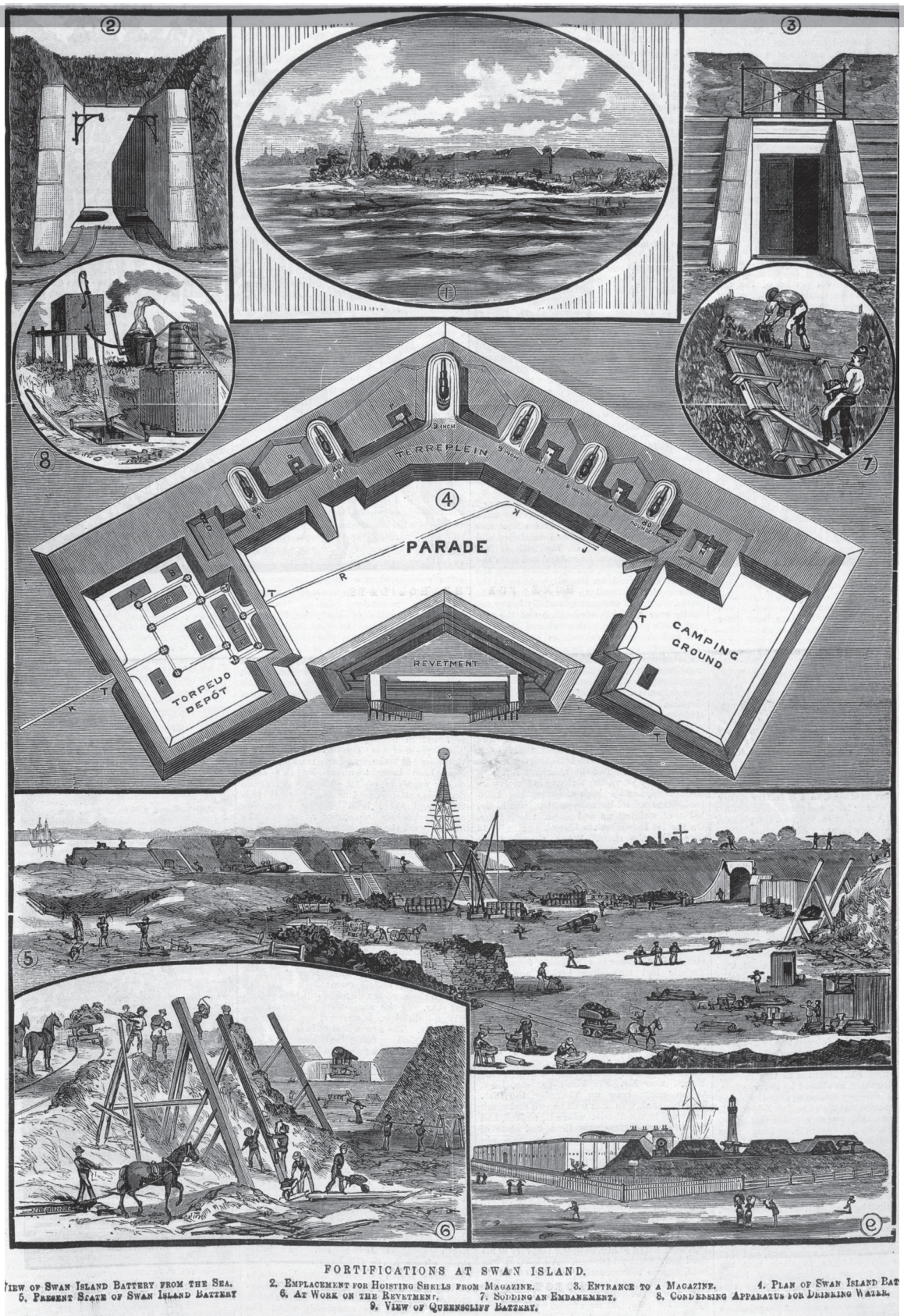
Several sites on Victoria's coast are linked with the defence of the colony of Victoria in the nineteenth century and of the Commonwealth of Australia in the twentieth century. In the nineteenth century defence installations were located on the coast because it seemed impossible that any hostile force would invade overland. The very earliest defence sites were those of the 1803 and 1826 settlements at Sullivans Cove and Settlement Point. These settlements were prompted by fears that Britain's imperialist rival, France, would annex this 'uninhabited' territory as a French colony. But once British settlement in the district had been sanctioned, defence installations were seen as necessary to protect the shipping trade. One of Governor Bourke's first orders was that a battery should be located at Point Gellibrand, a position that would enable it to guard the shipping in Hobsons Bay.[155]

This battery was not constructed until 1855, when a 'semi-circular redoubt' was built directly in front of the lighthouse at Point Gellibrand. At the same time a similar battery was erected at Emerald Hill (South Melbourne) on the beach at the end of what is now Kerferd Road.[156] By this time, the need for defending the colony appeared in a different light. In the first place, Britain, along with Turkey and France, was at war with Russia in the Crimea and the British Secretary of State had advised the Australian colonies to put their harbours in a state of defence. In the second place, the gold rushes had made Melbourne a very valuable British port. There were fears that a foreign warship or mercantile vessel could easily enter Hobsons Bay, destroy or impound all the shipping and lay siege to Melbourne, thus disrupting the important trade between the colony and Great Britain.[157]

Worried that the coastal defences were inadequate, a Select Committee of the Victorian Government sought expert opinion in 1858 as to how to strengthen them. It was suggested that forts or batteries should be established at three points at the Port Phillip Heads: Point Nepean, Point Lonsdale and Shortlands Bluff (Queenscliff). But the cost of permanently staffing batteries so distant from Melbourne, along with the fact that the firing range of contemporary guns might not be sufficient to reach a vessel passing through the channels through the heads, prompted the Select Committee to postpone this plan. Instead it concentrated on strengthening defences at Hobsons Bay as suggested by Captain Peter Scratchley, an officer of the British Royal Engineers. In 1860 the existing batteries at Point Gellibrand and Emerald Hill were upgraded with bluestone,[158] and extra batteries were erected near these points. At Point Gellibrand, these were placed where the existing Fort Gellibrand still stands, in front of the Williamstown cricket ground and on the end of the newly-built Breakwater Pier.[159] On the 'beach' side, extra batteries were located near the Sandridge Lagoon and at west St Kilda. The Emerald Hill battery (Kerferd Road) and the Fort Gellibrand Battery had 'barracks' or quarters added to them in the 1860s, where some members of the Royal Artillery (British forces) were stationed. Scratchley's plan had included another at Point Ormond, but it is not known if this was ever constructed. The proposed defences at the Heads were not completely abandoned. At Shortlands Bluff a sea-wall was erected at the site of the proposed fort in 1860 and a battery was added in 1863-64.The next year Point Lonsdale was designated a battery reserve.[160]

Imperial forces were withdrawn from the colony in 1870, leaving the Victorian Government with full responsibility for the colony's defence. By the mid 1870s far more powerful guns were being developed in Great Britain, making the development of defence infrastructure at Port Phillip Heads more feasible. Furthermore, the Russo-Turkish War of 1877 again raised fears of enemy invasion of the colony. The British Director of Works and Fortifications, Lt-Gen William Jervois, toured the Australian colonies advising on defence works. Together with Scratchley, he recommended the expansion of Victoria's defences at the Heads, rather than in Hobsons Bay. Jervois' scheme included a series of forts at Point

Fortifications at Swan Island,
1882 engraving.
La Trobe Picture Collection,
State Library of Victoria.



FORTIFICATIONS AT SWAN ISLAND.

iew of Swan Island Battery from the Sea. 2. Emplacement for Hoisting Shells from Magazine. 3. Entrance to a Magazine. 4. Plan of Swan Island Bat
5. Present State of Swan Island Battery 6. At Work on the Revetment. 7. Sodding an Embankment. 8. Condensing Apparatus for Drinking Water.
9. View of Queenscliff Battery.

Nepean, Shortlands Bluff (Queenscliff) and Swan Island, along with a second line of defence offered by two forts located on the shoals inside the Port Phillip Heads. He also recommended that batteries be constructed at the western ports of Warrnambool, Port Fairy and Portland, replacing the unprotected mounted guns at each of these places. It was unlikely that any of these smaller ports would be attacked by a 'squadron', but batteries would protect them against a hostile 'man of war, cruiser or privateer'.[161]

Work began on fortifications at Shortlands Bluff, Swan Island and the South Channel Fort in 1879 and on a battery at Point Nepean in 1882. But progress was slow, largely because of the cost involved in executing the plan. The development of the Armstrong breech loading gun altered the design of some of the forts. Rather than being fixed in position, this gun retracted back into its base after firing. This meant that the gun could be disguised behind walls or parapets when not firing, and also that the personnel reloading the gun were protected behind walls and could have overhead protection as well. The development of this gun meant that planned fortifications could be modified and the development of torpedoes, which were fixed by cable and fired at a ship from the shore, meant that one of the two shoal forts could be dispensed with. Only South Channel Fort, commenced in 1879 and finished in 1889, was constructed, although an 'annulus' or stone base had been begun for the other fort on Popes Eye.

Though the defence infrastructure was concentrated at Port Phillip Heads, in the mid-1880s the Victorian Government became fearful that an invading force might land troops at Westernport Bay and march them overland across the Mornington Peninsula to Melbourne. A survey of the Westernport Coast revealed that the easiest place for the enemy to land was between Hastings and Stony Point. Though a fort was planned for Hastings, this never eventuated. A battery, with four guns, was placed at Hastings in 1891, but removed in 1904.[162]

The forts at Queenscliff, Point Nepean and Swan Island were completed by the mid 1880s. After 1885, a second battery was built at Fort Franklin (near Portsea). By 1890 Victoria was assessed as having 'the best defended commercial city of the Empire'.[163]

Defence in the twentieth century

The forts were staffed permanently by members of the Victorian Artillery before Federation. Fort Queenscliff remained the headquarters. After Federation, the Port Phillip forts passed to the control of the Commonwealth Armed Forces. Though the feared Russian invasion of Port Phillip Bay never eventuated, the forts at the Heads continued to be manned. Two world wars in the twentieth century focussed attention on Port Phillip Heads again. At the beginning of World War I, in 1914, the Commonwealth Government, ignorant of the fact that land had been reserved for defence purposes at Point Lonsdale in the 1870s, gained permissive occupancy of land near the Point Lonsdale lighthouse. Here the Defence Department installed an electric light station, electric light emplacements and an engine room, presumably to sweep searchlights across the entrance to Port Phillip Bay, as similar lights were operated from Fort Nepean.[164] A military camp was also located nearby. In the build up to World War II in the 1930s, the Commonwealth still regarded this site as 'essential'.[165]

The first British shot fired in World War I came from Fort Nepean. A German steamer, leaving Melbourne on the eve of the war, was given clearance at Portsea, before a message was received at Fort Nepean that war had been declared. The fire commander at Fort Nepean was ordered to stop the ship. Signals were hoisted and a shot fired before the captain was convinced to stop. The ship and crew were placed under arrest at Portsea.[166] Again, in World War II, the first British shot was fired from Fort Nepean when a small Bass Strait freighter, entering the heads on 4 September 1939, neglected to identify itself. A warning shot was fired.[167]

World War II brought the danger of enemy invasion closer than ever before in Australian history. In 1940 German ships mined waters off Victoria, New South Wales and Tasmania. In 1942 a Japanese midget submarine succeeded in entering Sydney Harbour and sinking a ship. The Port Phillip Heads forts were strengthened, with additional barracks at Point Nepean to house extra servicemen who were stationed there. An additional gun-emplacement was built at Cheviot[168] and five gun emplacements were placed along the sand dunes facing Bass Strait across the Rip at Point Lonsdale, where they remain to this day.[169] In 1942 an 'electric eye', known as Chinamans Hat or 'Station M', was constructed offshore at Port Phillip Heads. The light building, which was octagonal in

Lagoon Port Melbourne
circa 1900–1909.
La Trobe Picture Collection,
State Library of Victoria.

Fishermen used the lagoon as a sheltered harbour until the 1920s when it was filled in and a breakwater jetty extended into Hobsons Bay from the east wall of the lagoon. HMAS *Lonsdale* later occupied the reclaimed land.

shape and resembled a Chinaman's hat, was used to shelter equipment and offer protection for naval officers who were occasionally on-site. A photo-electric light beam was mounted on the structure with reflectors on the Heads at Point Lonsdale and Portsea to detect incoming ships by a break in the beam.[170] A break in the transmission of the beam was meant to suggest the entry of an enemy vessel.[171]

Naval defences

Victoria's first warship, the Victorian, was in service in the 1850s, though it was not often stationed within Hobsons Bay, having other duties, such as surveying the Victorian coast. When the Victorian was declared unfit for service in the 1860s, the Victorian Government requested assistance from the British Government to establish a Naval Force. HMS *Nelson*, a wooden triple-decked warship converted to a 74-gun steamship was acquired as a training ship. The *Nelson*, which had links back to the Napoleonic era in Europe, remained in service until 1898. An anchor from the *Nelson* is now located at Commonwealth Reserve, Williamstown, and many guns from the *Nelson* are located in reserves around Melbourne. At the same time as the *Nelson*, the government acquired the newly-built turret ship, the *Cerberus*, which arrived in the colony in 1871.An ironclad monitor, the *Cerberus* was fitted with guns and was the forerunner of modern battleships. The *Cerberus* served the Victorian Navy and then the Commonwealth, being used to store explosives and as a port guard ship during World War I. In 1924 it was sold to a salvage company and partly dismantled, before being purchased by the Sandringham Council for use as a breakwater at Half Moon Bay, where it remains today.

The *Nelson* and the *Cerberus* were based at Williamstown during their active service and it was here that Peter Scratchley recommended that torpedo training for the militia take place. A torpedo depot was erected in the naval dockyards in 1870[172] and facilities for firing torpedoes appear to have been installed both there and on the Yarra at Footscray in the 1870s.[173] In 1885 the training school at Williamstown

became the Williamstown Naval Depot, which remained Victoria's Naval base until 1920. Also in 1885 a naval orderly room was constructed at Port Melbourne,[174] reputedly on the beach near the Sandridge Baths.[175] It is shown as a torpedo depot, complete with jetty, on a map of Port Melbourne dated 1894,[176] but may have been replaced by the more substantial naval drill hall in Bay Street, built after Federation in 1912.

After Federation, all the state's defence infrastructure was transferred to Commonwealth ownership. Despite this, there was little attempt to build up the Australian Navy until 1909 when Britain began to be alarmed at Germany's increasing naval power.[177] Work began on building an Australian Navy. At North Geelong, in 1913, a Naval Officers' College was opened in Osborne House.

In 1910 the federal Government received advice from Admiral Henderson on the best sites for Australian naval bases. In Victoria, Henderson recommended Hanns Inlet on Westernport Bay and the federal Government purchased 4,000 acres for the proposed base and torpedo school. In 1913 work began on the depot, originally named Flinders Naval Base, but later renamed HMAS *Cerberus*. The base was not ready for use until 1920, and therefore played no part in Australia's World War I effort. Included in the depot was a wharf, built on dry land, with the waterways around it dredged after construction. This wharf was replaced in 1988. Expanded during World War II to cope with extra personnel attending an Officers' Training School, HMAS *Cerberus* remains a complex site.

The naval connection with Williamstown and Port Melbourne continued during World War I, when 'practically all officers and men recruited for the Australian Navy' passed through the Williamstown training depot. The adjacent government dockyard was also closely associated with it.[178] At Port Melbourne, a Naval Store was established to provide repair stores and fittings for the transport fleet.[179]

The Port Melbourne piers were points of embarkation for servicemen and women during both world wars. After the bombing of Pearl Harbour drew the USA into the 1939-1945 conflict, the Port of Melbourne became the point where most American servicemen and supplies entered Australia, as well as the chief supply port for the Allied Forces in the south-west Pacific.[180] During this war the Commonwealth established the land station HMAS *Lonsdale*, at Port Melbourne and acquired the MHT Dockyard (which had formerly been the Government Dockyard) to become a naval dockyard, building naval and merchant ships and one frigate there.[181] Soon after Sydney Harbour had been breached by the Japanese submarine, the Department of the Navy proposed laying a minefield between Breakwater Pier at Williamstown and the Port Melbourne piers. But the plan was not carried out, for fear that vessels anchored near the minefield might drag their anchors across it. It was felt that the improved defences at Port Phillip Heads would also alleviate the necessity for installing the minefield.[182] But a minesweeping range and 'degaussing range' were installed in Hobsons Bay. The degaussing range over which ships entering and leaving the port had to pass, used magnetism to identify vessels as they entered the port, then de-magnetised them as they left. There were plans to remove the associated structures and installations in the 1950s, though by this time, the Melbourne Harbor Trust was using one of the associated dolphins to support a navigational light.[183]

6. Commercial fishing

Australian Historic Theme: 3.4. Utilising natural resources

Fishermen's huts were located along the shores of Port Phillip Bay from the earliest days. Some were located at Sandridge and Fishermens Bend. Williamstown was also called a 'fishing village' by one observer. As European settlement spread out across Victoria, fishermen followed, often living in shacks close to the sea. At Kings Creek (Hastings) there were fishermen by the early 1840s, for example.[184]The influx of population during the gold rushes created a greater demand for all sorts of food, including fish. In particular, the Chinese population on the goldfields enjoyed dried fish. Fishermen spread out along the more thinly inhabited areas of the coast, such as Black Rock, Mordialloc, Mornington and Hastings on Westernport Bay. By the late 1850s at Mordialloc, for instance, there was a 'regular canvas town of fishermen's tents and between 40 and 50 boats on the schnapper ground at one time'.[185] Oysters were harvested in the 1860s from Westernport Bay and one individual attempted to establish oyster beds at Sandy Point. Tides, however, brought in sedimentary sand which killed the oysters. The industry was wiped out, and did not recover until the 1890s.[186] Fishermen's sheds for storage were built in association with jetties at some of these locations in the 1860s and 1870s. One at Hastings, said to date from 1864, is still in use.

Queenscliff's fishing industry grew from the 1860s. By 1865 it was reported that 130 fishermen were working at Queenscliff,[187] a location that offered the choice of fishing in both Port Phillip Bay and Bass Strait. A great variety of fish, including lobster, was caught by Queenscliff fishermen, but perhaps the most famous was the barracoutta, for which specially-designed 'couta' boats were developed.

The ease of transportation to the main market at Melbourne was crucial to commercial fishermen. Queenscliff catches could be transported by vessels to Geelong or Melbourne, before the railway line from Geelong extended to Queenscliff in 1879. Those located on the eastern shores of Port Phillip Bay and Westernport relied on horse-drawn carts until railway lines were extended down to Frankston, then Hastings and Mornington in the 1880s. Regular steamship services to the Port Albert area encouraged the growth of a fishing industry there, while the extension of the railway from Oakleigh to Sale in 1878 was a great boost to fishing on the Gippsland Lakes. By 1892 there were 100 boats fishing in the lakes and its tributaries.[188] Similarly the fishing industries of Port Fairy and Portland were boosted by rail connections in 1877 (Portland) and 1889 (Port Fairy).

Fishing fleets need safe and protected places for mooring. It is likely that some of the jetties and wharves constructed by the Public Works Department in the nineteenth century, particularly on the Gippsland Lakes, were built with the needs of fishermen in mind. At some locations specific 'fishermen's wharves' were constructed, as at Mornington in the early twentieth century, on a site now used by the yacht club.[189] Sometimes fishing fleets made use of older infrastructure when new infrastructure was built. At Queenscliff, when a steamer jetty was built in the 1880s, the 1850s jetty became known as Fishermen's Pier. The configuration of the piers provided sheltered moorings for fishing boats which were unloaded at Fishermen's Pier.[190] In the 1960s, when silting between these piers made the water too shallow for mooring, a boat harbour for fishing boats – known as Fishermen's Basin - was created in a 'cut' that led into Swan Bay. Slipways were added and the harbour extended in the years since the 1960s.[191] At Portland the old breakwater, built in the 1870s and 1880s, offered shelter to the fishing fleet, while the fishing fleet based at Lakes Entrance after World War II made use of infrastructure developed as part of the artificial entrance to the Gippsland Lakes.

Rivers and inlets, along with sheltered bays, such as Westernport, have also provided berths for fishing vessels. For many years during the twentieth century, Melbourne's fishing fleet tied up at the Maribyrnong River wharves at Footscray. At Apollo Bay, where there had been several attempts to build adequate jetties, there had been a significant fishing industry since the late nineteenth century. Finally in 1950, a new boat harbour was constructed. It still offers shelter to the fishing fleet, as well as to pleasure craft.[192]

7. Making ports and the coast safe

Australian Historic Theme: 3.16.1. Dealing with Hazards and Disasters

Pilots and early navigational aids in Port Phillip Bay

Navigational aids and assistance were amongst the first priorities of the representatives of colonial government in the Port Phillip District. The hazardous channel through Port Phillip Heads meant that an officially–licensed pilot was appointed and based at Shortlands Bluff (Queenscliff) from 1839. The ranks of the pilot service swelled in the 1850s, when many vessels made their way to Port Phillip Bay. The government Engineer was pressed to complete a row of houses for these men and some of these houses survive in Gellibrand Street, Queenscliff. In some coastal ports, such as Portland, Port Fairy and Port Albert, harbour masters doubled as pilots in the 1850s and 1860s.[193]

By 1840 six buoys had been installed in Port Phillip Bay as navigational aids, as suggested by William Hobson and later by Captain Wickham, aboard HMS *Beagle*. Most of the buoys were located to guide vessels through Port Phillip Heads and the channels inside them. The sixth was at Point Gellibrand.[194] In addition Victoria's first navigation light had been constructed at Point Gellibrand. It was a wooden structure, with an oil-burning beacon at the top, which was replaced by a bluestone lighthouse in 1849.[195] This operated as a lighthouse until 1860, when it was converted to the time ball tower that is still situated at the reserve. Prior to this, the time ball had operated from a flagstaff erected near the lighthouse. The flagstaff was crucial for conveying shipping news between Melbourne and Williamstown. The timeball was also essential for mariners anchored in or leaving Hobsons Bay because it allowed ships' captains to accurately set their chronometers.[196] A sandstone lighthouse was constructed at Shortlands Bluff between 1841 and 1843. This also proved to be temporary. By 1861, when it had been joined by a second timber structure lower down on the sand dunes, the lighthouse had to be moved to make way for a battery. Two new lighthouses, both made of basalt quarried in Melbourne, were built at Queenscliff at this time. One of them was painted white.[197]

In 1852 a flagstaff that signalled the state of the tides through the Rip was erected at Point Lonsdale. Signal Master's quarters were added five years later.[198] In 1856 a pillar was erected to the west of the flagstaff to warn ships of a submerged rock south-east of the Lonsdale reef. A telegraph station was erected in the lighthouse reserve in 1861.[199] In 1863 the wooden Shortlands Bluff lighthouse was moved to Point Lonsdale, although it was not lit until 1867. In the meantime a 'temporary' light was used. The present Point Lonsdale lighthouse was erected in 1902.

The early buoys in Port Phillip Bay were later to be replaced by pile lights in the channels and at Point Gellibrand. Constructed on timber piles in the water, the pile lights housed lightkeepers. Their lamps were fuelled by kerosene. Point Gellibrand's, built first as a lightship, was in place by 1860. The pile light that replaced it in the early twentieth century was destroyed in 1976,[200] although the light was salvaged and now resides at the Melbourne Maritime Museum. The South Channel Pile Light was constructed in 1874 on the Mornington Peninsula side of Port Phillip Bay. Its light, powered by acetylene gas after 1925, was not turned off until 1985. The West Channel Pile Light, off the Bellarine Peninsula coast, was constructed in 1881. Temporary wooden signal stations or lights were also erected (on land) at Point Lonsdale and McCrae in the 1850s.

Bass Strait lights

Two New South Wales Parliamentary Committees, sitting in 1841 and 1845, recommended that lights be placed at dangerous points on or near the eastern and western entrances to Bass Strait. Despite these recommendations and the loss of vessels such as the *Cataraqui*, it was not until 1848 that the first of these, the Cape Otway lighthouse, was completed. The delay was partly caused by the difficulty of finding an overland route to the remote cape, over which to transport building supplies. There was a longer delay in placing a lighthouse on Gabo Island in the east, though a temporary

South Channel Pile Light, refurbished and moved to a new location 3 km from Rye Pier. The original piles remain in their original position.
Heritage Victoria.

wooden lighthouse was placed here after the wreck of the *Monumental City* near the island in 1853.

In 1856 commissioners were appointed by the colonies of New South Wales, Victoria, South Australia and Tasmania to 'confer upon the subject of Light Houses in the several Australian Colonies'. The Commission recommended that six new lighthouses be established on the Australian coast. Two of these, at Cape Schanck and Wilsons Promontory, were recommended for Victoria. The advantages of the Cape Schanck light would, the commissioners said,

' be not only felt by the direct trade to the ports of Melbourne and Geelong, but it [would] also be a benefit to vessels working through the Straits in either direction against contrary winds; and as a guide to vessels seeking shelter in Western Port in adverse weather…'.

Wilsons Promontory, 'in the most intricate part of the navigation of Bass's Strait' and on the great 'highroad to the overseas and coasting trade' was 'surrounded by numerous dangers lying in the direct track, some hidden and some of a less dangerous character' and therefore 'demanded the most attentive consideration.'[201] In addition, the commissioners recommended that the temporary light on Gabo Island be replaced by a stronger and permanent light and moved to a better position.[202]

Arising out of this report, the limestone Cape Schanck lighthouse was constructed in 1859 on the tip of the Mornington Peninsula. Lighthouse keepers' quarters were finished before the lighthouse, in 1857, and two of these limestone buildings still exist on the site. The basalt Wilsons Promontory lighthouse was also constructed in 1859 on the south-eastern pitch of the promontory, as decided by the Commissioners. The permanent Gabo Island lighthouse, designed by William Wardell, was built in 1862 of locally quarried pink granite.

Although the 1856 Commission strongly recommended a light be erected at Cape Wickham on King Island, this was seen as a necessity only to warn mariners of the dangers of the island's coast. The commissioners did not recommend any more ocean lights for the treacherous west coast of Victoria which 'being free from dangers, affords… the safest shore for the prudent mariner to approach'.[203] This was to prove to be a false assumption as wrecks continued to occur along this coast.

Harbour lights

The 1856 Commission decided that the cost of the lighthouses it recommended should be borne by the colonies which would most benefit from them. In addition harbour lights, to assist mariners entering harbours rather than the open ocean, would remain the responsibility of the respective colonies. To those who were interested in developing ports along the coast of Victoria, harbour lights were essential because they meant that mariners could safely enter harbours by day or night. Harbour lights could also mean that, along the treacherous western coastline, ports could act as 'harbours of refuge' to vessels moving along the coast. A Victorian Select Committee on Westward Harbours reported upon the conditions and improvements necessary for the ports of Portland, Port Fairy and Warrnambool in 1857. The committee recommended that, at Portland, a lighthouse was 'absolutely essential for the safety of trade of the port' and recommended that it be constructed at Observatory Point.[204] It recommended a harbour light on Rabbit Island at Port Fairy and two lights at Warrnambool.[205]

At Portland the lighthouse and keeper's cottage were in operation by 1859 on what was then known as Observation Hill, but later became known as Battery Hill. When a battery emplacement was constructed here in 1889, the lighthouse and keeper's cottage were moved to their present location, at Whaler Point on the other side of the port.[206] Port Fairy's lighthouse, on Rabbit Island, was also built in 1859, along with light-keeper's houses. Rabbit Island was joined to Griffiths Island by means of a breakwater at about the same time. Nowadays, the whole island is known as Griffiths Island. The Port Fairy lighthouse remains in its original position. At Warrnambool, buoys and a flagstaff for signalling ships had been installed in the 1850s. As well as the two recommended lighthouses at Warrnambool, two white stone markers were erected to guide ships during the day. The Middle Island lighthouse and keeper's dwelling were erected in 1859. The other lighthouse, a wooden tower on the beach, was erected, along with a timber residence in 1860. Weathering of the lighthouses meant that by the 1870s, alterations were made. The bluestone Middle Island lighthouse was pulled down and moved, with the keeper's residence, to Flagstaff Hill. One of the two white obelisks was removed, but the lower obelisk on Flagstaff Hill was converted into a lighthouse by adding a gallery in which the light from the wooden tower was placed.

The lighthouse keeper's quarters were moved to the new upper lighthouse. Both new lighthouses were lit by 1874.[207] At Corner Inlet, on the Gippsland coast, a lighthouse was erected on Snake Island (then known as La Trobe Island) in 1859. [208] Whether this is the lighthouse that was moved to nearby Cliffy Island in 1884, has not been ascertained.

Also known as the Eastern Shore Lighthouse, McCrae lighthouse was built in 1874, replacing the timber lighthouse erected in the 1850s.[209] At a time when most Victorian lighthouses were being constructed in stone, the McCrae light, which worked in conjunction with the South Channel Pile Light, was constructed of steel.

The 1873 intercolonial conference and ocean lights

An intercolonial conference of Principal Marine Officers of the Colonies, held in 1873, recommended further ocean lights along Victoria's coast. The sites recommended by the conference were at Cape Nelson, near Portland, Point Hicks, Cape Liptrap and Split Point (Aireys Inlet).[210] Once again there was some delay in carrying out the recommendations of the conference. Cape Nelson lighthouse was to assist vessels entering Bass Strait from the west. Although a site for the lighthouse was surveyed in 1879, it was not until 7 July 1884 that the light on the 79 foot bluestone tower was officially lit.[211] An octagonal timber lookout tower was added to the site, possibly to house an auxiliary light, in 1892. These buildings are all still intact on the site.

The Cliffy Island lighthouse was also constructed in 1884, although the 1873 Conference had recommended Cape Liptrap as the site for this light. Point Hicks lighthouse, built six years later, signals the introduction of concrete lighthouses into Victoria. It is the tallest concrete lighthouse in Australia.[212] Two keepers' houses were built at the same time by contractor J. Thorne. The main internal light at the lighthouse has been replaced by a light on the balcony of the lantern houses and the lightstation is now used as a weather reporting station by the Bureau of Meteorology.[213] Split Point lighthouse (originally known as Eagles Nest Point) was also built of concrete in 1891. Two keepers' residences that were built with the lighthouse, have since been sold and other ancillary buildings, stables and stores, were removed when the light was unmanned in 1919 and converted to electricity. Another concrete lighthouse was built at Point Lonsdale in 1902, replacing the earlier wooden lighthouse. It serves both as an indication of the entrance to the heads and as an aid to navigating the South Channel. A brick building was placed around the base of the light tower in 1950 for use as a signal station and observation room. The Point Lonsdale lighthouse is still staffed,[214] mainly for the provision of information of arrival and departure times of ships

Commonwealth period lighthouses

After Federation the Commonwealth Government became responsible for ocean or 'highway' lights. It commissioned Commander Brewis, RN, to review the existing system of Australian coast lights. Brewis found that, despite the Wilsons Promontory lighthouse, Bass Strait presented great difficulty on a dark night, and recommended additional unmanned lights at Cape Liptrap and Citadel Island (in the Glennie Group, off Wilsons Promontory). Brewis recommended a concrete light tower on Cape Liptrap and a 'skeleton iron structure' on Citadel Island.[215] Both were constructed in 1913. The lighthouses suggested by Brewis completed the circle of ocean lights around the continent. In addition to these light houses or towers, there are navigation lights located at Lighthouse Point, Refuge Cove, Sealers Cove and Waterloo Bay at Wilsons Promontory. It was not until 1944 that another light tower was located at Lighthouse Point, Corner Inlet, although by then several ocean lights had been located on the ocean side of Wilsons Promontory.[216] At Lakes Entrance, the Mount Barkly light was erected in 1923. Further east along the coast, Conran Point lighthouse was erected in 1966. A Navigation Light also exists at Wingan Inlet. It is said that a beacon was located on Grossard Point, Phillip Island in the 1860s, to warn mariners of McHaffies reef. There is still a major beacon at this point. Two other lights on Phillip Island help mark the entrance to Westernport. The Point Grant Light, an iron lattice tower near the Nobbies, was erected in 1947. On the eastern entrance to Westernport, at Cape Woolamai, another light, erected on an iron column, was first lit in 1928.[217] After the widening of the channel through Port Phillip Heads in the 1920s two steel towers were placed at Queenscliff to indicate the width of the channel.[218]

Beacons

Beacons – fixed structures on land or in the water - are found at many points along Victoria's coast and within Port Phillip

Life boat, life boat shed and rocket shed (in background) on the Moyne River, Port Fairy (H1431). *Heritage Victoria*.

The life boat shed was moved to this position in 1973, when the jetty on which it was located fell into disrepair.

Bay. Providing guidance for vessels negotiating channels or the coastline, the earliest beacons in Port Phillip Bay were simply a series of sticks placed in the mud along the Yarra River. As Victorian ports became more sophisticated, with shipping channels dredged to ever greater depths and the volume of shipping increasing, they relied even more heavily on navigational aids such as beacons to provide clear direction to vessels. An increasing array of beacons were needed in the twentieth century, particularly to guide vessels along the Yarra or through shipping channels at all hours of the day or night. In the 1930s, acetylene gas burning buoys were installed at many points of the bay to guide ships through the channels.[219] When the Port Melbourne channel was dredged to 34 feet deep and 600 feet wide in the 1920s, two new beacons were installed at Port Melbourne to guide vessels along the channel towards the Port Melbourne piers. The concrete, land-based, Port Melbourne lighthouse, was one of these beacons. The other beacon, built of timber, was placed 500 feet to the south, in the water between Princes Pier and the newly-emerging Station Pier. The timber jetty linked to this beacon has since been demolished. Flashing beacons were installed to define the edges of the widened channel.[220] Sometimes pre-existing structures have been converted for use as beacons, as for, example, in Hobsons Bay in the 1950s, when a dolphin installed for defence-related purposes during World War II was used by the Melbourne Harbor Trust as a navigational light.[221]

Lighthouse technology

The very earliest beacons at Port Phillip used oil-burning lamps. The lighthouses built in the middle years of the nineteenth century, such as Cape Otway, used a catoptric lamp system in which parabolic reflectors reflected a light generated by burners. The fuel for such lamps was oil, sometimes sperm whale oil. The dioptric system, in which light is refracted to a preferred position, was invented in 1828,[222] but does not seem to have been used in Victoria until after the 1850s. It was still being used in the early twentieth century when Brewis made his recommendations. By then however, acetylene gas was being used to power dioptric lights, meaning that they did not have to be attended. Most lighthouses were gradually converted to acetylene and then to electricity between the two world wars, but the light at Citadel Island (1913) was the first automatic light installed by the Commonwealth of Australia.[223] As ocean going vessels became larger during this period, they increasingly had to travel

Former rocket shed at Shipping Point, Port Albert 2003.
Heritage Victoria.

in deeper water, and therefore required stronger lights, such as those powered by electricity and this was another reason for the gradual conversion to electricity in the inter-war period. The development of radio beacon technology meant that ships travelling even over the horizon could determine their position by contact with a land-based radio beacon and beacons were installed at Cape Otway in 1937 and Cape Schanck and Cape Wickham (King Island) in 1939. Another beacon was established on Gabo Island in 1964.[224]

Saving lives

Lifeboats and lifeboat sheds

The treachery of the Victorian coastline made shipwrecks an all too common experience in the nineteenth century. Early in the century attempts were made in Britain to develop successful designs for lifeboats. The process was complicated because lifeboats had to have the capacity to be launched into surf, carry a number of passengers as well as a crew, and be buoyant.[225] These designs were perfected around the middle of the century and in 1857 the Harbour Master at Melbourne, Charles Ferguson, commissioned four lifeboats from migrant boat-builder William White at Williamstown. Even before these boats had been commissioned however, at least one lifeboat seems to have been in use in Victoria. In 1854 the Public Works Department spent £57.0.0 repairing the Royal Humane Society's boat at Sandridge.[226]

The first of the four commissioned lifeboats was taken to Port Fairy for testing in 1857. The next three were taken to Queenscliff, Portland and Warrnambool the following year. Port Albert received one in 1859. It seems that the lifeboats at the 'outer ports' were little used, except for regular practice by their volunteer crews. However, after the wreck of the *Cheviot* on the ocean side of Point Nepean in 1887, there were calls to back up the service at Queenscliff with another lifeboat stationed at the Heads. The Point Lonsdale jetty, complete with lifeboat shed, was built to house this lifeboat in 1891.[227]

Like the sheds built to house the earlier lifeboats and equipment, Point Lonsdale's lifeboat shed was cantilevered over the water on the seaward end of the jetty. This arrangement ensured that the boats could be launched quickly in emergencies. The sheds housing the early lifeboats were built by 1862, but two of them were later moved. The jetty on which the Port Fairy shed was built fell into disrepair and it was moved in 1873 to a position on the Moyne River, with a slipway leading into the water. At Warrnambool, where the build-up of sand in the harbour was a recurrent problem, the shed was moved in 1878.[228]

Although the lifeboat crews at Portland, Warrnambool and Port Fairy continued with regular practice until World War II, their services were rarely in demand. At Queenscliff, however, the old lifeboat was replaced with a motor-powered boat in 1926. This new vessel appears to have made the Point Lonsdale lifeboat redundant.[229] The Queenscliff lifeboat service was discontinued in 1976, though the shed used to house the motor lifeboat survives. A shed, though not the original, survives at Port Albert.[230] The lifeboat and nineteenth century lifeboat shed survive at Port Fairy.

Rocket and mortar sheds

An alternative to lifeboats for the rescue of shipwreck victims was a 'rocket' or 'mortar'. Because these devices could be launched from the shore they were often more effective than lifeboats. They were small devices which 'fired' rockets attached to lines of rope from shore to a stricken vessel. Survivors on the ship were instructed to fix one line to the ship's mast. Then a second line was run out on which a breeches' buoy was attached. The breeches' buoy was literally like a pair of trousers in which survivors would sit as they were then hauled above the water to shore. Specially constructed sheds, which were quite small, were needed to store rockets or mortars in dry and secure conditions. Some were built at Point Nepean and Point Lonsdale, Warrnambool and Portland in 1858 and Port Albert in 1877. Portland's was replaced in 1885 and Port Fairy's in 1886. Lakes Entrance had one by 1890. Another rocket house was constructed at Sorrento in 1891 and it is probable that other rocket sheds were constructed around the coast. In order to ensure that the contents were kept dry, rocket sheds were often built of stone or brick. Some remaining examples are at Port Fairy, Lakes Entrance and Port Campbell.

8. Boat and ship repair and building

Australian Historic Theme: 3.7. Moving Goods and People

With a heavy reliance on shipping, it is no wonder that the Port Phillip District numbered boat builders and repairers among its early commercial industries. James Jacks and Charles McIntosh proclaimed themselves 'boat builders and shipwrights' in Thomson Street Williamstown in 1841.[231] But, under the stresses of the gold rushes, a Select Committee of the Parliament of Victoria argued in 1853 that a ship repair facility was needed at Melbourne, even though there were by then a number of privately-operated slips at Williamstown, on the south bank of the Yarra and at Sandridge.[232] By 1853 the south bank of the Yarra 'had been appropriated to ship building'[233]

The Select Committee recommended that the government construct a dry dock, or at least a patent slip,[234] a paved ramp on which vessels could be hauled out of the water for cleaning or repairs. Construction of a government patent slip commenced at Williamstown in 1856.[235] In the next decade work began on the massive Alfred Graving Dock, which took ten years to complete. The graving dock formed the nucleus of a government dockyard, becoming the 'State Shipbuilding Yard' in 1913. The Commonwealth Government took over the dockyards in both world wars, building several ships, such as minesweepers, frigates, destroyers and barges.[236] Between the wars the Melbourne Harbor Trust used the dockyards, moving next door during World War II to establish its own slipways, jetties and extensive system of workshops, where the Trust constructed and maintained its own vessels such as dredges. After the war, the former state shipbuilding yard remained in Commonwealth control until 1986.

Both the Yarra south bank and Williamstown maintained their links with private ship repair companies. At Williamstown Blunts and Knights slipways are still in existence. Ship repair on the south bank of the Yarra ceased with the demise of river shipping. However Duke and Orr's dry dock constructed in 1875, and reconstructed in 1901 provides evidence of a nineteenth century timber-lined dry dock. Though this dry dock ceased operating in 1975, it remains as the site of the Melbourne Maritime Museum and home of the barque *Polly Woodside*.

Though these Melbourne locations have long associations with boat-building and repair, there were other maritime centres which also needed such facilities, if only for pleasure craft. Queenscliff, for example, a fishing village, had boat builders from the 1890s, though it is believed that the earliest 'couta boats' may have been manufactured in Geelong or Melbourne.[237] Once shipping got underway on the Gippsland Lakes in the 1880s, Paynesville acquired a private patent slip, which passed into government hands in 1914.[238] The eastern banks of the Maribyrnong River also supported a boat repair industry in the nineteenth century. Boat-builders have been based at Mordialloc, a place of quiet recreational boating and commercial fishing, since 1892 when William Kretchmar established his business. Jack Pompei, whose father worked as a fisherman at Mordialloc from the 1920s, established a boat-building business in the 1930s. The business is still operating and located at Mordialloc.

9. Accommodating seamen

Australian Historic Theme: 3.22. Providing Lodgings

Sailors arriving on foreign ships in Victoria faced the difficulty of finding affordable lodgings. While many may have preferred to spend their time ashore in hotels, they ran the risk of being 'at the mercy of the low boarding-house keeper and crimp', who took the sailors' money, provided them with 'unlimited rum and tobacco' and then charged them exorbitantly for their lodgings.[239] In England in the 1830s a mission to seamen movement, which aimed to provide affordable and a clean accommodation for seamen, was established. The first such accommodation in Victoria was reputedly offered in a hulk moored at Williamstown and, soon after, a mission building was operating in Beach Street, Port Melbourne, near Town Pier. In 1865 a government grant and public donations allowed the opening of a Sailors' Home in Spencer Street, on the corner of Little Collins St, Melbourne. Here private rooms, recreation rooms and hot meals were provided to sailors, along with religious services and evening entertainments.[240] At Williamstown, from 1878, the 'Sailors' Coffee and Reading Room', offered a non-alcoholic refuge for visiting seamen.[241]

In 1905, when the Anglican Church sent a new Minister to preside over its Melbourne Mission, a new Mission building was located in Siddeley Street, near the Yarra River docks. This was replaced in 1917, by a new Mission building built nearby at 717 Flinders Street, where it still stands today. Twenty years after the opening of this Mission Building, philanthropist Alfred Nicholas donated funds for another mission building at Port Melbourne. Located on Beach Street, between Station Pier and Prince's Pier, this Mission operated until 1972. The building was demolished in 1991.

10. At the beach: using the sea for recreation

Australian Historic Theme: 8. Developing Australia's Cultural Life

Early European use of the seaside for recreation in Victoria

Of necessity, most of the maritime infrastructure constructed in Victoria in the first fifty years of European settlement was meant for utilitarian purposes, such as transporting people and goods into and around the colony. But even in the rough and raw early days, there is evidence that some residents found time to enjoy the attractions of the sea. One source recounted that visitors sometimes took evening strolls along the Sandridge beach in the early 1840s, and the attempt to promote the tiny settlement here for leisure purposes was evident from the fact that the Pier Hotel was marketed as 'Brighton on the Beach'.[242] By the 1850s, some bathing structures had been erected at points along Port Phillip Bay's shores. The purpose of these, initially, however, was more to enable people to bathe, rather than for recreation. But, since English seaside resorts, particularly Brighton, had been fashionable with the upper classes since the mid-eighteenth century, the upper ranks of Victorian society wasted little time in establishing favoured sites for seaside retreats. By 1844, Lieutenant-Governor Charles La Trobe is said to have had a cottage at Queenscliff, where the Port Phillip pilots were based.[243] Henry Dendy purchased all the area we now know as Brighton (Victoria) as a Special Survey in 1841. Soon after he called for designs for a village, farm land and 'marine residences' by the sea.[244] Along with Brighton, St Kilda also developed as a marine 'watering-place' in the 1840s and 1850s. At both locales houses, both permanent and summer residences, offered Melbourne's well-to do a chance to enjoy sea breezes during the hot summer months. Though St Kilda and Brighton could be said to be Victoria's first seaside resorts, they were soon followed by other locations. At Mount Eliza on the Mornington Peninsula in the 1850s, J.T. Smith, a Melbourne mayor and member of the first Legislative Council of Victoria, purchased land to build a summer residence, setting a precedent for a number of imposing summer residences that appeared along the coast between Mount Eliza and Mornington in the nineteenth century.[245] Queenscliff was, by the mid-1850s, said to be the 'queen of watering places' in Victoria.[246] On the whole, though, Melbourne's well-to do were as interested in retreating to hill stations, such as Mount Macedon, as they were to the seaside, while working people, who had no annual holidays and usually worked a six-day week, had few opportunities for any breaks.

Guidebooks for the various resorts in the colony began to appear in the 1860s. They stressed the health-giving properties of the seaside. Sea-bathing was claimed as a cure for a number of physical ailments, as was the fresh ozone-laden air. Seaside activities, therefore, tended to be restrained. Even bathing, though highly recommended, was suggested for only very short periods, especially for children. Promenading was one method of being able to take the sea air. It was also a social activity, offering opportunities for social interaction with other members of one's class. In addition to these gentle forms of recreation, however, some seaside locations offered more active sport. Hunting, fishing and racing were popular pastimes for those with leisure time in nineteenth century Victoria. On Port Phillip Bay the first sailing regatta in the Port Phillip District was held in 1838, apparently exciting such interest that Melbourne 'town was very much emptied'.[247] Localities such as Mordialloc attracted fishermen and shooters. Here there were 'bream, whiting, trout, mackerel and mullet' in the creek, and ducks and snipe for shooting.[248] Rowing, especially on lakes and rivers, grew in popularity after the 1850s. Furthermore, to encourage patrons to visit their baths, some sea-bath owners began to promote swimming races and carnivals. Captain Kenny held swimming carnivals at his St Kilda bathing ship in the 1860s, charging spectators a fee to enter the baths to watch the races.[249] In the 1870s swimming clubs, associated with baths at South Melbourne, Middle Park and St Kilda, were formed.[250]

Evening at St Kilda Pier after a hot day, 1887. Engraving, F. A Sleap. *La Trobe Picture Collection, State Library of Victoria.*

The popularity of St Kilda and its pier as a place to escape the heat of Melbourne, as well as to promenade, is evident.

Public reserves

Though enjoyment of the seaside was very much an upper and middle-class activity in the mid-nineteenth century, public policy from the earliest times laid the foundation for more democratic enjoyment of the beach. From the 1840s government surveyors set aside reserves of land for public purposes as they reserved towns. While many of these reserves became parks, gardens or sporting grounds, the foreshore at Geelong was reserved for the purpose of bathing in 1844[251] and the general rule of thumb was that land within 100 feet of the high water mark of the sea or navigable rivers, was not to be alienated from the Crown.[252] This guide for surveyors was not always adhered to and, in fact, the Special Surveys granted to some settlers, such as Henry Dendy at Brighton and James Atkinson and William Rutledge at Belfast (Port Fairy), meant that some foreshore land fell into private hands very early in Victoria's history. But after 1870 all water frontages still in Crown hands were withheld from sale and remaining Port Phillip Bay frontages were permanently reserved,[253] giving future Victorians almost unlimited public access to the coast and its delights.

Nineteenth century development of resorts

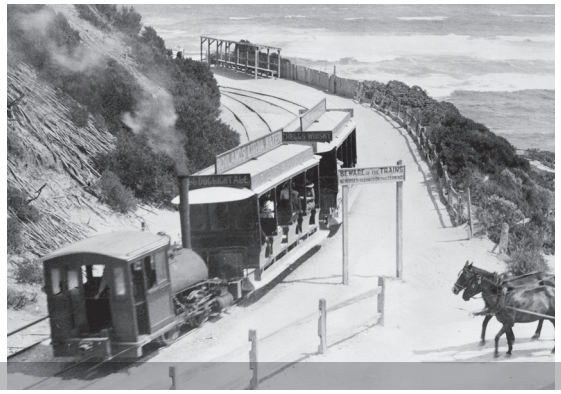
Improved transport links helped to promote particular resorts in the gold rush era and afterwards. The train line from Melbourne to St Kilda opened in May 1857, allowing day visitors to travel out to St Kilda to sample its delights. A promenade was built along the beach here in the 1860s.[254] When the train line was extended to Brighton and then on to Brighton Beach 'excursion and holiday visitors generated more rail traffic than did residents.'[255] Resorts more distant from the population centres could attract visitors by steamer if they had a useful pier, so Schnapper Point (Mornington) and Queenscliff, both with piers, offered grand hotel accommodation from the 1850s. Entrepreneur, George Coppin, began to develop Sorrento as a resort town in the late 1860s. He formed the Bay Excursion Company which, in the 1880s purchased the paddle steamer, Ozone, to bring visitors to Sorrento and other bay resorts. Another steamer, the *Hygeia*, joined the Ozone on Port Phillip Bay in 1890. By the turn of the century a 'trip down the bay' to the resorts of Queenscliff, Portarlington, Mordialloc, Mornington or Sorrento was a popular way to spend Victorian holidays.

By the 1880s many working Victorians enjoyed a half day off on Saturday, as well the whole of Sunday off. In addition, a number of public holidays were scattered throughout the year.[256] At the same time, the further spread of public transport made the beach more accessible to those with the leisure to enjoy it. Melbourne's population and physical size grew in the 1880s as landboomers subdivided and offered for sale new 'suburbs' along the rail and tram lines. Amongst these proposed new suburbs were seaside resorts, such as Mentone, Sandringham, Beaumaris and Altona. At some of these localities hotels and or coffee palaces were constructed and some private homes were built to capture the sea breezes, but large-scale development was limited. Nevertheless, transport links brought day-trippers with their picnic lunches. Painters from the Heidelberg School of artists, such as Frederick McCubbin, Tom Roberts, Louis Abrahams and Arthur Streeton captured the natural beauties and passive enjoyment of the beach at Mentone when they rented a cottage there in the summer of 1886-1887.

Railways also began to connect inland country towns with coastal settlements such as Warrnambool or Portland, and reached down to Queenscliff via Geelong, and the Mornington Peninsula via Frankston. From 1885 the Victorian Railways Department actively promoted tourism in Victoria, publishing its first tourist guide in 1885 and, soon after, opening Victoria's Tourist Bureau. Victorians, seeking the delights of nature, stayed in hotels or guest houses, or met for family picnics by the sea. At Lorne the Mountjoys homestead, built in the 1860s, was extended in the 1870s to accommodate fifty

Geelong Eastern Beach, Victorian Railways
Poster by Trompf.
Public Record Office Victoria, VPRS 12903/P1. Box 609/12. Poster no. 217.

The Victorian Railways actively encouraged tourism throughout Victoria. This poster advertises Geelong's Eastern Beach complex and shark-proof swimming enclosure which was developed in the 1920s.



Steam tram back beach Sorrento
circa 1890–1918.
Public Record Office Victoria, VPRS12800/P1 H3552.

guests, with further extensions carried out later in that and the next decade to create Erskine House.

Toward the end of the nineteenth century trade unions and friendly societies took advantage of public holidays to host huge annual picnics for their members, while philanthropically inclined individuals began offering 'treats' for underprivileged children, such as orphans. Beachside locations with public parks were popular venues for such events. Mornington Park and Mordialloc Recreation Grounds were ideal locations. Foot races and other sporting events took place and bands supplied music for dancing. Well-ordered landscapes, music and other amusements were increasingly a feature of English seaside resorts in the second half of the nineteenth century and, given the limited amount of time nineteenth century Victorians spent in the water, the attractions of foreshore reserves and promenades grew as the century progressed. A popular feature of the Sorrento resort was Sorrento Park, 'laid out in winding paths, and furnished with seats and pavilions for the accommodation of visitors'.[257]

Development of foreshore entertainments and amusements continued at a number of resorts during the decades leading up to and just after the turn of the century. Some seaside locations offered band rotundas, paved promenades and walks and sideshows. Barwon Heads, whose very 'pretty cottages and villas' were 'chiefly owned by residents of Geelong' in the 1890s, had a new and 'attractive pleasure ground [where] 'summer-houses, shelter-sheds, and seats [had] been erected in convenient places, and a public rotunda near the top of the cliff [offered] both shelter and convenience for visitors'.[258] Yet, while some seaside visitors could enjoy highly stylised landscapes such as Sorrento or Mornington Park, a greater appreciation of the natural environment led to the reservation of Victoria's first national parks around the turn of the century. Amongst them were the coastal Wilson's Promontory, Mallacoota and Wingan Inlet National Parks.[259]

Early twentieth century developments

Traditionally, those who holidayed at the beach had stayed in hotels, coffee palaces or guest houses, if they were not wealthy enough to own their own summer retreat. But from the 1890s camping began to offer a cheaper way to obtain a holiday, as well as to get close to nature. Sites such as Dromana and Rosebud on the Mornington Peninsula and Anglesea, Torquay and Lorne on the west coast began to attract campers.[260] Along the coast between Black Rock and Frankston, in the first decade of the twentieth century 'temporary and permanent dwellings ranging from tents to quite pretentious places' began to appear.[261] The stretch of Port Phillip Bay between Mordialloc and Frankston became especially popular in the 'summer months when its safe bathing waters and the abundant shade tempted campers'.[262] By 1915 most of the tents along this stretch of foreshore had given way to flimsy semi-permanent dwellings. At other beach resorts local foreshore reserves were increasingly given over to campers, notably on the Mornington Peninsula where, by the late 1930s there were twenty camping grounds between Mt Martha and Portsea, the largest of them being Rosebud,[263] but also on the Bellarine Peninsula, at Queenscliff and Portarlington in the 1920s and 1930s. In 1938 at Port Fairy, 'Caravan Park', a reserve on the Moyne River, was planned, complete with a 'comfort station' and an electric sign over the entrance gates.[264] At Lorne a camping ground capable of accommodating 800 people, with conveniences erected by the Public Works Department, was opened in 1939.[265] Camping grounds were often patronised over succeeding summers by several generations of the same family, or by groups of neighbours or friends.

It was during the 1920s and 1930s that large organised camps, such as the Lord Somers Camp, also came into vogue. The first Lord Somers Camp took place at the Anglesea Scout Camp in 1929, before moving to its permanent site at Balnarring East (Somers) in 1931.[266] The benefits of seaside breaks for underprivileged inner city children were recognised in some quarters at this time, with some Victorian orphanages organising summer camps for their residents from the 1920s, or building specific holiday cottages at coastal locations.

The increasing popularity of camping coincided with more widespread use of motor cars in the years between the two world wars. Improved roads also made distant resorts more accessible. The Country Roads Board, formed in 1913–1914, immediately began work improving the poor condition of many roads, particularly in Gippsland and the Otway Ranges.[267] The Great Ocean Road was begun in 1918 and, by 1932 had reached Apollo Bay. Built as much as anything as a scenic tourist road, it also made spots such as Wye River, Kennett River, Lorne and Apollo Bay more attractive to tourists and holiday-makers alike. Local councils of coastal areas recognised the importance of accessible roads if they

Baths and Harbour, Portland
circa 1910.
La Trobe Picture Collection,
State Library of Victoria.

were to attract tourists and holiday-makers to their towns and applied to the Victorian Government's Tourists' Resorts Committee for funds to improve roads into their localities and for scenic marine roads.[268] Gippsland coastal settlements, such as Inverloch, Toora, Tooradin and Seaspray were amongst the localities that sought to improve road access in the 1920s. Like Lorne, Peterborough and Port Campbell, which had catered to western Victorian holiday-makers from the nineteenth century, the Gippsland seaside towns began to provide summer holidays for Gippsland residents.

Amenities were needed for both campers and day-trippers. In the 1920s and 1930s many seaside towns and suburbs erected public conveniences, kiosks, pavilions, changing rooms, car parks and children's playgrounds on their foreshores.[269] As much as these facilities reflected the growth of resorts, they also demonstrated changing uses of the beach. After 1917, mixed beach bathing was no longer prohibited in Victoria and prohibitions on bathing during daylight hours were gradually relaxed.[270] Enclosed bathing was no longer mandatory. But the new freedom to swim whenever and wherever one wanted meant that facilities such as changing pavilions and public conveniences were needed. Many of the amenities erected on Victorian beaches from the 1920s were carried out with assistance from the Victorian Government. Foreshore reserves, of course, were the responsibility of the Department of Crown Lands, though, with the exception of a few municipalities, such as St Kilda, they were managed by municipal councils.

The growing awareness of the value of the coastal areas for recreational and scenic purposes was reflected in concern over foreshore and beach erosion within Port Phillip Bay in the 1920s and 1930s. As early as 1923 representatives from Sandringham and Mordialloc councils pointed out to the Minister for Public Works that erosion was seriously threatening the beach between these two localities. The Chief Engineer for Public Works and Engineer in Chief for Ports and Harbours, George Kermode, confirmed that erosion on the edges of Port Phillip Bay, particularly on the eastern shores, was serious. Apart from the dangers posed by undermined cliffs, and the threat to clifftop properties and the beach road, erosion was increasingly reducing

'valuable and irreplaceable foreshore reserves which, with their luxuriamt growth of ti-tree, form a pleasant retreat during the summer months for tens of thousands of visitors from the metropolis and other parts of the State, as well as for residents in the immediate neighbourhood.' [271]

Between 1935 and 1939 £200,000 was spent on foreshore protection and improvement works, mainly in Port Phillip Bay, but also at other coastal locations, as well as on the shores of the Gippsland Lakes.

While foreshore improvement and protection was one illustration of the greater value placed on coastal foreshores as a 'national playground,'[272] another indication of the increasing use of Victoria's beaches for leisure and open swimming during the twentieth century was the rise of the life-saving movement. The Royal Humane Society had been founded in England in 1774, and a branch of the society established in Melbourne a century later. The Victorian society's early emphasis was on teaching children to swim and to learn resuscitation techniques.[273] In 1904 six life saving clubs, affiliated with the Royal Life Saving Society, were formed in Melbourne, with the aim of teaching swimming and life saving techniques. The first beach-based life saving clubs appeared in 1912 at Elwood, Black Rock, Hampton, Middle Park and Brighton Beach.[274] By 1933 there were 31 beach-based clubs, and 30 pool-based clubs affiliated to the Royal Life Saving Society. Many of the life-saving clubs became dormant during the World War II, particularly those on coastal beaches outside of Port Phillip Bay, but after the Victorian Surf Life Saving Association was formed in 1947, clubs were gradually formed at a number of surf beaches, with many affiliating in the early 1960s.

Post World War II Development

The growth of clubs in the post-World War II era reflected not only the rising popularity of surf beach bathing, but also the increasing number of visits to coastal settlements by a growing and ever more affluent Victorian population, with time for annual holidays and motor cars to get them there. The number of caravan parks grew and motor-inns began to jostle with guest houses in some Victorian resorts.[275] Wealthier Victorians were building their own holiday homes or fibro beach shacks. A measure of the increasingly private ownership of holiday houses was the rise in demand for private jetties and slipways experienced by the Department of Crown Lands and Survey in the 1960s.[276] More widespread ownership of pleasure-craft, such as powerboats and yachts, was also evident in the expansion and proliferation of marinas toward the end of the twentieth century.

Swimming Pool on The Strand, Williamstown (H7822–0391). *Heritage Victoria.*

A similar swimming pool formed with rocks is on the Williamstown foreshore, while another is located at Point Lonsdale.

Recreational infrastructure

Sea baths

In the early days of European settlement in Victoria, public baths provided a means of keeping clean in a hot and dusty environment without a reticulated water system. There were privately-operated public baths on the Yarra River, 'opposite the Customs House' from 1843 and one bathing establishment remained on the Yarra at least until 1859.[277] Sea bathing was an alternative to bathing in the river. But bathing in public view was forbidden between the hours of six am to eight pm, partly because men, at least, tended to bathe in the nude.[278]At Geelong, the Corio Bathing Establishment was established by 1844.[279] Several sea baths were established in Hobsons Bay in the nineteenth century. Sandridge Baths were established in 1853[280] as were Mrs Ford's baths on the south side of the St Kilda jetty.[281] Mrs Ford offered a 'bathing shelter' where bathers could dress and undress in private. By the following year Captain William Kenney had taken over Mrs Ford's site, having purchased a 'brig', Nancy, stripping it of fittings and placing it in ten to twelve feet of water. The *Nancy* was linked to the shore by a rope, along which bathers pulled themselves by boat from the shore to the bathing ship.[282] The 'ship' provided walls, partly to protect bathers from dangers such as sharks, but more importantly to protect modesty. The walls of the bathing ship, like the later paling fences that enclosed sea-baths, protected bathers from view. Some sea bathing establishments allotted specific times for male or female bathers, often raising a flag to signal which gender was permitted in the baths at that time. In some localities, separate men's and women's baths were constructed.

At Emerald Hill (South Melbourne), a fenced-off area provided a rough female bathing area in 1858, while men were offered a screened area of the beach further away. The Emerald Hill Sea-bathing Company established their baths in 1873, and E. Stubbs built a new bathing house for ladies in 1876. Bunbury's Baths at Williamstown, were in use from the 1840s[283]. It seems that these baths, for men only, were not located in a specifically-built enclosure, but in a 'natural pool in a rocky outcrop'[284] on the Esplanade opposite Cole Street. The Williamstown Ladies Baths operated from 1856,[285] Sandridge Baths were in place by the 1880s and Portland's first sea baths were built in 1858.[286] Brighton's first baths, built by Captain Kenney, were in place by 1863.[287] These baths were joined in 1882 by corporation baths, erected at Middle Brighton.[288]

As well as offering an opportunity to practise personal hygiene, in the nineteenth century sea-bathing and inhaling fresh sea air were also promoted as therapies for a range of ills.[289] Sea baths flourished at a range of 'resort' locations. St Kilda, by 1862, had 'several' bathing establishments.[290] These included Mrs Ford's baths, and the Royal Gymnasium Baths and Sea Bathing Company, established in 1861 and known colloquially as Leggetts and then Kenney's Baths.[291] Queenscliff's sea baths were begun in 1861[292]. Clifton Springs, offering both mineral springs as well as the benefits of the sea, had sea baths by the late 1880s. At Mornington, Irvine's Royal Public Baths were advertised as early as 1879.[293] Sea baths were also available at Portland, Warrnambool, Sorrento and Portsea, Mordialloc and Mentone.[294] Warrnambool's sea baths were actually built away from the sea in the 1870s. Water to fill the pool was pumped by windmill, and later by a steam pump, from the sea.[295]

Offering more than a dip in the cold sea, many establishments provided hot sea baths, as well as dressing rooms, walkways and screened areas for the sexes in sometimes quite elaborate structures. Although intended for gentle exercise, some sea baths soon became the venue for swimming and swimming competitions.

By the 1930s, there were still a number of sea baths clustered on the shores of Port Phillip Bay, particularly within Hobsons Bay. Many had undergone innumerable changes of ownership and changes of form as rudimentary picketted enclosures gave way to more substantial structures. Storms were responsible for periodically damaging or destroying them. After 1917, when prohibitions on open bathing during daylight hours were relaxed, many existing baths lingered on, partly because they offered protection from sharks and also because they offered diving platforms for swimmers.[296]

Some new sea baths were constructed in the twentieth century, such as St Kilda's enclosed baths, constructed in the late 1920s with separate baths for men and women, shops and a café, gymnasium and dressing cubicles.[297] While the seabaths of this complex have been demolished, the reinforced concrete building, recently restored, remains. The 1882 Middle Brighton Baths, destroyed by a storm in 1934, were soon replaced. A Moderne-style building in cream brick replaced the former entrance to the baths. The old timber

surrounds of the baths were rebuilt again in 1988 and the baths are still used in the twenty-first century.[298]

At Geelong, there were three sea baths at both the western and eastern beaches by the 1890s.[299] In the 1920s the foreshore at Eastern Beach was partially reclaimed and an elaborate landscape with promenades, shelters and a seawall created over the next decade. Included in the scheme were a children's pool and a large fenced-in swimming enclosure. The Eastern Beach Bathing Complex is now on the Victorian Heritage Register.[300]

As new sea swimming complexes were constructed, concern about the safety of open swimming in rivers, creeks and lakes encouraged some local authorities to construct 'pools', usually concrete, stone or timber enclosures on the banks of rivers or creeks. There were many 'inland' examples of such pools, both on country rivers, on the Yarra and on the Plenty. Near the coast, one swimming enclosure was located on the river at Williamstown, while a salt-water pool was built in the late 1930s adjacent to Williamstown Beach. A similar still sea-water pool was constructed at Hastings at about the same time.[301] Footscray's swimming club, formed in 1909, was based on the Maribyrnong. By 1922 it was the second largest club in the Victorian Amateur Swimming Association.[302] In the 1920s Maribyrnong had its own Swimming and Lifesaving

Clifton Springs 1890. Photo Brookes' Photographic Union. *La Trobe Picture Collection, State Library of Victoria.*

A seaside mineral springs resort operated at Clifton Springs on the Bellarine Peninsula from 1875 to 1920. A grand hotel, kiosk, pump station were located here, along with seabaths (pictured here in the background). From 1890 bay steamers called regularly at the long jetty built for this purpose.

Remains of Jetty at Clifton Springs (H2088 & HI7821–0022). *Heritage Victoria* and *Flinders University.*

Club on the Maribyrnong River at the end of Chicago Street.[303] Here a picket fence outlined an area for younger children and diving boards were constructed for older members. The club's facilities were demolished during World War II,[304] but concrete edging along the riverbank still denotes where the swimming area was. There were suggestions that the Bunbury swimming pool at Williamstown, a natural rock pool, should be improved in the late 1940s, while at Point Lonsdale, in the late 1930s, a small amount of Public Works Department money was granted to explore the possibilities of creating a rock pool, presumably for swimming.[305]

Bathing boxes

The need to preserve modesty, which had prompted the proliferation of sea baths along Victoria's coast in the nineteenth century, was also the catalyst for the construction of bathing boxes at many Victorian locations. In Britain, modesty on the beach was provided by bathing machines, small buildings on wheels, which were dragged into the water so that the occupant could undress and enter the water unseen.[306] *The Illustrated Melbourne Post* claimed in 1862 that, with the proliferation of sea baths on Port Phillip Bay, there was no need for bathing machines.[307] But bathing boxes were constructed at a number of localities in the nineteenth and twentieth centuries. Typically they were small timber structures, often with gabled roofs, in which bathers could change, store equipment and take refreshment on the beach. Some twentieth century bathing boxes were constructed of concrete. Bathing boxes were usually constructed in connection with a particular beach resort home or hotel and perhaps this is why there was a preponderance of bathing boxes at places such as Brighton, Mornington, Portsea and Point Lonsdale, where many early private holiday homes were situated.

Piers

A pier was an asset to the nineteenth century beach resort. Seaside leisure activity at this time was based on the model established in Britain from the mid-eighteenth century, when a little fishing village on the coast was transformed into Brighton, a resort for the upper classes. Seaside leisure in the nineteenth century centred around the healthful qualities of both water and air. Promenading fulfilled both of these purposes, offering gentle exercise in the sea air, as well as the opportunity to meet others at the same time. Although promenading took place on shore, it has been said that 'the vogue for piers was, quite literally, an extension of that for the promenade, effectively rerouted to become a highway to ozone'.[308]

Some of Victoria's earliest resorts could take advantage of existing jetties and piers, such as those at St Kilda, Queenscliff, Mornington and Brighton. These had been built for more practical purposes, but could be adapted for promenading. Other piers were constructed to enhance the attractions of potential or existing resorts, sometimes by private development companies. In some cases, the piers offered accommodation for steamers, as well as a promenade, for example Clifton Springs Pier, the new steamer pier built at Queenscliff in the 1880s and Sorrento Pier, built by the government at the same time as Coppin was developing resort facilities. In the land boom of the 1880s, when private companies madly subdivided large areas of Melbourne and attempted to attract buyers, some beachside areas were marketed as resorts. The National Land Company advertised Mentone as the 'Riviera of the South'. A large hotel and large coffee palace were built here in the 1880s and the pier (now gone) was completed in 1891.[309] Similarly Altona's pier was built by the Altona Bay Estate Company.[310] Members of the Emerald Hill (South Melbourne) Council pressured the Victorian Government to help fund a jetty and promenade in their locality in the 1870s and 1880s. Finally, in the late 1880s, a beginning was made on building the Kerferd Road pier, as well as turning the military road along the seafront into a boulevard now known as Beaconsfield Parade.[311]

The seaside resort piers of Britain were, on the whole, far more elaborate than those found in Victoria. Frequently they supported a whole range of activities, such as pavilions and amusement arcades. There were some 'on the water' venues found in Victoria. At Mornington during World War II, the old sea baths were used for dances and later as a kiosk and boat hire establishment.[312] From 1912, the same year that St Kilda gained Luna Park, the Joy Ark amusement park was built over the water at Eastern Beach, Geelong.[313] St Kilda's pier gained its tea room and pavilion in 1904. This historic pavilion was destroyed by fire in 2003, but a replica was rebuilt in 2005.[314]

Boating, yachting and angling

In the 1840s and 1850s a number of sailing regattas took place in Hobsons Bay and Corio Bay, where there were plenty

Camping at Carrum, circa 1907.
La Trobe Picture Collection
State Library of Victoria.

of sailors and boatmen on hand to man the sailing craft. One regatta in the early 1850s, took place at Queenscliff, where the concentration of Port Phillip pilots also provided many experienced sailors.[315] Regattas were held on Hobsons Bay (starting from Williamstown) and in country areas such as Portland, Port Fairy, Mornington and Port Albert during the late 1850s. But the first Victorian Yacht Club, formed in 1856 and named the Victoria Yacht Club, was a very exclusive organisation,with rules stipulating that working boats or those used for hire, could not be used by club members. The Victoria Yacht Club held its first regatta in March 1856 at St Kilda. In its first incarnation the Victoria Yacht Club did not last very long but, resurrected in 1872, was offered a 'piece of land' at Portsea by the Victorian Government to be used for a store, shed and pavilion', though the members of the VYC kept their boats at Williamstown,[316] which provided the most sheltered place on Hobsons Bay for mooring and launching boats. The VYC became the Royal Yacht Club of Victoria in the 1880s, at which time it extended its shed at Williamstown. The Geelong Yacht Club was formed in 1859.[317] But much successful sailing was carried out on calmer inland waters, such as Lake Wendouree at Ballarat and the newly-formed lake at Albert Park.

Brighton Sailing Club was formed in 1875. The following year the St Kilda Sailing Club was formed.[318] When St Kilda pier was lengthened in 1884, this club changed its name to St Kilda Yacht Club and built a clubhouse on the beach at St Kilda.[319] Two years later the (now Royal) Brighton Yacht Club moved to its present site, constructing a partial breakwater, though no real clubhouse was built until 1898.[320] Over at Williamstown, another yacht club was formed to rival the Royal Yacht Club of Victoria in 1888. The Hobsons Bay Yacht Club soon had a new shed, containing clubrooms 200 yards from Gem Pier on the foreshore. In addition, there was a slip and jetty.[321]

In the twentieth century when the number of yacht clubs around Victoria proliferated, improved facilities such as extended breakwaters and marinas helped to protect sailing craft from the elements. In the 1930s the Victorian Government extended the breakwater at Middle Brighton Pier to help protect yachts from storms. Not long after the war a breakwater at Sandringham, together with land reclamation at the site, was intended for use by 'yacht clubs and other foreshore interests'.[322]

Rowing, angling and pleasure boating

Rowing featured as part of the early regattas staged during the 1850s. Competitive rowing, based on the Yarra River, took off in Melbourne during the 1860s. Rowing grew in popularity in the 1870s when the Clarke Challenge Cup was held on the Maribyrnong River, home of the Footscray Rowing Club from 1873. A number of boatsheds belonging to clubs, schools and universities were and still are situated on the south bank of the Yarra near the Alexandra Gardens. Essendon's Rowing Club, which took over from the Maribyrnong Rowing Club, built new premises in 1920, but these have been replaced with a more modern structure in recent times. Rowing clubs were also based on the Barwon River at Geelong and on lakes, such as Albert Park Lake.

For those not particularly interested in competitive rowing, 'boating' became popular in the late nineteenth and early twentieth century. Commonly, recreational boating was done in hired boats from which one could fish or just row for pleasure. Public and private boathouses, which supplied boats for hire, were often also used by rowing clubs to store their craft.[323] Many such establishments were located on the Yarra and Maribyrnong Rivers, as well as on inland lakes, such as Lake Daylesford. The Studley Park and Fairfield boathouses, built in the late nineteenth century and the early twentieth century[324] are two examples. Proudfoot's boathouse on the Hopkins River at Warrnambool opened in 1885 and survives today. The boathouse, with associated jetties, offered accommodation, boat hire, tackle and bait and even post office services by 1888.[325] It remained in the hands of the Proudfoot family (and its descendants) until 1979.[326]

Though the popularity of 'boating' declined after World War II, the incidence of private ownership of dinghies, motor boats, cruisers and sailing boats surged. From the nineteenth century, privately-owned small craft often belonged to fishermen, both professional and amateur, who moored their craft in safe harbours, such as the lagoon at Port Melbourne. Here the Melbourne Harbor Trust had provided a safe haven for small craft in the 1880s. The lagoon was filled in in the 1920s, but a concrete wall and timber breakwater continued to provide shelter for small craft after this, until the area was taken over during World War II by the navy for HMAS *Lonsdale*.[327] At Williamstown small craft had sheltered between Gellibrand and Railway Piers until this area was reclaimed for oil storage after World War II. It is possible that it was at this time that

The beach and camping area at Dromana circa 1940–1960. *La Trobe Picture Collection, State Library of Victoria.*

a small boat harbour, known locally as 'Jimmy's Creek' was constructed on the corner of the Esplanade and Bayview Street, Williamstown. Still in use, the small boat harbour constructed of bluestone rubble, was featured in a painting by John Perceval now held by the National Gallery of Victoria.

'Jimmy's Creek' is a stark contrast to the many other marinas constructed in the decades after World War II. Sometimes existing port facilities, as at Port Welshpool, have been adapted for small and privately-owned craft. In other locations expensive new marinas have offered space for boat-owners to moor their boats. Some residential developments in the latter decades of the twentieth century were developed around the concept of private waterways and moorings. Perhaps the best known of these was 'Patterson Lakes' developed by the Gladesville Company south of the man-made Patterson River in the 1960s and 1970s. Canals and waterways were constructed to feed into the Patterson River.[328]

Foreshore landscapes and protection

The early reservation of much of the foreshore along Victoria's coast has left a legacy of public space. In the late nineteenth century some Victorian resorts made use of open space near the beach to create parks where visitors could promenade, listen to music or indulge in sporting competitions. But parks and gardens by the sea were probably outnumbered by such facilities at inland towns. St Kilda had an esplanade by the 1860s, while Queenscliff had public gardens. Sorrento and Mornington both had well-laid out parks by the 1890s, as did Barwon Heads. For two decades the Emerald Hill Council petitioned the government to turn the military road along the beach into a 'promenade'. In 1887 the government finally agreed and work began on constructing Beaconsfield Parade. To keep sand off the road a stone sea wall was also constructed at South Melbourne in the 1890s.[329] Late in the same decade trees were planted along the promenade.[330]

Around the turn of the century local progress or tourist associations began to appear in some coastal settlements. They attempted to attract visitors by beautifying foreshore areas, planting trees and sometimes constructing facilities such as tracks, steps or shelters. St Kilda formed a special committee to enhance its position as Melbourne's premier beach resort. The St Kilda Foreshore Committee, with representatives from the Lands Department, as well as local councillors, planned to beautify the coastal strip from West St Kilda to Elwood.[331] Carlo Catani, the State Surveyor General, provided a design. The focal point was the landscaping of what were subsequently called Catani Gardens at St Kilda. Here, on reclaimed land (including the site of Captain Kenny's bathing ship), Catani laid out paths and planted cypress and palms to create a Mediteranean-style landscape.[332] At the same time as Catani's plan was put into place, other developments at St Kilda helped to cement its position as a 'peoples' playground'. A pavilion was built at the end of the pier, the open-air Paradise Pictures opened, a tea house (now the Stokehouse) opened on the beach, and in 1912, Luna Park was unveiled.

In the next two decades a similarly ambitious foreshore beautification scheme was carried out at Geelong Eastern Beach, where again, land was reclaimed and landscaped, paths and staircases built, a toddlers' wading pool built and, finally, an enclosed sea swimming pool.

At Mordialloc, the carnival committee provided many of the funds for foreshore improvements. Beginning in 1923, the carnival provided enough money to build a bandstand, a sea-wall (which was later destroyed by storms), a promenade and concrete seating. The carnival itself became a long-running feature of summer times at Mordialloc, running every summer until 1968. At the same time as the carnival committee began providing funds for foreshore amenities, the newly-formed Mordialloc Council invested in other beachside facilities. A concrete kiosk, with a 'flat roof for sunbathing and dancing' was constructed at Mordialloc, along with dressing accommodation at Mentone baths.[333]

By the time that the Mordialloc folk were building this infrastructure, it was recognised that heavy use of beach and foreshore areas around Port Phillip Bay was resulting in the degradation of many foreshore areas. Though the stylised parks at some locations were highly valued, by the 1930s it was realised that 'with the spread of close settlement along the Bayside came destruction to plant life on the foreshore'.[334] Indigenous ti-tree had been removed, cliffs were eroded and storms flooded low-lying suburbs and removed sand. In the 1930s the Public Works Department, in conjunction with a number of local councils, began an ambitious program of foreshore protection. It planned that a rubble sea-wall would eventually be built stretching from Werribee in the west to Frankston in the east.[335] Using unemployed labour and stone recycled from city buildings (including the Old Melbourne

The Joy Ark, Geelong.
La Trobe Picture Collection, State Library of Victoria.

This silent movie cinema and entertainment venue was built on the water at Geelong's Eastern Beach in 1912.

Gaol) the Department constructed approximately five miles of seawall between 1935 and 1939, mainly at Sandringham, Brighton, Mentone, South Melbourne and Altona, but also at West Geelong, Paynesville (on the Gippsland Lakes), Point Lonsdale and Queenscliff, Sorrento, Lakes Entrance, Inverloch and Torquay.[336] Basket–walling, made of ti-tree, and timber groynes were installed at several other locations. Rubble was also used to protect the underside of cliffs at places such as Mentone and Sandringham. Promenades built along the base of these cliffs lent a 'continental air'. At Ricketts Point, motorists were discouraged from driving their vehicles onto the beach by the installation of an 'ornamental log and stone' fence.[337] Unemployed relief funds were also used to construct beach amenities at many Victorian beaches. These included public conveniences, promenades and dressing shelters at such locations as Lakes Entrance, Sorrento, Port Campbell, Barwon Heads, Port Albert and Waratah Bay.[338]

After the war the Public Works Department's Engineer was keen to continue with foreshore improvements, particularly the provision of conveniences and dressing shelters at various bayside locations.[339] Though it is not known whether all of these improvements were carried out, work began in 1949 to reclaim about 13 acres of foreshore for public gardens and a car park at Brighton, a breakwater at Sandringham for yacht clubs and other 'foreshore interests'. Such improvements were almost portents of growing post-war affluence.

Surf-lifesaving clubs

The earliest form of surf-lifesaving equipment that appeared on Victorian beaches was a simple life buoy fixed to a post.[340] In 1914 the Royal Life Saving Club began advocating the use of surf reels, which were soon installed on a number of Victorian beaches. The first mention of a lifesaving shed being built at a Victorian beach is in 1914, when a life-saving station, complete with life-saving apparatus and an ambulance first aid station, was built at Point Lonsdale on the ocean beach opposite Glaneuse reef.[341] Locals had requested the life-saving station, to be known as the 'Seabrook Memorial' after the death of Mr William Thomas Seabrook during his attempt to rescue a young woman on the beach. Most early life-saving clubs, even those begun after World War II, started out in 'hastily put together shacks or sheds', which have since been replaced.[342] This was particularly true of the clubs formed on the ocean beaches. Many bayside life saving clubs have rebuilt their premises after damage by fire, storms or vandals, while some of these clubs have become redundant. West St Kilda Life-saving club, for instance, became the state centre for the Surf Life Saving Association in the 1960s, undergoing renovations at the same time. Others, such as Bonbeach Life Saving Club, display the marks of beach architecture of the mid-twentieth century. Many life-saving club houses along Victoria's ocean beaches have been rebuilt in ostentatious style in recent decades.

Conclusion

In his history of Australians' relationship with the sea, Frank Broeze argues that, though Australia's maritime identity was as important as 'sheep and land, railways and goldmines, bushrangers and bankers' in shaping Australian identity, Australian historians have tended to largely ignore its contribution to the creation of our self-image.[343] The sea has had a vital and complex role in Victoria's economic, social and physical development, touching on all aspects of Victorian life since pre-contact times. Maritime infrastructure – from rocket sheds to beach kiosks to jetties and piers – is the tangible evidence of this significant strand of our past.

Select Bibliography

Books

'A Resident', *Glimpses of Life in Victoria, 1876,* reprinted with an introduction by Marguerite Hancock, MUP, Carlton, 1996

Barnard, Jill, with Jennings, Sonia, *Welcome and Farewell, the Story of Station Pier*, Arcadia in association with the Department of Infrastructure, Melbourne, 2004

Bate, Weston*, A History of Brighton*, (second edition) Melbourne University Press, Melbourne, 1983

Best, Alleyn, and contributors, *Fifty Years and More: A History of Surf Life Saving in Victoria*, Surf Life Saving Victoria, 2002

Blainey, Geoffrey, *The Tyranny of Distance: How Distance Shaped Australia's History,* Sun Books, Melbourne, 1966

Broome, Richard, *The Victorians Arriving*, Fairfax, Syme and Weldon, Sydney, 1984

Buckrich, Judith Raphael, *The Long and Perilous Journey, A History of the Port of Melbourne*, Melbourne Books, Melbourne, 2002

Cahir, Anne*, The Bay, Barwon and Beyond, Heritage Places of Geelong*, Heritage Council of Victoria, 1997

Calder, Winty, *Australian Aldershot, Langwarrin Military Reserve Victoria, 1886–1980,* Jimaringle Publications, Melbourne, 1987

Cannon, Michael, (ed) *Historical Records of Victoria, Vol. 3, Early Development of Melbourne 1836-1839,* Victorian Government Printing Office, Melbourne, 1984

Cannon, Michael (ed), *Vagabond Country Australian Bush and Town Life in the Victorian Age,* Hyland House, Melbourne, 1981

Cannon, Michael and McFarlane, Ian. (eds), *Historical Records of Victoria, Vol 4,Communications, Trade and Transport*, Victorian Government Printing Office, Melbourne, 1985

Cooper, J.B., *The History of St Kilda: from its first Settlement as a City and after, 1840 to 1930*, compiled by order of the St Kilda City Council, Melbourne, 1931

Davidson, Jim and Spearritt, Peter, *Holiday Business, Tourism in Australia since 1870*, The Miegunyah Press at Melbourne University Press, Melbourne, 2000

Department of Defence, *An Outline of Australian Naval History,* Canberra, 1976

Dingle, Tony, *The Victorians, Settling*, Fairfax, Syme and Weldon, Sydney, 1984

Douglas, Elizabeth *, Leading Lights: The Story of the Warrnambool Lighthouses and Lighthouse Keepers,* Warrnambool, 1998

Edgecombe, Jean*, Phillip Island and Western Port,* J Edgecombe, Thornleigh NSW, 1989

Ford, Olwen and Lewis, Pamela, *Maribyrnong Action in Tranquility,* Melbourne's Living Museum of the West and Sunshine City Council, 1989

Gregory, Alan, *It's Only the Game that Counts A History of Lord Somers' Camp and Power House 1929-1989*, Lord Somers Camp and Powerhouse 1989

Harrigan, Leo*, Victorian Railways to '62*, Melbourne, nd

Hoare, Benjamin, *The Melbourne Harbor Trust Commissioners' Jubilee Report, 1877–1927*, Peacock Brothers, Melbourne, 1927

Inglis, Andrea, *Beside the Seaside*, *Victorian Resorts in the Nineteenth Century,* Melbourne University Press, Melbourne, 1999

James, John Stanley *The Vagabond Papers*, abridged version, Melbourne University Press, Melbourne, 1969

Jones, Colin, *Ferries on the Yarra*, 1981

Jones, Pauline, (ed), *Historical Records of Victoria, Vol. 1, Beginnings of Permanent Government*, Victorian Government Printing Office, Melbourne, 1981

Jose, A.W., *The Royal Australian Navy, The Official History of Australia in the War of 1914-1918*, Vol. 1X, first published 1928, reprinted 1987, UQP, St Lucia Queensland

Kellaway, Carlotta, *A Most Complete Establishment, Proudfoot's Boathouse, Hopkins River Warrnambool*

Kelly, William, *Life in Victoria or Victoria in 1853 and Victoria in 1858,* Lowden Publishing, Kilmore, 1977

Lack, John, *A History of Footscray,* Hargreen Publications in conjunction with the City of Footscray, North Melbourne, 1991

The Land of the Lyre-Bird, A Story of Early Settlement in the Great Forest of South Gippsland, Shire of Korumburra, 1920 (reprinted 1972)

Learmonth, Noel, F, *The Story of a Port, Portland, Victoria,* Portland Harbour Trust, 1960

Lemon, Andrew and Marjorie Morgan, *Buried by the Sea A History of Williamstown Cemetery*, Melbourne, 1990

McCrae, Hugh ,(ed), *Georgiana's Journal*, *Melbourne 1841–1865,* Angus and Robinson, Sydney, 1966

Morgan, Patrick*, The Settling of Gippsland, A Regional History*, Gippsland Municipalities Association, Leongatha, 1997

Neale, Ralph P, *Jolly Dogs Are We, The History of Yachting in Victoria 1838–1894*, Landscape Publications, Melbourne, 1984

Noble, Captain J., *Port Phillip Pilots and Defences,* Hawthorn Press, Melbourne, 1979

Peel, Lynette, *Rural Industry in the Port Phillip District*, *1835–1880*, MUP, Melbourne, 1974

Priestley, Susan, *Altona, A Long View*, Hargreen Publishing, North Melbourne, 1988

Priestley, Susan, *South Melbourne, A History*, Melbourne University Press, Melbourne, 1995

Priestley, Susan, *The Victorians*, *Making Their Mark*, Fairfax, Syme and Weldon, Sydney 1984

Proudley, Ray, *Circle of Influence, A History of the Gas Industry in Victoria*, North Melbourne, 1987

Raison, E.T., *Lighthouses at Port Phillip Heads*, Queenscliff Historical Society, 1997

Raison, E.T., *Queenscliff as a Fishing Port, 1860-1987,* Queenscliffe Historical Museum Inc., 2002

Reid, Gordon*, From Dusk till Dawn, A History of Australian Lighthouses,* MacMillan in association with the Department of Transport and Communication, South Melbourne, 1988

Sayers, C.E. and Yule, P. L., *By These We Flourish, A History of Warrnambool*, (2nd edition), 1987

Syme, Marten A, *Lifeboats for Victoria, The Story of Lifeboats and their crews in Victoria 1856–1979*, Melbourne, 2001

Upton, Gillian, *The George, St Kilda Life and Times*, Venus Bay Books, 2001

U'Ren, Nancy and Turnbull, Noel, *A History of Port Melbourne*, Oxford University Press, Melbourne, 1983

Wheelwright, Horace*, Bush Wanderings of a Field Naturalist,* First Published London 1861, republished with an introduction by A.H. Chisholm, 1979

Wright, Ray, *The Bureaucrat's Domain, Space and the Public Interest in Victoria, 1836–84,* Oxford University Press, Melbourne, 1989

Wynd, Ian, *Geelong The Pivot, A Short History of Geelong and District,* Cypress Books, Melbourne, 1971

Articles

'Twenty Years of Containerisation', *Port of Melbourne Panorama,* 1989

Cook, A.C., 'Birth of Dockyard Facilities', *Port of Melbourne Quarterly*, Oct–Dec 1958

Newspapers

Geelong Advertiser

Herald

Age

Reports and Heritage Studies

Allom Lovell and Associates and Anne Bickford, 'Point Gellibrand Heritage Study', 1987

Allom Lovell and Associates, 'Queenscliffe Urban Conservation Study', 1982

Barnard, Jill, (Living Histories), 'Moving Goods and People by Sea and Inland Waterways: An Historical Survey of Sea and River transport in Victoria', Cultural Sites Network Study, Historic Places Branch Department of Natural Resources and Environment, June 2000

Barnard, Jill, Butler, Graeme, Gilfedder, Francine and Vines, Gary, 'Maribyrnong Heritage Review', City of Maribyrnong, 2000

'Bathing Boxes, Boat Sheds and Similar Structures Around Port Phillip Bay', a report to the Minister for Planning and Environment', August 1985

Bentley, Phillip and Dunstan, David *The Hub of Victoria: A History of Melbourne Docklands,* prepared for the Docklands Authority, 1996

Butler, Graeme and Associates, 'Shire of Mornington Heritage Study, Environmental History', Mornington Peninsula Shire Council, 1994

Butler, Graeme and Associates, 'Hastings Heritage Study, Volume 2 – Environmental History', Mornington Peninsula Shire Council, 2001

Butler, Graeme and Associates, 'Hastings Heritage Study, Volume 2 – Environmental History', Mornington Peninsula Shire Council, 2001

Butler, Graeme, and Associates, 'Altona, Laverton and Newport Districts Heritage Study', City of Hobsons Bay, 2002

Butler, Graeme, 'Port Albert Conservation Study', 1982,

Context Pty Ltd, Dr Carlotta Kellaway and Helen Lardner*, History and Heritage – Shire of Flinders Heritage Study*, 1992 Heritage Study, Stage 2, Volume 2, Environmental History', 2000

Doyle, Helen, 'Organising Recreation' An Historical Survey of Recreation Patterns in Victoria', A Cultural Sites Network Study for Historic Places Section, Department of Natural Resources and Environment, 1999

Heritage Alliance, 'Station Pier Port Melbourne Conservation Analysis and Management Plan', 2002

Heritage Victoria, Chinaman's Hat Research for HSAC. Unpublished internal report, Melbourne 2001

Lack, John and Ford, Olwen, *Melbourne's Western Region: An Introductory History*, Melbourne's Living Museum of the West, 1986

Land Conservation Council, 'Historic Places Special Investigation, South Western Victoria, Descriptive Report', 1996

Land Conservation Council, 'Marine and Coastal Descriptive Report, Special Investigation', June 1993

Lee, Jennifer, 'Bayside Heritage Study' March 1993

Lewis, Miles and Butler, Graeme 'An Industrial Seed-bed, South Bank Architectural and Historical Study', Vol .2, 1983

Living Histories, 'City of Kingston Heritage Study Stage One Draft Report', City of Kingston, 2000

Lucas, Clive, Stapleton and Partners, Pty Ltd. 'Cape Schanck Lightstation Conservation Management Plan', May 1995

Melbourne Harbor Trust Commissioners Annual Reports

Miller, Patrick, Australian Construction Services, *Thematic History of Defence in Victoria*, 1994

O'Neill, Frances, *Point Nepean A History,* Department of Conservation, Forests and Lands, 1988

Sheehan, Mary, and Associates, 'Colac Otway Heritage Study', Colac Otway Shire, 2003

Wynd, Ian, 'City of Greater Geelong Outer Areas Heritage Study: Stage One', City of Greater Geelong, 2000

Parliamentary Papers

Brewis, Commander RN, 'Report on the Lighting of Bass Strait. Recommendations as to existing lights, south-east coast of Victoria', April 1912, *Australian Parliamentary Papers* 1912

Jervois, 'Memorandum on Defence of Harbours of Warrnambool, Belfast and Portland', *VPP* 1877/78, Vol. 3

'Peninsular and Oriental Company Agreement of Lease entered into with the Peninsular and Oriental Company for a Portion of Land Fronting the River Yarra'. *VPP*1853-54 Vol. 3

'Progress Report from the Parliamentary Standing Committee on Railways on the Question of Additional Pier Accommodation at Port Melbourne', *VPP*, 1902, Vol. 1

'Report from the Select Committee upon Shipping Point, Port Albert', *VPP* 1856-57, Vol. 2

'Report on the Improvements of the Port of Melbourne', *VPP*, 1851–1852

'Report of the Select Committee on the Harbours of Melbourne and Geelong', *VPP* 1852–1853

'Report from the Select Committee upon Westward Harbors', *VPP* 1856–57

Report of the Commissioners Appointed by the Governments of New South Wales, Victoria, South Australia and Tasmania to confer upon the subject of Light Houses in the several Australian Colonies', *New South Wales Parliamentary Papers*, 1856–57, Vol. 3

'Report of the Board appointed to inquire into the Bulk Handling of Wheat in New South Wales and a scheme for Victoria', VPP, 1925, Vol. 2

'Royal Commission on the Geelong Harbor Trust, Final Report', *VPP* 1912, Vol. 2

'Royal Commission on the Housing Conditions of the People in the Metropolis and in the Populous Centres of the State', First Progress Report, *VPP* 1915, Vol. 2

'Royal Commission on Victoria's Outer Ports, First Progress Report', *VPP* 1925

'Royal Commission on Victorian Outer Ports, Fourth Progress Report' *VPP* 1925–1927

'Royal Commission on Outer Ports, Sixth Progress Report', *VPP,* 1925–1927

'Select Committee on Defences', *VPP,* 1858/9

Victorian Government Gazette

Victorian Public Record Office

VPRS 956/P1, Public Works Department, Minute Book Colonial Engineer

VPRS 957/P0 Public Works Department, Yearly Abstract of Costs and Register of Works and Buildings

VPRS 2138, Index to Letters Received, Superintendent of Port Phillip

VPRS 2143, Public Works Department, Summary Contract Books,

VPRS 10344 P/000, Tourist Resort Committee Minute Books

VPRS 8337/P1, Public Works Department Foreshore Erosion and Protection,

VPRS 12454/P0001, Tourist Resorts allocation of URLF, 1937/1938

National Archives of Australia

National Australian Archives, series B1535, item 869/4/276 'Defence Land at Point Lonsdale'

National Australian Archives, series MT/1131/1, item A82/2/84

National Australian Archives, series MP/1185/8 item 1924/4/1006

Endnotes

1 Richard Broome, *The Victorians Arriving*, Fairfax, Syme and Weldon, Sydney, 1984 pp. 1–3

2 *ibid*., p. 6

3 *ibid*.

4 Geoffrey Blainey, *The Tyranny of Distance: How Distance Shaped Australia's History*, Sun Books, Melbourne, 1966, p. 73

5 Susan Priestley, *The Victorians, Making Their Mark*, Fairfax, Syme and Weldon, Sydney 1984, p. 13

6 *ibid*., p. 15

7 *ibid*.

8 Judith Raphael Buckrich, *The Long and Perilous Journey, A History of the Port of Melbourne*, Melbourne Books, Melbourne, 2002, p. 27

9 Pauline Jones (ed), *Historical Records of Victoria, Vol. 1, Beginnings of Permanent Government*, Victorian Government Printing Office, Melbourne, 1981, p. 84

10 Ian Wynd, *Geelong The Pivot, A Short History of Geelong and District*, Cypress Books, Melbourne, 1971.

11 Noel F. Learmonth, *The Story of a Port, Portland, Victoria*, Portland Harbor Trust, 1960, p. 11

12 Michael Cannon (ed) *Historical Records of Victoria, Vol. 3*, *Early Development of Melbourne 1836–1839*, Victorian Government Printing Office, Melbourne, 1984, p. 419

13 Lynette Peel, *Rural Industry in the Port Phillip District, 1835–1880*, MUP, Melbourne, 1974, p. 18

14 Buckrich, p. 45

15 Graeme Butler and Associates, 'Shire of Mornington Heritage Study, Environmental History', Mornington Peninsula Shire Council, 1994, p. 4

16 Captain William Hobson to Sir Richard Bourke, 16 Dec 1836, in Michael Cannon and Ian McFarlane (eds), *Historical Records of Victoria, Vol. 4 ,Communications, Trade and Transport*, Victorian Government Printing Office, Melbourne, 1985, p. 6

17 'A Resident', *Glimpses of Life in Victoria, 1876*, reprinted with an introduction by Marguerite Hancock, MUP, Carlton, 1996, p. 2

18 Captain J.M. Scott to William Lonsdale, 20 July 1839, in Michael Cannon and Ian McFarlane (eds) *Historical Records of Victoria Vol. 4*, *Communications, Trade and Transport*, Victorian Government Printing Office, Melbourne, 1985, p. 29

19 Cannon and McFarlane (eds), *Historical Records of Victoria*, Vol. 4, p. 182

20 Allom Lovell and Associates and Anne Bickford, 'Point Gellibrand Heritage Study', 1987, p. 10

21 'A Resident', p. 6

22 VPRS 2138, Index to Letters Received, Superintendent of Port Phillip

23 Cannon and McFarlane, *Historical Records of Victoria*, Vol. 4, p. 32

24 Colin Jones, Ferries on the Yarra, 1981, p. 10

25 Cannon and McFarlane (eds), *Historical Records of Victoria*, Vol. 4, p. 50

26 Jennifer Lee , 'Bayside Heritage Study' March 1993, p. 53

27 'Application of Mr W.F.E. Liardet' 7 January 1850, in *VPP* (Legislative Council), 1853/4 Vol. 3, p. 345

28 VPRS 956/P1 Unit 1, Public Works Department, Minute Book Colonial Engineer, entry 54/217

29 VPRS 2138, Index to Letters Received, Superintendent Port Phillip, 1839–1843

30 The dimensions of this wharf are in Buckrich, p.39. Location of Cole's wharf from Miles Lewis and Graeme Butler, 'An Industrial Seed-bed, South Bank Architectural and Historical Study', Vol. 2, April 1983, p. 45

31 William Kelly, Life in Victoria or Victoria in 1853 and Victoria in 1858, Lowden Publishing, Kilmore, 1977, p. 33

32 A published return of public works carried out under the Superintendent of Bridges from January 1846 to 12 November 1850 lists three jetties at Geelong of 65 feet, 400 feet and 300 feet respectively. *Port Phillip Government Gazette*, 1850, p. 985

33 Anne Cahir, *The Bay, Barwon and Beyond, Heritage Places of Geelong*, Heritage Council of Victoria, 1997, p. 18

34 'Land Conservation Council, 'Marine and Coastal Descriptive Report, Special Investigation', June 1993, p. 119

35 *Port Phillip Government Gazette* 1850, p. 986

36 Broome, p.72

37 Blainey, p.183

38 'Report on the Improvements of the Port of Melbourne', *VPP*, 1851–1852, p. 243

39 'Report of the Select Committee on the Harbors of Melbourne and Geelong', *VPP* 1852–1853

40 *ibid*.

41 VPRS 957/P0 Unit 1, Public Works Department, Yearly Abstract of Costs and Register of Works and Buildings

42 *ibid*.

43 *ibid*.

44 'Royal Commission on Victorian Outer Ports, Fourth Progress Report' *VPP* 1925–1927

45

46 Buckrich, p. 81

47 Phillip Bentley and David Dunstan, *The Hub of Victoria: A History of Melbourne Docklands*, prepared for the Docklands Authority, 1996, p. 30

48 Benjamin Hoare, *The Melbourne Harbor Trust Commissioners' Jubilee Report, 1877–1927*, Peacock Brothers, Melbourne, 1927, p. 182

49 'Progress Report from the Parliamentary Standing Committee on Railways on the Question of Additional Pier Accommodation at Port Melbourne', *VPP*, 1902, Vol. 1

50 Buckrich, p. 122

51 Buckrich, p. 169

52 "Twenty Years of Containerisation', *Port of Melbourne Panorama*, 1989, p. 6

53 'Royal Commission on the Geelong Harbor Trust, Final Report', *VPP* 1912, Vol. 2, part 2

54 *ibid*.

55 Noel F. Learmonth, *The Story of a Port, Portland, Victoria*, Portland Harbor Trust, 1960, p. 107– 8

56 C.E. Sayers, P. L. Yule, By These We Flourish, *A History of Warrnambool*, (2nd edition) , 1987, p. 183

57 *Victorian Year Book*, 1931–1932, p. 288

58 Sayers and Yule, p.185

59 Sir Richard Bourke to Lord Glenelg, 14 June 1837, in Jones (ed) *Historical Records of Victoria*, Vol. 1, p. 123

60 *ibid*.

61 'A Resident', p. 1

62 *Geelong Advertiser*, 28, September, 1847

63 *Victorian Year Book*, Centenary Edition, p. 32

64 Hugh McCrae (ed), *Georgiana's Journal., Melbourne 1841–1865*, Angus and Robinson, Sydney, 1966, p. 25

65 Broome, p. 72

66 *Victorian Year Book*, 1973, p. 35

67 Broome, p. 53

68 *ibid*., p. 52

69 *ibid*., p. 48

70 Frances O'Neill, Point Nepean A History, Department of Conservation, Forests and Lands, December 1988, p. 22

71 Graeme Butler and Associates, 'Altona, Laverton and Newport Districts Heritage Study, Stage 2, Volume 2, Environmental History', 2000, p. 78

72 Andrew Lemon and Marjorie Morgan, *Buried by the Sea A History of Williamstown Cemetery*, Melbourne, 1990, p. 7

73 O'Neill, p. 25

74 Broome, p. 71

75 O'Neill, p. 25

76 William Kelly, p. 22

77 O'Neill, p. 26

78 *ibid*., p. 32

79 *ibid*., p. 34

80 *ibid*.

81 Cannon and MacFarlane (eds) *Historical Records of Victoria*, Vol. 4, p. 51

82 A Resident, p.6

83 VPRS 956/P1, Unit 1, p. 93

84 ' 'Progress Report from the Parliamentary Standing Committee on Railways on the question of additional pier accommodation at Port Melbourne', VPP 1902, Vol. 1

85 *ibid*.

86 Lee, p. 80

87 Heritage Alliance, 'Station Pier Port Melbourne Conservation Analysis and Management Plan', 2002, p. 64

88 *ibid*., p. 108

89 *ibid*., p. 109

90 *ibid*., p. 74

91 *ibid*.

92 *ibid*.

93 Cannon and McFarlane (eds) *Historical Records of Victoria*, Vol. 4, p. 307

94 *ibid*., p. 325

95 Broome, p. 75

96 VPRS 956/P0, Unit 1. p. 165

97 VPRS 956/P0, Unit 1, p. 162

98 Michael Cannon (ed) *Vagabond Country Australian Bush and Town Life in the Victorian Age*, Hyland House, Melbourne, 1981, p. 58

99 Hoare, p. 367

100 Leo Harrigan, *Victorian Railways to '62*, Melbourne, nd, p. 41

101 Cahir, p. 18

102 Jim Davidson and Peter Spearritt, *Holiday Business, Tourism in Australia since 1870*, The Miegunyah Press at Melbourne University Press, Melbourne, 2000, p. 34

103 *ibid*., p. 35

104 *ibid*., p. 222

105 Charts of Victorian Jetties database. (PWD plans held by Queenscliff Historical Society)

106 Graeme Butler and Associates, 'Shire of Mornington Heritage Study, Environmental History', p. 30

107 Davidson and Spearritt, p. 38

108 Buckrich, p. 172

109 Dingle, p. 103

110 Peel, p. 124

111 VPRS 2143, PWD Summary Contract Books

112 Tony Dingle, The Victorians, Settling, Fairfax, Syme and Weldon, Sydney, 1984, p. 105

113 *The Land of the Lyre-Bird, A Story of Early Settlement in the Great Forest of South Gippsland*, Shire of Korumburra,1920,(reprinted1972), p. 43

114 *ibid*., p. 243

115 Patrick Morgan, *The Settling of Gippsland, A Regional History*, Gippsland Municipalities Association, Leongatha, 1997, pp. 122–124

116 'Royal Commission on Outer Ports, Sixth Progress Report', VPP, 1925–1927

117 Learmonth, p. 7

118 "Royal Commission on Victoria's Outer Ports, First Progress Report', *VPP* 1925, Vol. 2

119 John Lack and Olwen Ford, *Melbourne's Western Region: An Introductory History*, Melbourne's Living Museum of the West, 1986, p. 63

120 Dingle, p. 105

121 'Royal Commission on the Geelong Harbor Trust, Final Report', *VPP* 1912, Vol 2, p. 1075

122 *ibid*.

123 'Report of the Board appointed to inquire into the Bulk Handling of Wheat in New South Wales and a scheme for Victoria', *VPP*, 1925, Vol. 2

124 *Victorian Year Book*, 1937–1938, p. 448

125 Learmonth, p. 107

126 'Report from the Select Committee upon Shipping Point, Port Albert', VPP 1856-57, Vol. 2, p.831

127 Morgan, p. 43

128 Graeme Butler and Associates, 'Altona, Laverton, and Newport Districts Heritage Study Stage Two', Vol. 2, p. 33

129 Dingle, p. 114

130 "Royal Commission into the Geelong Harbor Trust, Final Report', *VPP*, 1912, Vol. 2

131 Ian Wynd, 'City of Greater Geelong Outer Areas Heritage Study: Stage One', Vol. 2, p. 29

132 This coolstore was later destroyed by fire.

133 Buckrich, p. 47

134 Dingle, p. 162

135 Maribyrnong Heritage Review, 2001, Vol. 3. p. 81

136 For instance, in 1923 the Harbor Trust contracted for new wharves in the vicinity of the Mount Lyell Mining and Railway Company's Works, Yarraville. The new wharves were for the use of Messrs Wischer and Co. Pty Ltd. 'Report of Melbourne Harbor Trust Commissioners', 1923

137 Ray Proudley, Circle of Influence, *A History of the Gas Industry in Victoria*, North Melbourne, 1987, p. 28

138 *ibid*., p. 51

139 *ibid*., p. 85

140 Buckrich, p.92

141 Morgan, p. 137

142 VPRS 2143, PWD Summary Contracts Books

143 Morgan, p. 137

144 *ibid*., p. 141

145 Wynd, p. 32

146 Graeme Butler and Associates, 'Altona, Laverton and Newport Districts Heritage Study, Stage 2', Vol. 2, p.43

147 Wynd, p. 32

148 Graeme Butler and Associates, 'Altona, Laverton and Newport Districts Heritage Study', Vol. 1 p. 34

149 Lee, p. 69

150 Wynd, p. 33

151 Priestley, p. 147

152 Application of Mr John Steele, 'Peninsular and Oriental Company Agreement of Lease entered into with the Peninsular and Oriental Company for a Portion of Land Fronting the Yarra River', *VPP* 1853 – 4, Vol. 3

153 Hoare, p. 126

154 'Royal Commission on the Geelong Harbor Trust, Final Report', *VPP* 1912, Vol. 2, part

155 Jones, (ed) *Historical Records of Victoria*, Vol 1 p. 101

156 Susan Priestley, *South Melbourne, A History*, Melbourne University Press, Melbourne, 1995, p. 90

157 'Select Committee on Defences', VPP, 1858/9

158 Public Works Department 'Summary Contracts Books', VPRS 2143

159 Allom, Lovell and Associates, 'Point Gellibrand Heritage Study,' 1987, p. 10

160 Allom, Lovell and Associates, 'Queenscliffe Urban Conservation Study', 1982, p. 268

161 Jervois, 'Memorandum on defence of Harbors of Warrnambool, Belfast and Portland', VPP 1877/78, Vol. 3

162 Winty Calder, *Australian Aldershot, Langwarrin Military Reserve Victoria, 1886-1980*, Jimaringle Publications, Melbourne, 1987, p. 7

163 Dilke , *Problems of Great Britain*, London, 1890, quoted in Frances O'Neill, 'Point Nepean, A History', 1988, p. 46

164 O'Neill, p. 52

165 National Australian Archives, series B1535, item 869/4/276 'Defence Land at Point Lonsdale'

166 O'Neill, p. 53

167 *ibid*., p. 55

168 *ibid*.

169 National Australian Archives, series MT/1131/1, item A82/2/84

170 Heritage Victoria, Chinaman's Hat Research for HSAC. Unpublished internal report. Melbourne 2001.

171 Captain J. Noble, *Port Phillip Pilots and Defences*, Hawthorn Press, Melbourne, 1979.

172 Patrick Miller, Australian Construction Services, Thematic History of Defence in Victoria, 1994, Volume One, p. 23

173 VPRS 2143, PWD Summary Contracts Books

174 *ibid*.

175 Nancy U'Ren and Noel Turnbull, *A History of Port Melbourne,* Oxford University Press, Melbourne, 1983, p. 161

176 Sands and McDougall's *New Plan of Melbourne and Suburbs*, 1894 (SLV)

177 Department of Defence, *An Outline of Australian Naval History*, Canberra, 1976, p. 24

178 A.W. Jose, *The Royal Australian Navy, The Official History of Australia in the War of 1914-1918*, Vol. 1X, first published 1928, reprinted 1987, UQP, St Lucia Queensland, p. 431

179 *ibid*., p. 431

180 Melbourne Harbor Trust Commissioners' Report, 1945

181 Butler and Associates, 'Altona, Laverton and Newport Districts Heritage Study',Vol. 2, p. 61

182 National Australian Archives, series MP/1185/8, item 1924/4/1006

183 Correspondence between Royal Australian Navy and Melbourne Harbour Trust, in private hands

184 Butler and Associates, 'Former Shire of Hastings Heritage Study, Environmental, History'

185 Horace Wheelwright, *Bush Wanderings of a Field Naturalis*t, First Published London 1861, republished with an introduction by A.H. Chisholm, 1979, p. 251

186 Butler and Associates, 'Former Shire of Hastings Heritage Study'

187 E.T. Raison, *Queenscliff as a Fishing Port, 1860–1987*, Queenscliffe Historical Museum Inc. 2002. p. 1

188 Land Conservation Council, 'Marine and Coastal Descriptive Report Special Investigation', June 1993, p. 125

189 Butler and Associates, 'Shire of Mornington Heritage Study Environmental History', p. 5

190 Raison, pp. 23–24

191 *ibid*., pp 25–26

192 Mary Sheehan and Associates, 'Colac Otway Heritage Study', 2003, Data Sheet 301, Pier Precinct,

193 Jill Barnard (Living Histories), 'Moving Goods and People by Sea and Inland Waterways': An Historical Survey of Sea and River transport in Victoria, Cultural Sites Network Study, Historic Places Branch Department of Natural Resources and Environment, June 2000, p. 49

194 *ibid*., p. 34

195 Butler and Assoc, 'Altona, Laverton and Newport Districts Heritage Study Stage One', Vol. Two, p. 22

196 *ibid*.

197 E.T. Raison, *Lighthouses at Port Phillip Heads*, Queenscliff Historical Society, 1997

198 Contract was advertised for the signal master in Victorian Government Gazette, 1857, p. 1645

199 Raison, *Lighthouses at Port Phillip Heads*

200 Graeme Butler and Associates, 'Altona, Laverton and Newport Districts Heritage Study Stage One', Vol. 2,

201 Report of the Commissioners Appointed by the Governments of New South Wales, Victoria, South Australia and Tasmania to confer upon the subject of Light Houses

in the several Australian Colonies', New South Wales Parliamentary Papers, 1856–57, Vol. 3

202 *ibid*.

203 Report of Commissioners 1856/7

204 'Report from the Select Committee upon Westward Harbors', ViPP 1856–57

205 *ibid*.

206 Learmonth, p. 69

207 Elizabeth Douglas, *Leading Lights: The Story of the Warrnambool Lighthouses and Lighthouse Keepers*, 1998, p. 10

208 Graeme Butler, 'Port Albert Conservation Study', 1982, p. 13

209 Context Pty Ltd, Dr Carlotta Kellaway and Helen Lardner, *History and Heritage – Shire of Flinders Heritage Study*, 1992

210 AHC, Register of the National Estate Database, file number:2/09/270/0001

211 AHC, Register of the National Estate Database, file number: 2/02/1430002

212 AHC, Register of the National Estate Database, file number:2/09/270/0001

213 *ibid*.

214 as at 1997 according to Raison

215 Commander Brewis, RN, 'Report on the Lighting of Bass Strait. Recommendations as to existing lights, south-east coast of Victoria', April 1912, *Australian Parliamentary Papers* 1912

216 The Atlas of Victoria lists Cliffy Island Lighthouse as having been erected in 1884 and Lighthouse Point in 1944, but does not give any date or location for the 1859 lighthouse at Port Albert.

217 Jean Edgecombe, *Phillip Island and Western Port*, J Edgecombe, Thornleigh NSW, 1989, pp. 45–46

218 information on Shortland Bluff lighthouse sites from Raison, *Lighthouses at Port Phillip Heads*.

219 See photo of 'typical acetylene gas buoy in the Bay', 'Report of the Melbourne Harbor Trust Commissioners 1938'.

220 Report of the Melbourne Harbor Trust Commissioners, 1923', p. 30

221 correspondence between Royal Australian Navy and Melbourne Harbor Trust, in private hands.

222 Lucas, Clive, Stapleton and Partners, Pty Ltd. 'Cape Schanck Lightstation Conservation Management Plan', May 1995. p. 62

223 Gordon Reid, *From Dusk till Dawn, A History of Australian Lighthouse*s, 1988, p. 139

224 'Transport and Communication'. Victorian Year Book, 1973, p. 232

225 Marten A. Syme, *Lifeboats for Victoria, The Story of Lifeboats and their crews in Victoria 1856–1979*, Melbourne, 2001

226 VPRS 957/P000 Unit 1, p. 913

227 Syme, p. 36

228 *ibid*., pp. 25, 26

229 *ibid*., p. 54

230 Jill Barnard, 'Moving Goods and People by Sea and Inland Waterway, An Historical Survey of Sea and River Transport in Victoria'. Historic Places Branch, Department of Natural Resources and Environment, 2000, p.51

231 Butler and Associates, 'Altona, Laverton and Newport Districts Heritage Study Stage Two, Volume Two', p. 35

232 'Peninsular and Oriental Company Agreement of Lease entered into with the Peninsular and Oriental Company for a Portion of Land Fronting the River Yarra'. This collection of papers in VPP1853-54 Vol. 3 includes a number of agreements for leases on the Yarra and Hobson's Bay

233 Application of Mr Tredwen, 4th June 1853 in 'Peninsular and Oriental Company' VPP 1853–4

234 'Report from the Select Committee on the Harbors of Melbourne and Geelong', 1853, VPP 1853–54

235 VPRS 957/P0 Unit 1, p. 1011

236 A.C. Cook, 'Birth of Dockyard Facilities', *Port of Melbourne Quarterly*, Oct-Dec 1958, p. 42–43

237 Raison, *Queenscliff as a Fishing Village*, p. 9

238 Barnard, 'Moving Goods and People by Sea and Inland Waterways', p. 58

239 John Stanley James, *The Vagabond Papers*, Abridged version, *Melbourne University Press*, 1969, p.168

240 *ibid*., pp 169–172

241 Lack and Ford, p. 42

242 Andrea Inglis, *Beside the Seaside*, Victorian Resorts in the Nineteenth Century, Melbourne University Press, Melbourne, 1999, p. 6

243 *ibid*., p. 3

244 Weston Bate, *A History of Brighton*, (second edition) Melbourne University Press, Melbourne, 1983, p. 33

245 Butler and Associates, 'Shire of Mornington Heritage Study Environmental History', p. 16

246 Inglis, p. 3

247 Rev. William Wakefield Diary, quoted in Ralph P. Neale, *Jolly Dogs Are We, The History of Yachting in Victoria 1838–1894*, Landscape Publications, Melbourne, 1984, p. 6

248 H. Thomas, *Guide for Excursionists from Melbourne*, quoted in Living Histories, 'City of Kingston Heritage Study Stage One Report', 2000, p. 129

249 J. B. Cooper, *The History of St Kilda: from its first Settlement as a City and after, 1840 to 1930*, compiled by order of the St Kilda City Council, Melbourne, 1931, p. 164

250 Alleyn Best and contributors, *Fifty years and More: A History of Surf Life Saving in Victoria*, Surf Life Saving Victoria, 2002, p. 19

251 Helen Doyle, 'Organising Recreation' An Historical Survey of Recreation Patterns in Victoria', A Cultural Sites Network Study for Historic Places Section, Department of Natural Resources and Environment,1999, p. 5

252 Ray Wright, *The Bureaucrat's Domain, Space and the Public Interest in Victoria, 1836–84*, Oxford University Press, Melbourne, 1989, p. 43

253 *ibid*., p. 160

254 Priestley, *The Victorians, Making Their Mark*, p. 122

255 *ibid*., p. 43

256 *ibid*., p. 115

257 quoted in *History and Heritage, Shire of Flinders Heritage Study*, 1992, p. 27

258 *Tourists' Guide to Geelong and the Southern Watering Places*, 1893.

259 Dingle, p. 147

260 Doyle, p. 53

261 'Royal Commission on the Housing Conditions of the People in the Metropolis and in the Populous Centres of the State', First Progress Report, VPP 1915, Vol. 2

262 *ibid*.

263 Spearritt and Davidson, p. 176

264 *ibid*., p. 177

265 *Herald*, 29/9/39

266 Alan Gregory, *It's Only the Game that Counts A History of Lord Somers' Camp and Power House 1929–1989*, Lord Somers Camp and Powerhouse 1989.

267 Priestley, The Victorians, *Making Their Mark*, p. 170

268 VPRS 10344 P/000, Unit 1. Tourist Resort Committee Minute Book

269 VPRS 10344/P0000 Tourist Resort Committee Minute Books. This committee provided limited financial support for improvements at tourist resorts and received many requests for support for such facilities in the 1920s and 1930s.

270 Alleyn Best and contributors, p. 22

271 typed manuscript 'Foreshore Erosion, History as recorded on Departmental File', 1935, Public Works Department Foreshore Erosion and Protection, VPRS 8337/P1 Unit 1

272 Minister for Public Works, quoted in *The Sun*, 24/1/1935 in VPRS 8337/P1, Unit 1

273 Alleyn Best and contributors, p. 19

274 *ibid*., p. 21

275 Doyle, p. 25

276 VPRS 8337/P0001, Unit 3, Tenures for boat jetties, slipways, ramps ,etc and associated therewith marinas'

277 Susan Priestley, *South Melbourne, A History,* pp. 35–36

278 Alleyn Best and Contributors, p. 2

279 Doyle, p. 77

280 Hoare, p. 249

281 Cooper,p. 159

282 *ibid*., p. 161

283 Ada Ackerley, 'Sports and Pastimes', *Williamstown History Kit*, Williamstown City Library, 1987.

284 A.C. Drew, Engineer, PWD, Report on Foreshore Protection,1947, VPRS 8337/P001Unit 3

285 Butler and Associates, 'Altona, Laverton and Newport Districts Heritage Study Stage Two, Volume Two, p. 69

286 Land Conservation Council, *Historic Places Special Investigation, South Western Victoria, Descriptive Report*, 1996, p. 73

287 Bate, p. 343

288 *ibid*., p. 350

289 Inglis, p. 28

290 *Illustrated Australian Post*, 22 November 1862, quoted in 'Bathing Boxes, Boat Sheds and Similar Structures Around Port Phillip Bay', a report to the Minister for Planning and Environment', August 1985, p. 7

291 Cooper, p. 172

292 Inglis, p. 60

293 Butler and Associates, 'Shire of Mornington Heritage Study, Environmental History', p. 20

294 Doyle, p. 77

295 C.E. Sayers and Peter Yule,

296 Priestley, *The Victorians, Making Their Mark*, p. 230

297 Cooper, p. 225

298 http://www.middlebrightonbaths.com.au

299 see Cox's map

300 H929

301 VPRS 8337/P1 Unit 1.'Foreshore Protection 1936-1939', Public Works Department

302 John Lack, *A History of Footscray*, Hargreen Publications in conjunction with the City of Footscray, North Melbourne, 1991, p. 255

303 Olwen Ford and Pamela Lewis, *Maribyrnong Action in Tranquility*, Melbourne's Living Museum of the West and Sunshine City Council, 1989, p. 41

304 *ibid*., p. 52

305 VPRS 12454/P0001, Unit 1, p.153 Tourist Resorts allocation of URLF, 1937/1938. There is a rock pool suitable for swimming at the Point Lonsdale Surf Beach.

306 'Bathing Boxes, Boat Sheds and Similar Structures around Port Phillip Bay', p. 7

307 *ibid*., p. 7

308 Davidson and Spearritt, p. 128

309 Living Histories, 'City of Kingston Heritage Study Stage One Report', 2000 , p.134

310 Susan Priestley, *Altona, A Long View*, Hargreen Publishing, 1988, p. 88

311 Susan Priestley, *South Melbourne A History*, Melbourne University Press, 1995, p. 201

312 Butler and Associates, 'Shire of Mornington Heritage Study, Environmental History', p. 20

313 Doyle, p. 74

314 VH1533

315 Neale, p. 69

316 *ibid*., p. 174

317 *ibid*., p. 95

318 *ibid*., p. 174

319 *ibid*., p. 245

320 Bate, p. 351

321 Neale, p. 304

322 Herald , 24 November 1949, p. 15

323 Carlotta Kellaway, *A Most Complete Establishment, Proudfoot's Boathouse, Hopkins River Warrnambool*, p. 1

324 Doyle, p. 84

325 Kellaway, p. 6

326 Kellaway, p. 13

327 Hoare, p. 368

328 Living Histories, 'City of Kingston Heritage Study Stage One', p. 61

329 Priestley, South Melbourne A History, p. 201

330 *ibid*., p. 202

331 Gillian Upton, *The George, St Kilda Life and Times*, Venus Bay Books, 2001, p. 71

332 *ibid*.,

333 Living Histories, 'City of Kingston Heritage Study, Stage One', p. 135

334 The Age Literary Supplement, 21 October 1939

335 newspaper cutting in VPRS 8337/P1 Unit 2

336 VPRS 12454/P0001 Unit 1

337 *The Age Literary Supplement*, 21 October 1939

338 VPRS 12454/P001 Unit 1

339 VPRS 8337/P1, Unit 3

340 Alleyn Best and contributors, p. 32

341 *ibid*., p. 33

342 *ibid*., p. 140

343 Frank Broeze, *Island Nation: A History of Australians and the Sea*. Allen and Unwin, Sydney, 1998, p. 223