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The Maritime Archaeology
and Maritime Cultural Landscapes of Queenscliffe:
a Nineteenth Century Australian Community.

Volume Two: Appendices

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Appendix A: Data Sources, Analysis and Manipulation

Appendix A-1: Sources Consulted for the Study Area

1) Historical Records

Historical records were initially consulted to establish a chronological history of the areas to be investigated. Given the time constraints of this project, regional heritage syntheses and broad thematic histories were consulted to obtain both potted and specific histories of the regional localities to be investigated. Several detailed histories of some of the various maritime thematic industries and services were already available for this area:

- **Customs Service:** Day 1992
- **Pilots:** Noble 1979; "Mark Three" 1884a, 1884b;
- **Lifeboats** - Schutt 1986; Loney 1989a; Boyd 1996; Noble 1979; Syme 2001;
- **Defence** – Noble 1979; Tate 1982; Jones 1986; Kitson 1987, 2001; Nicholls 1988; O'Neill 1988;
- **Tourism** – Wells 1982; Inglis 1999; QHM 2003; Baker and Lawson 2004; Brown 2004

Some abbreviated chronicles were also found for some other maritime sectors:
Navigation – Raison 1997;
Fishing – Kerr 1985; Raison 1987, 2002

Shipwrecks in this area have already been exhaustively documented (e.g. Williams and Searle 1963, 1964; Loney n.d. a, n.d. b, 1971, 1981; Foster 1987, 1988, 1989, 1990; Anderson 1997a; Anderson and Cahir 2003; Heritage Victoria (state government) Shipwreck Database - *Shiplist*; **Wrecking** – Loney 1989). These collections are derived from a number of different sources including historical, archaeological and ethnographic sources, including state libraries and archives, government departments (e.g. HV; DOT; Crown Land Management), local historical societies, museums and oral histories. Therefore further research to identify wreck sites was not required. However, no attempts have been made to comprehensively document stranding sites, although partial attempts have been undertaken (Williams and Searle 1963, 1964; Love n.d: In Prep.) so their general location and circumstances were recorded wherever they were identified.

A) Government Records
I) Official Correspondence: Colonial Secretary's Office

Government functions for the state were centralised in Victoria under the Colonial Secretary's Office until secession from NSW in 1851. Early official correspondence pertaining to the installation of lighthouses, navigational and defence facilities and the pilots service included a series of letters between the Victorian Governor (LaTrobe) and various civil servants engaged in the Harbour Masters Office, The Colonial Architects Office, The Lighthouse Board, Colonial Storekeepers Office and Water Police Office. Correspondence between these boards and offices was sent either from Queenscliff, Geelong, Williamstown or Melbourne, and has been preserved in a number of collections, including that of the QHM.

II) Victorian Parliamentary Papers/Summary Contracts Books

Many of the issues regarding the implementation and maintenance of maritime infrastructure were discussed before the Legislative Assembly of the Victorian Parliament. Reports of Select Committees, Royal Commissions and other submissions and despatches that were tabled for discussion were often included in the *Victorian Parliamentary Papers*, which proved to be a valuable data resource for proposed and passed government bills, acts and expenditure. These addendums to parliamentary discussion often outlined defence strategies and networks, along with proposed installation and/or expenditure on navigational services, pilotage systems, health,

customs, mail, communications, and transport systems. These papers were widely available on microfiche from a number of institutions.

A second body of official reports was the Summary Contracts Books, which outlined government expenditure by the Public Works Department thematically for projects dating from 1858 to 1935. These provide summarised details of expenditure, along with a brief description of the project, which were used to establish the chronology of site evolution for various industries and services including defence, navigational, health, lifesaving and harbour facilities.

III)   Sailing Directions

Sailing directions were used in conjunction with hydrographic charts, and provided more detailed information for mariners such indications of important landscape routes, hazards, and other maritime infrastructure. Details of navigational facilities were gleaned from the official sailing instructions issued either by the Admiralty Hydrographic Office, (the Australia Directory: 1830- 1919. [See HOA 1830, 1913, 1918; Burdwood 1855, Yule 1868, 1876, 1884, 1897) or later the Australian Hydrographic Office (Australia Pilot 1920- present) and Ports and Harbours Branch (1959). Local sailing directions were also issued by the local Harbour Master (Ferguson 1854, 1861).   These resources detailed not only the location, availability and directions for navigational facilities in Port Phillip, but also outlined harbour services including pilots, health, customs, and mail services and other harbour facilities. These official directions were supplemented with occasional and sporadic official notices which were published in the *Victorian Government Gazette* and *Notices to Mariners*, and included details of restrictions to waterways caused by navigational hazards (e.g. wrecks and live fire exercises) and other official notices regarding quarantine, customs, mail, defence and pilotage regulations for Port Phillip.

These data sets also provided insights into the areas used by mariners, but also those to be avoided. The former enabled prediction of potential archaeological sites and their possible signatures through descriptions of the types of infrastructure and associated behaviour, but the latter could also be used to indicate and explain empty spaces in the landscape.   These documentary records were extensively used in conjunction with cartographic sources to better understand mariners' use of the maritime environment.

IV) Cartographic Sources

A plethora of chart, maps and plans were available for the study area, and a summary are outlined in Table A-3.1. Over 100 charts, plans and maps were examined to identify past features, maritime infrastructure and coastal environmental changes. These varied from charts produced by the earliest explorers (e.g. Flinders 1814; Grimes 1803; Tuckey 1804) to specialised thematic plans commissioned by local service providers (e.g. Defence; Queenscliff Sewerage Board; Victorian Railways; Roads Board; Tourism operators). Many sources of varying scales and projections were used during the survey, which although problematic due to differences in generalisation of features and topography/bathymetry, still proved effective for the identification of the general locality and existence of archaeological sites. The problems of scale differentiation were recognised when used for identifying potential field search and survey area, and the size of the search area was adjusted accordingly. Furthermore, many of the cartographic sources (especially the specialist military, tourist and local plans) provided indications of thematic cultural landscapes, in addition to local toponymic variations to official place names.

CHARTS	Producer	Information	Problems
Hydrographic	British and Australian Hydrographic Offices	Bathymetry, maritime infrastructure, shipwrecks, coastline changes	Small scale - generalised data, official data only - local features often omitted, accuracy varies in early charts - improves over time, Over-printing of info onto old maps - remnant obsolete data still on maps, Validity of data needs verification
Coastal Survey Series (CSS)	Local harbour masters and early surveyors - templates for later charts	Large scale detail of primary marine surveys of bathymetry/ maritime infrastructure from original surveys, local toponymy, very accurate in authors experience	None experienced
Harbour Facility Construction Plans	Dept of Public Works/ Ports and Harbours/ Marine and Harbours	Large scale plans of maritime infrastructure and bathymetry	Non-maritime features often omitted or generalised
Large Scale Marine Charts	Used by Marine Science Centre	Fine large scale detail (1:5000) of bathymetry and environmental detail	Too large for practical use during interviews
Local Sailing Directory Charts	Private Producers (e.g. Hawkins 1996)	Used by small boat operators - large scale detail of local maritime infrastructure, local variations of toponymy	Generalised detail of marine bathymetry, intended as guides only to be used in conjunction with official charts
MAPS			
Topological Surveys	Australia Section Imperial General Staff,	General topographic info - roads, rivers, prominent landmarks, official names	Small scale - data often generalised or omitted, official data only - local features often omitted
Survey General Parish Plans/ Dept Lands and Survey		Locally specific information	Over-printing of info onto old maps - remnant obsolete data still on maps, Validity of data needs verification
Special Purpose Plans - Military, Geological, Tourist Maps	Victorian Geological Survey, Various defence departments/ tourism operators/ Council Amenity & Services (e.g. Sewerage Plans)/ Victorian Railways/	Detection of coastline change, specific military feature/ reserve locations, tourism attractions and routes, indicators cultural landscape, railway and tramway locations, sewerage and coastline positions	Omitted data - biased towards specific purpose of creator
PLANS			
Construction Plans	Dept of Public Works/ Council Amenity & Services (e.g. Sewerage Plans)/ Victorian Railways/	Detailed construction info of maritime and other infrastructure - used to interpret archaeological sites	Proposal plans - some work was not instituted

Table A-3.1: Summary of cadastral sources and associated information and problems.

V) GIS Cartographic Data Sources

Several modern cartographic plans were available in GIS format, and were used in the geo-referencing process outlined below. These included coverages of cadastral land parcel boundaries (DNRE), Australian Hydrographic Charts (AHO) and Geo-referenced aerial imagery (PMS). The latter was used to identify potential archaeological features to be investigated, and several visible features (both under and above water) from this coverage proved upon inspection

to be archaeological sites. It also enabled geo-referenced historic maps and charts to be overlaid over the aerial imagery, allowing better interpretation of relocated ground features. Although some GIS coverages were only available in different projections, extracted data was converted to a common co-ordinate system (AMG, AGD 1966) to allow the results of all data extracted to be viewed concurrently.

B) Private Records
I) Pilots log books

The Port Philip Sea Pilots were a private commercial organisation that has been responsible for pilotage in Port Phillip since 1841. A Port Phillip Sea Pilots log book (Emerson et al. 1897-9) and a sailing directions manual were consulted (Anon. n.d.) to investigate the daily activities on board pilotage vessels, along with other significant features and components of the pilots' landscape.

II) Mercantile Directories

Mercantile directories provide annual detailed catalogues of merchant traders operating in Victoria, and some were thinly disguised as historical encyclopaedias (e.g. Sutherland 1888a, 1888b). Several of these trade directories and trade sponsored histories (e.g. Jarrat 1865, Sutherland, 1888a; Sands and McDougal 1889-1894; Wise and Co. 1891) were consulted for a period of three decades to further investigate individual extractive industries identified through newspaper accounts. However, it became apparent that many of the extractive industries being researched either never became commercially viable industries, or were of local importance only and were hence not listed in the commercial directories.

III) Memoirs

Several historical memoirs were available for the study area, and many were published by lifelong residents who could recount their personal recollections dating back in some cases to the establishment of the town (e.g. Fanning 1892a, 1892b, 1892c; Draper 1900; Cuzens 1912; Dod 1931; Thompson n.d.; Ferrier 1991) or to ancestral familial memories (Dunn 1949, 1963). Some historical memoir accounts were rewritten verbatim by later authors as their own accounts (e.g. McGrath n.d. borrowed from Fanning 1892a, 1892b, 1892c – see Kruithof 2003). Although it is recognised that these resources introduce the personal bias of the narrator, they also provided primary baseline observations of local activities and cognitive landscapes, and further assisted in the geographical placement of sites identified through oral histories.

IV) Images

Images of the area were available through extensive archival collections located at the State Library of Victoria, The Queenscliff Historical Museum and the Queenscliff Maritime Museum. In particular, many photographs display iconic portraits of local shipwrecks, and demonstrate community attitudes to the popularity of local shipwrecks as a tourist attraction. These images also provided insights into the everyday lives of many of the town's residents, and were of particular use for the fishing industry where official records were lacking. Furthermore, many images were used to aid geographical relocation and identification of possible archaeological features, and demonstrate details not described elsewhere.

V) Private Databases

Several individuals were known to possess extensive local knowledge founded on years of personal research and were approached to assist with the background information prior to the field inspections. Some informants, in particular Don Love, Peter Ferrier and Terry Arnott had

undertaken documentary research that provided extensive primary data for sites not included in previous heritage studies, particularly for the southern Port Phillip region.

This study drew heavily on the collections of the Queenscliff Historical Museum, Maritime Museum and Fort Museum, which contained a diverse range of historical data and informants that formed the backbone of the historical research undertaken for this project. Their collections included assortments of primary, secondary, tertiary historical and recorded oral history data, in addition to cartographic sources which were often not replicated elsewhere.

Researcher	Area of Expertise
Bob Leak	Maritime Infrastructure Hobsons Bay
Bob Marmion, FQM	Defence History
David Green	Pt Lonsdale Defence History
Don Love, MAAV	Shipwrecks and Strandings
Francis O'Neill, Heritage Victoria	Pt Nepean Defences
Henry Hudson, QMM	Local Queenscliff History
Ivar Nelson, DSE	Chinamans Hat
Jill Barnard, Living Histories	Maritime Infrastructure History
Jim Anderson, MAAV	Archaeological sites
Jocelyn Grant, QHM	Local Queenscliff History
John Patrick	Crows Nest Fort
Lauchlan Jackson, HV	Mud Islands and Archaeological Sites
Leonie Foster, HSAC	Shipwrecks and Strandings
Les Irving Dusting, QMM	Local Queenscliff History
Malcolm Venturoni, MAAV	Archaeological sites
Martin Zweep, HV	Fort Franklin
Mike Nash, THO	General Bass Strait History, Shipwrecks
Lyall Mills, MAAV	Archaeological sites
Parks Victoria, Queenscliff	Archaeological sites
Patrick Miller, HV	General Defence History
Peter Ferrier, QMM	Shipwrecks and Strandings, Local Queenscliff History
Peter Lovell, Lovell Chen and Associates	Queenscliff High Lighthouse
Peter Somerville	Maritime Infrastructure Melbourne
Peter Taylor, MAAV	Shipwrecks, Hulks, Sailing Direction
Queenscliff Historical Museum	Local Queenscliff History
Queenscliff Maritime Museum	Local Queenscliff History
Ralph McDonell, MMA	Defence History
Ross Anderson, HV	Shipwrecks
Steve Smithyman, SBICMC	Swan Bay History and Archaeological Sites
Terry Arnott, SAHB	Archaeological Sites

Table A-3.3: Private research collections accessed.

VI) Newspaper Reports: Ethno-historical Accounts

Newspapers have been widely exploited by maritime archaeologists to identify the locations of shipwrecks and the circumstances that contributed to them. Although these sources have traditionally been regarded with skepticism (especially editorials and second hand accounts) due to their biased documentation and personal views, they offer a potentially rich insight into the psyche of local community attitudes that may not be accessible in official historical records. Queenscliff's local newspapers proved a particularly fertile ground of opinionated rhetoric. Aside from explicit details of various activities (including accounts of social events, tourist attractions and infrastructure construction) undertaken in the area, the locally published *Queenscliff Sentinel* often contained explicit accounts of important local issues, memoirs and reminiscences, folklore and other scandals, which often presented a startling contrast to mainstream documentary accounts. The proceedings of many council meetings and other government inspections often detailed progress reports and installation of many maritime infrastructure projects in greater detail than was available in other historical sources. Although the objectivity of the newspaper was often questionable, with a bias against the Melbourne dominated State government (which was often criticised for lack of action pertaining to many local infrastructure projects), it provided valuable insights into the psyche and rationale of many community residents that was not available elsewhere. These views were contained in the local editorials and personal community contributions, which proved valuable for later analysis of local community structures and hierarchy.

This newspaper often included many individual memoirs of several maritime services and/or industries written by local identities (often under pseudonyms – "Bluelight" (1911, 1912); the first White Boy/ Oldest Native (Dod 1917); "The Native" (1887, 1894, 1910); "Old Salt" (1890); "Old Times Rocks" 1907; "Queenscliff Boy" (1910), many of whom were original residents of the Borough in the 1850s which contained personal minutiae not evident elsewhere (e.g. Fanning 1892 a, 1892b). Other early accounts were written by tourists (e.g. "Pro Bono Publico" 1884; "Rolling Stone" 1894; "Rambler" 1908), although the authenticity of some of these accounts were suspect, as they may have been written as promotional material by local businessmen. These recollections provided insights into many maritime services, along with personal minutiae not contained elsewhere. These anecdotal accounts represent the first written oral history accounts of the township, and extended the range of the oral history interview records (undertaken by the author and the Queenscliff Historical Museum) for the area back some 150 years. Personal history accounts and memoirs of community members and local industries were also published in the modern *Queenscliff Herald* and *Rip View* newspapers. Other newspapers outside the region (including the *Geelong Advertiser* and Melbourne-based *Argus)* provided balancing insights into general state events and wider community sentiments, in addition to the only coverage of news before the establishment of the local borough newspaper in 1879. Many of these sources were held at the Queenscliff Historical Museum (QHM), Queenscliff Maritime Museum (QMM), and Geelong Heritage Centre (GHC). In particular, the Baillieu Collection (an index summary of local and regional historical events held by the QHM) was extensively consulted as a directory source for locating relevant newspaper information.

Newspapers were examined from 1841 to the present date, with particular regard to the period up to 1940. In order to obtain sufficient material to document the history of the area, the Baillieu collection was used as a guide for all events from 1841 to 1920, and newspapers corresponding to the times of significant events in the town's development were reviewed. Furthermore, selective examination of newspapers between those dates was undertaken to identify other data not outlined in Baillieu Collection index, particularly regarding extractive industries, and social behaviour and hierarchy.

2) Environmental data

Environmental sources accessed for this study included bathymetric and topographic plans, oceanic conditions, coastal geomorphology and prevailing weather patterns. Environmental data was also accessed through historic meteorological records (Government Astronomer, 1872-1906), and sailing directions (the Australia Directory: 1830- 1919 - See HOA, 1830; Burdwood, 1855, Yule, 1868; 1876, 1884; 1897; HOA, 1913; 1918) and Ports and Harbours Branch (1959), marine science studies (Land Conservation Council, 1993; Yugovic, 1988), environmental strategies (Fisher Stewart, 1997) and geological surveys, and oral histories.

3) Archaeological Data
A) Victorian Heritage Registers/Inventory

Sources of these registers include the Australian Heritage Register, National Trust, State Heritage agencies (e.g. Heritage Victoria Heritage Register) and local council Heritage Overlays. These types of data sets are often available in GIS formats, enabling more efficient access to the information. There are a plethora of significant Heritage Register sites located in the Queenscliff area that have been widely addressed by Allom Lovell and Bickford (1987).

Heritage Victoria supplied access to their database records of maritime infrastructure sites under their control and these aided the identification of potential areas of archaeological interest. Heritage Victoria maintains the Victorian Heritage Register (Heritage listed sites) and Heritage Inventory (archaeological sites) which were also consulted regarding existing heritage listed sites (both terrestrial sites and shipwrecks), along with their extensive collection of historical records pertaining to Victorian maritime industries.

B) Shipwreck Databases

Extensive documentation of shipwrecks had already been undertaken by both government agencies (VHR – Shiplist; Foster 1987, 1988, 1989, 1990: Anderson 1997a; Anderson and Cahir 2003) and also by several members of the public (Williams and Searle 1963, 1964; Loney n.d. a, n.d. b, 1971, 1981; Arnott n.d.; Naylor n.d.; Wealthy and Bugg 1995; Love in prep.). These collections were derived from a number of different sources including historical, archaeological and ethnographic sources, including state libraries and archives, government departments (e.g. HV, DOT, Crown Land Management etc.), local historical societies, museums and oral histories. These sites and their associated histories have been extensively documented by the Maritime Heritage Unit (HV), and a number of other local divers, and represent a very good representation of the actual archaeological resource known to exist in the bay. Hence this thesis did not reinvestigate the history and archaeological signatures of shipwrecks in this area, but did examine their effects on the community and determination of cultural landscapes.

However, as mentioned above, little or no investigation of stranding sites had been undertaken in the area, with the exception of some sites partially recorded by local divers (Love in prep.; [PF]). As large quantities of cargo were often dumped over the side when vessels stranded, they represent potential tangible archaeological sites that have thus far remained largely unexplored.

C) Maritime Infrastructure and Other Researcher Derived Archaeological Data

Although several archaeological studies (Allom Lovell and Associates 1982; Weaver 1996; Long 1996; Austral Archaeology and Coroneos 1997; Anderson and Cladow 2000; Weaver 2000; Myers 2002), and an Urban Conservation Study (Allom Lovell 1984 - which listed significant heritage sites and precincts) had been undertaken in the study area, only 11 coastal

archaeological sites (South Channel Fort and Pile Light; Fort Queenscliff; Swan Island Defence Complex; Queenscliff Dump; Popes Eye: Swan Spit Pile Light; Chinaman's Hat; McDonalds Jetty; Coles Jetty; Quarantine Ground Anchorage) and 11 registered sites were listed on the Heritage Victoria Heritage Inventory and Heritage Register, respectively. Aboriginal Affairs also listed a number of Indigenous sites in this area, but these were not examined as part of this study. Forty-six located shipwreck sites were documented by the Heritage Victoria Shipwreck Register, and 52 others were historically known to exist in the area. Many informally identified stranding sites, beacon and lightship sites, ammunition dumps and anchorages were also known for the area by local divers, but had never been formally inspected. From examination of the above sources, it was clear that further extensive archaeological documentation of the study area was required, and that some types of sites were archaeologically underrepresented by the current databases and research.

D) *Local Knowledge of Archaeological Sites*

Many Queenscliff residents knew of previously unrecorded archaeological sites in the terrestrial, littoral and underwater zones, and these were often revealed during oral history interviews. Various commercial, archaeological, scientific and avocational divers were consulted to gain some understanding of the extent of potential underwater archaeological resource of Port Phillip Bay. Most of these divers had developed a personal knowledge of The Bay's underwater archaeological sites through many years of diving experience whilst involved in archaeological, marine science or port maintenance fieldwork. The types of divers interviewed is shown in Table A3.3.

Avocational Archaeologists - MAAV	Allen, Arnott, J. Anderson, Langenburg; Love, Mills, Munro, Parkinson, Taylor, Venturoni
Scientific: Marine Science Laboratories/ Parks Victoria	Gorfine, Rodrigues, Wilson
Commercial: PMA/ Private Contractors	Rodgers, Elstone, Venturoni
Maritime Archaeologists: Heritage Victoria/ Heritage South Australia	R. Anderson, Arnott, Harvey, Hosty, Strachan, Staniforth,
Private Divers/ Bottle Collectors	Caie, P. Ferrier, Love, Paolini,

Table A3.3: Types of divers interviewed.

Many divers had for many years been or were currently involved in artefact collecting activities within The Bay, hence their detailed knowledge of the sites. In cases where interviewees were still involved in bottle and ceramic collecting, this presented an ethical dilemma for the author, as this was antithetical to the archaeological discipline. Further considerations included the non-archaeological provenance of the artefacts, sometimes inadequate documentation and/or conservation of artefacts, and legal (heritage law) implications of excavation. After much deliberation these sources/ informants were included in the study for the following reasons:

- Many informants indicated that some sites had already been lost due to over collecting, and therefore the recollections and collections of the divers represented the only surviving record of the sites
- Some divers demonstrated a detailed knowledge of the underwater environment and regional provenance of their artefact collections
- The collective experience of many of the divers consulted added up to over 300 years of exploration, which could not possibly be attempted during the time frame of this project
- The divers consulted were known to be reliable either through the authors previous experience, and/or by their association with previous scientific diving activities

Given these considerations, a number of strict guidelines were introduced to adhere to archaeological ethics. Legal advice was sought from Heritage Victoria (the State Heritage Agency) regarding the legal implications of removal of artefacts from shipwrecks or the seabed

(particularly if excavated), and the associated obligations for the author (as a researcher) and any project participants (either from interviews or fieldwork). All participants in the project were advised of these legal implications and asked to sign a memorandum of understanding prior to any participation, which included acknowledgement that no artefacts would be collected during fieldwork, and the author could be legally directed to surrender any information regarding illegal activities. The author also explained the outcomes of the project to each participant, and reiterated that this research did not actively support the practice of bottle collecting.

A number of divers were identified who demonstrated an extensive personal knowledge of sites in southern Port Phillip Bay since the inception of scuba diving into the area in the 1960s. Peter Ferrier, Don Love, and Carl Paolini all demonstrated a pervasive knowledge based on over 120 years accumulated diving experience between them during underwater bottle collecting activities. In particular, Peter Ferrier demonstrated a remarkable knowledge of the underwater landscape, and could geographically locate or identify many archaeological sites and their associated submerged topographic surrounds. On many occasion he was able to identify areas where the author had been diving simply from descriptions of underwater sand dunes, seagrass distributions or other seabed matrices, and subsequently redirect later inspections to previously unlocated sites that were being searched for based on his underwater directions. Given that this understanding was accrued through actual physical exploration (via diving) in only one generation (in P. Ferrier's case), it is also possible that Ferrier's detailed knowledge of the underwater environment also reflects the inherited ancestral knowledge accumulated by generations of family fishermen, what Parker referred to as the *underwater landscape*.

Appendix A- 2: Sample of General Questions for Informants

1. Name/ Address/ Contact Details.

2. How long have you/your family lived in Queenscliff? Probe further.

3. What was your profession/ family's profession?

   a. Tell me more about that.
   b. Details how/ where/ why/ what equipment used.
   c. Details social organisation.
   d. Details locality/ time it undertaken.

4. Tell me about the history of the township?
   a. Significant places/ events.
   b. Where/ why important/ when.

5. Do you know of any archaeological sites in the area?
   a. Where/ dating to/ source of information
   b. How do you know about them?
   c. Link to family connections?

6. What areas are did you use/ are important to you in the region?
   a. Where/ why/ what.

7. What effect did (event/place/social group) have on the local community?

8. How did people respond to shipwrecks (in relation to rescue, salvage and subsequent perceptive use of those areas)?

9. How did people get on it the township?
   a. Community relationships/ social structuring
   b. Good/bad relationships and why?

10. Are there any other significant things you would like to tell me about the area?

Note:

- Probe further on all questions.
- Recheck responses during interview and at a later stage.
- After above questions are asked, raise information from other informants to check veracity of information.

Appendix A-3: Informant's Background

Informants Back Grounds																						
Name	Pers comms reference	Agriculture	Cartage/ Transport	Customs	Defence	Extractive Industries	Fishing	Lifeboat	Local governement	Navigation	Pilots	Religion	Recreational Maritime	Tourism/ Merchant	Wrecking/ beachcombing	Farming	Knowledge of local Arch sites	Diving – U/w Arch sites	Notes	Born	Age at Interview	Personal/Family History Begins in Area
Adams, John	JnA													f, P					Father owned Esplanade Hotel in 1960s			
Allen, Scott	SA																P	P	MAAV Diver			
Anderson, Cecil	CA				a								a, P	a, P			P		Family history in Grocery/ Guesthouse business. Former Real Estate Agent and Guesthouse/ tourism operator. Lifetime member and Green Keeper Swan Island Golf Club. Grandfather operated lime kiln Pt Lonsdale 1850s. Member Swan Bay Yacht Club since 1926.	1914	89	1853
Anderson, Jim	JA												a, P				P	P	Geelong resident, family holidays spent at Queenscliff and Bellarine Peninsula, Diver MAAV of over 40 years experience diving in The Bay.			
Anderson, Marjorie	MA																P		Family history in Grocery/ Guesthouse business. Former Guesthouse/ tourism operator. Lifetime member and Green Keeper wife on Swan Island Golf Club.	1913	90	
Anderson, Ross	RA																P	P	Maritime Archaeologist, Heritage Victoria			
Arnott, Terry	TA													a, P			P	P	Former resident Ocean Grove, Diver MAAV of over 40 years experience diving in Bay, Former Historic Shipwrecks Advisory Committee Member			
Barras, Lawrence	LB				P														Ex soldier, Crows Nest Fort WWII	1916	90	1940s
Beames, Dawn	DB	a, P											P	P			P		Great grandfather was first Scottish farmer (McDonald) in Swan Bay area. Ran local Swan Bay Store and boat hire business for 40 years.Extensive local recreational fishing experience	1928	76	1853
Beames, Robert	RB	a, P											P	m, f ,P			P		Parents (Dawn) ran local Swan Bay Store and boat hire business for 40 years. Extensive local recreational fishing experience	1964	39	1853
Beazley, John	JB				f		a	a			P						P		Shipwright/ boatwright for 50 years with Pilots Service. Three generations have lived in Queenscliff - Grandfather (Todd Walter) was a fisherman/lifeboat - Father (Reg Beazley?) was in the permanent	1929	73	1860s
Caie, Alex	AC																P	P	Diver in this area for at least 15 years			pre 1990
Ferrier, Geoff	GF						a	a		a, P							P		Lighthouse Keeper in 1950s. Father former South Channel Pile Light keeper. Ancestral fishing family background.	1926	75	1860s
Ferrier, Peter	PF				a,f		a	a,P		a	a				a		P	P	fishing family, ancestors/ personal experience on lifeboat, pilots and lighthouse service, father ran patrol boat in WWII, diver and bottle collector with 35 years diving experience in Bay			1860s
Ferrier, Lewis	LF	P					a,P	a,P		f,a	P			P					Fisherman for 64 years. Father former South Channel Pile Light keeper. Ancestral fishing family background. Father/ 37 years personal experience on lifeboat, Intermittent experience as shearer and labourer	1924	79	1860s
Forrest, Helen	HF													h					Husband lived in Queenscliff for many years c 1950s onwards	1946	60	
Frank Ferrier	FF						a, P	a, P		f,a				P					Fisherman. Ancestral fishing family background. Ancestral/ personal experience on lifeboat			1860s

Name	Code													Description			
Elstone, Craig	CE										P	P	Commercial Diver with 20+ years experience			
Gianuzzi, Alex	AG												Manager Education, Marine Discovery Centre			
Gorfine, Harry	HG										P	P	Diver, Victorian Institute of Marine Science. Queenscliff (for at least 15 years)			
Grant, Jocelyn	JG										P		President Queenscliff Historical Society and Museum			
Harvey, Peter	PH										P	P	Manager, Maritime Heritage Uni, Heritage Victoria			
Henderson, Geoff	GH								P	P			Swan Bay farmer since 1942	1929	75	1942
Henderson, Helen	HeH								P	P			Swan Bay farmer since 1942			1942
Higgenbotham Adrian	AH		a		a					P			Ancestral fishing family background. Familial defence background			1860s
Hosty, Kieran	KH									P			Former Maritime Archaeology Unit Maritime Archaeologist			
Hudson, Henry	HH									P			QMM Secretary, HSAC member. Former research chemist.			
Hughs, Steve	SH		P							P			Qcliff Fort Museum Curator	1951	55	
Irving Dusting, Les	LID		f		a		P		a, P	a, f	P		Former Telstra Employee, - Lived all of life in Queenscliff, -Grandparents in fishing industry in Port Fairy, moved to Qcliff in 1904. Father fish hawker and café owner also worked as carpenter at Swan Island Naval Depot	1947	56	1901
Jackson Lauchlan	LJ									P			Parks Victoria Officer - 13 years experience in region, Responsible for Mud Islands Reserve			
Johnson, Sandra	SJ									P			Ex QMM Administrator/ Long time Queenscliff resident		50s	
Langenburg, Eric	EL											P	MAAV Diver			
Lawson, Roy	RL		a		a					P			QHS member. Researching Benitos Treasure	1931	73	
Love, Don	DL									P	P		MAAV, Local Diver in PPBay for many years. Published several shipwreck research books			
Bob Marmion	BMn		P										PhD researcher in military history			
Mather, Joan	JM				a	a		a		a, P	P		Parents ran baths, fishing family, defence force, early family women involved in boarding houses, related to Shapter family	1923	78	1860s
Mills, Lyall	LM							a, P		P	P		Diver MAAV of 40 years experience diving in Bay, Family were tourists to area	1946	56	1900s
Mitchell, Bill	BM				a,P								Bass Strait and PPBay and Westernport Bay fisherman since 1944. Familial history of boatbuilding	1931	73	1920s
Mouchmore, Harry	HM		f,c		a, P, b	c			a, P	P			Started cray fishing when 14, 3 brothers were couta fishers	1920	81	
Munster, Peter	PM									P			Deakin University History Lecturer			
Naylor, Wendy	WN		f, aunt		m, a			a		P			Former Marine Science Labs employee, Father in military, Mother fishing family, Grandparents merchants, guesthouses and market garden aunt worked at Swan Island Mine Depot	1956	48	1864
Patrick, John	JP		f			f		m		P			Electrical Engineer - One time childhood Qcliff resident, Father seamen with Navy and Pilots, Swan Island Mine Depot, Mother in guesthouses	1931	73	1930s
Paolini, Carl	CP											P	Recreational diver of some 35 years experience in PPBay			
Rodrigues, Mark	MR											P	Parks Victoria/ Victorian Maritime Institute of Science Diver/ Ranger - at least 15 years diving experience in area			
Rogers, Gus	GR					P	P		P	P	P		Ex Port of Melbourne Authority worker/ Diver. Pt Lonsdale Ligghthouse signal station port controller		50s	1970s
Ronald, Peter	PR											P	Former Director Flagstaff Hill Maritime Centre, Former HSAC Chair			
Savage, Ira	IS				P					P			Victorian Waders Study Group member - 35 years experience at Mud Islands	1924	79	
Shapter, Colin	CS				a, P	a, P	a, P		P	P			Fisherman, Lengthy family history for area dating back to at least 1865	1913	88	1860s

Name	Code														Description			
Smitt, Dianne	DS			f	m, a						a, P		P		Former Marine Science Labs employee, Father in military, Mother fishing family, Grandparents merchants, guesthouses and market garden	1948	56	1864
Smithyman, Steve	SS												P		Swan Bay Catchment Officer, Extensive management experience and knowledge of sites on Swan Bay foreshore			
Springhall, Colin	CSp			f				P		a					Pilot for 26 years, father in Navy, grandfather undertaker and builder	1912	89	
Staniforth, Mark	MS											P	P		Former Manager Maritime Archaeology Unit			
Strachan, Shirley	SSt												P		Former Manager Maritime Archaeology Unit	1956		
Taylor, Peter	PT												P		MAAV Diver			
Venturoni, Malcolm	MV												P		MAAV / Comercial Diver			
Werry, George	GW		f		a	P			P	a, P	a	P			butcher, then local council - father and grandfather local cartage operators, transferrals from ships at pier, - greatgrandfather was afisherman entitling him to lease crown land on the Flat	1930	73	1863
Wilson, Graeme	GrW											P	P		Parks Victoria Ranger. Local resident and diver			
Wright, Margaret	MW			a	a							P			Heralds from marriage between army and fishing families	1930s		
Yukovic, Geoff	GY												P		PhD on Mud Islands			
Zanoni, Lyle	LZ				a										Fishing family background	1964	39	1860s

Code key:	
P	personal experience
f	father
b	brother
h	husband
m	mother
s	sister
a	ancestral - family tradition/history - any family history from grandparents backwards

Appendix A-4: Overview of Maritime Archaeological Infrastructure Sites Studies

The archaeological record is often over-represented by large official, administrative or mercantile themes (e.g. defence, quarantine, navigation and harbour services, tourism) which have generated often substantial and extensive original structures and networks of sites during their period of use. Many less well historically documented themes, particularly extractive industries (such as fishing), tend to evidence leaner archaeological records, either because they are historically unknown, they are less attractive targets for archaeological research, or because they inherently produce minimal or less durable archaeological records compared to other maritime themes, and as such are sometimes archaeologically unknown. However, if archaeological characterisations of these sites could be developed, they offer potentially rich data resources for often under-investigated and historically invisible industries.

Similarly, shipwreck sites produce extensive archaeological signatures. As these types of sites are often the popular foci of archaeological research, which has further biased the recorded archaeological resource towards those areas high profile sites. Until recently, maritime archaeology's primary research focus has been on the investigation of shipwreck sites. Several researchers (e.g. Cederlund 1999:37; McCarthy 2003) have recognized the potential to widen the scope of maritime archaeological studies through the investigation of maritime infrastructure and littoral zone archaeological sites as an integrated cultural network between the land and sea. Many site based investigations into maritime infrastructure sites have been undertaken worldwide (e.g. Milne and Hobley 1981; Raban 1992), many of which are site specific in nature. However, in recent years with the adoption of a cultural landscape approach to maritime archaeological studies, there has been a growing awareness of the need to examine other types of maritime sites (Aberg and Lewis 2000; Duncan 2000, 2004c).

Ships do not operate in isolation, but connect to the land via piers, jetties, wharves and docks. Many thematic maritime activities exist in any coastal area including health/quarantine, customs, pilotage and navigation services, defence networks, extractive industries and tourism facilities. All these industries have relied on the construction of maritime infrastructure to service and facilitate their activities. For regional maritime archaeological studies to take place, the breadth of maritime sites must be expanded to include all archaeological signatures of maritime activities, and must include seemingly mundane sites such as training walls (McCarthy 1999), ferry crossings and groynes etc.

Although some attempts have been undertaken to document historic maritime infrastructure sites, this field remains largely unexplored in an Australian context outside of studies of piers, jetties and wharves, and some extractive industry sites. No comprehensive list of possible maritime sites had previously been generated within Australia, and it was therefore necessary to predict the range of possible site types that might occur in the study area prior to fieldwork investigation. Several international sources were consulted to determine the possible types of sites that might exist in the study area, including Milne and Hobley (1981); Crumlin-Pedersen (1991); Olsen et al. (1995); Graham-Campbell (1997); McErlan et al. (1998); Aberg and Lewis (2000); O'Sullivan (2001); Dorn (2003); along with various other historical archaeological journals (e.g. SHA; IJNA and ASHA Journals). Several Australian studies of maritime infrastructure were also investigated, including:

- **General thematic maritime infrastructure studies:** Wolfe (1991; 1994); Kenderdine and Jeffery (1992); Kenderdine (1994, 1995a, 1995b); Cummings et al (1995); Duncan (1994, 2000); Barnard (2000); Nutley (2003)
- **Specific thematic maritime industry studies:** *Defence* (Crosby 1975); *Convicts* (Conlin-Cassella and Frederickson 2001; Tuffin et al. 2004), *Fishing* (Bowen 2003); *Pearling* (MacIlroy 1979; Stanbury 1986; McPhee 2001); *Sealing* (Kostaglou and McCarthy 1991; Anderson 1998; Stuart 1998); *Shipbuilding sites* (Orme 1988); *Whaling* (MacIlroy 1979;

MacIlroy and Merideth 1984; Stanbury 1985; MacIlroy and Kee 1986; Kostaglou and McCarthy 1991; Gibbs 1995; Lawrence and Staniforth 1998; Anderson 1998)

- **Specific maritime infrastructure site types**: *Baths* (Drew 1983, Richards and Lewczak 2002; Rodrigues 2002a, 2002b); *Piers/Jetties/Wharves/Associated Features* (Staniforth 1985; Cummings et al. 1995; McCarthy 2002; Davies and Lawrence 2003; Kerr 2003a); *Drydocks and Graving Docks* (Kenderine 1992; Jeffery 1995; Austral Archaeology 2002); *Flagstaffs/ Semaphores* (Orme 1987); *Lifeboats* (Jeffery 1989).

These studies were used to generate a database of potential maritime infrastructure sites types (see Appendix 3.5) that might be found in the area, which was supplemented by the author's later regional studies for Heritage Victoria of maritime infrastructure around Victoria (Duncan, 2003a, 2003b, 2004a, 2004b, 2004d). It has been proposed (at a recent AIMA conference in 2003) that this list now be used as a base to formulate a National Database of Maritime Infrastructure sites along with a standardised glossary of terminology for description of these sites (Duncan 2003a, Duncan and Harvey, 2003). Cederlund (1999:40) has recently recognised the need to characterise these types of sites based on the general, natural and cultural factors that affect them.

Many of the types of potential sites identified had either minimally explored or had not been investigated in previous Australian Studies. Many current maritime infrastructure studies have focussed on high profile sites (fortification, lighthouses, maritime industrial sites – e.g. whaling, ship building, pearling etc). However holistic documentation should also include seemingly mundane sites such as training walls (McCarthy 1999, Duncan 2003a; Nutley 2003), beacons (Silvia and Whall 1999; Duncan 2000), groynes, and moorings (Duncan 2003a, 2004a), which offer further insights into the everyday practices and general modification of the maritime environment. Until recently, underwater remains of maritime infrastructure in Australia beyond those located connected to the coastline (e.g. jetties) have remained widely unexplored. However, this thesis will show that substantial archaeological deposits are generated for many isolated offshore maritime infrastructure sites (both structural and personal artefacts), which have until now (with a few exceptions; e.g. Austral Archaeology and Coroneos 1997) remained largely unaddressed in Australia. Similarly, despite exemplary international studies, archaeological deposits generated from moored vessels (Addams and Davis 1998; Addams 2002) and transient maritime traffic remain largely unexplored.

Furthermore, even well known, large scale sites such as swimming baths have been scantly investigated in Australia (e.g. **Holdfast Bay**; Drew, 1983; Richards and Leewzack 2002; Rodrigues 2002a, 2002b; **Victoria**; Duncan 2003a, 2004a). Given the large numbers of bathers using these facilities, particularly during the late nineteenth and early twentieth century, potentially enormous archaeological signatures are anticipated for these types of sites. Furthermore, associated bathing structures such as bathing boxes, groynes and promenades offer potential glimpses into former historical social and cultural attitudes. Mayne-Wilson (2001) has further suggested that coastal rock platforms swimming pools are also places of social heritage value. Given the importance of Beach Culture in Australian society (Wells 1982), this area offers the potential to gain significant insights into recreational aspects of past societies.

It was therefore clear that new types of maritime archaeological sites needed to be investigated to truly appreciate the diverse scope of maritime activities that were undertaken in the study area. Exploration of these types of sites therefore offered the potential to explore new aspects of maritime landscapes that were previously unaddressed within a maritime cultural landscapes context, but also presented challenges as many these types of sites had not been previously documented, and therefore the archaeological characterisations were not well understood (if at all).

Appendix A-5: Potential Maritime Archaeological Site Types

Maritime Archaeological Site Types		
Acoustic Transponder	Blockship	Coldstores/ Freezer Works
Amenity Block	Boat Builder/ Shed	Communications Cable
Ammunition Dump	Boat Harbour	Compass Adjusting Buoys and Moorings
Anchor - Isolated	Boat Ramp	Corduroy Road/ Track
Anchor - Mooring	Boat Shed	Cottages - used by maritime services
Anchorage	Boiling Down Works - Birds	Crane - outline various types
Anglers/ Fisher man/woman Club	Boiling Down Works - Cattle/ Sheep	Crayfish/ Lobster Coff
Aquaculture Shell Spat Ponds Site - Oysters, Mussels etc - subdivide?	Boom Gate	Crayfish/ Lobster Pot
Aquaculture Shell Accretion Site - Articially Placed Rocks Ceramics Etc to encourage shell proliferation	Boom Net	Crossing - Cattle
Aquaculture - Shell Storage Site	Breakwater	Crossing - Transport
Artifical Island	Bridge/ Bridge Piles	Customs Tent
Artillery Range	Buoy	Customs House
Artillery Range Butts/ Range Markers	Butchers Shops??	Cut/ Gulch/ Engineering Works
Ballast Mound	Cable - Communications	Debris - Scattered
Ballast Pond (used by lighters unloading vessels for maintenance - ballast kept in lighters whilst ship repaired)	Cable - Indicator Loop	Degaussing Range
Ballasting Station	Camping Ground	Dock
Ballasting Pier/Wharf	Camp Site - Prehistoric	Dolphin
Ballast Quarry	Camp Site - Historic	Drydock
Bandstand/ Rotunda	Canal - Lined	Drydock - Floating
Bark Gathering Area	Canal - Unlined	Electronic Eye (Detection System)
Barracks - Defence	Careening Site - Intertidal	Esplanade
Bathhouse Pavillion	Careening Site - AHW	Explosives Anchorage
Bathing Box	Carnival	Explosives Hulk
Bathing Machine	Cattle Crossing - Submerged	Explosives Jetty
Bathing Ship	Cattle Race - Intertidal	Exlosives Pier
Baths - Enclosed	Cattle Race - Terrestrial	Explosives Hulk Site
Baths - Hot Water	Cattle Gantry Crane/Race	Explosives Store/ Powder Magazine
Battery	Causeway - Above water	Fertiliser Works
Beach - Recreational Swimming	Causeway - Submerged	Ferry Landing
Beach House/ Shack	Cemetery/ Graveyard/ Burial Ground	Ferry Route
Beach Shelter	Channel - Natural (Debris from Use)	Ferry Site - Cable
Beachmans/ Lifeboat Lookout Tower	Channel - Artificial	Ferry Site - Rowed
Beacon - Obelisk	Channel - Dredged	Firewood Gathering Area
Beacon - Tower	Church/ Church Spire	Fire Station
Bethel Ship Site	Coal Depot	Fishtrap - Timber
Bird Trap Cairn	Coal Hulk	Fishtrap - Stone
Blacksmith Shop (Floating) Site	Coal Staithe (used to house coal for vessels)	Fish Processing Platform
Blockade Site - Permanent (eg timber/ stone)	Coffin Makers Workshop	Fish Processing Site - Byproduct (shells and scales)
Blockade Site - Sunken Vessels	Cold Store - Ice Bunker	Fisherman's Birdwatching Hut/ Huer's Hut

Appendix A-5: Potential Types of Maritime Archaeological Site Types

Fishermen's Cooperative Building	Infrared Detection Beam	Navigation Mark - Significant Natural Object eg Tree
Fisherman's Hut/ Shack - Recreational	Immigration Barracks	Navigation Pylon
Fishing Platform	Indicator Loop	Net Drying Rack
Flagstaff	Jetsam Trap	Net Storage Shed
Flagstaff Shed	Jetty	Net Tanning Tank
Floating Dock	Kiosk	Observatory
Floating Orphanage Site	Landing	Observation Post (Defence)
Flotsam Trap	Landing Place (unmodified natural location)	Pavilion
Foghorn/ Shed	Landing Stage	Pearling Site
Ford	Leads/Leading Marks(artificial)	Picnic Site
Foreshore Vegetation	Leads/Leading Marks (natural but introduced eg planted pine trees)	Pier
Fort	Leads/Leading Marks - natural (topographic features)	Pillbox
Fuel Storage Tanks	Lifeboat House/ Shed	Pilots Anchorage
Gangway - Plank	Lifeboat Ramp	Pilots Huts
Gangway - Hinged Plank	Lifesaving Club	Pilots Station
Gas Works	Lifesaving Track	Pilots Tent
Goods Shed/ Wharf Warehouses	Lighterage Ground/ Route	Pipe - Water Intake
Grave (isolated)	Lighterage Transfer Point	Pipe - Sewerage Outfall
Groyne	Lighthouse - Terrestrial	Pipe - Stormwater Outfall
Guano Mining	Lighthouse - Pile Light	Pipe Support Piles/ Jetty
Guard Ship	Lighthouse Keepers Quarters	Police Hulk
Gun	Lighthouse Rubbish Dump	Police Station
Gun Emplacement	Lighthouse Rubbish Dump Chute	Pontoon
Gunnery Range - Terrestrial	Lights - Jetty	Port Control Tower
Gunnery Range - Marine	Lights - Pile	Post Office
Gunnery Range - Tampions and Shot	Lightship	Power/ Electricity Station
Habitat (Underwater)	Lime Kilns	Prison Hulk Site
Halfway Hut	Lock	Promenade
Harbour Trust Building	Magazine	Quarantine Station - Animal
Hard	Marina	Quarantine Station - Human
Hatchelling House (Ropeworks)	Midden - Indigenous	Quarry
Haven	Midden - Other	Railway Goods Shed
Holiday Camp	Migrant Hostels	Railway Line - Land
Hospice House (Shipwreck Survivor Hut)	Mill	Railway Line - Wharf/ Jetty
Hospital	Mine	Railway Station
Hotel	Mine Assembly Shed	Reclaimed Land
Huers Hut	Minefield	Reserve
Hulk - Abandoned	Minefield Cable	Resort
Hulk - Breakwater	Monument/ Memorial	Retail Store
Hulk - Jetty	Mooring	Rifle Butts - Terrestrial
Hulk - Offshore Landing Stage	Mooring Post	Rifle Butts - Marine
Hulk - Strafing Target	Morgue	Rifle Range
Hulk - Store/ Building	Natural Resources Sites - Indigenous Plants	Rifle Range Mounds
Iceworks	Natural Resources Sites - Minerals	Rock Pool - Natural
		Rock Pool - Cut Swimming into Rock Platform

Rocket (Spent) - (Lifesaving)	Ship Breakers Yard	
Rocket Shed (Lifesaving)	Signal Gun	
Ropewalk	Signal Station	
Rowing Club	Slipway	
Rowing Club Ramp	Smoking House	
Rubbish Dump	Smuggling Site	
Sailors Rest/ Home	Spoil Ground	
Saltwater Swimming Pool	Spring - Natural	
Saltworks - Boilers	Spring - Tapped/ Piped	
Saltworks - Saltpans (modified environment)	Stranding Site - Accidental	
Sand Groyne - Stone	Stranding Site - Deliberate	
Sand Groyne - Timber	Submarine Net	
Scallop Dredge	Supply Depot	
Sealing Site/ Station	Swing Basin	
Seaplane Base/ Depot	Swing Bridge	
Seaplane Landing	Telegraph Cable	
Seaplane Ramp	Telegraph Cable - Submarine	
Searchlight Emplacement/ Post/ Station	Telegraph Station	
Seawall/ Retaining Wall	Ticket Office	
Seaweed/ Kelp Grid	Tidal Guage	
Seaweed Processing/Exploitation Site	Tidal Guage House	
Seaweed/ Seagrass Gathering Area (Natural)	Tidal Mill	
Semophore Station	Tie Post/ Mooring Stake	
Sentry Post	Timeball	
Settlement	Torpedo	
Shark Enclosure	Torpedo Ground	
Shark Spotting Lookout Tower	Training Wall	
Shipping Company	Tramway	
Shipping Route	Treasure Hunting Site	
Shipwreck Salvage Site	Trepang/ Beche De Mare Processing Site	
Shipwreck Salvage Camp	Tunnel - Access Route	
Shipwreck Survivor Camp	Tunnel - Sewerage	
Shipwreck/ Hulk	Tryworks - Whaling/ Sealing	
Shipyard/ Boatyard	Turning Basin	
Shed - Buoy	Underwater Habitat	
Shed - Coal		
Shed - Delivery	Waiting Shed/ Shelter Shed	
Shed - Mail	Water Supply Depot	
Shed - Fuel	Well	
Shed - Fishermens (Social Gathering)	Whaling Station	
Shed - Fish (Produce)	Wharf	
Shed - Ice	Winch	
Shed - Net	Windlass	
Shed - Shelter	Wreck Bell/ Distress Bell/ Allarm Bell	
Shed - Winch	Yacht Club	
Sheep Dip	Yacht Racing Course	
Sheet Piling		
Shipwreck		
Shipwreck Survivors Camp		
Shipwreck - Looting Site		

Appendix A-6: Memorandum of Understanding/ Informed Consent Form For Project Participants

Memorandum of Understanding

School: Anthropology, Archaeology and Sociology

Project: Cultural Seascapes: An Investigation of the Application of a
                 Cultural Landscapes Approach to the Maritime Archaeology of
                 Bass Strait

Chief Investigator: Brad Duncan

Contact Details:

Description:
This project is investigating how former maritime use of Port Phillip Bay might be
expressed in people's perceptions of the area, and physical remains left over from those
past activities. The project aims to provide a holistic view of how previous maritime
utilisation of the area shaped subsequent use of the region.

The chief investigator will accompany past informants to a number of underwater sites
to identify and examine the archaeological signatures of those sites. Any participants in
these visits are asked to read and sign the following memorandum of understanding. .

MEMORANDUM OF UNDERSTANDING
This project is an archaeological project, and as such, will be run according to accepted archaeological principles and practices. I understand that due to archaeological, ethical, and administrative constraints imposed upon the chief investigator, no artefacts will be raised during any fieldwork component of this project. I also understand that the chief investigator is legally obliged to report any artefacts that may be raised in the course of this fieldwork component of this investigation. I therefore acknowledge that I will abide by these conditions when participating in any fieldwork investigation conducted as part of this project.

Name: (printed)
Signature: **Date:**

WITNESSED BY THE RESEARCHER

Name: (printed)
Signature: **Date:**

JAMES COOK UNIVERSITY

TOWNSVILLE Queensland 4811 Australia Telephone: (07) 4781 4111

INFORMED CONSENT FORM

SCHOOL : *Anthropology, Archaeology and Sociology*

PROJECT: *Cultural Seascapes: An Investigation of the Application of a Cultural Landscapes Approach the Maritime Archaeology of Bass Strait*

CHIEF INVESTIGATOR: *Brad Duncan*

CONTACT DETAIL: *47 815822 (QLD) / Mobile 042119 7668*

DESCRIPTION:
This project is investigating how former maritime use of Port Phillip Bay might be expressed in people's perceptions of the area, and physical remains left over from those past activities. The project aims to provide a holistic view of how maritime utilisation of the area shaped subsequent use of the region.

Participants will be asked to recount either:
Past reminiscences of the effects of maritime events on the area- and/or
Their personal perceptions of the region.
OR: Personal knowledge of underwater artefact material in the Port Phillip Bay region.

CONSENT

The aims of this study have been clearly explained to me and I understand what is wanted of me. I know that taking part in this study is voluntary and I am aware that I can stop taking part in it at any time and may refuse to answer any questions. I understand any information regarding the location of shipwrecks and their artefacts can not legally be held confidential by the interviewer, and this legislation has been explained to me.

I understand that any information I give will be kept strictly confidential and that no names will be used to identify me with this study without my approval.

Name: *(printed)*	
Signature:	**Date:**

WITNESSED BY RESEARCHER OBTAINING CONSENT

Name: *(printed)*	
Signature: *(Principal Investigator)*	**Date:**

Campuses at -	TOWNSVILLE	CAIRNS	MACKAY
	(07) 4781 4111	(07) 4042 1111	(07) 4957 6048

Appendix A-7: Submerged Sites Inspected During Fieldwork

Coles Channel Pile Marker
Duck Island Pier
Geelong Lightship Site
Gellibrand Point Pile Light (Melbourne)
Hobson's Bay Anchorage (Melbourne)
Hobson's Bay Ballast Mound (Melbourne)
J3 Submarine/ *S.F.Hersey*/ Unidentified Shipwrecks, Swan Island
Kakariki Ship-breaking Site (Melbourne)
Marie/ Dumfries Stranding Site, Swan Spit
Mud Islands Pier Site
Popes Eye Annulus
Pt Lonsdale Sand Groynes
Pt Nepean Quarantine Station and associated sites
Pt Nepean Ammunition Pier
Pt Nepean Reef Yard Arm
Pt Nepean Quarantine Cattle Jetty
Queenscliff Bight Baths Site
Queenscliff Fishermen's Pier Site
South Channel Fort
South Channel Pile
SS Barwon Stranding Site (Lonsdale Bight)
Swan Bay Fisher's Slipway
Swan Island to Duck Island Underwater Causeway
Swan Spit Mines
Swan Spit Pile Light
Tip Island Underwater Causeway
Trusty Stranding Site, Pt Nepean
West Channel Pile Light
West Channel Unidentified Rudder
West Channel Lightship Anchors
West Channel Artefact Scatters
West Channel Debris Field

Appendix A-8: Explanation of the GIS Geo-referencing Process and Database Structure Table

1) Overview

An innovative GIS methodology that utilised some similar aspects of Mather and Watts' (1998) methodology was independently developed by the author as the strategy for predictive analysis of archaeological sites in the study region. Historical cartographic sources were overlaid onto modern primary cadastral, hydrographic and aerial image coverages (using a common GIS process called geo-referencing), whereby the location of common permanent geographical feature points in each image are matched from the historic map to the modern GIS coverage, or the historic feature locations are assigned a known modern geographic coordinate based on a modern projection and datum (or a combination of both steps). An algorithmic process then transformed (or geo-referenced) the historic map into a modern projection system to create a new GIS image coverage of the historic map source (see Figure A-8.1). Potential archaeological features were also identified in geo-referenced historic aerial photographic coverages using the same process. The resultant GIS image coverages were digitised (electronically traced) and relevant information entered into an attached database, enabling the actual geographical coordinates for former historical feature locations (such as maritime infrastructure sites and environmental coastlines) to be extracted from the GIS. The positions of the historic sites were then relocated with a GPS (satellite navigation) unit and ground-truthed to determine the existence of archaeological sites which were discovered at these locations. This process further aided comparison of historical feature locations with contemporary behaviour (outlined in oral histories) to investigate potential archaeological site signatures, along with the exploration of the effects of changing environmental conditions on maritime activities.

Numerous primary cartographic data sources (as outlined above) which evidenced different maritime thematic infrastructure were scanned using a large format scanner, and the image was geo-referenced, enabling the extraction of their current geographical positions to aid in fieldwork inspection planning and potential site identification. This process also worked in reverse, where archaeological sites were identified by their correspondence to sites known from historic maps (Duncan 2002). The modern aerial GIS coverage was used to identify potential archaeological features to be investigated, and several visible features (both under and above water) from this coverage proved upon inspection to be archaeological sites. It also enabled the sites identified from geo-referenced historic maps and charts to be overlaid over the aerial imagery, allowing better interpretation of relocated ground features. Although some GIS coverages were only available in different projections, extracted data was converted to a common co-ordinate system (AMG, AGD 1966) to allow the results of all data extracted to be viewed concurrently.

Although it is acknowledged that inaccuracies caused during the map printing process and later physical distortion of the chart map may have occurred (through stretching/ shrinking of the map fabric), the method produced tangible results for relocating actual archaeological sites of historic infrastructure and past landscape use, with accuracies of up to +/- 1 m using cadastral GIS coverages (approx 1:10 000 scale) as the base geo-referencing coverage, and +/- 5 to 20 m using Hydrographic GIS charts (1:25 000 – 1:37 500 scale). The process also worked conversely, where newly identified archaeological site coordinates could be overlaid onto the geo-referenced historical chart coverage to assess their association to former known sites. Even though the accuracy produced for underwater sites was not as exact as those on land, it enabled the size of search area to be dramatically reduced, which is a key factor for relocating

submerged sites given the time/budgetary constraints associated with diving activities. The GIS Hydrographic Chart coverages were initially used to geo-reference all cartographic sources, but was notably problematic for converting terrestrial maps due to the deficient (and sometimes inaccurate) level of detail on the source GIS layer for land based areas. This problem was solved by using a local cadastral GIS layer (from DNRE) which enabled more accurate overlays of large scale terrestrial historical maps in coastal foreshore regions. Miles have been used as the standard unit when producing maps for this study, as this was the common unit used by informants when describing distances, the only exception being when archaeological sites have been surveyed (when metre measurements were adopted for larger scale sites).
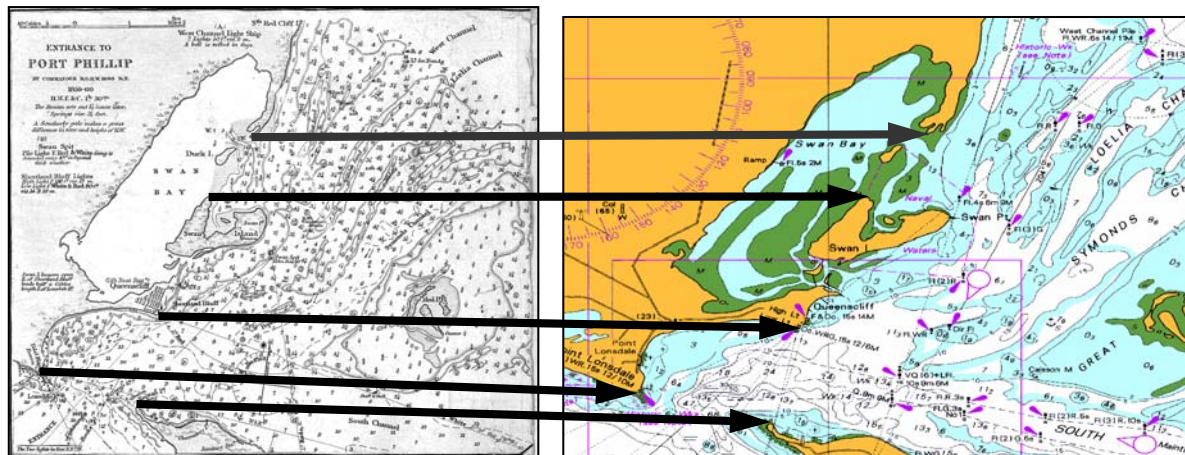

Figure A-8.1: Example of the geo-referencing process, where historic charts (left) are assigned modern geographical coordinates from Hydrographic GIS databases (right). (Note: The ground points used here are for illustrative purposes only, as some are not permanent points)

This method has been used by other archaeological and historical studies to identify former use of a planned excavation area, or to document the accumulated history of a given region (eg Johnson, 2003), but it is possibly the first time (to the author's knowledge) that it has been used to physically identify and locate potential underwater archaeological sites. The method has since been successfully applied by the author in numerous other projects around Victoria, with similar success (Duncan, 2002, 2003a, 2003b, 2004a, 2004b), and by Souter (2003) when using historic aerial photos to identify the location of aircraft wrecks at Broome.

This study employed the method of time slice analysis, where the differences in a sequence of geo-referenced historic maps and charts were examined to analyse changes in channel and shoreline geomorphology of Queenscliff and Port Phillip Bay to identify the effects on maritime coastal use and the probable location of maritime archaeological sites.

2) Problems with this Approach

The problems of using different scale charts together has been well documented, and of course is a factor that has introduced error. However, where possible GIS coverages were produced at a similar scale in the geo-referencing process. Given the detailed knowledge of the underwater environment by both divers and mariners, charts of a larger scale would enable more accurate pinpointing of location of specific landscape features as the hydrographic charts used often generalized or omitted some underwater features. These were not readily accessible for the study area, although some localized bathymetry charts were accessed through the Marine Science Laboratories (1:5000), these contained too much detail, were confusing when plotting regional level detail, and were too large to use in the survey. Ideally, charts of a scale of approximately 1: 10000 – 15000 would be ideal for the survey for plotting large scale detail, but were not available. Despite this, many features identified by informants were locatable and the

accuracy of positions extracted from the charts was usually within (or under) 20-30m of the target, which dramatically reduced the search areas required underwater.

GIS: Scale and cartographic sources

The problems of using different scale charts together has been well documented, and of course is a factor that has introduced error. However, where possible GIS coverages produced at a similar scale in the geo-referencing process. Given the detailed knowledge of the underwater environment by both divers and mariners, charts of a larger scale would enable more accurate pinpointing of location of specific landscape features as the hydrographic charts used often generalized or omitted some underwater features. These were not readily accessible for the study area, although some localized bathymetry charts were accessed through the Marine Science Laboratories (1:5000), these contained too much detail, were confusing when plotting regional level detail, and were too large to use in the survey. Ideally, charts of a scale of approximately 1: 10000 – 15000 would be ideal for the survey for plotting large scale detail, but were not available. Despite this, many features identified by informants were locatable and the accuracy of positions extracted from the charts was usually within (or under) 20-30m of the target, which dramatically reduced the search areas required underwater.

3) Structure of GIS Database

Feature Name	Name of Feature/ Area
Feature Type	eg anchorage/ fort/ quarantine station/ jetty/ wreck etc
Artefact	type of artefact: eg bottle/ wreckage/ wreck/ pile/ gun/ groyne
Fabric	timber/ iron/ ceramic/ glass etc
Artefact - Alcoholic?	y/n
Thematic category - (multiple fields assigned here) - eg defence/ fishing/health/ navigation/ tourism	y/n
Source	who/ what/ when
Source Type	archaeological/ historical/ oral history etc
Date - Interview	
Archaeological - Inspected by Author	y/n
Source inspected- archaeological (seen by informant?) / historical	a/h
Origin of artefact/s - International	y/n
Origin of artefact/s - Interstate/ Colonial	y/n
Origin of artefact/s - Local	Intra Bay - Melbourne/ Geelong/ Mornington etc
Date Historical - Begin	
Date Historical - Range	
Date Historical - End	
Location (Easting)	
Location (Northing)	
Comments	
Hotlink file location	Tree directory location for associated image/ table/ document

Table A-8.1: GIS Database Table Setup.

Appendix B: Selected Historical Data

Appendix B-1: Abbreviated History and Significant Sites of Swan Island

1) History
A) Pastoralism

Swan Island was first to grazie cattle and sheep in 1845, but by the 1860s its pastures were used pasture for breeding mares to foal. A series of cattle and dairy stations were later undertaken on the island, but rabbit damage to the paddocks ended these ventures. The island was also a popular location for rabbit shooting in the 1870s. (Thomson n.d.:1; Dod 1931:26-7).

B) Fishing

Several fishermen occupied the Island from the 1860s-1879, until displaced when the military compulsorily acquired the island in 1879 (Thompson n.d.:1; Dod 1931:26-7). Up until this time, fishers used Stingaree Bight as a safe anchorage in southerly gales (Dod 1931:27), and this practice was allowed to continue until the base was taken over by the army in 1960 [LID]. Another local resident of Swan Island, George Pigdon, who lived at Point Norgate (Swan Island) where he moored his boats. Pigdon was engaged in fishing and rabbiting around the island. According to a number of oral histories, he cut a channel along the northern edge of Pt Norgate so he could safely moor his boats, and also built a small pier [CA; GW].

Fishers also used the eastern foreshore beach of Swan Island as a careening area until the opening of the Cut in 1935. Fishing boats were hauled ashore in this region on greased blocks, where they were recaulked and maintained [CS].

C) Swan Island Defences

War in the Crimea in the 1850s heightened the need for an adequate defence network to protect Melbourne from possible invasion by Russia. Despite a recommendation by General Sir John Burgoyne to a Commission in 1858 for defences to be stationed at the Heads, the distance across the Rip exceeded the capabilities of that generation's guns, and the Commission decided to fortify Hobson's Bay instead. By 1860, the Victorian Government requested expert advice for planning its harbour defences, and Captain Scratchley was appointed for the next 4 years to complete the task. Although he advised the installation of a four gun battery on Swan Island in 1860, works were carried out at Queenscliff and Hobsons Bay. The passing of the Colonial Defence Act in 1865, led to the purchase of the armoured monitor class battleship Cerberus in 1871 and a general increase in defence facilities across Victoria. In 1867, a Victorian representative to London (Verdon) began discussions with Colonel Drummond Jervois (Deputy inspector General of Fortification in Great Britain) as to how to best fortify the Victorian coastline. When Scratchley and Jervois arrived in Victoria in 1876 to provide advice during the Russo – Turkish War, they first proposed a fortress and submarine mining depot for Swan Island (Jervois 1877). Their plans were modified in 1879 due to technological advancements in battery ranges associated with the introduction of the 10" Armstrong guns. A fortress and torpedo depot were planned at Swan Island, with minefields across the inner harbour channels to control any enemy shipping that evaded network of Heads defences at Fort Queenscliff and Nepean (Jervois 1879; Anon.1993a:1-4). Although Swan Island was purchased in1879, a reduction in international tensions led to little work being undertaken over the next 3 years (GA 18/10/1879).

Work on construction of the Swan Island Fort was well underway by 1882. The fort consisted of embankments on 3 sides, along with two powder magazines, two guns mounted in the eastern section, a laboratory, gun shed. A five sided large earthen keep mound provided protection

against a terrestrial landing assault. The facility was accessed from Queenscliff by a horse drawn trolley tramway (6 miles long), which was built by Public Works Department contractors. Other works undertaken during this period included the erection of a torpedo boat shed, cable pond, barracks, stockade around the fort, submarine mine stores and extension of the jetty. The facility was lauded as being the most formidable fortifications in the southern hemisphere (QS 23/12/1882; VPRS 2143; Anon.1993a:5; Raison 2002: 25).

The bombardment of Alexandria led to radical changes in fortress design, where increased protection from artillery and camouflage were given precedence. Earthworks and 5" HP disappearing guns were installed at Swan Island Fort by 1883 which provided further protection for the battery crews. The fort was officially completed by 1884 in time for another war scare associated between Russia and Afghanistan, but works continued until 1887 (Kitson 1987: 1.1, 2.1, 6.4, 6.5, 6.6). By 1886, the Heads defence system was finished, complete with electrical mines operated from South Channel Fort (Noble 1979:106; Kitson 1987:2.2). By 1888, a garrison detachment of Artillery was stationed at Swan Island (Anon.1993a:9). Tenders for the construction of several gun emplacements at Swan Island were advertised in 1890 (QS 15/2/1890), and tenders for four primer pits associated the defences were accepted in 1893 (QS 18/3/1893).

Several new defence vessels were commissioned as defensive technology evolved. With the introduction of the propelled Whitehead torpedo in 1877, torpedo boats were developed to deploy these devices. In 1884, a number of torpedo boats were purchased for the Victorian Navy, including two second class 12 ton torpedo boats, (*HMVS Lonsdale and Nepean)*, a first class torpedo boat of 75 tons in 1891 (*HMVS Countess of Hopetoun*), a 60 ton torpedo boat (*HMVS Childers*), two heavy gunboats (*Albert* and *Victoria*), and turnabout torpedo launch named *Gordon* (Noble 1979:99). A naval depot was established at the north end of Swan Island in 1887, which provided facilities to compress White head torpedoes and berthing for the torpedo boats, and a harbour refuge was situated close by (Anon.1889:12). The vessels all played active parts in the annual Easter War Games held at Port Phillip Heads, where mock battles were staged to test the colony's defences, and were all strategically anchored around the entrances to the channels, to prevent the entrance of any warship (A11, c.1889; Anonymous 1889 [plan]; HCW, c1939 [plan]; Noble 1979:100). This facility was shared with the Military Torpedo Corps (see below).   Nordenfeldt Machine guns and quick firing cannons were later introduced to the Victorian Fleet and forts (including Swan Island) as a countermeasure to enemy use of torpedoes against them (Nicholls 1988:189).

Minefields were an important defence strategy for the early defences of Port Phillip. Three types of mines were I service around the 1880s, but only two were used in the Bay. Observation (or dormant) mines were positioned in lines on the seabed at various depths in the channels, and their charges were manually detonated via an electrical circuit switch from either the Swan Island or South Channel Forts when enemy ships were sighted passing over them. Later developments saw the installation of range finding stations linked to the detonation circuitry. Electro contact mines had a smaller case with a contact sensitive circuit breaker suspended over the top of the main charge drum. When the circuit breaker was tripped by contact with passing shipping, an alarm was sounded in the Test Room at the South Channel Fort, and personnel could assess if it was an enemy contact before deciding to detonate the mine (Kitson 1987:3.1, 2). A submarine cable was installed between Swan Island and the beacon, via Popes Eye Fort to Observatory Point by 1897 and was shown on charts until at least (Yule 1897:436; Chart 1171A [updated 1902]), Cox 1864 [updated 1903] [charts]; and was used to help control and defend the minefields.

From 1878 – 1882, the naval controlled Torpedo and Submarine Corps disbanded and were replaced by the Military Torpedo Corps. In 1884, the Swan Island Submarine Mining Depot commenced operations at Swan Island, and the launch *SS Miner* was obtained for the Permanent Section Torpedo Corps in 1890 (Anon.1993a:15; Tate 1982:61). Submarine mining practice was

regularly undertaken on the northern western extremity of Swan Point from at least 1890 -1907 (QS 29/3/1890; 7/4/1900). By 1907 (Hydrographic Office Admiralty), sailing directions listed a submarine mining practice area had been established on the eastern side of Swan Island.

Swan Island became Commonwealth property with Federation in 1901 (O'Neill 1988:52)

A new rifle firing range was built at Swan Island around 1907 (QS 19/10/1907), and was located just north the golf course. A track was constructed from the second bridge at Swan Island to the rifle range, which could serve as an extension of the Swan Island tramway line, and an underground telephone cable was also installed between each rifle mound and the target butts (QS 30/11/1907). The rifle range was constructed by Royal Australian Artillery, and was to be used by the Queenscliff Rifle Club, whose numbers were dwindling due to wont of a practice range (QS 29/2/1908). The construction of the Queenscliff Golf Club at Swan Island around the same time, led to notices that golfers used the course during rifle practice at their own risk (QS 14/3/1908). It was finally opened in June 1908, and provided range firing from 200 to 1000yards distance, telephone communication between all the butts and Fort Queenscliff (QS 13/6/1908; 21/11/1908). The range was a popular location for shooting practice for troop sports days from Fort Queenscliff in the late 1920s (Tate 1982: 144). The range was being used by the Royal Australian Engineers by 1909 (QS 22/5/1909), but it appears that the range was not open to the public until 1910, when it was first used by the Queenscliff Rifle Club (17/9/1910).

In 1909, the Swan Island Fort Battery was dismounted and handed over to the Navy after the Fort became obsolete with the introduction of longer range guns at Nepean and Queenscliff (QS 13/6/1909; Tate 1982:88,112). Recommendations made in 1911 to replace mines with submarines contributed to the decline of the Swan Island Mines Depot, which eventually led to the reassignment of these troops to manning searchlights around Queenscliff (Anon.1993a:35-6). In 1912, a proposal was raised by the Queenscliff Council that a Naval Base be stationed at Swan Island, in opposition to another proposal at Western Port (QS 11/5/1912). By WWI, the mines depot was on the verge of shutting down, but was used as a training facility, military camp and support base for the *Countess of Hopetoun*, which was Port Phillips principle defence vessel (Anon.1993a:37). The *Countess of Hopetoun* was used as pier and breakwater at Swan Island in 1924 (Foster 1987:39).

After surplus WWI mines were donated to Australian Naval Board by the Admiralty in 1919, the RAN officially took possession of the Island in 1922, although the army retained control of the western rifle range and access rights to the pier. Mine assembly / explosives store sheds were constructed at the north east corner of the island by the 1920s (Anon.1993b:1-4, Appendix 6; Thompson n.d.:8). Later, as these mines became redundant, their charges were removed from 1922 onwards (which were used for blasting in Channel Deepening in the 1920s and 30s), and the cases were used for incinerators across the Bellarine Peninsula, and as coastal erosion prevention along Swan Island (Anon. 1993b:4, 5, 20; [JP]). Timber sand groynes were also installed near the mine assembly to retard erosion [LID].

When the J class submarine fleet was decommissioned in 1922, the J3 was acquired to act as a deepwater jetty and emergency power supply for the island. A rail and crane were extended to the hulk, which provided an 18ft deep berthage at high water in The Swan Island Channel. By 1923, the hulk of the *S. F. Hersey* was stripped and placed close to the submarine to provide a deep water channel (15ft at low water) for loading mines into mine laying vessels, but was quickly became redundant (Anon. 1993b:13-6).

During WWII, Swan Island was heavily involved with the assembly of mines for the war in the Pacific. Mine cases were manufactured at the Geelong Ford Factory, and the detonators and explosives in Maribyrnong, and the units were assembled in sheds near Swan Point. Local civilians were employed for this purpose to supplement the military personnel (Anonymous 1993b:24, 25: Duncan 2004).

Following WWII, the island base functioned predominantly as a mine storage and explosives depot from the 1940s -50s, and the vast explosives stores were gradually transferred to the HMAS Woomera for dumping in Bass Strait throughout the late 1950s. By 1960, the mine depot was scheduled to close, having been made redundant by the impending opening of the Point Wilson Explosives Pier. The base was transferred to the Army in December 1960, which has since used it as a training area (Anonymous 1993b: 35, 39).

D) Golf Course

I)   Swan Island Rabbit Proof fences # 1 & 2

The Swan Island Golf Club was conceived in 1907, and was completed by 1908 (Anderson 1984:9; Anonymous 1993a:Appendix 8). The nine hole course was expanded to 18 holes by Cecil Anderson in 1961 ([CA], Thompson n.d.:2). Many fences were installed to prevent rabbits destroying the turf (Anderson 1984:9).

E) Navigation

I)   Swan Point High Beacon

A beacon was noted on Swan Island as early as 1843 (Stokes 1843 [chart]). The 50ft high iron cone shaped structure was used in conjunction with the Low Light Tower as an eastern open lead to clear Pt Lonsdale (Ferguson 1854:10; Burdwood 1855:121; Ross 1859 & 1860 [chart]). A replacement beacon had been installed by 1858 (Notices To Mariners, VGG 1858:1135), and was listed as white mast surmounted with a red top on the southeastern extremity of the island in 1868, and was used in conjunction with the Shortlands Bluff cliff face to clear Lonsdale Rock (GA 17/5/1875; Yule 1868:215, 1884:313). It was replaced in 1875 by an 80ft high conical tower made of red gum and oregon that was constructed in Williamstown, and was taken to the site on the 11/5/1875 (GA 17/5/1875). By 1898, it had been extended to an 80ft high white beacon (probably to replace the Swan Spit Pile Light), surmounted with a red cone and ball, and was used in conjunction with the High Lighthouse on Shortlands Bluff to lead clear of Lonsdale Rock (Yule 1898:436). By 1907, the beacon was replaced with a 60ft high tubular steel structure 60ft high, painted white with a red top (HOA 1907:432). By 1913, the Swan Island Beacon had been replaced by a steel framework beacon with sloping sides, surmounted by a staff and globe, and retained its previous colours (HOA 1913: 31). By 1955, a new 22m high steel framed beacon (with white slatted front and red disk top) was placed on the original site, with a triangular walled enclosure on the cope on which was a hut was built (PHB 1959:201).

II) Swan Point Low Beacons

Two beacons were located 300ft apart at the extremity of Swan Point in 1858. The northern beacon was red, and the southern black, both cone shaped with a ball over the top. These beacons were used as marks to clear the knoll in the West Channel, and bore from each other E by S and W by N (NTM VGG 22/6/1858:1134)

III)   Swan Spit Lights

The first Swan Spit light ship was installed sometime between 1855 and before 1860 (Burdwood 1855:124) to delineate the bank of the Swan Spit. This light was replaced by a pile lighthouse in 1860, which stood in four metres of water (Noble 1979:47). The timber lighthouse was built upon piles on the SW end of the Swan Spit in 15 feet of water (VGG

15/1/1861:77). By 1868, the timber lighthouse exhibited both white and red sectors, with the latter indicating the entrance to the West Channel, and a fog gong was fitted (Yule 1868:216). The pile light was destroyed in 1881 by the vessel *Omeo*, which when drifting in calm weather completely demolished the structure (Yule 1884:313; Dod 1931:28).
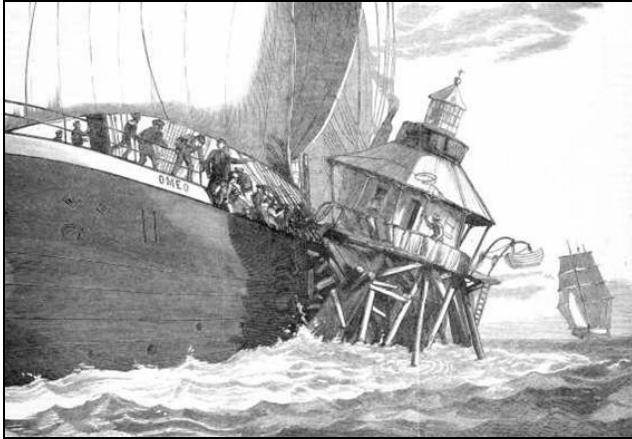

Figure B-1. 1: Vessel *Omeo* Collision with the Swan Spit Pile Light (IAN 5/10/1881, SLV Collection).

A new lightship replaced the former pile light, and was moored one cable ENE of the lighthouse site near the position of the black buoy. A fixed red light visible for 8M was exhibited and a gong was sounded every ten minutes in foggy weather (Yule 1884:314).

A replacement circular iron lightship began duty on 12th September 1887, and continued at this site until 10th October 1894, when it was moved to take up station at Point Gellibrand near Melbourne (COPW 1888; Gibson 2000:8; Noble 1979:47).

F) Wrecks and Strandings

A number of wrecks and strandings have occurred at Swan Spit and Point, including the *Marie*, *Dufries* and *St George* (GA 16/11/1853; MMH 16/11/1853, 31/12/1852). These vessels were carrying luxury goods cargos associated with the Victorian Gold rush (Williams and Searle 1963).

2) Archaeological Deposits

A) Swan Bay Rabbit Proof Fence #1/ Swan Bay Rabbit Proof Fence #2

These fences were installed as part of the original fencing around the Swan Island Golf course in 1907 (Anderson 1984:9). The fences were designed to prevent rabbit access to the golf course. Fence #1 consisted of at least 6 circular timber piles (approx 10cm diameter and up to 1m high) spaced approximately 3m apart extending at least 15m past the high tide mark. Fence # 2 to is 85m long and consisted of tightly spaced timber posts up to 1m high which extend 35 m past the high tide mark into the water.

B) Swan Island Rifle Range Butts

The remains of earthworks and rifle range butts are still extant on Swan Island [CA; LID]. An earthen embankment 23m long x 5m wide runs perpendicular to the shoreline, and contains 4 sets to extant target butts (2m high) on the northern side. The canvas targets would be raised into position via an iron pulley system on each side of the timber supported poles. The timber remains of a possible flagstaff pole are located approximately 5m to the west on the shoreline, with an extant timber telegraph pole and small brick scatter located 6m to the south. Further south along the foreshore lay the remains of an iron framework possibly used to support the butt targets. Another extant timber telegraph pole (possibly associated with communications along the butts) was located 275m along the foreshore to the north east.

C) Pigeon's Gutter and Tie Posts

Pigdon's gutter is evident in aerial photographs of Swan Island (Photo 39w059, Photo Mapping Services), and runs for a distance of 350m from the eastern edge of the Pt Norgate to Duck Island Bank. A number of rectangular and circular section posts were discovered at the northern extremity of Pt Norgate, at the western extremity of Pigdon's Gutter spread over an area of approx 200m. Two sets of paired rectangular section timber posts, with the piles of each pair spaced 25m apart, were probably used as tie posts for a fore and aft boat mooring. The remains of an iron post stump and square sectioned timber post were found at the eastern and western sections of the site (respectively) and may be associated with the former pier known to exist in this region. Several black glass alcoholic bottles tentatively dating to c 1880s were scattered around the site.

D) Stingaree Bight Fishermen's Anchorage

The Queenscliff fishing fleet anchored in this area during southerly gales since at least the 1860s until Swan Island was closed to civilian traffic in the 1960s. Large archaeological deposits are anticipated on the seabed in this area.

E) Swan Island Torpedo Depot/ Naval Base and Torpedo Boat Anchorage

This area has not been inspected, as access clearance is required by the Swan Island Military Base. However, local divers have located an extant post in this area that may have been associated with the torpedo boat moorings. The area lies close to #3 green pile (Swan Point), and has a rock and mud bottom, with a low rock shelf. Black alcoholic and beer bottles dating to the 1850s -90s were produced by predominantly English manufacturers [PF].

F) Swan Island Naval Anchorage #2 (for Gannet, Victoria, Batman)

This large anchorage for the *Gannet*, *Commissioner* and *Victoria* was located approximately 1km offshore from Swan Point (A11, c.1889 [plan]; Anonymous 1889; HCW c.1938 [plan]).

Many bottles (predominantly aerated water, torpedo and lemonade bottles from Melbourne and Geelong) were found concentrated in this naval anchorage area by local divers. The deposits were concentrated in a 360º circle around a mooring anchor and chain which formerly served as a special mooring buoy [DL; PF; SA].

G) Will o The Wisp

This vessel was surveyed by Heritage Victoria in 1995. The ship carried a cargo of timber bricks and potatoes when it went aground in October 1853 (Williams and Searle 1963: 13).

H) J3 Submarine/ S.F.Hersey/ Mystery/ Swan Island Mine Cases/ Swan Point Groynes/

The *J 3* submarine lies intact in about 4m of water 100m offshore from Swan Point. The remains of the *S.F. Hersey* approximately two metres off the north eastern side of the submarine, with a large gutter (up to 2m deep) scoured out between both wrecks. This timber wreck consists of two large sections of robust frames (approx 30cm square) and planks (up to 60cm wide) which are evident for a length of 30m and which are partially buried under sand. A scatter of 38 iron spherical (approx 1.5m diam) and barrel mines (approx 1.7m long) were located on the southern side of the submarine.

The remains of an unidentified timber framed vessel were located under spherical mines at the north western edge of the mine scatter. This wreckage may be the remains of the *Mystery*. Ferrier has reported locating a ceramic toilet, blue torpedo bottles and a 2m long stockless anchor close to this area which he maintains is from the same wreck. Foster (1987:13, 97) records that the hulk of this wreck was used as a breakwater at Swan Island in 1922, but broke apart in a storm, which concords with a local oral histories that the wreck was sunk to provide a solid underwater base for the *J3 Submarine* [PF].
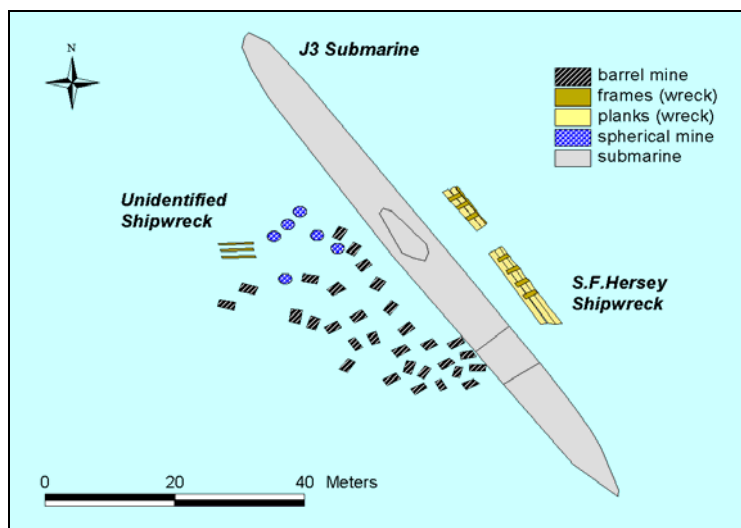
Figure B-1. 2: Sites at Swan Point: J3 Submarine, S.F. Hersey, Unidentified shipwreck and discarded mine shells.

Local divers have reported another mine scatter (of up to a dozen mines) in a gutter (within 50m) to the north of the submarine [DL; PF]. It is probable that the mines were either discarded offshore when their explosives were removed in 1920s/30s, or more likely to be empty shells used to stop coastal erosion in this area (Anon.1993b:4, 5, 20). Underwater timber groynes reported close to the bow of the J3 which run perpendicular to the shoreline [PF] also probably date to this period.

I) Stranding Site (Possibly the Marie or Dumfries)

Many local divers have reported large concentrations of underwater artefacts in an area approximately 600m offshore. Most artefacts in this area of are French origin, and include wines, cognac, vinegars, fish paste, perfume and other French luxury goods, ceramics, and other shipboard items. These finds are consistent with the cargoes carried by the vessels *Marie* and *Dumfries*, both of which discharged large amounts of their cargo when they stranded on Swan Point sandbank. An inspection of this area in 2002 revealed scattered increasing concentrations of broken ceramics. The *Dumfries* was stranded in 1840, and the *Marie* in November 1853. Other stranding sites are anticipated in this area (Duncan 2006)

J) Swan Island Bight Dumping Ground/ Swan Island Bight Skull

Large concentrations of artefacts have been reported from 250 to 800m offshore from the Swan Island Fort from the *Countess of Hopetoun* Hulk to the *J3* submarine. Relics included alcoholic and aerated water bottles (both glass and stoneware), mine calibration devices (used to set the mine), ceramics, and a metre high pile of surplus of knuckle dusters marked with the government broad arrow [DL; PF; SA; TA]. [DL] has suggested that this may be either an offshore dump used by the military, or the remnants of a terrestrial rubbish tip that was washed away with coastal erosion. A skull found by Love in this area in the 1980s was donated to the Queenscliff Historical Society, and probably originated from a shipwreck or drowning victim.

K) Countess of Hopetoun/ Swan Spit Bight Groyne/Swan Island Beacon

The remains of the *Countess of Hopetoun* Peter lie alongside a partially buried stone jetty approximately 100m south west of the Swan Island Fort. The jetty extends 100m offshore. These facilities were installed to act as both a jetty and breakwater to prevent further coastal erosion near the fortress in around 1924 (Ferrier 1991:5; Foster 1987:39). The remains of a collapsed concrete beacon (the Swan Island Beacon) lie on the eastern side of these structures in shallow water. The remains of a rudder (possibly from the Dumfries stranding) has been reported directly (approx 50m) offshore from the beacon. Anti tank landing iron and an ammunition bunker have been observed on the foreshore directly behind these structures [PF]. Further investigation is required of these sites.

L) Swan Island Fortifications/Swan Island to Pt Nepean Communications Cable

Swan Island fort is substantially intact, and is currently used the Australian Army for training [LID]. This is a restricted military zone, which has prevented prior inspection of the site.

A submarine cable was installed between Swan Island and the beacon, via Popes Eye Fort to Observatory Point by 1897 and was shown on charts until at least (Yule, 1897:436; Chart 1171A [updated 1902]), Cox, 1864 [updated 1903] [charts]; and was used to help control and defend the minefields. This cable ran offshore from Swan Island near the fort, and proceeded to Popes Eye. The copper cable has been sighted by numerous divers, especially where it crossed through the *Gambier* Shipwreck. The cable was also often caught by anchors of small boats using the area [DL; LID; PF; SA].

M) Swan Island Bight Wreck

A wreck lays approx 300 m off the foreshore midway between the J3 and the Countess of Hopetoun [PF].

N) Swan Island Bight Wreckage

Scattered wreckage has been sighted approximately 300m south west of the J# submarine extending over an area 300m long parallel to the shoreline about 100m offshore [PF]. [DL] described the wreck as "a side of a ship. There are planks, possibly from the side of the Lady Harvey. You drift with the current up the channel and you'll find two 10ft lengths of wreckage".

O) Swan Island Bight Wreckage #2

Parts of a broken up vessel have been reported by [PF] approx 1km south east of the *Countess of Hopetoun* spread over an area of approximately 300m radius

P) Swan Spit Anchor and Chain

A large admiralty anchor and chain lie approximately 1.5km south east of the Countess of Hopetoun. [PF] has suggested that these relics may be associated with the former- possible mooring for Swan Spit Lightship, which once located close to this site.

Q) Swan Spit Pile Light

The remains of the Swan Spit Pile Light lie at two distinct locations approximately 200m apart. When the light was hit by the Ship *Omeo*, the top section containing the accommodation quarters and the light were carried about 200m before it fell to the seabed. Artefacts located from this site included lead roofing gutters and downpipe; handrails, and personal effects. The rest of the pile light is scattered over a 20m area concentrated around the remains of the light's piles. A large iron water tank and chimney remains are located 20m from several upright timber piles, between which is a scatter of wire cut bricks (marked "Allan and Mann, Government Patent Glasgow"), black glass alcoholic bottles (one marked "black horse whiskey"). A tide signal has also been found in this location. Artefacts are concentrated for 20m around this area, but disappear completely outside this region, suggesting that they may be associated with daily life on the light. The site tends to scour out in a strong tidal ebb flow, or during prevailing northerly or easterly winds ([LM; PF]; Heritage Victoria Site Report S810). The latter site has been inspected by Heritage Victoria.

R) Swan Spit anchor and chain#2

Another large anchor and chain are located approximately 1.5km south east of the *Countess of Hopetoun* shipwreck [PF].

S) Swan Spit Ammunition Boxes

A number of isolated rifle cartridges boxes have been sighted by many divers south of the Swan Spit Light. The 50mm small bore rifle bullets with paper cartridges are still in their in wooden crates, and are scattered up the Swan Spit and West Channel. The unfired bullets are wrapped in waxed paper, and are American ammunition dated to 1942 [PF; DL; LM; SA; SH].

T) Queenscliff Bight Anchor

A chain with an attached 2m long anchor extends from the *Qa* Pile (which is the first pile on the north side of Queenscliff) towards the south west in 35 ft of water. The chain runs at right angles to the tide, suggesting it may belong to a navigational mooring. A ceramic

water filter marked "Boston England" and broken timber wreckage have also been found in this vicinity [PF].

All the sites on the Swan Island Spit and Point require further investigation

U) Popes Eye Bank Anchors and Wreckage

Two anchors have been located on the northwest side of Popes Eye, along with bottle scatters. One anchor lies in a gutter close to the Popes Eye Fort, and an attached chain runs towards the annulus. It is also rumoured amongst the local diving community that a lighter that was wrecked during the construction of the annulus has been located nearby [PF; SA].

V) West Channel Entrance Marker buoys and chains

[PF] has reported an anchor near West Channel #4 marker buoy.

W) Old West Channel Pile #4

To the north of the old #5 West Channel marker is an old pile structure, which was similar to the old Woodrift dolphin pile. The structure has just been broken off and pushed over. [GR]

Appendix B-2: Extractive Industries
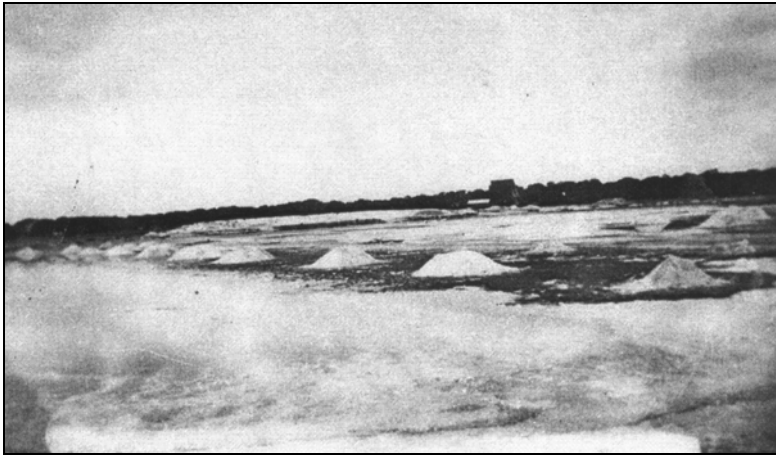
1) Salt

Figure B-2. 1: Alex Laker's first and only salt harvest at Lake Victoria (PH 4216, QHM Collection).

Salt works were established at the Salt Lakes in 1863, but were later closed down (Dunn 1963: 20; Cuzens 1912: 6). In 1875, J. Shaw was granted a licence to produce salt at Lake Victoria, and extensive works were built under the supervision of a Mr Harrison. Two other companies also established works in this precinct (one shipping its plant from Warrnambool), with The Lake Victoria Saltworks sold by Messr Kendall to Samuel Harrison in April 1876 after spending hundreds of pounds testing the Lake for the viability of salt production. However by 1882, the Lake Victoria Saltworks were auctioned after dissolution of the partnership (GA 27/9/1875, 14/6/1876; Dod 1931:53; Wynd 1988: 133).

In 1934, Alex Laker undertook his first an only harvest of salt from Salt Lake, where he was later to establish a shell grit extraction industry (Photo PH4216 - QHM Collection).

2) Sand

A) Pt Norgate, Swan Island

Sand was mined from the northern end of Swan Island to fill in the fort moat, and also to construct the Bowling Green [CA; RF]. The mining site is still evident by an extensive sand dune area that is almost devoid of undergrowth, and extends for approximately the entire length of Pt Norgate above the 12th hole of the golf club.

B) Edwards Point

Sand extraction was undertaken at Edwards Point

> There was an early sand quarry there. You go down Cliff Road into the right - you can still see the hole they made there. They used a big earth mover in the 1950s, which got stuck there. The middle finger of the point has material on it, possibly to do with the sand quarrying [PM].

C) Mud Islands

Sand was also exploited from the Mud Island:
> They used to take sand around the Mud Islands. Boats from the glassworks at Melbourne had their own fleet of small craft that got sand for the Melbourne glassworks at the entrance to the Yarra [River]. It was never sure where the mosquito fleet got their ballast from. Did they used shellgrit or sand for the return trip. They would often unload bricks and slate here, and probably used cargoes of shell grit and sand to get back again. [PF]

3) Shell Grit

A) Mud Islands/ Flounder/ Jetty/ Shell Grit Extraction:

Sand and shell grit was also extracted from the waters around the Mud Islands to be used for glass manufacturing in Melbourne at Spotswood (Evans 1978:81). A small mosquito fleet of vessels would transport the sand and shells to Melbourne, and it was likely that these vessels first delivered bricks and slate delivered to Queenscliff, and then used the sand and shell grit for an economically viable ballast for the return trip home [PF]. [BM] recalled:

> We used to go over there to spear flounder when we were young. We'd go over for the weekend, and go all round it. We used to lay on the jetty down from the lagoon. A bloke used to collect shell grit there, lived on the east side. He'd send the shell grit to Limeburners Bay in Geelong, and they'd use it for glazing tiles. A ship would come down from there and collect it. There are still piles there from the Mud Island Jetty, on the east side of the island. They used to go up to 60ft offshore, and were just up from the lagoon on the east side. People used to shovel up the shells and sieve them to get the shells from the sand. Jim (Buck) Rodgers told me that when I was 15, and he was in his seventies then. There were ashes evident where people used to cook there dinners on the old hut platforms [concrete pads]. Water was delivered to the island in barrels, as there was none there, and Jim Rodgers would take the shells back with him [BM]

Shell grit was removed from Lake Connewarre, Geelong and the Bellarine Peninsula as its lime content was useful in improving soil quality on farms. A government issued licence was required to remove the product (probably due to the widespread practice of often removing loam from above the high water mark or shell from recently constructed roads). This led to conflict between shell carters, and farmers, who believed what lay on the beach in front of their land belonged to them, even though the farmers entitlement only extended to the high water mark (Wynd 1988:54).

B) Shell Grit Mining: Laker's Cut

Alex Laker later turned his attention to shell grit mining, and by 1945 had established a works at Salt Lake (Lake Victoria) where he established plant to process and bag the product (Photo PH4221, QHS):

> Alex Laker mined all the way through the Lonsdale Lakes area. He had his own railway siding, and the trains came on Thursdays and would leave the trucks fro him to fill up, and took out the full ones. That was after WWII in the 1940s and 50s. He had two trucks a Leyland and a Bedford, Laker was a capable man, he could turn a hand to all sorts of things. He used the trucks for years to collect shell grit, and took back soil. Lakers Cut came later. He mined the shell grit from between the Queenscliff to Geelong Road and Shell Road. He went through the area and took off the top layer of dirt to get to the shell, which he put through his washing plant. He first worked the area near the old Queenscliff

race track that was in this area. There were other race tracks in the area, there was one below Wilson's Hill, and one near Ocean Grove. The mining there was done up until the 1950s at least, and was started sometime before 1948. [JP]
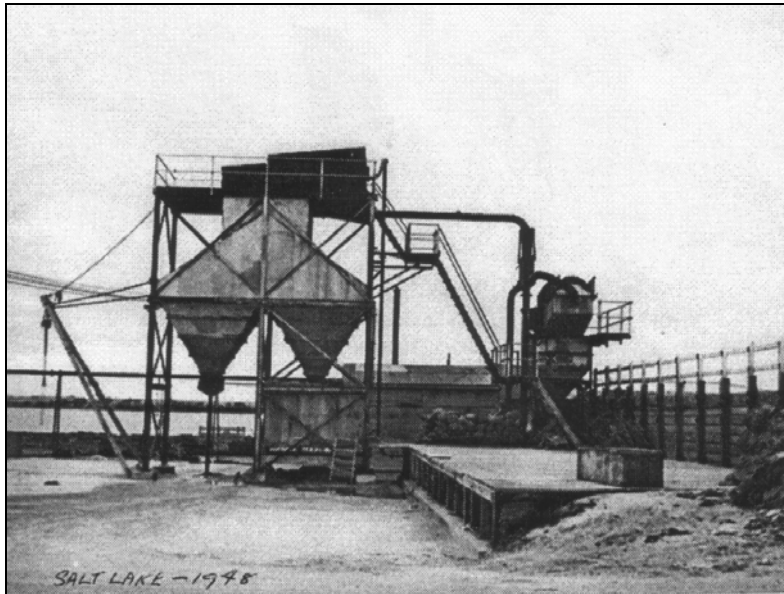
Figure B-2. 2: The first shell grit processing plant at Lake Victoria, Pt Lonsdale in 1948 (Photo: PH4214, QHM Collection).

A large inlet at the southern end of Swan Bay is actually a manmade cutting that was made by the Lakers in 1959 to extract shell grit the Australian Glass Manufacturers in Spotswood (Melbourne) and for chook feed and pathways. The Queenscliff Railway line was re-opened specifically to cater for this industry, which had its own branch line, and up to 1000 tons a week of grit was railed out of the area each week. When the Laker family lost the shell grit contract in 1973, the railway closed 3 years later (QH June 2004: 6; [DB;PF; SS]).

McMahons Shell grit mining has operated in the Pt Lonsdale area near Lake Victoria since 1930, and expanded their operation into the Lake in 1994 (Rip Rumour May 1994:1; [SS]).

> The area at the bottom SW corner of Swan Bay was not originally part of Swan Bay, but was an area where shell grit was extracted. Laker put a cut into a lagoon from Swan Bay, and left a big hole there. [DB]

C) *Portarlington and Avalon*

Small vessels from the local mosquito fleet continued to take shells from the banks off Portarlington and Avalon right up until the 1920s. The shell was used in glass production at the manufacturers in Spotswood on the Yarra River (Loney 1981: 87).

4) Lime Burning

A) *Point Lonsdale*

Lime burning was one of the earliest industries in Port Phillip, with limestone resources initially exploited at Collins settlement at Sorrento in 1803, and later extensive mining along the Mornington Peninsula from at least 1836 onwards. La Trobe noted the first lime extraction at Queenscliff in 1844 (but was probably referring to deposits at Pt Lonsdale), and its affects on

the denudation of local forests. He further commented on the constant traffic of lime boats around this portion of the Bay (Harrington 1997: 21, 31). An account of the grounding of the Victory in 1850 describes the presence of lime boats in the area of Lonsdale Bight (Intelligencer 31/8/1850:902, as cited in Ballieu Collection #51).

After the first lands sales in 1852, a brick yard and lime kiln had been established near Marcus Hill (Dod 1931:4), and by 1854 James Hutchins and James Cooper had started small farms and lime kilns in the back country at Point Lonsdale, about a mile from the Signal Station (Simkin n.d.:4; Dunn 1949:35, 1963:20; Harrington 2000:32).

[CA] recalled the presence of a number of limeburning facilities at Pt Lonsdale:

> My great grandfather (Hutchins) was a lime burner at Point Lonsdale. Then he became a brickmaker. He also made Marcus Hill bricks. He settled in the area near the golf club (Point Lonsdale)". There were remains from this once near the tennis club, and on Gill Rd at the bottom end of the Golf Club. The road was named after Judy Batching's grandfather (Gill). Gill worked for my great grandfather, and that when (great grandfather) went broke, Gill took over the business. The Allisons were also limemakers at Pt Lonsdale and they later taught brick making to the Andersons who started a brickworks at St Leonards. There were 3 brickworks at St Leonards. The train started in 1879, and that was built to service the fort and provide building materials. They must have taken the lime out by boat to Melbourne. I think they had as much lime as they could get there, and it may have been used for building locally

Harrington (2000:32) has identified a potential Limeburners quarry site near the corner of Gill and Fellows Road (Pt Lonsdale), along with another brick kiln site 1km further south that was dismantled about 35 years ago.

B) St Leonards

Lime kiln sites were also known at St Leonards:

> The Allisons were also limemakers at Pt Lonsdale and they later taught brick making to the Andersons who started a brickworks at St Leonards. There were 3 brickworks at St Leonards. [CA]

C) East Bellarine Methodist Church Site

The location of this site has not been identified:

> There was an old lime kiln site that was mentioned in council records in 1867 that was near the site of the Eastern Bellarine Methodist Church. Later in 1871, a William Downs was quoted as running a lime kiln site on Widey Beach Road (Wynd 1988:134).

5) Firewood and Bark Collection

Wattle bark collection was a common early extractive industry in Port Phillip Bay and along the Victorian Coast (Wynd 1988:115, Hunt 1999:17). Wattle bark was used as a tanning agent for leather goods, and stripped trees were subsequently felled for firewood. Wattle Bark was recognised as the most powerful bark (for tanning) in the world in 1878, and as exports demand grew for both bark and tanned leather goods, bark cutting was widespread right across the Bellarine Peninsula. Bush land brought higher premiums than cleared farmland, as it offered

prospective farmers an alternative income source to regular crops (Wynd 1988: 54). The Port Phillip Bay mosquito fleet were heavily involved in the transport of lime, firewood and bark for tanning in Melbourne, and would bring supplies down to Sorrento and Queenscliff, for the fishermen and lime burners, and would return with either lime, pre-cut timber lengths for the Swallow and Arial biscuit factories, or wattle bark for the tanneries in the Yarra and Maribyrnong Rivers (Field 1962:36; Loney 1981: 87; [DB; GH; HeH; JB; PF]. Teams of up to 200 men were employed to harvest the timber of surrounding hills. This practice greatly assisted the development of agriculture in the area, as farmers were either paid to clear their land (or tendered the process to bark strippers) supply the markets in Melbourne, and continued until at least the 1950s ([GH; HeH]; GA 11/3/1878; Wynd 1988:54).

Geoff Henderson, a former farmer in Swan Bay, described the process:

> The wood clearing suited the local farmers as it helped them clear their land for farming. The last woodcutters were going on until the 1950s, and they were still stripping wattle bark. They grew wattle wood for the bakeries in Melbourne. The Shepherds family grew wattle on their property, and took a dray out into the water to load onto the boats, which would be taken out to the bigger ships waiting offshore. Tanning of leather was big in Geelong, and wattle bark was needed for the tanning process. That's why they would strip the bark from the trees. The golden wattle (tree) has a relatively short life. It only lives for 15-20 years. They stripped the bark when its 8-10 years old. The woodcutter would cut off the branches. And then prise the bark off from the bottom. It comes off in strips. They would pack and fold the bark into three foot square packages and then load it into the cart… There were a number of (corrugated) roads in this area that went out into the water. They took dray loads of timber out to boats in the water, and the boats would take the timber out to something bigger (a ship) offshore. There was a track into the water at Shepherds Road. [GH]

Wattle bark and firewood was also taken from the southern section of Swan Bay, near the creek at Basil's Farm near Nye Rd. A sailing barge was also constructed in this area on the banks of the creek, which was used for this purpose [JB]:

> There was big sheoak and little sheoak, where they moored the barges in Swan Bay for taking out the wattle bark. They used to go into the creek at Walpole. They would go in there and load up the barges with wood and bark. There was a sailing barge that was built on the banks of the creek, it was called the *Fidge*, and it was 50 ft long. It was located down the road just before the service station on the way to Portarlington. As you go round the bend before the farmhouse, Dunrobbins, it was just over the hill, and you would go down to the right. It is fenced off now and you'd have to get permission to go onto the land (North of Nye St). They built a barge there on the creek entrance. They got wattle bark out from there, and they would float the boats into the creek and pick up the bark. There are just a few sticks left there now. The barge would go ashore, and at low water a horse and cart were used to bring bark out and wattle tress for the bakeries at Melbourne. They would be loading while the tide was out, and the barge would sit there for three or four days until it was loaded up. [JB]

Large numbers of woodcutters were employed by George Cole based out of St Leonards, who had established a pier and small township there as early as 1855. By 1865, numerous woodcutters and their families inhabited the surrounding area, and small vessels of 15 to 70 tons provided firewood for Melbourne Williamstown and Sandridge. Firewood was still an important trade at St Leonards in the 1870s (Wynd 1988:115, 130).

The corduroy roads were still evident until recent years [DB; GH; HeH; SS; WN].

The effects of timber getting and bark collection left minimal structural archaeological evidence, except for a few piers and corduroy roads (Coles Pier - St Leonards; St Leonards pier piles; Swan Bay Corduroy Roads, McDonalds Pier, Andersons Road Pier, Shepherds Road Pier). However, the effects of this trade are still spatially evident in the denudation of the peninsula foothills, an observation also made by Nutley in NSW (2003:61). The land clearance also led to increased silting of Swan Bay (Grant pers comms), which effectively reduced the water depth and retarded further maritime development of the area. However, although the land clearance greatly aided the development and spread of the local farming community, it ultimately had a negligible effect on the local maritime populations in the Queenscliff area, as most of the produce from the area was shipped out of Portarlington.

A) Archaeological Evidence

Firewood and wattle bark extraction was popular in Swan Bay and St Leonards for most of the nineteenth century until around the 1950s [GH]. The most salient evidence of this trade is the denuded farmland hills that line Swan Bay. This has contributed to increased silting of Swan Bay [JG], which effectively reduced the water depth and retarded further maritime development of the area. [SS] has indicated that wattle trees usually grow after indigenous fire-stick regimes have decreased or ceased, and that many areas where wattle was harvested were once grasslands. This observation is notable as it might be used in the determination of contact/ colonization periods with indigenous peoples.

Figure B-2. 3: Andersons Road corduroy road (Photo: Courtesy Geoff and Helen Henderson Collection).

Other evidence located during the study included tie posts and an artificial channel at Swan Island which was used to moor firewood barges. Several timber corrugated roads, which consisted of branches laid over mudflats to facilitate cart access to barges in shallow water were identified [DB; GH; HeH; LJ; RB; SS; WN] but were not located (as the area was covered in seagrass). Pictures supplied by [GH; HeH] showed the 2m wide roads were constructed of branches, with small piles on one side (possibly for a walkway pier). Similar structures used in

relation to the firewood and timber trades have been observed by the author at Toora (Gippsland, Victoria), and have been described by [BM] at Westernport Bay.

Firewood/ Bark	Corduroy road into shallow/muddy waters
	Denudation of local trees
	Silting and land encroachment
	Tree stumps/ copiced trees

Table B-2.1: Archaeological signatures of firewood/bark extraction.

6) Kelp/Seagrass

The use of seaweed for fertiliser, fuel, potash and iodine and caulking in Medieval and late periods in Europe has been documented (Allen 1995:30,152; Vivian 1969:32; McErlean et al. 2002:334, 336, 337, 344; Williams and McErlean 2002:509), and includes stone grids (to encourage kelp growth), stone walls for boundary resource demarcation, storage houses and kilns.

A) Seagrass Insulation

A marine seagrass known locally as eel, sea or swan grass, was used extensively amongst the community for the insulation of houses. and other public buildings such as the football ground grandstand and the Barwon Heads Golf Club [LID; GW]. Resourced principally from Swan Bay, the string like grass was found in great quantities there, especially during the winter months. The grass had excellent insulation properties for both sound and heat, and was used in many houses, especially in the fishing community, where it was stuffed into the recesses between the walls and ceilings [LID; PF]:

…they [the fishermen] used eel grass as insulation in many houses. It had really good insulation qualities. [PF]

Swan grass from Swan Bay was used (to insulate) in the football ground grandstand. It had very good sound insulation. It could be roaring outside, and you couldn't hear a thing inside…it doesn't rot or burn, must be because its damp, I don't know, but its very good for insulation. [GW]

The seagrass did not rot and was non-combustible, and it was also used by the local iceworks manufacturer (Icy Jones) to insulate the insides of kerosene (Jonette) heaters…Swan grass was used for insulation in many homes in Queenscliff, especially amongst fishing families. Eel grass had good insulation properties, and also did not burn. It was also used by Icey Jones, an ex army engineer, who ran the iceworks, who also built Jonette heaters made with eelgrass insulation. The Barwon Heads Golf Club also used the seagrass for insulation. [LID]

Swan Grass was also harvested in commercial quantities along the eastern coast of Westernport Bay until at least 30 years ago for housing insulation use in Melbourne:

Seagrass was once harvested in the Bay (Westernport) here. It was taken to Melbourne for packing between the walls. Every autumn, the seagrass sheds its leaves, and was pushed by the SW swell, they wash up on the beach in truckloads (between Settlement Point and Cobbs Bluff). There was a bloke from Cowes who ran a business called...[Bill couldn't recall and asked son-in-law Greg, who also didn't know]. He used to cart it to Melbourne in wagon loads bailed up like hay bales. They'd use it in the ceilings and

walls. That was going back at least 30 years, and it was going on a long time before that. [BM]

Similar practices using marine resources (e.g. reeds, shells) and other agricultural produce discard (oat and corn husks, walnut shells, straw) for insulation were known to exist in Suffolk and East Anglia in England until at least the 19th century (Evans 1966: 43-4), and it is possible that these practices were transposed here by early settlers from those regions.

B) Fertiliser

Several attempts were made in Queenscliff to encourage the establishment of a kelp industry. In 1893, the Queenscliff Kelp Manure Company Advertised kelp manure available via rail trucks for 6 s a ton (QS 23/9/1893). The virtues of establishing a kelp industry were again extolled in 1894 in an editorial by A Hodge (who was coincidently agent for the company). Hodge demonstrated that local farmers at the Springs (Mr Werry) was already using kelp with good results, especially as its salt content controlled snails, slugs and take all worms, and that it was free of the weeds normally contained in animal manure. He advocated that if the new industry could be established it would open up a new market between Queenscliff and Drysdale (QS 8/12/1894). No mention of this industry or company was found in any of the Mercantile Directories of the time (Sands and McDougal 1888-1898; Wise and Co. 1888 – 1898), although Hodge was listed as the publisher of the Queenscliff Sentinel (Wise and Co. 1891:250, 620), and it appears that kelp farming does not appear to have been a viable industry in Queenscliff at that time.

A former resident of Queenscliff, Bill Mitchell, recalled the use of kelp for fertiliser at Barwon Heads. "They grew asparagus on it until about 40-50 years ago. Kelp is a good fertiliser, but seagrass is not. I took some home for my garden and you can dig it up two years later and its still there[BM]. [JP] reaffirmed this observation: "It wasn't uncommon for people to bring home kelp as manure. They used kelp, and seagrass from Swan Bay. Ernie's mum used kelp from the shore in her garden". The author also observed seagrass being taken from the Swan Bay foreshore in 2004. Upon approaching those concerned, the (unidentified) person stated that they were using the seagrass to grow asparagus, as they had always gotten good results when using it.

C) Potash/ Iodine

McErlean (et al. 2002, 334, 336, 337, 344) and Vivian (1969:32) have documented how kelp was burnt in the United Kingdom and France in the seventeenth and eighteenth century to extract potash soda for use in glass manufacturing. The species used was *Ascophyllum nodosum*. However, kelp (which was the product of burning seaweed) was used to extract iodine in the late 19th and early twentieth centuries in Ireland and Scotland. Due to its high iodine content the *Laminaria digitata* species was exploited, which was abundance along those coastlines and was found in the subtidal regions. The discovery of iodine as an element in 1812 and in seaweed slag led to its subsequent use in dyes and medicines, and as a later integral ingredient in photography.

The prospect of a kelp burning industry at Queenscliff was raised in 1916 (QS 5/2/1916), when the practice of burning seaweed for potash, bromine and iodine became popular in Ireland Norway, USA and Japan due shortages caused by WWI supply blockades. It was at that time successfully dried and used as a fertiliser in New England where potash was deficient in the soil. An editorial in the Queenscliff Sentinel suggested that further research was required to test the viability of this industry.

Several local informants indicated that although seaweed farming had not been tried in their area (to their knowledge), they knew of traditional practices undertaken by the past local indigenous community, where kelp was wrapped around cuts and sores and used as a natural healing aid:

> The local aboriginals would come and wrap themselves up in it [kelp/ seaweed] for their sores. When they took off the seaweed the sores were healed...my dad told me that. [GW]

[JP] also observed that after storms kelp would was up on the beach in banks, and water would often be trapped behind it in small pools. This discoloured water was often used by visiting Italians to paddle in, as the warm water was impregnated with the iodine from the kelp which was good fro their feet.

7) Guano Mining

Guano mining in Victoria was undertaken at a number of venues around the state, and mines were operated at both the Mud Islands and Duck Island (Prescott 1970; Yugovic 1998:20). The Mud Islands deposits were reputed to have the largest guano deposits in the state (Yugovic 1998:20, 21). However, like most other guano deposits around the world, they were exhausted by the late 19th Century.

A) Duck Island

Guano mining was undertaken at Duck Island (Yugovic 1998:20), and appears to have been largely exploited to meet the needs of local farmers. A number of local residents recalled the guano mining:

> Dad said his uncle shifted guano from Duck Island on a horse and cart …that was somewhere around 1924…Jack Werry, my great uncle dug that site [at Duck Island]. He died in 1936, so it must have been sometime before then. He had market garden at the back of the cemetery at Point Lonsdale, so I suppose he could have used it there. [GW]

> There was a bloke who used to take a horse and dray to Duck Island from Swan Island. He had a jetty for loading guano at Swan Island. It was just for local supply I think. There was a boat channel near it, but I think it has since silted up. [CS]

Another local resident of Swan Island, George Pigdon, lived at Point Norgate (Swan Island) and moored his boats there. Two Queenscliff residents recalled:

> Old George Pigdon lived in Stingaree Bight…He moored his boats there in Stingaree Bight. They called him the Bishop of Swan Island. He used to do rabbiting and fishing (for whiting) [GW].

> The Pigdons cut a channel around the back of Swan Island between Rabbit [Duck] Island and Swan Island so they could moor their boats there. They cut it close to Swan Island near the track over to the island. It was always rumoured that there was a track over to Duck Island, but I never saw it [CA]

It is unclear whether the Pigdon family was also involved in guano extraction at Duck Island, but anecdotal and historical evidence that they were either fruit and vegetable merchants (C. Anderson, pers comms) or farmers (Sutherland 1888b:168; Wynd 1988: 176; Weaver 1996:11) suggests that they may have been using this guano on their own market gardens. Beazley (pers comms) has also suggested that Pigdon's boat moorings were used to tether barges used in the Swan Bay firewood and bark trade, and it may be possible that these barges were utilized to

transport guano from this area to Pigdon's market gardens, before they were loaded with timber and bark.

There is also strong evidence to suggest the presence of an underwater causeway across the strait between Swan and Duck Islands:

> As kids we would come across from Swan Island to Duck Island looking for black rabbits. … We had a net boat in Stingaree Bight. There were rats everywhere there, and we had to keep a rabbit trap on the step boat to catch the rats, to stop them eating the nets. We would go to Duck Island and net there, and we would come back around 1am. We would wheel the boxes up to the boat, and box up the fish, and then wheel the boxes back to Queenscliff [CS]

Local knowledge [JB; KH] has confirmed the presence of a hard seabed floor in this area, which is also visible from aerial photographs.

The guano mining activities are still evident at Duck Island in a large area denuded of larger vegetation and grassy undergrowth (that is in abundance everywhere else on the island), and has various nineteenth century artefacts scattered around this location. Several small deposits of possible guano (or guano saturated bedrock) were located, along with several bottle scatters and concrete filed kerosene tins, which were possibly used for structural purposes. Posts associated with Pigdon's gutter and boat moorings were still extant at Pt Norgate, although no trace of a pier or jetty was evident.

The island had always been known for its fertile soils, and in the 1860s, George Admans, (owner of Swan Hill Hotel) set up a poultry farm and market garden on the (then Rabbit Island) that was run by Bob "Dinghy" Tommy who lived in a two roomed hut ("Native" 1887; "Queenscliff Boy" 1910; Dod 1931:29). The eggs and vegetables were transported round to Queenscliff when the tide permitted.
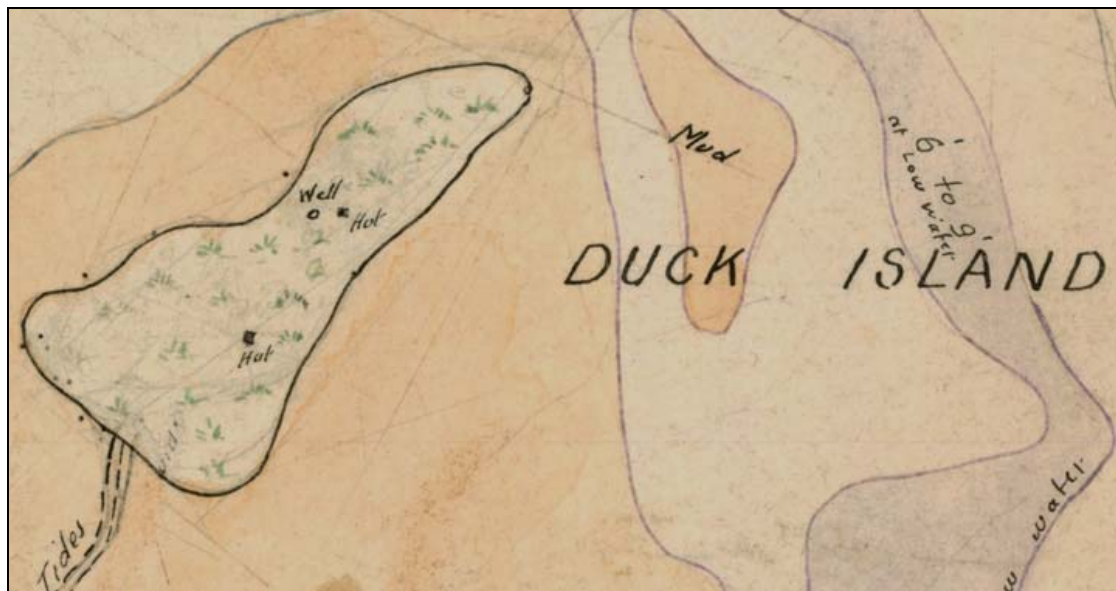
Figure B-2. 4: Duck Island house sites c. 1916 (After Barret Plan n.d. FQM Collection).

B) Mud Islands

I) Environmental Description

The Pt Lonsdale to Queenscliff shoreline consists of broad shore platforms cut in Pleistocene dunes faced by rugged cliffs. Shallow shelly lagoons line inland between dune calcarenite ridges. Swan Bay is characterized by a shallow landlocked tidal marine region connecting to Port Phillip, and is partly enclosed by spits and barrier islands, and bordered by extensive salt marsh, and was formed by the flooding of low lying valley. Edwards Point Spit is a recurved sand and shingle spit lined with salt marshes, shallow lagoons and fringing sandy recurves, and is a state faunal reserve. Swan Island is characterized by a large mobile sandy foreshore and spit, which is known for its constant deposition and erosion. The Pt Nepean to Observatory Point foreshore is of similar description to Pt Lonsdale, but also with parallel dune ridges on the inside of the bay and steep rugged cliffs fronted by shore platforms on the exposed ocean precincts (Bird 1977:52, 56). Located in the centre of the delta banks lies the Mud Islands, which are enclosed low lying sandy and swampy barrier islands around a central lagoon and salt marsh enclave formed by wave action (Bird 1977:56). The Mud Islands are formed by Boatswain Island in the south, Western Island, Middle Island and Eastern Island (the latter two of which have amalgamated in recent years).

II) History

The Mud Islands were first discovered by Lt Murray of the Lady Nelson in February 1802 who named them the *Swan Isles* (Lee 1915:45) after their prolific populations of swans and pelicans. These archipelago have been variously referred to as the *Signet Islands* in 1803 (Yugovic, 1998:232); the *Flat Islands* because of their low elevation (Symonds and Henry 1836 [chart]; Wells, 1840; Burdwood 1855:124); and the *Sand Isles Flat* (Stokes 1843 [chart]). They were renamed the Mud Islands sometime after 1855 when another survey of the area was undertaken (Ross, 1859-1860 [chart]), but were referred to as the Mud Isles in Hydrographic Sailing Directions from 1868 until 1897 (Yule 1868:221, 1876:281, 1884: 320) when the common name was substituted from 1897 onwards (Yule 1897:445).

Figure B-2. 5: Mud Islands showing major island locations (In Yugovic 1998).

The islands have been exploited by a variety of extractive industries and have housed semipermanent populations since at least 1859. The earliest historical known use of the islands appeared on a British Admiralty chart of 1856 (Polkinghorne 1856 [chart]: as cited in Yugovic, 1998:90, 232), although the nature of the exploitation was not indicated.

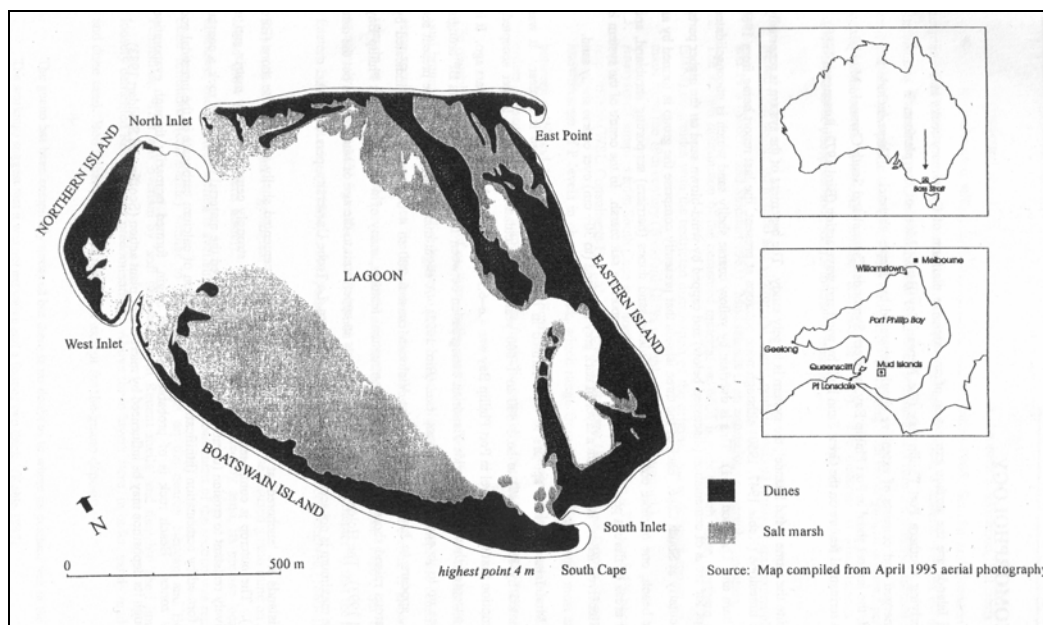Guano deposits were discovered at the Mud Islands in 1852 by a Mr Kyte, and were reputed to have the largest guano deposits in the state (J. F. Levien, as cited in GA 1/11/1877). The guano was concentrated on Middle, Eastern and Boatswain Islands. The first known occupation of the islands was by John Grace in 1852, who was issued a permit to construct buildings and a garden (Hansard 17/9/1884:1421, as cited in Yugovic 1998:90). Several maps refer to the availability of Guano at the south east point of Boatswain Island (Ross 1859-1860; [updated 1863][chart]; [updated 1880] [chart]), and structures or yards were evident on the eastern side of Middle Island, and the south eastern tip of Boatswain Island by 1868 (Ross 1859-1860 [updated 1868][chart]). The islands were commercially exploited by at least five different commercial operators from 1859-1902 (see Table B-1.1) until the deposits were exhausted (Yugovic 1998:20, 21, 30, 90, 244; Prescott 1970). Excavation of pure guano (bird droppings) was undertaken from 1859-1877.   When the true guano deposits were exhausted by 1877, all the huts and equipment associated with this period were removed from the island.   Although concern was expressed in the intermittent period over the environmental effects of this industry on island erosion and impropriety amongst certain government ministers (The Age 24/7/1843, 6/1/1877, as cited in Yugovic 1998:91), quarrying resumed of phosphate rock or marl (guano impregnated sedimentary rock and sand formed below the former layer) from 1884-1902. A house and other industrial plant were built by 1884, and by 1902 a trolley tramway line was used to load guano onto boats from a small jetty at Eastern Island which transported the material to St Leonards for crushing and sale as powdered fertilizer and for Levien's own onion farm [JY]. In 1902, five men lived on Eastern Island in a hut they had built (or possibly a rebuilt fishers hut - see below) but returned home on weekends (Yugovic 1998:90-95). The location of guano mining in 1884 was shown in Figure B-2.7 (Anon. c. 1884 [chart]). Guano mining had evidently ceased at the site by 1903 (Cox 1864 [updated 1903] [chart]).

Years	Lease/ Licence Holder	Comments
1860-65	John Grace & Joseph Askunas	Market gardener. Guano mined after discovery of Marl. Askunas bought out by Kyte in 1862
1865-69	Ambrose Kyte	No mining undertaken
1869-73	Jonas Levien	Applied for rent reduction in 1871 as best deposits already removed
1876-77	Jonas Levien	Licence for 6 acres. Small deposit still near old workings (Middle Island?). Ground at site leveled and grasses planted after works ceased. Bartlett acted as overseer.
1884 -85	Robert Bartlett	Middle Island and SE tip of Boatswain Island
c. 1902-03	Mr Holden	Mining undertaken for 2 years - sketch map of works by Garnsworthy (not located)

Table B-2.2: Guano mining leases/ licences on the Mud Islands (After Yugovic 1998:243-4).

Several fishing families occupied the islands from at least 1884, when a fisher couple occupied Boatswain Island (Hansard 13/8/1884:985, as cited in Yugovic 1998:90). In 1889, two huts were extant on the islands when a fishing family with several children arrived to earn a living from fishing from a yacht. By 1890, six fishers huts had been built near a pier on Eastern Island, and at least one fishing family (the McLeods) were still resident. At least four different fishing families resided here between 1880-1900. They lived on fish and brought their supplies from Queenscliff when they sent their catches to market, and collected water from hut roofs into tanks. The fishers were forced to vacate the islands as continual bad weather restricted their

ability to fish or resupply (Yugovic 1998:90). Some lived in driftwood shacks on the North West corner of the group, netted fish and launched directly off the beach [LF]. Those known to have occupied the island included the Fitzimmons family, who occupied the island in bad weather up to the 1920s (QH 2001:19, 2002:12); the Lee, Stevens and Culliver families [LF; HM; PF]. The surrounding shallow waters of the Great Sands were also leased to a William Mentiplay for 21 years from 1879 for oyster cultivation (Ross 1859-60 [updated 1880] [chart]; Anon. c.1884 [chart]), but it is unclear if this operation was ever undertaken as it was unknown amongst the local Queenscliff fishing community.
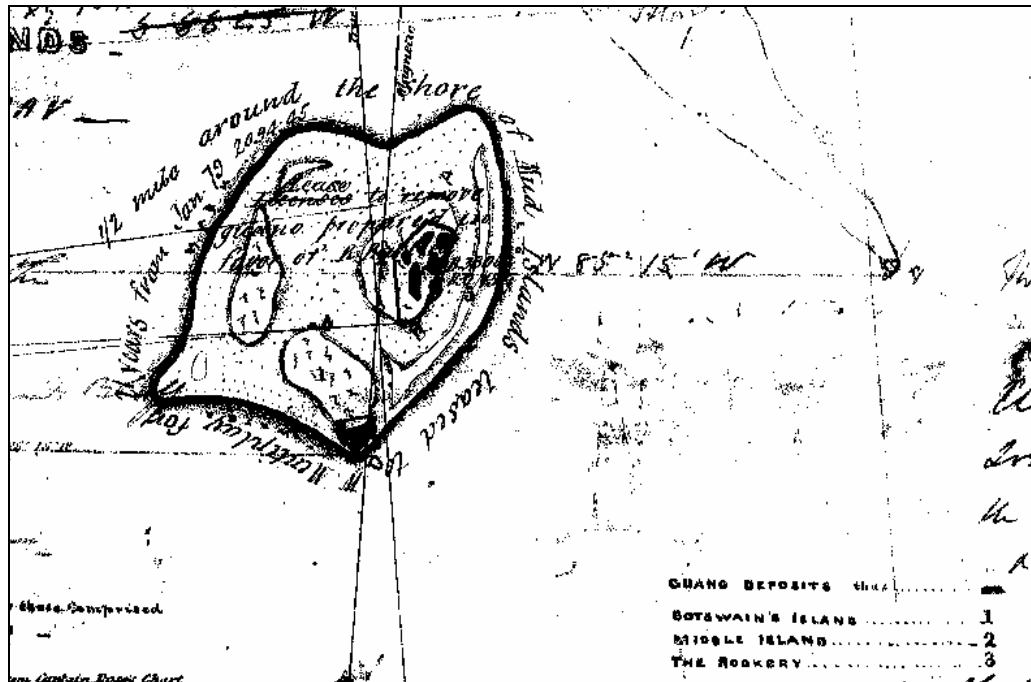
Figure B-2. 6: Mud Islands guano deposits and oyster lease (Anon. c. 1884 [plan]).

The island was also used for other extractive industries. Sand mining was undertaken on the sandbanks around the Islands [PF] to supply the Spotswood Glass Bottle Works (see Duncan, 2003:151). Shell grit was extensively extracted from the east side of the Mud Islands (Hansard 13.8.1884:988, cited in Yugovic 1998:93) for use in glass production in Melbourne and for ceramic pipe salt glazing in Geelong [BM] (Evans 1978: 81; Wynd 1988:54).

The strategic importance of the islands during the Franco Prussian war of the early 1870-71 led to their declaration as a temporary defence reserve in anticipation of a probable fortification in 1872 (VGG 19/1/1872, cited in Yugovic 1998:233), and may have slowed or halted guano mining on the islands around that time. However, these plans were shelved in favour of the construction of two artificial island fortresses at Popes Eye and north of the South Channel (Wiseman et al. 1864:37; Jervois 1879: 4; Kitson, 1987:1.1, 6.1).

The islands were also popular for daily tourist picnics from the 1870s onwards (Beavis and Raison 1982:9; [CA;LF]), and continued to be used by young men as a haven for parties and other antisocial behaviour up until at least the 1960s [JA; GR;LM]. Local recreational sailors regularly visited the island for picnics, and a local yachtsman built a small pier inside the lagoon near the SE end of the islands in the 1960s, where a shallow channel provided access for small yachts at high tide [CA].

Renewed opposition to guano mining from 1884 onwards, along with the discovery of Storm Petrel habitats in 1882, led to the proclamation of the islands as a bird sanctuary under the Game Act in 1902, as a State Wildlife Reserve by 1961, State Nature Reserve 1985, and as a

component of the Port Phillip Heads Marine Park by the end of the twentieth century. The Mud Islands are also listed on The Register of the National Estate, and on the Ramsar List of Wetlands of International Importance (Yugovic 1998:22, 95, 233)

III)   Coastal Erosion and Changes

The islands have changed markedly over time, and were particularly affected by rock blasting in the Rip during the 20th century, which supposedly altered the wave action and hence the configuration of the Islands (Bird 1873, as cited in Yugovic 1998:31). The only stable sections have been Boatswain Island and Middle Island, which has subsequently been incorporated into Eastern Island (Yugovic 1998:29-33). A number of anecdotal and historical records recorded that the coastline changed dramatically after 1935, when channel deepening was begun at the Heads (Yugovic 1998:33, 99, 194; [CS]). Rabbits were first noted on the islands in 1889, and it is speculated that fishers introduced them in the nineteenth century as an alternative food supply. By 1945, they were in plague proportions, and when their burrows affected the storm petrel population and further contributed to coastal erosion, an aggressive eradication program was undertaken in 1960, and 1980 which led to their extinction on the islands (Yugovic 1998:96-7; [LJ]).

C) *Archaeological Evidence*

I) Eastern Island/ Middle Island (Mud Islands)

A large excavated area which was denuded of undergrowth located towards the northern end of Eastern/ Middle Islands in 2004, is the quarry formed by excavation of the phosphate rock. The area known to local birdwatchers as "The Airstrip" is almost certainly the remains of the former tramway line, and is now covered in hollyhock vegetation. Pier piles once extended up to 60 ft offshore and several concrete hut platforms were visible here in the 1940s [BM]. Several piles from the former pier were still extant in this area up until c. 2000, but many have been burnt for firewood by visiting tourists. A single pile from the former pier is still evident at the eastern (foreshore) end of the tramway line approximately 5m inland (Yugovic 1998:95; [GrW; IR; JY; LJ]), which suggests that the tramway line was either elevated on piles, or that the foreshore has since prograded. "Black" alcoholic and torpedo bottles tentatively dating to the 1880s have also been reported up to 200m offshore along this entire area [SA].

Many large lagoons in this area are probably the remains of former guano quarries, although no archaeological material was found in this area due to very thick vegetation coverage.

II) Boatswain Island (Mud Islands)

A shack was formerly visible on the south east corner of Boatswain Island [LJ], but no traces of these structures were evident during an inspection in 2004. However a large flattened area approximately 10m square was visible in this area, along with numerous stands of exotic shrubs. This area may have been part of the original garden occupied by Grace in the 1860s, one of the many fishing or guano residences that once occupied the islands. The location of this flat area was ideally suited to a hut site, as it was sheltered from southerly winds by a large dune, and was adjacent to the lagoon and its southern entrance. [IR] reported finding a German Beer bottle (whose company was later purchased by Carlton Breweries) was later officially dated to 1895, and other Queenscliff residents have also found bottles in this area [PF]. Native plant remains in this area (Malva Australiana) were known to be confined to disturbed high nitrogen rich environments, such as guano mines [NW], and may in themselves be an indicator of guano mining activities.

A timber pile and plank and a black alcoholic bottle base that were discovered on the foreshore approx 180 m to the north west are probably related to this site, as the land in this region was swampy with no suitable space to house any other structure. It is possible that the pile was used either for a vernacular pier or as a tie post for a small boat.

The remains of a timber breakwater installed in the 1940s were located on the western side of the island. Two 5m lengths of 4x 2" timber with a 2m section of cross bracing were relocated in the intertidal zone midway along the south western side of this island, and appear to have been displaced by from their original location by storms.

Figure B-2. 7: Malva australiana (formerly known as Lavatera plebeia var. tomentosa), Boatswain Island (Mud Islands).
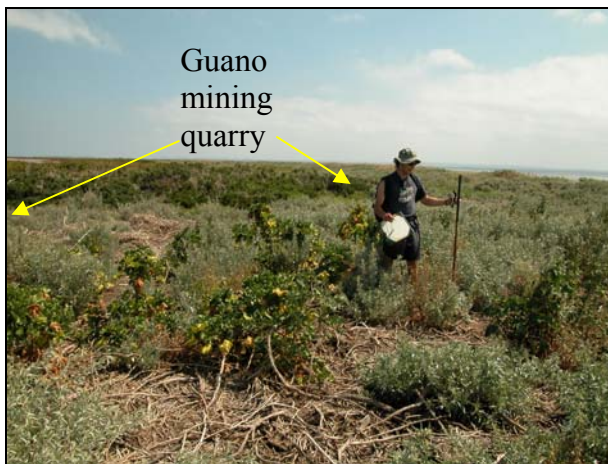
Figure B-2. 8: Guano mining quarry, Eastern Island, Mud Islands, 2004.

Figure B-2. 9: Possible Guano Mine Eastern Island (Pt# 5).

III)   Western Island (Mud Islands)

Although temporary camp sites were reported on the North West dune of this island near the lagoon [BM] no archaeological evidence aside from flattened dunes were located during the 2004 inspection.

IV) Lagoon (Mud Islands)

A single square timber pile was located in the western side of Eastern Island inside the lagoon, and was probably the remains of a small pier constructed by visiting yachtsmen in the 1960s.

Note. It is likely that most archaeological deposits on the Mud Islands will be highly disturbed, given the prevalence of rabbit burrows for almost 100 years.

V) Coastal Erosion (Mud Islands)

It appears that the north-west section of the Mud Islands has been subject to extensive erosion since in the period between 2004 -2006, and this may have removed any archaeological sites located in the foreshore area, especially on Northern Island. Although the foreshore of Boatswain Island currently appears to have been relatively stable in this period, the disappearance of two small islands formerly located to the south (see AUS Chart 158) is of concern, as their presence would have formerly sheltered this area. Given the presence of many archaeological sites in this area, this region should be closely monitored in the future. Furthermore, any changes to local shoreline dynamics might significantly affect any archaeological sites on the islands, given their low elevation (approx less than three metres maximum), especially if they are subject to inundation. It is recommended that the Mud Islands' shoreline be monitored to detect any significant changes in coastal geomorphological processes that might threaten the Islands' archaeological resources.

VI) General Archaeological Evidence at Mud and Duck Islands

Two guano extraction sites were identified in the study area at Duck Island and Mud Islands. Both were characterized by a small lightweight vernacular pier located close to channels in shallow water (with 1880s alcohol bottles in this area at the Mud Islands – [SA]), excavated areas denuded of undergrowth, and remains of shacks built of timber frame and corrugated iron with household artefacts [LJ; GrW]. Both also were recorded historical sites of former market gardens (Dod 1931; Yugovic 1998: 1858: The first permit to occupy the Mud Islands was granted in 1858 to John Grace, which allowed him to construct buildings and a garden (Hansard, 17/9/1884: 1421, as cited in Yugovic 1998:), which is not surprising given the rich guano deposits in those regions.

A calcified deposit, possibly guano saturated limestone was also discovered at Duck Island. A possible causeway was between Duck and Swan Island [CA; CS; GW] was visible from aerial photographs (Figure??), and upright timber boat mooring tie posts at Pt Norgate were also be associated with this venture (or the firewood trade).   The Mud Islands site also exhibited a narrow compacted flat area that was the remains of a tramway to the pier, and a similar cleared area was also located on Duck Island at the northern extremity. Another unexpected possible archaeological signature was the presence of an un-described example of the Malva Australiana, which is confined to disturbed nitrogen rich soil matrices such as guano sites like the Mud Islands (Walsh 2006). A summary of archaeological signatures of guano mining is presented in Table B-2.3.

Figure B-2. 10: Duck Island house site.

Figure B-2. 11: Duck Island house site.

Figure B-2. 12: Duck Island pier piles which extend to the man in the distance.
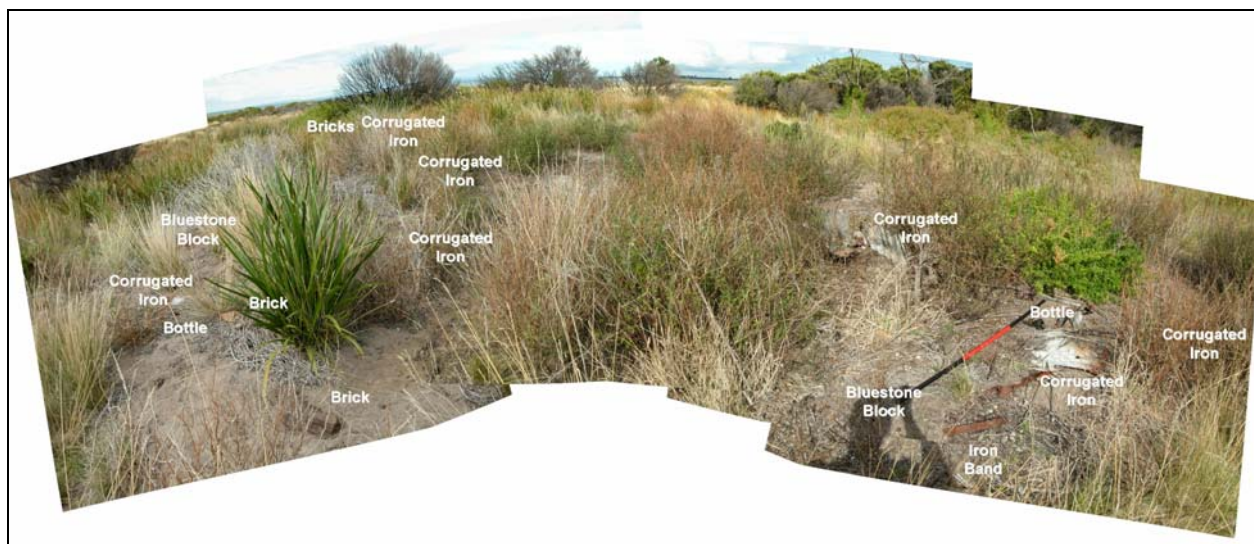
Figure B-2. 13: Duck Island house site artefact locations.

Guano Mining	Bird populations/ sanctuaries
	Boat Channel
	Bottles - Alcoholic
	Causeway (natural)
	Cleared approach to mine site from pier
	Denudation of vegetation
	Guano/ Phosphate saturated rock
	House sites - concrete pads
	Native vegetation - *Malva australiana*
	Mine Holes
	Pier Piles

Table B-2.3 Archaeological signatures of guano mining at Swan and Duck Islands.

Appendix B-3: Queenscliff and Swan Bay Piers

1) Queenscliff Bight

A) Queenscliff Jetty/ Fishermen's Pier/ Old Pier

Around the time of the first land sales in 1855, a public meeting in Queenscliff called for the construction of a public pier or wharf to facilitate access to the township via sea. The proposed pier would run out to a depth of twelve feet, and estimated construction costs would be about £1800 (GA 27/11/1855:2).

The small pier was constructed in 1856, and was linked to Queenscliff via a plank road (built in 1857) that traversed the marsh area up the current Gellibrand St (Cuzens 1912:1, Allom Lovell 1985:161). A lifeboat was added in 1856 (Fanning, In QS 10/12/1892) along with a lifeboat shed in 1860. A tide gauge house was added in 1858, along with unspecified repairs and additions in 1860 (VPRS 2143:58/101, 60/68). The jetty where the small steamers called at Queenscliff in 1858 was small, and made of the trunks of trees, some of which had their bark still attached (Bluelight, In: QS 27/1/1912), and later became known as the Fishermen's Pier when the first stage of the New Pier was begun in 1884 (Raison, 1987:24; QS, 19/7/1884). The plank road was replaced by a formed roadway in 1871 (Allom Lovell 1985:161).

A generalised geological map from 1861 (Daintree 1861 [plan]) shows the bent pier with a blunt end. Raison (1987:23) maintains that a northern arm was added in 1860, but the first clear map of the pier located was from 1863 (Cox 1863 [plan]) does not show this, which shows the pier extending 150m to seaward, with a small knuckle arm to the south that was later to become the base for the fishermen's shed. With the arrival of regular Bay Steamer passengers services (*Golden Crown*) from the 1870s, the pier was used extensively used for the tourist trade (Allom Lovell 1985:161). Several extensions were undertaken over the years, a crane and tramway jetty in 1861, and unspecified works in 1870, an extension in 1872 (VPRS 2143:61/157, 70/123, 72.3/192).

The *Queenscliff Jetty* was being extended in 1875, when new piles were driven, along with the underwork and flooring being laid. The work was scheduled to be completed for the tourist season, and it was anticipated that a further extension to the south would be undertaken to provide further accommodation (GA 21/7/1875:2). A goods shed was added in 1876 (VPRS 2143:76.7/150)

In 1877, the construction of the Geelong to Queenscliff railway was approved by the Legislative Council in September (GA 13/9/1877:2), and by 1879 the line was opened with regular services to Melbourne and Geelong (Allom Lovell 1985:160). A branch line was constructed to the pier to service the fishermen's deliveries to Melbourne. Two sheds located at the end of this line, the fish shed (used to load fish) and the pilots coal shed (Kilsby 190 [plan]), and by 1928 the coal shed had been replaced with the Ports and Harbours Buoy Shed (Larkin 1928 [plan]). Although the spur line has been removed, its route was until recently still evident in a series of laneways through the Fishermen's Flat.

Numerous repairs were undertaken in 1881-82 (VPRS 2143: 81.2/13, 82.3/4) A lifeboat shed that was mounted on the northern side of the pier the west of a 60m northern extension (Surveyor Generals Office 1882 [plan]) had been removed by 1883 (Norgate 1883 [plan]), which may have been due to repairs were undertaken at the pier in 1882, after the decking was considered dangerous (QS 23/12/1882). When the pier proved to be too shallow to service the new deeper drafted bay steamers, a new pier, almost twice as long as the original was proposed to the south to accommodate the larger vessels (QS 22/6/1889). In 1888, a 400ft extension was

added to the pier, bringing its total length to 1450ft, with dogleg to the north (Sutherland, 1888b:158).
When fishermen expressed concern about the lack of a railway connection to the pier in 1893, a surveyor from the Railways Department was despatched to assess the situation at the request of Mr Levien (QS 22/7/1893).

By 1906, the shoreline was prograding out towards the pier, and it appears from a plan from this time (Smith 1906 [plan]) that surveys had been undertaken of the water depth directly to seaward. The lifeboat shed was now mounted on the New Pier 1894 (VPRS 2143: 94.5/196). In 1908, fishermen expressed concern about silting at the old pier, and the inconvenience of offloading fish at the New Pier, especially due to its use by the Bay Steamers. It was advocated that the recent work on both piers to reduce siltation had failed (piles had been removed and lateral beams attached to encourage scouring), and that the approaches to the Old Pier were silting up, as was the whole bay. A suggestion was made to extend the Old Pier 200ft to the edge of the seaward channel where tidal influence would keep the approaches clear, but this was rejected by the Ports and Harbours Department, who favoured waiting for the effects of the pile removal to become evident (QS 21/11/1908). By 1914, a 210ft long seaward extension had been added to the pier, presumably to counteract a marked progradation of the shoreline that threatened to engulf the dogleg arm of the pier (Stewart 1914 [plan]).

Another extension was added between 1913-1915, when a second dogleg was added. This aligned with the dogleg extension of the New Pier, between which was built an island pier (dolphin) to provide additional shelter for the fishing fleet in bad weather, and was also used to land craypots and store coal for the *Mars* (Allom Lovell, 1985:162; [LID; PF]; Larkin 1928 [plan]). A storm tested the breakwater of the old pier, which reduced the impact of the NW storm on the town (QS 8/4/1916).

Following the pier's extension, a new lifeboathouse was constructed between 1926-1928, to house the new lifeboat *Queenscliffe* (Larkin 1928 [plan]; Allom Lovell 1985:162).

A buoy shed was located at the root of the pier by 1928, and was connected to the pier via a narrow walkway (Larkin 1928 [plan]). By 1948, there were 4 sheds on the Fishernmen's Pier:

- Rope Shed: Used for storing fishing ropes and tackle;

- Fishermens Shed: Used as a waiting shed/ communal hall by fishers prior to leaving for the days work;
- Lifeboat Shed: The old rowed lifeboat was replaced by a motorised lifeboat at this location. Siltation was a problem at this location, especially after the cut had been completed. When the Goorangi Shipwreck occurred in 1940, the lifeboat grounded and had to be dug out of the sand. The lifeboat was shifted to a new shed on the new pier in 1948 [GW].
- Slipshed: Housed a winch which was used to pull the fishing boats up the slip. All fishing boats were pulled out of the water in rough weather and stored on the pier [GW]

The pier had silted up and was buried along almost half of its length by the late 1950s, and the exposed section was demolished in 1963 ([JP]; Raison, 2002:24), but it is unclear of all the piles were removed [GW].

B) Boat Jetty/ Doctors Jetty

In 1852 the Health Officer previously stationed at Portsea was transferred to Queenscliff, and the Doctors Jetty was built some years later on the site of the current Pilots Jetty (Dod 1931:9 Noble 1979:43). However, Simkin (n.d.:7) states that there was no pier in the township around 1853-54, which was reiterated by Fanning, In QS 10/12/1892), who commented that when an

ordinary ship's lifeboat was put into service at Shortlands Bluff in 1856, it was moored off the Customs Quarters as there was no shed or jetty. It was noted that in 1866, the boats of the Health Officer were stored on davits at the Doctors Jetty in 1866 (Bluelight, In QS 19/8/1911). A pier known as the Boat Jetty was built on this site in 1864, with four timber davits were installed the next year (McWilliams n.d.[plan]; VPRS 2143: 64/288, 65/92, 65/159) was almost certainly the same structure. The Doctors jetty is mentioned in regards to the war games in 1886 (QS 1/5/1886).

> There was a jetty originally for the Doctors boat to land at. It was situated on the site of the current Pilots Jetty. The Doctor would row out to incoming vessels to check for any infectious diseases [PF]

A pile in the water near the current Pilots Pier was used to help in the launching of beached boats, where a line was attached to the boat which was then hauled out [JP].

C) New Pier

With the increase in passenger steamships servicing the town, a new pier was proposed to alleviate the pressure on the old pier. In 1882, the QS (23/12/1882) reported that funds had been promised by the government to build a new pier at a cost of £15000. The new pier was approved by 1884, and was to be built to a length of 300ft in 13ft of water at the end of Simmonds Street, with further extensions to follow (QS 10/5/1884). By July that year, £5000 had been allocated to the construction of the pier, and tenders had yet to be let (QS 19/7/1884). The 702 ft pier was constructed from 1884-1885 (VPRS 2143: 84.5/257; Allom Lovell 1985:161), and further calls were made to extensions in 1886 (QS 3/4/1886), when it was lengthened by another 300ft (VPRS 2143:86/209). In 1886-1887, another 200ft extension along with a 300ft dogleg extremity, a new shelter shed (still extant), repairs to the existing shelter shed, life boat shed, and tramway tracks were undertaken (VPRS 2143:87/1~2, 87/210, 87/133, 87/298; Allom Lovell 1985:161), and further work was undertaken in 1888 (COPW 1888). By 1889, the pier was not of practical use, despite ample "L" shaped loading facilities and it being twice the length of the Fishermens Pier, as the water at its extremity proved to be the same as that at the other pier. The older pier was used in preference to the new one, due to its shorter length for passenger disembarkation (QS 22/6/1889). A new pier was proposed as a replacement (see below), but this was vigorously opposed by some community members, who advocated that a 900ft extension should be added to the new pier at a cost of £15000, thus rendering the newly erected expensive L section redundant.

In 1888-1889, a lifeboat shed was built to house the davit hung lifeboat transferred from the Fishermen's Pier, and was located on one of the (since demolished) landing stages on the southern side of the pier (Allom Lovell 1985:161).

In 1911, after lobbying the previous year by fishermen, a new 300ft L shaped breakwater extension was approved for the New Pier along with the opening of two bays on both piers to alleviate the siltation problems (QS 17/9/1910). A new breakwater was built at the New Pier to provide better protection for fishermen's v\boats during storms. Until this time the fishermen had to shelter their boats behind Swan Island in rough weather (QS 19/8/1911). Breakwater planks were installed on the new pier to provide protection for the fishing vessels moored between the two piers [GW]. The installation of the breakwaters on both piers is an important archaeological signature of the mooring area for fishing boats between them. The angle of the dogleg was fitted in 1922-1923 (Allom Lovell 1985:162).

There were 4 sheds on the Fishermen's Pier:

- 1st Lifeboat Shed: This was the first lifeboat provided in Queenscliff, and was later moved the Fishermen's Pier. The shed housed a rowboat, manned by 16 rowers. The lifeboat was

used at the Pt Lonsdale Lifeboat shed for some years, but it was often unsafe to launch it and often could not recover it there, so it had to be brought back to Queenscliff until the weather abated. The lifeboat was sold in 1947 and used in Welshpool to cart timber until it was again sold and converted into a crayboat. All dinghies were stored on the new pier, and were sculled out to the couta boats moored between the two jetties [GW];

- Waiting Shed: This structure was built provide shelter for the Bay Steamer tourism trade passengers;
- New Lifeboat Shed: This shed was shifted to this location in 1948 after the fishermen's pier became silted and unusable for launches [GW];
- Coal Shed: Used to resupply the defence boats *Mars* and *Vulcan* and possibly also the Bay Steamers if needed;
- Landing: A landing on the north side of the pier that was used by the lifeboat. Another landing seaward of that was used for transferring bullet cases to the *Mars*. It was used by the army vessel *Mars* which was sold after the war (1946) [GW].

Concern was raised about the safety of pier's dogleg in 1979, at which time the end was falling apart and was about to be removed (GA 4/12/1979).

D) Island Pier/ Dolphin

There was a dolphin between the Old and New Piers. This was used by the fishermen to dump their nets on for security. It didn't have a ladder to climb up the side. I saw it in the 1950s when I was on holidays with my family [LM].

E) Proposed New Pier Under Fort at Shortlands Bluff

In 1889, after agitation from a number of "agitators" within the community, a fourth pier was proposed under the fort at Shortlands Bluff. In June 1889, the Commissioner of Customs (Mr Patterson) visited the township to assess the necessity and possible location for the new jetty. The jetty was opposed by the Defence Department, due to its proximity to the fort, and by a number of community members, who lamented the slow progress of the New Pier, and that the proposed construction of another pier would either divert badly needed money away from it, or sink both projects. The new jetty's location was proposed under the site of the lighthouse, and would extend into 27ft of water at a cost of £8500. It was advocated that ocean going steamers would be able to unload here in preference to Williamstown, which could have had major implications for the development of Queenscliff as a major international port (QS, 22/6/1889).

F) Silting

Silting appears to have been a serious problem around the Queenscliff coastline for some time. In 1907, the QS (20/4/1907, 2/11/1907) reported that several hundreds of tons of sand had accumulated around the Old Pier, severely inconveniencing fishermen and local trading vessels, but that it was likely that the sand would again be washed away with time. By November 1907, plans were being made to cut and blast away the "forest of (old disused) piles" which had been left under the pier, and to remove landings from the pier. The dredge Pioneer was also employed to remove silt to a navigational depth alongside the Old Pier (QS 30/11/1907), and completed works there in February 1908 (QS 29/2/1908). Further works were undertaken at both piers to remove piles to encourage scouring underneath the piers (QS 29/2/1908).

G) Tobins Jetty

Tobin's Jetty stood just in front of the present railway station (QS 24/12/1910).

H) Swan Creek Slipway

A new slip was being built at Swan Creek in 1912 to allow boats to be slipped and cleaned after the crane was removed from the old Pier (QS 25/5/1912).

I) Swan Ponds Pier

A small pier was built by fishers who lived on the Swan Bay side of Queenscliff to service the small craft they kept there possibly as early as 1913 [CA]. In the 1970s, a small channel was dug in Swan Bay to service this pier [LID].

> Several boats from people living on the hill used to moor boats there… that would go back to the early part of the century…there was once a deep water channel there. Fishing boats were moored there…round built boats - small fishing boats that were just used in Swan Bay. The bridge to Swan Island used to be 1ft high, so boats couldn't get out to the bay from there. The area has silted up heaps since then, when the first jetty was installed in 1913). There were 40-50 boats (moored) there in the 1960s [CA].

J) Swan Bay Yacht Club Pier and Slipway

One local resident recalled the piers associated with yachting in Swan Bay:

> The Swan Bay Yacht Club started in the 1920s and later became the Queenscliff Yacht Club. The channels were wider then, we used to race boats around the channels (in Swan Bay) in the mid 1920s. Blairgarie and Ballarat Teams would often participate in Queenscliff regattas… there was once 60 boats…Queenscliff teams would also go to their regattas. It was a big do, the opening of the yacht club, and there was always a band and a big spread. The yacht club had a shed in the 1920s. It was an 8 x 8 ft clubhouse. I have been yachting in Queenscliff since 1926. There was once a short pier, about 100ft long with 6ft of water at the end. The pier went to the end of the slipway, on the right hand side of the slip. The first jetty was built here in 1913. The pier was rebuilt in 1948, after the club had been through a phase where it existed technically only between 1930- 47. A meeting in that year revived the club. The slip was built in three nights (in the 1960's) [CA].

K) Swan Bay Outlet Pipes

Three pipe outlets were built to the west of the current bridge in 1899, and another to the west of the fort on the Queenscliff Back Beach after problems were experienced with sewerage seeping into the main streets. All these pipes were regularly flushed using the elevated water tower in the southern reserve, and led to the recognition of Queenscliff as one of the cleanest towns in the Commonwealth (Cuzens 1912:5). Repairs were reported to have been made on the main Swan Bay outlet pipes in 1911 (QS 11/2/1911). One pipe is still visible near the northern end of Mercer St, and two others were located at the ends of Learmonth and Hesse St [AH; CA]. These pipes were used extensively by locals for recreational fishing, as they gave access to deeper water in the bay [AH; LID].

2) Swan Island Piers

A jetty is mentioned at Swan Island during the Easter War Games in 1886 (QS 1/5/1886).

> When the Navy had it (the fort), if you belonged to the Royal yacht Club you could use the (Swan Ponds) dock, but that stopped when the army took over… the dock was there when I was a kid [c. 1930s] [GW].

3) McDonalds Pier/ Swan Bay Jetty

A pier was built on the western shore of Swan Bay by the McDonald family, who were farmers who also engaged in fishing (but it is unclear if they were recreational or professional fishers).

4) Portarlington Pier

The estimates for the additions to Portarlington Pier would be £3000 (QS, 19/7/1884).

Further information of other piers identified in this area through archaeological surveys are contained in forthcoming chapters, and other historical information was investigated (particularly cartographic sources and summary contracts books) but has not yet been collated for this study.

Appendix B-4: Submerged Causeway Networks of Swan Bay

1) Submerged Causeways and Across Bay Terrestrial Travel Networks

Several submerged tracks were revealed during oral history interviews. These narrow submerged causeways traversed various sections of Swan Bay, and were used by carts as a shortcut across the Bay or to access islands. These causeways at first presented a conundrum for the author, who was first dubious about their existence, but later field surveys revealed their tangible presence of at least one track, as did a number of historic documentary sources. The tracks were usually associated with primary industries and/or garbage disposal, as will be revealed below.
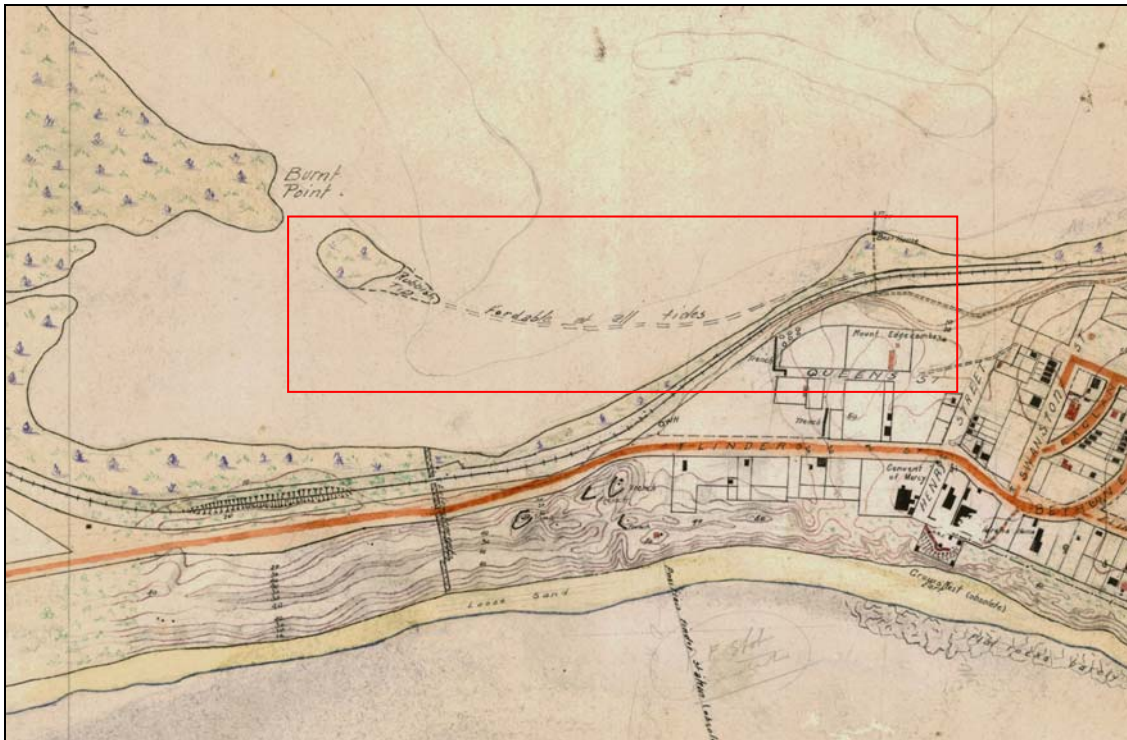
Figure B-4. 1: Plan showing location of Tip Island Causeway (After Plan: Barrett 1916, FQ Collection).

A) Tip Island Causeway (Queenscliff Yacht Club to Burnt Point)

The presence of a submerged road between Tip Island and the Queenscliff yacht Club was widely known amongst local residents ([CA; CS; GW; JP; LID; WN] – see below). These sources indicated that the track was used both as an unofficial track into the township, and as an alternative route for refuse and nightsoil disposal to Tip Island and Burnt Pt respectively. All these sources revealed that the track was made either of compacted limestone or shells, and was surrounded by quicksand or very deep mud.

Documentary evidence of this feature was eventually also located. The first postmaster of Queenscliff, Charles Dod (1931:54), recalled this shortcut across Swan Ponds was a 20 ft wide limestone track. It was used by a firewood collector (John Bryant) in the 1860s, whose bullock team started home on one occasion without him and missed the track, and the animals subsequently

drowned or died of exposure in the quicksand at high tide. Dod recalled seeing the carcasses of the bullocks being dragged ashore as a schoolboy, and indicated that the track lay between Burnt Point and "the Butts" (rifle butts - see Appendix C-4:1) on the cliff side. He again mentioned the track in regards to another occasion where woodcutters from Swan Bay rowed across to the pub at Queenscliff, and were drunk going back and missed the landing. One woodcutter slept in the boat and died of exposure, and the police were led to the boat over the short cut track. The track was again highlighted during the Easter encampment exercises, when a Frederick Sargood was in command of forces to block a mock invasion force into Queenscliff across the narrows. The invading army took the short cut route across the Swan Bay and captured the hill behind the sleeping camp (Dod 1931: 55).

In 1890, the Council expressed a strong opinion that nightsoil needed to be carted away from the township (QS 22/11/1890). The site was used for many years prior to being closed by 1894 (Council minutes, In QS 10/3/1894). The road to Burnt Point across Swan Bay had been closed by 1894 (Council minutes, In QS 10/3/1894), which caused some dissention amongst Burnt Point farmers as their only other access to Queenscliff was blocked by the railway gates and bad roads in that area (QS 7/4/1894). The appearance of tenders for road construction at Burnt Point by 1895 probably indicates that the bay crossing was never reopened (QS 1/6/1895). The existence of the road during WWII was obviously perceived by the military as a possible defence threat, and in 1944 the area was surveyed for barbed wire entanglements (Tate 1982: 104).

I)   Oral accounts

Rubbish was once dumped at Tip Island, where a cart transported the rubbish there via a narrow stone causeway across the Swan Bay swamp…The first road to Qcliff bypassed the sand dunes of Flinders Road (which were often impassable due to sand drift movements) and instead used a narrow limestone ridge causeway across Swan Bay. This causeway was used for subsequent dumping of nightsoil at Burnt Point and Rubbish at Tip Island [LID].

A dray used to go over to Tip Island via a limestone track. I went over one day in the dray at high tide, and when we got there the whole island was a moving mass of rats. .. All the town rubbish went to the island. The sanitary man buried the waste nightsoil near Nelson Road. He would dump it in a furrow that was then covered over. He used to cross the channel to Burnt Point in his cart. There used to be heaps of tomato plants that grew in the shit. There was a limestone ledge that went over to Burnt Point. The track went over to the tip. [CS]

II) Tip Island

Grandfather took the rubbish from the guesthouses. He was a Bob Beggood, and he took the rubbish out in the 1940s on a dray to the island. He arrived from Gippsland here in 1919. He built a house near Pt Lonsdale near the board of works in the late 1930s. Bob went fishing for food. [WN]

They used to dump rubbish there…there was a corrugated causeway of hard sand (across to the island). If you go to where the Yacht Club (Swan Bay) is, and head straight towards the island you'll find it. It was marked when Jack Davis was the rubbish man, as he didn't know where the track was. We used to go over when we were kids, but didn't dare go off the track. There was supposed to be quicksand there on either side…the mud is quite deep around there…Bruce Priddle stepped out of their boat near the railway and went up to their waist in sand…it looks like sand on top, but is dark mud underneath…You used to line up the [power

line] wires to get across…the causeway was at the meeting of where the two channels meet. [GW]

Mr Glennon, (we knew him as 'Bus') was the garbage man and he would tip all his rubbish on the island. He also had a few pigs at Burnet Point, just east of Tip Island, and Archie Warren and I would walk over to Burnt Point (Monk 2003:10).

> There was a road that went across the bay to McDonalds. There were once posts that marked the track to Tip Island. They were just sticks, and you lined them up with the big pine tree at Mt Nagle and kept to the left of that. Mt Nagle is the hill where there is the Roman Catholic Holiday Home, Mt Edgecombe call is in the street parallel to Flinders St. If you go up Flinders St go up 3-4 houses and look strait across and over. That was run for many years by Mrs Currima. There is a big Norfolk pine there. [JP]

III)   Burnt Point Causeway:

> …the nightsoil man and his bullock wagon disappeared on the way to Burnt Point. The night soil man had been drinking in the Bendigo Hotel, and left to go to Burnt Point, but wasn't seen again. The track still goes across there. [GW]

> The Butts: Queenscliff had a rifle range called "the butts" near the junction of the Geelong Road at the former Queenscliff High School site. A tree there was used to support the rifles when firing out over Swan Bay. This site retarded the use of the causeway across Swan Bay, as it was in the firing line [LID].

> There was a limestone road going across from the Yacht Club to Tip Island that was underwater that was used by the tip cart. We used to walk across to Tip Island as kids, and the water never got any higher than your knees. The way across was marked out with sticks, so you wouldn't get off the track. There was supposed to be quicksand on either side, and I tell you we made sure we never went off the track. They marked out the track for the new driver who didn't know the way over. One day a bullock dray went over on their own and got stuck in the mud and drowned. They were pulling dead bullocks out of the mud for some time after that. The whole island was alive with rats. I used to go over with my dad, and my foxy, the fox terrier, would have a great time killing them. He would dig them out and shake them until they were dead, and then grab hold of another one and so on until he was too tired to kill any more. When it started off they used to dump the rubbish on part of the track, I think there was a small island there, but it was on the path of the road, and the rubbish formed part of Tip Island. They stopped using it in the 1940s, but it was used right up until then. I remember it was a very bumpy tracked when you went across on the cart. The cart would be shaking up and down. It was like the corrugations you get on the dirt roads, and you would be shaken up and down all the way over. The track used to go from just the other side (west) of the Yacht Club, and wind its way across to Tip Island. It wasn't straight, but wound its way across. There was supposed to be quicksand in the area, but we looked all over that area and never came across it. There's supposed to be a lot of quicksand around here. They nearly lost a horse one day over at Swan Island, when it got stuck in the mud, and they had to plank it out to get it free of the mud. One day we had a bloke jump out of our boat in Swan Bay, and he disappeared up to his waist in mud. He would have been in real trouble if we hadn't been there to pull him out. [GW]

The nightsoil man and his bullock wagon disappeared on the way to Burnt Point. The night soil man had been drinking in the Bendigo Hotel, and left to go to Burnt Point, but wasn't seen again. The track still goes across there. [GW]

B) Burnt Point to Knights Road

There were many anecdotal accounts of a causeway that road from Burnt Point to Knights Road that may have been used as a shortcut into Queenscliff.

I have heard stories of people taking firewood across Burnt Point on a causeway. [GH]

There was once a government reserve above the high tide mark north east of Knights Road, but not SW of that point. Peter Munster, a local historian, has suggested to Steve that this was because the Portarlington Road reserve stretched as far as Knights Road and then cut across Swan Bay via a causeway to Queenscliff (NOTE: Les Dusting has suggested the causeway was more likely to have crossed to Burnt Point.). [SS] spoke to Bob McDonald who owns the property directly across from the Swan Bay General Store (run by Dawn and Robert Beames) – he said that a road ran across from Knights Road to the end of Burnt Point.

It was a narrow natural shell grit road that was covered with shallow water, with quicksand on one side. The road had always been underwater, and was a narrow natural feature. [SS]

When told about the information from Parks Victoria Staff that there was a causeway from Knights Road Les thinks the causeway was likely to have crossed from Knights Road to Burnt Point, as the water was too deep for a direct crossing to Queenscliff across Swan Bay. Les stated that there was a fault line running along the western edge of Swan Bay, which provided a solid base for the Portarlington Road, and hence his reasoning that the causeway crossed to Burnt Point, which lies in a more direct route that may follow this fault line. [LID]

There was a road from Knights Road to Burnt Point. Some of the locals have early memories of that [GW]

Ask Bob McDonald 52581801. He lives at Blairwood in Mannerim. He is 80, and his grandfather, and great grandfather lived there. Gordon, his brother lives on the other side 52512530 [JP]

C) Duck Island to Pt Norgate (Swan Island) Causeway – Guano Mining

Duck Island had always been known for its fertile soils, and in the 1860s, George Admans (owner of Swan Hill Hotel) set up a poultry farm and market garden on the (then known as Rabbit Island) that was run by Bob "Dinghy" Tommy. The eggs and vegetables were transported round to Queenscliff when the tide permitted (Queenscliff Boy, QS 24/12/1910; Dod 1931:29). Guano mining was also undertaken at Duck Island (Yugovic 1998:20). Many oral accounts hinted at the presence of a causeway between Pt Norgate on Swan Island and Duck Island in Swan Bay, which was used to transport guano mined at Duck Island and appears to have been largely exploited to meet the needs of local farmers.

Local residents recalled:

> Dad said his uncle shifted guano from Duck Island on a horse and cart…that was somewhere around 1924…Jack Werry, my great uncle dug that site (at Duck Island). He died in 1936, so it must have been sometime before then. He had market garden at the back of the cemetery at Point Lonsdale, so I suppose he could have used it there...[GW]

There is also strong evidence to suggest the presence of an underwater causeway across the strait between Swan and Duck Islands. [CS] recalled:

> There was a bloke who used to take a horse and dray to Duck Island from Swan Island. He had a jetty for loading guano at Swan Island. It was just for local supply I think. There was a boat channel near it, but I think it has since silted up. [CS]

Local knowledge [JB; KH] has confirmed the presence of a hard seabed floor in this area, which is also visible from aerial photographs.

Another local resident of Swan Island, George Pigdon, lived at Point Norgate (Swan Island) and moored his boats there.

> Old George Pigdon lived in Stingaree Bight…He moored his boats there in Stingaree Bight. They called him the Bishop of Swan Island. He used to go rabbiting and fishing for whiting. [GW]

> The Pigdons cut a channel around the back of Swan Island between Rabbit (Duck) Island and Swan Island so they could moor their boats there. They cut it close to Swan Island near the track over to the island. It was always rumoured that there was a track over to Duck Island, but I never saw it. [CA]

It is unclear whether the Pigdon family was also involved in guano extraction at Duck Island, but anecdotal and historical evidence that they were either fruit and vegetable merchants [CA] or farmers (Sutherland 1888b:168; Wynd 1988:176; Weaver 1996:11) suggests that they may have been using this guano on their own market gardens. [JB] has also suggested that Pigdon's boat moorings were used to tether barges used in the Swan Bay firewood and bark trade, and it may be possible that these barges were utilized to transport guano from this area to Pigdon's market gardens, before they were loaded with timber and bark.

As kids we would come across from Swan Island to Duck Island looking for black rabbits…We had a net boat in Stingaree Bight. There were rats everywhere there, and we had to keep a rabbit trap on the step boat to catch the rats, to stop them eating the

> nets. We would go to Duck Island and net there, and we would come back around 1am. We would wheel the boxes up to the boat, and box up the fish, and then wheel the boxes back to Queenscliff. [CS]
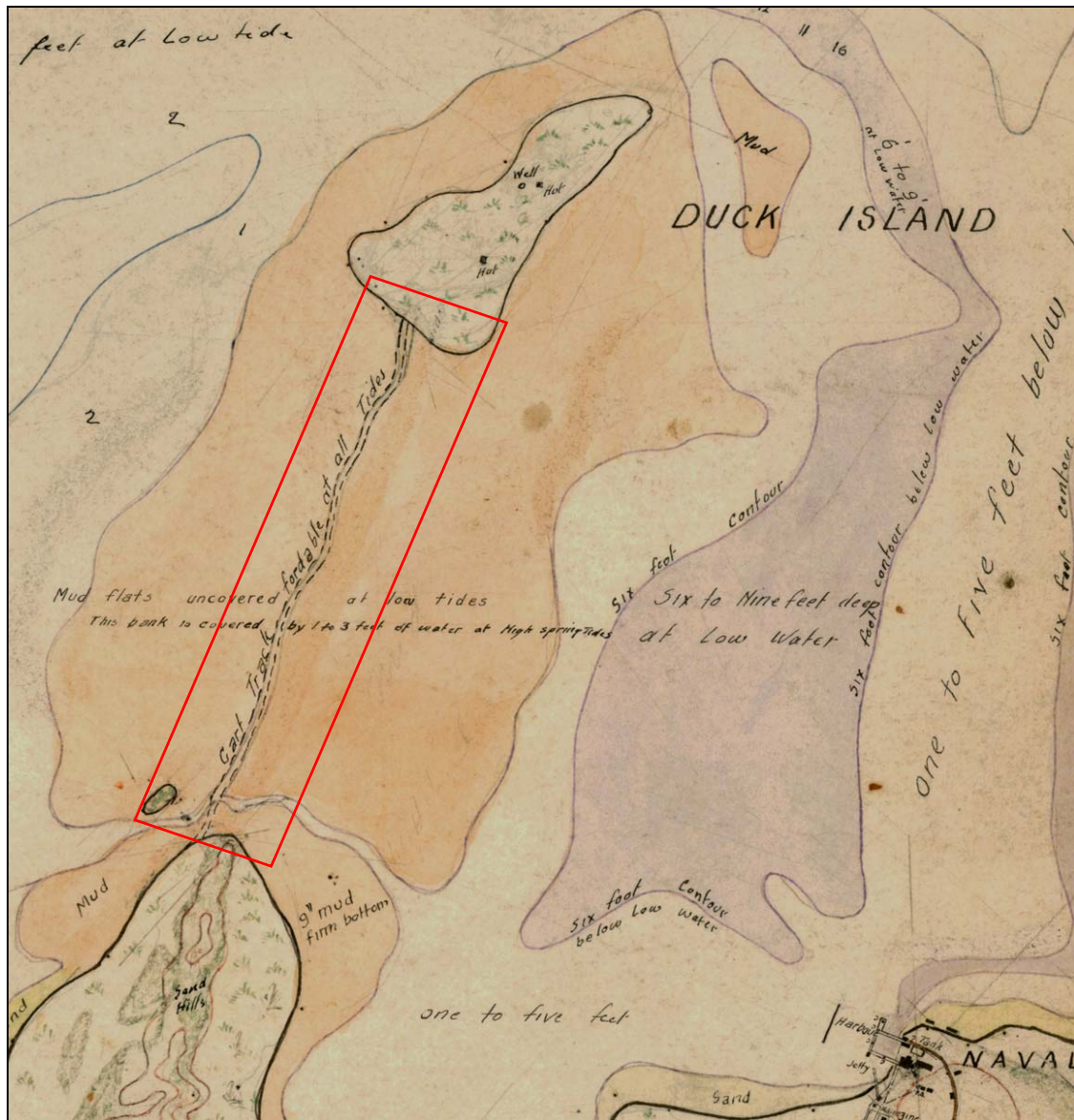
Figure B-4. 2: Duck Island to Pt Norgate Causeway, c. 1918 (After Barret n.d., FQM Collection).

The guano mining activities are still evident at Duck Island in a large area denuded of most larger vegetation and grassy undergrowth (that is in abundance everywhere else on the island), and has various nineteenth century artefacts scattered around this location. Several small deposits of possible guano (or guano saturated bedrock) were located, along with several bottle scatters and concrete filed kerosene tins, possibly used for structural purposes. Posts associated with Pigdon's gutter and boat, moorings were still extant at Pt Norgate, although no trace of a pier or jetty was evident.
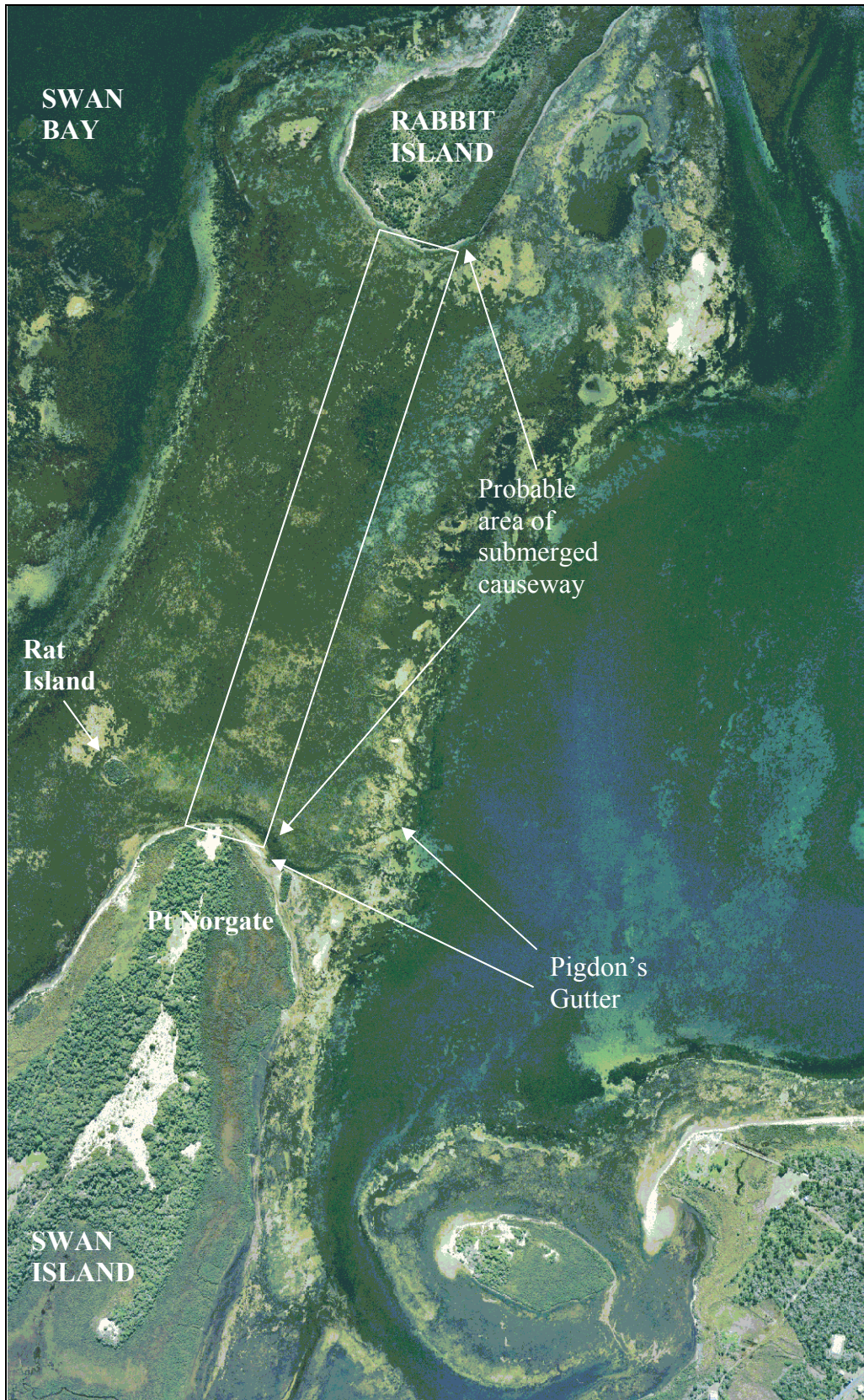
Figure B-4. 3: Aerial photo showing location of Pigdon's Gutter and possible causeway location (Photo: Photo Mapping Service).

2) Rubbish Dumps

Several rubbish dump areas were identified during the survey and these were particularly clustered around the western end of the town along the cliffs at Swan Bay, and on Tip Island. Remains of cliff top rubbish dumping is still evident on the slopes in this area, and consists of a wide range of general artefacts including ceramics, iron and glass. In particular, Tip Island demonstrated huge archaeological deposits, along with an access causeway that was evident by compacted shell and limestone, and scattered refuse. Another narrow causeway from the Island led to Burnt Point, where a Nightsoil pan dump was discovered.

Figure B-4. 4: 1955 aerial image showing location of Tip Island Causeway (PH 3007, QHM Collection).

Figure B-4. 5: Tip Island causeway probe survey.

Figure B-4. 6: Tip Island artefact Survey.

Figure B-4. 8: Nightsoil pans, Burnt Point (Scale =1.5m).

Figure B-4. 7: Western end of Tip Island Causeway.

Rubbish was also dumped from the Swan Island Bridge, and divers have reported finding a variety of household refuge in this area. Other dumps have also been found in the water offshore from various military bases and have already been outlined above.

The comparative lack of glass artefacts at Tip Island may be explained either by the recycling of bottles into jam jars and oil containers in the community [PF] or that they may have been purchased for glass recycling by the Australian Glass Manufacturer (QS 20/4/1918).

A) Nightsoil Removal/ Tip Island Rubbish Disposal

In 1890, the Council expressed a strong opinion that nightsoil needed to be carted away from the township (QS 22/11/1890).

The road to Burnt Point across Swan Bay had been closed by 1894 (Council minutes, In QS 10/3/1894), which caused some dissention amongst Burnt Point farmers as their only other access to Queenscliff was blocked by the railway gates and bad roads in that area (QS 7/4/1894). The appearance of tenders for road construction at Burnt Point by 1895 probably indicates that the bay crossing was never reopened (QS 1/6/1895). The existence of the road during WWII was obviously perceived by the military as a possible defence threat, and in 1944 the area was surveyed for barbed wire entanglements (Tate 1982: 104). Shapter recalled the existence of the track during the 1930s:

> A dray used to go over to Tip Island via a limestone track. I went over one day in the dray at high tide, and when we got there the whole island was a moving mass of rats... All the town rubbish went to the island. The sanitary man buried the waste nightsoil near Nelson Road. He would dump it in a furrow that was then covered over. He used to

cross the channel to Burnt Point in his cart. There used to be heaps of tomato plants that grew in the shit. There was a limestone ledge that went over to Burnt Point. The track went over to the tip. [CS]

Tip Island has been used for rubbish disposal for many years, and was approached via the an underwater causeway that started near the Swan Boat Yacht Club and proceeded west before branching directly across the bay north to the island itself. An inspection of the site revealed literally thousands of artefacts, predominantly ceramics, with fewer than expected glass bottles evident. This may be explained by the recycling of glass during this period, both commercially (see advertisement to buy, In QS 16/3/1895), and domestically where they were used as both jam jars and oil containers for fishing boats [PF].

B) Swan Bay Cliff Top Rubbish Disposal

In 1884, the area to the east of the Rifle Butts was used as an informal rubbish dump by many of the town's residents. For 200 yards in every direction, "*every conceivable kind of filth is here deposited*". Rubbish was also reported to be everywhere at the Narrows area (Paul Pry, In QS 19/7/1884).

The area around the Swan Bay Boat Club was also used at one time as a tip, and [CA] reported that during the early days of the club some young boys dug under the floor of the current clubhouse and were pulling out bottle by the armful.

There was also a rubbish tip located opposite Tip Island that was used for many years [CA].

Appendix C: Selected Defence Landscape Data

Appendix C-1: Defence Chronology Table For Port Phillip

Fortifications	Date	Comments
1st troops sent to colony	1836	30 troops sent from NSW - first Vic Defence force under Capt Lonsdale
Victoria Secedes from NSW	1851	Victoria Secedes from NSW
Newspaper suggest 2 fortresses at Heads	1852-53	
Crimean War	1853-56	Calls for fortification at Heads in 1854
HMS Electra	1853	Became headquarters for Hobson's Bay Water Police - corvette
Aust. Imperial Troops responsible for defence	1853	12th & 40th Regiments moved to / based in Melbourne
Road completed to Queenscliff	1853	
French exploration & bases / Russian warships in Pacific	1854	
War scare - Great Britain fires salvo at Heads	1854	Panic in Melbourne - call for defences at Heads
Gold discoveries	1850s	Fear foreign warship could hold port to ransom
Royal Commission into Defence	1854	Recommends warship steamer, guns and additional troops
Pt Gellibrand/ Sandridge Batteries (Melbourne)	1854	
Geelong Volunteer Rifles and Artillery Corps formed	1855	Drilled at nights - ranks swelled as Crimean War progressed
Sandridge Battery (Melbourne)	1855	
HMCS Victoria- new warship	1856	Replaced *Electra* - colonial sloop specifically built for Colony
Volunteer Corps expanded	1858	
Fortifications recommended at Heads	1858	Sir John Burgoyne recommends forts at the heads
Pt Lonsdale Defence Reserve	1858	Declared as Reserve
Royal Commission into Defence	1858	Recommends improved forts at Melbourne and Geelong, not at Heads + militia force of 4000 in addition to regular troops + possible ironclad batteries, Victoria insufficient to repel attack
HMVS Sir Harry Smith	1859	Williamstown Marine Artillery guard ship and gunnery practice - gun hulk
Forts recommended at Heads - after introduction of Armstrong Gun 80pr MLR (New Technology)	1859	Macarthur et al recommend new rifling techniques in the Armstrong Guns increased range making Heads Fortifications tangible. series of forts or Martello Towers at Pt Lonsdale (2 gun), Pt Nepean (2 guns), to the adjacent east of the Quarantine station (2 guns), Shortland's Bluff (3 guns), a fort on the shoals (3 guns), and at Hobson's Bay,
Queenscliff Company of Volunteer Artillery formed	1859	Volunteer Artillery Formed
Rifle range established Fishermen's Flats across bar	1859-1860s?	Disbanded when posed threat to incoming boats
Warrior launched in England	1860	Huge advance in armoured sea going vessels
Mail coach service to Queenscliff	1860	
HMCS Victoria	1860-1862	Temp leaves Bay for Maori War, and to Gulf Carpenteria to find Bourke and Wills
Shortlands Bluff Battery	1860-1863	Seawall built 1860, and three 68pr guns eventually in place by 1861

Scratchley's Report on Defences	1860	Recommends 4 batteries at Heads & 2 fortress islands + infantry training for Qcliff corps+ chain ships to block channel, then defend harbours 5 forts at Williamstown/ Sandridge
Qcliff Corps join Royal Victorian Volunteer Artillery Regiment	1860	
Hobson's Bay Batteries Increased	early 1860s	(Call for?) thee batteries between Sandridge and St Kilda, 5 batteries at Williamstown
Threat of war with America	1861	Gov NSW (Barkley) recommends troops withdrawn from NZ and defences upgraded
Queenscliff Company of Volunteer Artillery - compulsory attendance	1861	Infantry training - incorporated into Royal. Vic. Volunteer Artillery Regiment
Forts at Hobson's Bay preferred to those at Heads - Select Committee Report	1861	
Williamstown Batteries Constructed	1861	Central, Lighthouse, Right, Pier Batteries
Lonsdale Bight Rifle Range	1861-1864	Disbanded when Springs farmers under threat from bullets
Victorian Batteries Constructed	1861-1862	Williamstown, Sandridge and Queenscliff (guns but no ammunition until 1862)
Armstrong Gun – 80pr MLR = greater range (New Technology)	early 1860s	
Shortland's Bluff 3 Guns finally installed	1861/62	No Ammunition until at least 1862
Russian Warship *Svetlana* visits colony	1862	Guns armed at Queenscliff in 1863
Merrimac vs Monitor in Civil War	1862	Ironclads now a real threat to colony - revoolution in naval warfare
Victorian Govt is advised the Admiralty will possibly approve Ironclad for colony	1862/63	Childers advises Victorian Govt that Admiralty may support purchase of ironclad due to cost savings on other defences that it represents
Tenders for further 3 x 68lb guns at Shortland's Bluff	1863	
Scratchley Report	1863	**Completed** batteries at Hobson's Bay - -Sandridge: (St Kilda, Emerald Hill [Advanced and Central], Sandridge Lagoon [Emplacement and Battery]). -Williamstown: (Breakwater, Lighthouse, Right, Central) -Queenscliff Battery March Rifled Guns -**Planned** - Tower (west of Right Battery - possibly in the Hatt Reserve), and floating/fixed (Central Battery) in Harbour - two tier battery at Queenscliff + towers at Pt Lonsdale and Nepean - armed block ship - torpedo field for Hobson's Bay - semaphore to link all forts along coast - Rifled guns Armstrong recommended for all batteries (not undertaken) - all planed pending improvements in ironclad technology
Hobson's Bay - east shore declared military reserve	1863	
Queenscliff - Pt Lonsdale declared Defence Reserve	1863	
Volunteer Corps replaced with Enrolled (paid volunteer) Corps	1863	Detachment Geelong Corps based at Queenscliff
Enrolled Corps replaced by South Grant Corps	1863	Formed by Queenscliff and Drysdale sectors of Geelong Corps
Camouflage adopted - recommend trees planted to disguise forts + willow plantations for faggots and gabions (new technology)	1863/64	
Queenscliff - Size guns recommended increased from 150 to 300pr + tower size increased	1864	
Geelong Tower recommended Pt Henry	1864	

Hobson's Bay - Block ship recommended	1864	Scratchley
Armed barges recommended for Hobson's Bay/ Heads Channels after smaller Armstrong guns proposed (New technology)	1864	
Swan Bay Rifle Butts	1864+ - 1907	Disbanded when new range on Swan Island created 1907. Posed hazard to traffic across submerged causeway
Permanent Geelong Rifle Club formed	1865	
Confederate Raider *Shenandoah* enters Port Phillip	1865	Highlights need for improved defences and importance of Albert Graving Dock as a strategic asset
Demands for Victoria to be replaced	1865	
Hobsons Bay - Fort Gellibrand recommended to repel land attack	1865	Palsey and Scratchley
New Technology - sand parapets recommended for Sandridge	1865	
Delays in obtaining MLR Armstrong Guns/ Problems BL Armstrong Guns & Paliser Guns	1865	Delay in introduction to the colony
Naval Defence Act (Britain)	1865	Colonies permitted to maintain and run their own armed vessels
Delays in funds from Britain	1865	
***Cerberus* Commissioned**	1865	Cerberus Commissioned in UK
***HMS Nelson* granted to Victoria**	1866	Vessel (steam frigate) given to Victoria on permanent loan
Paliser (rebored) Guns approved for Colony	1867	
Submarine mine technology proposed for Hobson's Bay (New Technology)	1867	
HMS Nelson	1868	Arrives in Port Phillip, replaces *Sir Harry Smith*
Imperial Troops withdrawn from Victoria	1870	Period of uncertainty for colonies all through decade
France and Russia at War	1870	Australia's defences limited to 5 cruisers - attack expected from small fleet fast armoured vessels that hold ports to ransom and destroy coal stations
***HMVS Cerberus* arrives Port Philip (New Technology)**	1871	Arrives Port Phillip Bay -monitor ironclad
Mud Islands declared Defence Reserve	1872	Excludes guano mining
Geelong Corps of Royal Vic Artillery formed - man Fort Queenscliff	1873	Amalgamated two Geelong Corps
Royal Commission	1875	Recommends militia numbers maintained at 3400 men
Scratchley Report on Defences	1877	Planned - block the channels with mines and artillery fire, searchlights
Scratchley/ Jervois Survey Defence at Heads	1877	Recommend extra forts at Heads, including construction of Popes Eye and South Channel Forts (artificial Islands), and mines across channels
Two island forts planned for Bay + torpedo field + searchlights (New Technology)	1877	Planned but not funded
Permanent Artillery planned for coastal batteries	1877	Planned but not funded
Whitehead Torpedo Introduced/ Torpedo boats invented (New Technology)	1877	1st propelled torpedo worldwide, deployed by torpedo boats
Pt Lonsdale still Defence Reserve	1878	
Fort Queenscliff - 68 pr guns replaced with 4 x 80pr MLR guns	1878	
Russian Scare - *HMS Nelson* fitted with 28 guns	1878	Converted to single deck steam Frigate
Pt Nepean Battery - temp	1878	Temp battery made of sandbags installed - 4 x 80 pr guns
***Deborah* and *Sacramento* used as Torpedo stores and mine assembly for Torpedo Corps in Williamstown**	1878	

Cereberus torpedo explosion	1878	Trailing wire from boat detonates mine and kills four seamen
Britain and Russia close to war in Constantinople - Russian War scare	1879	
Queenscliff - Geelong Railway line opens	1879	Military line to provide troops/ supplies in emergency or invasion from Melbourne - enables large scale expansion of forts
Armstrong Guns now give greater firing range (New Technology)	1879	
Torpedoes (Mines) introduced to defences	1879	
Scratchley Report - planned Armstrong guns installed at new fort at Swan Island to replace Popes Eye Fort + torpedo training depot + work to begin on South Channel Fort	1879	Suggests Armstrong Guns be installed, Popes Eye Fort be substituted with fort at Swan Island + torpedo training depot
Stewart recommends both island forts go ahead	1879	
Work Begins Sth Channel Fort, Fort Queenscliff (remodeled) and Swan Island Fort	1879	
Fort Gellibrand upgraded	late 1870s	
Submarine mines used at Heads (New Technology)	1879	
South Channel Fort	1879	Work begun on annulus
South Channel Fort - annulus completed	1880	
2 batteries installed at Fort Queenscliff	1880	
Swan Island Fort - contract let	1880	
Easter War Games	early 1880s	
Pt Nepean Pier	1881	Cattle jetty used prior to this time
South Channel Fort - Low profile fort with disappearing guns ongoing work (new technology)	1882	Low profile fort with disappearing guns
Scratchley complains of lack of funds for Qcliff, Pt Nepean, Swan Island and South Channel Forts (where work was underway) - urgency to get work completed	1882	
First permanent garrison at Heads	1882	Victorian Artillery Corps - still undermanned
Fort Gellibrand upgraded	1880s	
Disappearing Guns Introduced	1883	
Minefields - West and South Channel	1880s	
Fort Queenscliff - defence wall, keep and ditch underway	1882	
HMVS Miner **obtained for Torpedo Corps at Swan Island/ Jetty Built**	1882	
Dept of Defence established	1883	Scratchley chief adviser
Queenscliff Fort earthworks completed	1883	
Queenscliff Fort enclosed and completed	1884	Work completed
Post Office removed to outside fort	1884	
Swan Island Torpedo Depot established	1884	Closer to potential war theatre
Work ongoing at Swan Island, South Channel and Pt Nepean	1884	
3 x torpedo boats (*HMVS Lonsdale, Nepean & Childers*) + torpedo launch (*Gordon*) + 2 x gunboats (*Victoria, Albert*) + Nordenfeldt Machine guns purchased for colony (new technology)	1884	Fast 2nd class torpedo boats - 12 tons + 1st class 60 ton torpedo boat + turnabout torpedo launch = 2 x gunboats 44m long + Nordenfeldt machine guns on boats as countermeasure to torpedoes against vessels
Pt Nepean - 1st permanent gun emplacement finished	1884	
Britain and Russia close to war in Afghanistan - Russian war scare	1885	Britain heavily reliant on colonies for food supplies - potential target, feared Russians will use new guerre de force tactics - international arms race
Forts upgraded at Heads - guns now placed in position	1885	
Fort Franklin - work ongoing	1885	25cm BL gun covers examination anchorage

Eagles Nest – 9" gun installed	1885	Gun installed - greater range across Bay and ocean
Pt Nepean Batteries - work ongoing	1885	
Fort Queenscliff now an enclosed battery - moat and gunfire banks	1885	Own water supply installed - windmill
Swan Island Fort enclosed battery - 9 entanglements to deter land assault	1885	
West/ South Channel Torpedo fields being installed + blockships prepared to be sunk in South Channel if necessary	1885	
Victorian Artillery - 50 extra men	1885	
South Channel Fort - work still underway	1885/86	
Swan Island Torpedo Laying Accident	1886	
Crows Nest Fort/ Pillbox	1886	8" disappearing gun installed
Popes Eye Shoal surveyed for fort	1886	
Plan for succession of forts from fort to the narrows	1886	
Defence System Finished - includes minefield	1886	(Excludes Eagles and Crows Nest)
Searchlights - 2 constructed at Queenscliff	1886	
Fort Queenscliff - moat criticised as waste of money	1886	
Pt Nepean Batteries completed	1886/7	
Swan Island Jetty completed	1887	
South Channel Fort fully operational - electric minefield, searchlights, low profile sand parapets, disappearing guns, Nordenfeldt machine guns (New Technology)	1888	
Fort Queenscliff - 2 batteries - Armstrong guns and other modern guns slowly replace old guns, wall raised to 12ft	1888	
Swan Island Fort - 8 guns and torpedo field across the West Channel	1888	
War Scare - Telegraph Cable Melbourne to London Accidentally Cut	1888	Defences mobilised
Fort Franklin & Pt Nepean Forts unprepared for war - in dismantled state	1888	Either dismantled due to long range of Eagles Nest Gun, or in process of upgrade
Fort Franklin/ Eagles Nest complete	1889	10" HP Disappearing guns replace old ordinance
Popes Eye Fort Annulus constructed	1889	
South Grant Battery (Corps) moved to Queenscliff and renamed Port Philip Battery	1889	
South Channel Fort - 4.7 " quick fire gun installed - world first (New Technology)	1889	
Hobson's Bay - Lighthouse Pier and Right Batteries removed	late 1880s/ early 1890s	
Melbourne best defended city in the Empire	1890	
Maytone - purchased by defence Dept	1890	
Swan Island Fort - tenders for gun emplacements	1890	
Fort gunfire practice - monthly	1890-1908	
Coles Channel to West Channel Minefield/ Practice area	1890-1907	
HMVS Nelson withdrawn	1891	Converted to coal hulk in Sydney
New torpedo boat *HMVS Countess of Hopetoun*	1891	1st class torpedo boat - 75 tons
Vessel Mars introduced	1901	Ferries supplies to South Channel Fort and Pt Nepean, used for laying and testing minefields
Breech block accident Queenscliff Fort (6" BLCP) (New Technology)	1891	
Drysdale Veterans Home	1891	

Fort Franklin Barracks completed	1892	
Searchlights (fixed and wandering) installed Swan Island, Queenscliff (2x), South Channel, Pt Nepean Forts	1892/3	Used to simulate war games
Victoria Rangers proposed station at Heads to operate machine guns	1892	
Port Phillip Battery (Corps) disbanded - permanent soldiers only	1892	End of part-time artillery garrison service
Fort Franklin - quick firing 4.7" gun installed	1893	
Popes Eye Fort abandoned	by 1894	Long range guns on Swan Island make fort obsolete
Compulsory attendance of militia proposed by newspaper	1894	
Soft Drink factory in fort	1896-1930	Makes Bombardier Victorian Artillery bottles
HMVS Victoria, Albert **retired**	1896	
Western District Artillery Brigade formed	1897	
Submarine cable Swan Island - Popes Eye - Observatory Point	1897	
Victorian Permament Artillery become Victorian Regiment, Royal Australian Artillery	1899	In preparation for Federation
Federation of Australia	1901	Defence no longer handled by states
State defence forces unified with Commonwealth Military Force under Federal Government	1901	
Anglo-Japanese Alliance - potential hostilities with America	1902 - 1922	
Focus defence moves to Heads from Pt King, Pt Lonsdale and Queenscliff - South Channel Fort redundant	1906	
War Scare - Tensions Japan and America	1907	American War Fleet conducts tour of Pacific
Swan Island Rifle Butts	1907-1920s +	Disbanded when posed a hazard to golf on the island
Swan Island Diving Classes	1907	Victorian Army Engineers
Mark VII Guns Installed Queenscliff	1908	
Great White American Fleet visits Port Phillip	1908	
Australian Navy - calls to establish own Navy	1908	Result of Great White Fleet visit/ American, German, Japanese and French war fleet expand into Pacific and
Fort Queenscliff - obsolete guns replaced	1908	6 & 9 C. P. guns installed
Crows Nest - Engine room and gun emplacements installed	1908	
Crows Nest - electric searchlights installed	1908-1910	
Swan Island/ South Channel Fort demanned - Navy take over	1909	
Maytone **- Officers Mess for Crows Nest**	1910-1947	also short period as commanding officer's Quarters 1916-1919
Submarines recommended to replace mines	1911	
Australian Navy Formed	1911	shift away from coastal batteries to armed seaborne fleets
Fort Pearce (Pt Nepean) Battery established	1911	
Searchlights used for shipwreck rescue (*Edward*** - Corsair Rock)**	1912	
Swan Island Torpedo depot placed under navy control	1912	
HMVS Lonsdale and Nepean **used as destroyer targets**	1912	
HMVS Childers **used as breakwater Swan Island**	1912	
South Channel Fort Abandoned	1914	
South Channel Fort -used to store explosives for Rip blasting operations	1914 - 1979	

First Shot WWI	1914	shot fired across bow German freighter *Pfalz*
Examination Battery and Port War Signal Station (Cheviot Hill) established	1914	vessels entering port required to undergo examination by pilots
Infantry forces guard narrow neck, lighthorse regiments guard surrounding countryside	1914	
HMVS Cerberus **used to protect Victoria**	1914-1918	Also acted as magazine for auxiliary services
South Channel Fort reduced to skeleton force	1914-1918	
Crows Nest Fort - used in WWI	1914-1918	Swaggies camp in fort after war
Barbed wire entanglements in front of Queenscliff guns	1914-1918	
Fort Pearce Barracks established	1917	
HMVS Albert **sold as hulk ashore at Swan Island**	1918	
HMVS Childers **hulked as breakwater at Swan Island**	1918	
J Class Submarines **given to Australia**	1919	in poor condition upon arrival - considered useless
Submarine mines given to Australia Navy by Admiralty	1919	
Searchlights - Fighting Lights - Pt Nepean (x 2 pairs), Pt Lonsdale (1) and Queenscliff (2 x 2 pairs)	1920s	One set at beach level, range 9000 yards. Unsure when installed
South Channel Fort - 5 men stationed here week at a time	1920s+	Fort serviced by Mars and Reay, men penalised for heavy drinking sent here
Cerberus **used as submarine depot ship**	1921	
Navy takes over Swan Island Mine Depot	1922	
J 3 Submarine **scuttled as breakwater at Swan Island**	1923	
*J Class Submarines f*leet decommissioned	1923-1924	
HMVS Countess of Hopetoun **used as pier at Swan Island**	1924+	
Cerberus scrapped as a breakwater at Sandringham	1926	
J Class Submarines (J 1, 2, 4, 5) scuttled in Ships Graveyard	1926-27	
Fort Queenscliff - 2 x searchlights, Pt Nepean and Pt Lonsdale	1929-45	Illuminated shipping during WWII when no radar available. Located at base of fort at water level.
J7 Submarine scuttled as breakwater at Sandringham	1930	
Review recommends mines/ boom gates not needed in Bay	1938	submarines unlikely to enter bay due to currents
First Shot WWII	1939	shot fired across bow German freighter *Stassfurt*
Cottage by Sea used for military	1939-1945	
Narrow Neck / Pt Lonsdale Tank Traps	1939-1945	
Crows Nest Fort Gun and other Fort guns removed for scrap metal - replaced by wooden mockups	1939-1945	
Pt Lonsdale Internment camp	1939-1945	Used fro prisoners off Stassfurt
Review - air and naval defences inadequate - sinking ships proposed to block channels in emergency	1941	7 guns only at heads - spurred by Pearl Harbour attack
Fort Pearce guns vulnerable to aerial attack - moved to Cheviot Hill - dual gun emplacements built	1941	
German Minelayer *Passat* Mines Bass Strait	1941	
New Battery observation post and new Nordenfelt gun at Fort Pearce	1941	covers examination anchorage
Magic Eye, Station M or Chinamans Hat	1942	Magic Eye, Indicator Loop Station
2 Fort Queenscliff guns removed to Pt Lonsdale	1942	had rear protection shields
All Fort Pearce guns relocated to Cheviot Hill	1942	
Sentry killed at Crows Nest	1942	

Enemy planes and submarines sighted in area	1942	
Anti-aircraft guns at Football ground	1942-1945	Nighttime air-raid practice - planes from Melbourne towed targets for practice
Shortlands Bluff to Crows Nest Fort restricted area	1942-1945	
Crows Nest - 4" gun battery built opposite *Maytone*	1943	
Burnt Point Causeway surveyed for barbed wire entanglements	1944	
Crib Battery withdrawn/ Pt Lonsdale Battery placed into maintenance/ gate removed	1944	
Pt Nepean Forts redundant/ Other Forts scaled down	1945	
Maytone - converted to married quarters for Aust. Staff College	1946	
***Mars* sold**	1946	
Fort Queenscliff guns removed/ converted to Australian Staff College	1946	
Pt Lonsdale Searchlight emplacements - beams removed	1948	
Quarantine Station used acquired by military for Officer Cadet Training	1951	
Crows Nest - cannon still here until moved by army to Fort Queenscliff	1950/60s	
Swan Island Mine Depot taken over by army	1960	all access to island prohibited
Quarantine Station used by Army School of Health	1988	

Appendix C-2: Expanded Defence History of Port Phillip Bay

Ever since the first colony in Victoria was established at Sullivans Bay in 1803 (near modern day Sorrento), defence considerations have shaped the use and non-use of the Bay. The period around the initial settlement of the colony was one of great upheaval and paranoia amongst the British communities worldwide. England was often at war with other countries, and her colonies often felt themselves as potential targets for aggressors. By 1836, the colony's first defence force was formed when 30 troops arrived from NSW on the *HMS Rattlesnake* (Noble 1979:86; Coutts 1981: 2-5).

The discovery of gold in the 1850s prompted major concern that a hostile vessel could enter the bay and hold the colony to ransom (Macarthur et al. 1858:949). The Argus newspaper (31/12/1853, as cited in O'Neill 1988:39) printed the following ominous warning:

> …In the event of war we are in a very defenceless state and that the fact of it being known all over the world that we have a few millions worth of solid gold within cannon shot of the Bay is a circumstance which renders us peculiarly liable to attack.

With the secession of Victoria from NSW in 1851, it became clear that a series of defence networks were required for the colony. Initial fortresses were suggested for the heads in 1852-53, especially due to the proliferation of maritime activities and essential government services based there (GA 12/11/1852; Tate 1982:4). With the onset of the Crimean War between Britain and Russia from 1853-56, calls were made to fortify the Heads region to deter any potential Russian attack after rumours circulated of Russian warships patrolling the Pacific, and concerns were expressed that a hostile ship could easily hold Geelong or Melbourne to ransom (Sutherland, 1888a: 461; Brownhill 1990:634-6; Noble 1979:46, 47; 83; Pearsall, and Trumble 1996:338). The Colonies' association with Britain also exposed them to attack by the Empire's enemies, which potentially included France, Russia, America and China (O'Neill 1988:39). Additional concern was raised in 1854 regarding the proximity of new French settlements in the Pacific and exploration attempts along the Australian coastline, which further highlighted the inadequacy of the Victorian Colonial defences (Tate 1982: 4). An alarming situation occurred after Australian Imperial troops became responsible for defence in 1853 (Noble 1979:86), and when the *Great Britain* fired a saluting salvo upon entering the harbour the next year, it caused great panic amongst the community at Melbourne (Noble 1979:46, 47), leading to calls for the fortification of Queenscliff and its recognition as the key to Port Phillip (GA 12/9/1854).

This began the series of many war scares throughout the nineteenth century that led to a constant state of military preparedness. Many alerts were instigated by international tensions between the Mother country and potential aggressors, visitation of foreign warships, or cut communication cables. Hyslop (1976) recorded that there had been 200 war scares in the nineteenth century, which gives some idea of the contemporary state of mind of the colonists. The Australian colonies not only represented rich targets to potential aggressors, but also supplied vital agricultural produce to England, and provided essential strategic coaling depots required for the steamships of the British Navy. Furthermore, the Alfred Graving Dock (Melbourne) represented the largest facility of its time in the Southern Hemisphere, and was a vital facility for international vessel maintenance, a consideration which was further reinforced when the American Confederate Raider *Shenandoah* arrived to use the facility in 1865 (Noble 1979:84; Kitson 1987:6.9).

With the onset of the gold rush, Victoria had become a very prosperous state, and many vessels now left the port laden with fortunes in gold for return to England. Looting and piracy of vessels was rife, even within the Metropolis' harbour itself (Sutherland 1888a:136, 333; Draper 1900:1-6). The isolation experienced by the colonists often added to their

concerns, as it often took months to communicate between Britain and the colony. Many local militia forces were formed in the early 1850s as a countermeasure against foreign invasion. A commission investigating harbour defences in 1854 suggested the Victorian Government should deploy eight guns and howitzers (six 9pr and two 24pr howitzers), a warship steamer and that the colony's army could be supplemented with troops from India. Although these recommendations were not adopted, they were probably instrumental in the formation of several volunteer defence forces Corps under the *Defence Act 1854*, whose volunteer members drilled at nights and weekends at Geelong and Melbourne. As the Allied war campaign in the Crimea proved victorious, the ranks of the Corps swelled, and by 1863 the volunteer forces had swelled to 31 corps with 4000 men including a large detachment at Geelong (Sutherland 1888a:461; Noble 1979:83; Brownhill 1990:634-41).

In the period between 1854 and 1880s, several Royal Commissions and advisory committees considered the problem of how best to defend the colony (Macarthur et al. 1858, 1859a, 1859b; Scratchley 1860, 1863, 1864, 1882; Barkley 1861; Select Committee 1861, 1865a, 1865b; Palsey 1864a, 1864b, 1865a, 1865b; Wiseman et al. 1864; Anderson 1865; Palsey and Scratchley 1865; Verdon 1865; O'Shannesy et al. 1876; Jervois 1877, 1879; Scratchley 1882; Cook 1887). Their recommendations varied between the establishment of fortifications at the heads or closer to the metropolis at Hobson's Bay (Melbourne) led to the reservation of many coastal areas as restricted defence reserves in anticipation of the installation of later facilities. The colony at this time was still heavily reliant on England for the provision of funding to achieve these aims, which was not always forthcoming with the money. Britain favoured the provision of obsolete warships as a stopgap measure, which placated the appeals for colonial defence countermeasures with minimal cost outlay. Several defence vessels including the sailing sloop *Electra*, blockship *Sir Harry Smith*, and steam warship *Victoria* were granted to the colony between 1851 and 1856, predominantly to act as floating artillery platforms to protect Hobson's Bay (Noble 1979:83, 86). The first fortifications in Port Phillip were installed at the entrance to Hobson's Bay (Melbourne) at Pt Gellibrand and Sandridge in 1854, which were earthworks structures with associated guns (Duncan 2003a:276, 280, 440), which in conjunction with the *HMS Electra* provided rudimentary protection.

The placement of the forts was heavily determined by the limitations of the technology available at that time. The restricted range of contemporary weaponry curtailed the proposed shore-based batteries at the Heads as they would not have the necessary firing time to prevent a foe entering the Bay and sailing up to Melbourne. A Royal Commission in 1858 (Macarthur et al. 1858) advised in favour that further batteries should be installed at Melbourne (Hobson's Bay) and Geelong instead of the former location, due to the possible disruption to lighthouse services and the sheer number of men required to run the guns and the problems of troop distributions associated with the isolation of the Heads locality from Melbourne. They further recommended increased militia numbers and the replacement of the *Victoria* with a new armoured gunship (Macarthur et al. 1858:949, 1859a; Noble 1979:86- 9). However, many defence reserves were declared around the bay in anticipation of future military use, including at Pt Lonsdale (McWilliams 1865[plan] - see Figure C-2.1)- where a fortress had been planned between 1858 and 1876 (Macarthur et al. 1858:949, 1859a; Select Committee 1861; Scratchley 1863:7; O'Shannessy 1876:781); Swan Island, and Pt Nepean, and at various locations around Hobson's Bay, particularly along the eastern shore (Scratchley 1863:9, 26). The Mud Islands were declared reserved Crown Land in 1872 (VGG 19/1/1872, cited in Yugovic 1998:233) in anticipation of a fortification.
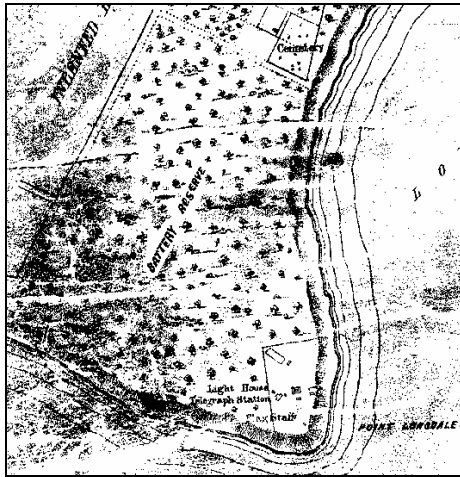
Figure C-2.1: Battery Reserve at Point Lonsdale (McWilliams 1865 [plan], QMM Collection)

The invention of the rifled Armstrong Gun and improved projectiles led to renewed debate as to the best location for fortifications, as its trajectory was up to four times that of previous guns of a similar calibre and thus gave sufficient range to adequately fortify the entrance to the Bay (Macarthur et al. 1859a; Nicholls 1988:180).   New fortifications were recommended at the Heads in 1859 at Pt Lonsdale, Queenscliff and Pt Nepean, which led to the establishment of the Queenscliff Company of Volunteer Artillery (Macarthur et al. 1859b; VGG 11/10/1859). Work was begun on constructing three gun emplacements at Shortlands Bluff and, by early July 1860, a seawall formed the foundations for the future fort (VPRS 2143:1; Perry 1973:38).

In 1860, Captain Peter Scratchley of the Royal Engineers was sent from Bombay with a detachment of Royal Engineers to report on the state of the colonial defences, and to supervise any defence construction (Perry 1973:40). He recommended Port Phillip Bay fort defences be constructed in three stages beginning with the Heads, then the channels and finally the harbours (Select Committee 1861:301). Four heavy batteries were to be built at the Heads (Swan Island, Pt Lonsdale, Shortlands Bluff and Pt Nepean), along with two fortress islands (at Popes Eye and the South Channel), and a chain of ships which could be sunk to block access to the West and South Channels (Scratchley 1860; 1861 [plan]; Select Committee 1861:338).   Scratchley (1860:22) further suggested that the Queenscliff Volunteer Artillery Corps should also be infantry trained to repel a land-based force that might try to capture the fort, which led to the local Corps joining the Royal Victorian Volunteer Artillery Regiment later that year (Perry 1973:39).   He also called for the construction of five batteries each at Williamstown and Sandridge, to be reinforced by a central floating or fixed battery in the middle of Hobson's Bay (Select Committee 1861:337).

By 1861, members of the Queenscliff Volunteer Artillery and Rifle Company were required by law upon joining to attend monthly drills, and financial penalties were imposed on those who failed to attend. Volunteers were drawn largely from the town's population of fishermen and government workers, who included the Health and Customs Officers and their boat crews, the Lighthouse Superintendent and six assistants, the postmaster, the Telegraph Master, the Signalman and the West Channel Lightship crew (Perry 1873:38, 39). The lack of guns at Fort Queenscliff at this time (1860-1861) is notable, as the colony was relying on the presence of the (empty) batteries and garrison soldiers to deter an attack (see Perry 1973:39; Tate, 1982:47). The visit of the Russian screw frigate *Svetlana* to the colony in 1862 may have added impetus to completing the defences, and led to the tender for installation of the first three guns at Shortlands Bluff the next year (Scratchley 1863:29; Tate 1982:50).

The threat of war with America in 1861, led to renewed calls for increased defences in all the colonies (Barkley 1861). Four new shore batteries were constructed at Williamstown that year, along with three batteries at Port Melbourne, Sandridge and Pt Ormond (Scratchley 1863:7; Sutherland 1888a:462; Duncan 2003a:276, 280, 392, 440). Scratchley (1863:5) further recommended the installation of the newly designed Armstrong guns to replace the obsolete 68 pr guns at the Hobson's Bay fortifications until an armed blockship could be purchased. Armstrong guns were available in either muzzle (RML) or breach (RBL) loading, but the latter proved to be problematic and susceptible to accidental discharge (Pasley 1864a:54). Although approved for purchase in 1865 (Anderson 1865:61), difficulties in obtaining the RML guns (Pasley 1865a:62) led to delays in their introduction into the colony. Other types of Armstrong guns (Palliser), where older guns were rebored and fitted with rifled barrels, were initially successful but were later withdrawn after several accidents overseas (Pasley 1965a:62). Later improvements to this design led to their recommendation (Select Committee 1865b:v) and they were introduced to several guns in the colony around 1867 (Billett 1994:5). However, it was not until the late 1870s when the Armstrong rifled gun ranges were again increased that they were successfully applied to use at Victorian coastal batteries (Jervois 1879; Nicholls 1988: 181). Victoria commissioned several 80 pr RML guns during this period together with studless palliser shot (Hawkins, 1888:251).

These limitations in gun ranges and availability led to the development of Hobson's Bay as the preferred location for fortifications, with a token three gun battery at Queenscliff, until such time that further funds and guns became available (Select Committee 1861:301). By 1863, 70 guns were planned for Port Phillip, including 13 at the Heads, 51 for Hobson's Bay and six for Geelong (Scratchley 1863: 28). Hobson's Bay defences then consisted of four batteries or emplacements at Williamstown, and five along the Sandridge eastern shore, with further works planned at Williamstown (a tower west of the Right Battery), the Central Defence (Pile) Battery to be replaced with an Imperial 12 gun block-ship (armed with six 68 pr guns and six rifled guns) until ironclad gunship technology had been perfected and could replace it, and torpedoes (mines) and other obstructions be placed in Hobson's Bay to defend against enemy shipping (Scratchley 1863:11, 12). A small (two gun) battery was also constructed to defend Geelong in 1863 (Brownhill 1990: 639).

The invention of ironclad technology during the Crimean War, and the testing of this new technology in several vessels including the first iron hulled warship *Warrior* (1860), and the ironclad *Monitor* (1862) during the American Civil War led to a revolution in naval warfare. When news of the innovative technology reached Victoria, the government was favourably disposed to the purchase of an ironclad, as its existence not only provided an alternative defensive strategy, but also threatened the colony if used against it. The British Parliament was lobbied for funding to build an ironclad vessel for the colony on the grounds that it presented a cheaper alternative to shore based defences, and although the designs for two vessels were undertaken they were not commissioned (Noble 1979:90-92).

An open battery of three guns to defend the anchorage off the jetty was finally installed at Shortlands Bluff by 1864 (Scratchley 1863:26; Wiseman et al. 1864:36). It is notable that around this time (1863) more than three times as much ordinance was allocated for each gun at Queenscliff (100 rounds) as compared to 30 rounds at Sandridge and 60 rounds at Williamstown (Scratchley 1863:25), suggesting that it was realised that Queenscliff was at more risk from attack than the other batteries, and also took into account that it was isolated and operated without the support of other batteries.

The volunteer corps continued until 1863, when (following Scratchley's (1863:15) recommendation), all volunteer regiments (except cavalry) were replaced with 23 enrolled corps (paid reserve volunteers), including a Queenscliff detachment of the 2nd Geelong

Artillery Corps, which was later incorporated into Geelong Corps of the Royal Victorian Volunteer Artillery in 1873. Later that year, this unit was dissolved into a new unit - the South Grant Volunteer Artillery Corps based at Queenscliff (Perry 1973:40).

Plans were also made for the expansion of the Queenscliff Battery, the construction of two gun towers at Pts Nepean and Lonsdale in 1864 (possibly on Corsair and Lonsdale Reef or Rock, respectively- though these were never constructed (Wiseman 1864:37)), all to be linked via semaphore stations. These were to operate in conjunction with planned defence reserves declared at St Kilda, Sandridge, the Yarra River mouth, Williamstown (from the Right Battery to the firing range), Queenscliff (from the jetty to Pt Lonsdale), Pt Nepean, and Geelong (Scratchley 1863:7, 8, 10, 12, 13), and an island tower fort to be later installed at Popes Eye as part of a Heads defence plan (Wiseman et al. 1864:37). By 1864, the size of the guns recommended for the Heads defences had been revised up to 300 pr, and further recommendations were made for a gun tower fort at Pt Henry, Geelong, and Hobson's Bay respectively (Scratchley 1864:32; Wiseman et al. 1864:37), although the latter was dismissed by Scratchley (1864:31) in favour of a new armed block-ship.

Further concern was raised at this time regarding the lack of suitable landward defences, and Pasley (1864a:54) suggested the construction of at least one fort (later to become Fort Gellibrand) to defend the other batteries against a terrestrial assault. Sand parapet batteries were recommended for the north shore at Sandridge, after their efficiency had been proved in the attack on Charleston, America (Pasley and Scratchley, 1965:2).

In 1864, with the proposed adoption of smaller lightweight Armstrong guns, Pasley (1864a:58) recommended the arming of small auxiliary launches or barges, which could be used to reinforce the Hobson's Bay defences, or be moored in the shoals to defend the Heads channels. New attitudes to the visual imposition of fortifications were introduced around this time that reflected a trend away from the previous strategy of ominous presence towards one of camouflage. Instructions were given to encourage weeds, shrubs, trees and other vegetation to grow around fortresses, and gun emplacements, and a willow plantation for gabions and fascines was planned for Williamstown, (Scratchley 1863:14, 30, 1864:32).

Work on the defences was delayed for many years, while funds were constantly requested from Britain for their completion (Select Committee 1865a:807, 1865b:887). The estimated cost of creating two artificial island fortresses was enormous, around £350 000 alone for the South Channel Fort, and work on them was delayed at least a decade due to funding hold-ups (Jervois 1879:4).

The arrival of the American Confederate raider *Shenandoah* in 1865, heightened concern amongst the population that Victorian defences were inadequate, and the public demanded that the warship *Victoria* be replaced (Noble 1979:84; Kitson 1987:6.9). The *Shenandoah* had until this time been engaged in a guerre de course (war on commerce) amongst the American Whaling Industry, sinking whaling vessels which formed the financial backbone of that country. When Melbourne's populace awoke to find the vessel already moored in Hobson's Bay, it highlighted the needs for more adequate defences. Given the abundance of gold in the colony at this time, along with the strategic importance of the Alfred Graving Dock for ships' maintenance (which the *Shenandoah* used during her stay), Melbourne represented a prime target for invasion or to be held to ransom (Kitson 1987:8.9). In 1865, a gun raft, the *Elder*, was introduced to supplement to defence in Hobson's Bay. A 68 pr gun was mounted on the 46 by 26ft platform supported by two flat bottomed punts which was moored at the entrance to the bay (Nicholls 1988:49).

In 1865, the *British Naval Defence Act* was passed, which allowed colonial governments to procure and maintain their own naval vessels. Appeals were made to the imperial government for an interim armed block-ship to defend Hobson's Bay, and the construction

of an armour plated *monitor* turret ship armed with 22 ton guns (Verdon 1865:41-2), which led to the permanent loan of an obsolete line of battle ship *HMS Nelson* which had been converted into a two decked auxiliary steamer, and the construction of an ironclad warship (*HMVS Cerberus*). The *Nelson* replaced the *Victoria* upon its arrival in 1868 (Sutherland 1888a:462; Noble 1979:94-5).

The 1870s were a period of great uncertainty for the Australian colonies, with the declaration of war between France and Prussia in 1870, the departure of Imperial British Troops from the colony (Sutherland 1888a:461; Perry 1973:40; Brownhill 1990:640). With the Royal Navy's defence of Australia limited to four or five unarmed policing cruisers, the colonies were relatively unprepared for conflict, and it was speculated that if war broke out a group of small fast armoured vessels could disrupt shipping, hold harbours to ransom and destroy coaling stations (which were essential for Royal Navy fuel supplies) before the colony was informed.

The ironclad monitor class ship *HMVS Cerberus* entered service in the colony in 1871, and visited many of the Bay ports that year, allaying many fears about defence of the Port Phillip Colonies (Brownhill 1990:640). The *Cerberus* never saw active service, but undertook regular training runs from Hobson's Bay to Queenscliff and Sorrento, and provided a tangible reassurance for the paranoid colony (Noble 1979:99).

In 1873 Geelong Corps and Drysdale Artillery helped man the Queenscliff Fort. Four 80 pr and two 40 pr guns were set in place, and were fired at a red flagged barrel moored 1800 yards offshore from the battery (Brownhill 1990: 641-2).

With rapid changes taking place in military technology worldwide, Scratchley was again consulted in 1877 regarding the defences at Port Phillip Heads. His recommendations included a proposal to block the entrances to the channels with mines and artillery fire from fortresses, to be supplemented with searchlights for night raids (Kitson 1987:2.2). Additional proposals were made in conjunction with another advisor, Lt General Jervois - the Director of Works and Fortifications in Britain - later that year, and included extra fortifications at the Port Phillip (Perry 1973:41; Noble 1979:100) and other west coast towns (Jervois 1877; GA 3/7/1877:4). Jervois (1879:4) suggested radical changes to the fortification systems of Port Phillip in 1877. Guns were to be mounted on two new artificial islands similar to those at Spithead, UK (Kitson 1987:6.1), to be at the entrances to the two main fairways (West and South Channels), as these gave greater gun coverage for the South, West, Symonds and Coles Channels. These defences were to be supplemented with remotely operated electrical torpedoes (mines), floating obstructions and piles across the West and Symonds Channels, and mechanically operated torpedoes in the channels (Loelia and Pinnace) not used for navigation (Jervois 1879:4). The minefields were laid out with two outer lines of electro-contact mines in advance of the fort, with four inner lines of observation mines to the east, which could be remotely exploded in lines when a ship passed above, or on contact as required. As the technology for illumination was still being developed at this time (magneto-electric light), picket guard boats patrolled the area of a night or during fog.

By 1878, the *Nelson* was cut down to a single deck steam frigate, and two 68 pr and 24 64 pr guns were mounted in response to further fears of a Russian attack on Port Phillip (Noble 1979:95). Shifting political alliances led to increased paranoia of a Russian invasion mounted from New Caledonia, when Russia and Britain came close to war in 1879 (Constantinople) and 1885 (Afghanistan). Although conflict was avoided, later historical research revealed that Russia had developed plans to lay siege to Sydney, Melbourne and Newcastle with four warships (Kitson 1987:2.1).

This period of the next ten years saw increased activity in response to the threat of war. Work began on the Queenscliff, Swan Island and South Channel defence facilities in 1879

(Kitson 1987:6.2) and necessitated the relocation of the lighthouse keepers quarters to inside the fort's enclosure. A military railway from Geelong to Queenscliff was approved in 1877 (GA 13/9/1877:2) and completed by 1879 to facilitate the rapid deployment of troops to the forts in the event of an invasion. Prior to this time the principle mode of transport to the area was by sea and the town was even considered remote from Geelong (Perry 1973:41). The Swan Island and Queenscliff Forts a complementary networked enclosure of fire that could be operated by a relatively small number of men, and walled enclosures were constructed around these facilities to prevent landward attacks in the early 1880s (Jervois 1879:6; Noble 1979:105). The works were "rushed along as if the enemy were expected any minute" (Dod 1931:94). The completion of Fort Queenscliff in 1884 eventually led to removal of the Queenscliff Post Office from inside the fort's walls to a building in Pilots Row, as public access was restricted by the Forts walls to the permanent garrison members. The postmaster at the time also complained that the ceiling had to be reinforced with pine slats, as it tended to collapse during gunfire practice (Dod 1931:94-5).

The Russian scare of the 1885 reached its height when tensions arose between Russia and England over the Afghanistan border dispute, and led to speculation in the colony about imminent warfare between the two nations. Britain was heavily reliant on her colonies for basic foodstuffs at this time, and the implementation of new strategies of guerre de course by the Russian that had been adopted from the Confederate Navy threatened British supply lines (Kitson 1987:8.9). The government reacted by improving fortifications around Port Phillip Bay, especially at the Heads, to provide defence against the increasing international arms race (Brownhill 1990:642). Existing defence facilities were improved, guns were now placed in their positions, and new forts erected. Shrapnel mounds and moat defences were constructed both around and inside Fort Queenscliff, which had been hitherto exposed to long range gunfire and a rear landward assault, and a windmill was installed to ensure their own water supply (VPRS 2143). Fifty extra men were assigned to the Victorian Permanent Artillery, and work proceeded on the defence works at Queenscliff, Pt Nepean and Pt Franklin Batteries, Swan Island and South Channel Forts, and the West and South Channel torpedo fields (Perry 1973:44). A 9" gun was also placed for the first time at Eagles Nest Fort on higher ground 1 km east of Pt Nepean. Many government vessels were seconded during this time as emergency defence vessels, and a number of barges were readied to be sunk to block the South Channel if necessary (Jones 1986:78-9).

Similar defences to those at Swan Island and Queenscliff were also mounted at Point Nepean, and a 10" BL gun was mounted at Pt Franklin to cover the examination anchorage. By 1886, the defence system was finished, complete with electrical mines operated from South Channel Fort. It was an improved and more powerful battery, and by 1887 the whole Pt Nepean peninsula was riddled with tunnels that connected garrisons with batteries and magazines (Noble 1979:106; Kitson 1987:2.2; O'Neill 1988:44).

By 1888, there were two batteries at Shortlands Bluff, and the older guns were gradually being replaced with new Armstrong and other more modern guns. A 12 ft high brick wall now surrounded the fort, with loopholes to repel a landward attack. The fortifications at Swan Island consisted of several RML guns, which were to be supplemented by torpedoes laid across the West Channel (Sutherland 1888b:158).

Another scare occurred in 1888, when the telegraph cable to London was accidentally severed, which prompted all the defence garrisons to be mobilised. The defence networks were highly criticized at the time, as the forts at Pts Nepean and Franklin had been almost completely dismantled, presumably having either been replaced by the longer range of the gun at Eagles Nest, or were in the process of upgrading their guns (O'Neill 1988:45). By 1889, the works at Fort Franklin was complete, as was the newest fort Eagles Nest (Tate 1982:73). By 1890, Melbourne was considered the best defended commercial city in the Empire (O' Neill 1988:46).

This period saw many rapid changes in technology that influenced defence policy. Several new defence vessels were commissioned as defensive technology evolved. With the introduction of the propelled Whitehead torpedo in 1877, torpedo boats were developed to deploy these devices. In 1884, two second class 12 ton torpedo boats, *HMVS Lonsdale* and *Nepean* were purchased for the Victorian Navy, along with a first class torpedo boat of 75 tons in 1891 (*HMVS Countess of Hopetoun*), and turnabout torpedo launch named *Gordon*. Two heavy gunboats (*Albert* and *Victoria*) and another 60 ton torpedo boat (*HMVS Childers*) were also arrived from England in 1884 (Noble 1979:99). The launch *SS Miner* had also been obtained for the Permanent

Section Torpedo Corps based at Swan Island (Tate 1982:61). Nordenfeldt Machine guns and quick firing cannons were later introduced to the Victorian Fleet as a countermeasure to the enemy using torpedoes against them (Nicholls 1988:189). The vessels all played active parts in the annual Easter War Games held at Port Phillip Heads, where mock battles were staged to test the colony's defences, and were all strategically anchored around the entrances to the channels, to prevent the entrance of any warship (A11 c.1889 [plan]; Anon. 1889; HCW c.1939 [plan]; Noble, 1979:100). Many of these vessels were later used for target practice, broken up, or used as piers or breakwaters around the Bay ((Noble, 1979:100; Jones 1986; Anon 1993b: 25-30). Further plans were made to block the West Channel with scuttled vessels in case of an imminent invasion (Reid 1885; Thomas 1885).

As gun technology led to increased firing trajectories, new breach loading Armstrong guns were recommended for a new fortress at Swan Island that would make the planned fort at Popes Eye redundant and was cheaper to install when used when used in conjunction with electrically operated mines across the West and Loelia Channels. The new battery was to include a garrison and keep, five heavy guns (including three Armstrong BL guns), a torpedo depot (completed in 1884) and training facility and dedicated naval torpedo staff (Jervois 1879:5-6). However, despite extensive delays due to bureaucratic indecision work at both island forts proceeded (Noble 1979:104). Bluestone granite for their construction was ferried from quarries near Geelong. The South Channel Fort was built on a shoal on the northern side of the South Channel near its eastern extremity (Brownhill 1990:642).

The South Channel Fort incorporated cutting edge technology, and its design was constantly altered during its decade of construction. Work began on the oval-shaped island in 1879, when a perimeter of closely spaced timber piles were used to contain a seawall of shaped bluestone blocks to form an annulus 9 ft high above the sea bed in 1880. Concrete caissons were sunk into the sand to bedrock, and the buildings were constructed on a four feet thick concrete pad (Kitson 1987:1.1, 6.1). Two innovative new types of warfare technology were incorporated into the fort's design in the 1880s. Sand parapets, a significant new development in military architecture, were installed to provide increased protection from artillery and camouflage. The stronghold was one of the first of the low profile forts in the world, and the only shoal fort of this type in the world.

Magazines, galleries, a keep and gun emplacements were installed within the reclamation to construct the fort (Noble 1979:104). The fort housed two parapets rows, with the lower line armed with seven breach loading guns fed by a subterranean powder magazine, and new machine gun mounts in the upper ramparts to fend off landings or torpedo boats. A keep and barracks were supported by monolithic timbers of Australian jarrah hardwood. A dock was constructed on the north western side, which provided shelter for shallow drafted torpedo boats, and a jetty was constructed at the eastern extremity. New electric searchlights were installed for night defences, and mines in the South Channel could be detonated from an observation post (Kitson 1987:2).

A new armament mounting, the disappearing gun, was also introduced to the fort. These guns were shielded behind a steel cover shield, and popped up momentarily above the shield

to fire before recoiling into its casemate. The combination of these two new technologies along with the use of Australian hardwood as a substitute for concrete decreased the cost of building the fort, and therefore led to its speedier construction. The final design for the South Channel Fort was developed by 1885 during the Russian Scare and became fully operational by 1888 (Kitson 1987:1.1, 6.4, 6.5, 6.6).

A similar structure was also commenced at Popes Eye Shoal in 1886, at the junction of the West and Symonds Channels. Works proceeded to an extent where an annulus for the base of the fort had been established above water on the Popes Eye Bank by 1889 (Tate 1982:73; Kitson 1987:2.2, 6.5), but changes in defence policy and technological advances in gunnery led to the redundancy of the fort when long distance guns were to be installed at Swan Island (Noble 1979:104).

Despite the urgency prompted by several war threats, and the technological innovations in military hardware, the developments of the batteries were often delayed by bureaucratic delays in funding allocation and defence strategies in the early 1880s. Although two batteries had been installed at Queenscliff by 1880, and the contract let for the Swan Island facility (VPRS 2143; Tate 1982:55), a lack of funds delayed works at all the forts in 1882 (Perry 1973:43; Noble 1979:105).

Proposals for permanent garrison artillery to be stationed at the forts were adopted by the government in 1882. This provided the first wholly military battery, whereas previous batteries had been used as a reserve from which policemen and gaolers could be recruited. The garrison was organised into detachments, one of which was permanently stationed at Queenscliff to maintain and occupy the forts at the Heads was commanded by Colonel Lemarchand, a retired officer from the Royal Bengal Artillery (Perry 1973:43). Despite the introduction of the new permanent garrison battery, the limited number of troops meant there were still insufficient soldiers to man the guns, and therefore there was still a heavy reliance on militia (volunteer civilians) during training, annual camps and the event of hostilities (O'Neill 1988:49). Monthly live fire gunnery practice was undertaken from at least the 1880s-1908, which restricted the use of large tracts of sea in front of the fortresses (QS 29/3/1890, 16/5/1891, 10/12/1892, 3/2/1894, 22/8/1908).

The defence of Hobson's Bay was of prime concern since the inception of the colony to control shipping access into Melbourne. Pt Gellibrand and Sandridge proved to be key defensive locations, with several other batteries planned as part of major defensive strategies were suggested by Scratchley in the 1860s. Until the late 1870s, when Jervois' new defensive plans led to the redundancy of most of these batteries, Melbourne was the hub of defences for Port Phillip Bay, which included a naval torpedo depot (and supply hulks) and a naval battery and torpedo test firing facility in the Maribyrnong River. The Lighthouse, Pier and Right Batteries were removed by the late 1880s/ early 1890s. Fort Gellibrand was upgraded in the 1870s and again during the 1880s as part of the Heads defence network (Duncan 2003a:276, 280, 440).

Two electric searchlights were installed at Queenscliff in 1886, and in 1893, another contract had been tended to construct a fixed searchlight on the foreshore at the Queenscliff Battery (Tate 1982:63, 69, 77). By 1892, fixed (search) lights had been installed at Swan Island, Queenscliff, South Channel and Pt Nepean Forts, and were supplemented by wandering searchlights that could illuminate any vessel that wandered through the fixed beam (QS 26/11/1892; Kitson 2001:23).

The moral well being of the military forces also became a point of concern. A soft drink factory began operating inside the fort from c.1896 to the early 1930s. Lemonade and soda water were bottled in distinctive in marble topped bottles embossed with an exploding hand

grenade (known as a Bombardier bottle) and ginger beer in stoneware bottles, which were sold at the Fort Grocery store. The factory was established in an attempt to provide alternative beverages to alcohol and to encourage a more sober lifestyle. The drinks were manufactured for the exclusive use of the military, and hence were relatively unknown amongst the local Queenscliff population (Tate 1982:119,143; Arnold 1990:168).

In 1889, the South Grant Battery moved to Queenscliff (from Drydsale), and was renamed the Port Phillip Battery, but the corps was disbanded in 1892 when the non-commissioned officers and men were made redundant, and Queenscliff no longer maintained any part-time artillery garrison. The garrison artillery was again reorganized in 1897, when the Western District Artillery Brigade was formed from the Victorian Permanent Artillery and the artillery garrisons of Geelong, Portland, Warrnambool and Port Fairy, with the new headquarters based at Fort Queenscliff. The Victorian Permanent Artillery changed to the Victorian Regiment, Royal Australian Artillery in 1899 in anticipation of Federation (Perry 1973:45-6). After the Federation of Australia in 1900, defence ceased to be the responsibility of the state. By 1901, state defence forces had been reorganised within a unified Commonwealth military force, and the administration of all military establishments was assumed by the Federal Government (O'Neill 1988:52).

With the American, German, Japanese and French fleets' expansion into the Pacific Ocean, and a visit by the American battleship fleet in 1908 (QS 22/8/1908) Australia faced the threats on many fronts, leading to suggestions for the formation of an Australian Navy, which was finally implemented in 1911 (Overlack 2001; Reckner 2001: 175-8, 181). This period heralded a significant shift away from a sole reliance on coastal batteries to seaborne naval fleets.

The outdated guns at the Heads forts (Pt Nepean and Queenscliff) were replaced by new weapons by 1908 (QS 13/6/1908; Kitson 1987:7.2), and were to remain in use until the end of WWII (O'Neill 1988:52). Their longer firing range led to the de-manning of Swan Island and South Channel Fort. The torpedo depot at Swan Island was then placed under Navy control (QS 11/5/1912; Noble 1979:107). A new battery and barracks were built at Fort Pearce (Pt Nepean) in 1911 and 1917, respectively (O'Neill 1988:52). By 1909, a new bill was introduced into Parliament to establish a larger defence force, and to introduce compulsory military training for all those over 18 years of age (QS 25/9/1909).

The first shot of WWI was fired from Pt Nepean when war was declared just as the German freighter *SS Pfalz* was proceeding to sea, and the vessel was commandeered as a war prize. During WWI, the garrison at the South Channel Fort was reduced to a skeleton force (Kitson, 1987: 6.5). The artillery men and engineers were often criticized for their failure to serve overseas, even though the Heads Forts often were training grounds for subsequent overseas postings (O'Neill, 1988: 54).

The outbreak of war led to the introduction of several new defence facilities. In 1914, an Examination Battery was established (possibly Fort Pearce) and a Port War Signal Station was established at Cheviot Hill (Pt Nepean) under naval control (Veale n.d.:5). The Pilot ships *Alvina* and *Victoria* were seconded as Examination Steamers, as the pilots had been recruited for examination duties during this period. All vessels entering the Bay were required to submit to examination before proceeding. At this same time the infantry forces guarded the narrows at Queenscliff, and light horse regiments patrolled the countryside further beyond (Tate 1982: 90). A large howitzer was also installed near the junction of the Geelong and Portarlington Road, and was used for firing practice at Duck Island [CS]. At Pt Lonsdale, two new electric searchlights (numbers 6 & 7), an engine room, and E.L.D (Electric Light Direction Station) were installed in November 1914, with an underground tank added in 1916, and 7ft high barbed wire fence in 1919 (NAA 569/4/276:B1535–13/2/1924).

In 1919, Britain presented Australia with a fleet of six destroyers and six J-Class Submarines. The submarines were in such poor condition on their arrival in Australia that they had to be refitted, before they were stationed alongside the *Cerberus* at Osborne House in Geelong. The fleet undertook training exercises in The Bay and Bass Strait, and was eventually decommissioned successively by 1924, due to their obsolescence and defence budget cuts. The J3 was used as a breakwater at Swan Island in 1923, and the other vessels were sold for scrap between 1923-24, and four (J1, 2, 4 and 5) were scuttled in the ships graveyard outside Port Phillip Heads in 1926-27, with the J7 used as a breakwater at Sandringham in 1930 (Smith 1990).

The Nepean defences were reduced considerably between the World Wars, and in the 1930s meals were transported from Queenscliff to the six men living there by a small daily boat (*Mars*) from Queenscliff; on rough days the men were forced to get supplies from Portsea or the Quarantine Station (O'Neill 1988:54). The searchlights at Pt Nepean were still manned into the 1930s (QHS Photo: 1891/2572)

Prior to WWII in 1938, a review of defences decided that mining and boom gates were not required, as submarines were unlikely to enter Port Phillip Bay due to strong currents, and that attacks were likely to be limited to coastal bombardments and motor torpedo boat raids in Bass Strait. With the onset of war in 1939, the first allied shot fired worldwide again came from Pt Nepean, this time to stop a small coastal trader (*Woniora*) which ignored orders to halt for examination. A port war signal station was established at Pt Lonsdale to communicate with offshore naval craft (Veale nd:5). In 1941, the German Raider *Pinguin* captured the Melbourne bound merchant ship *Storstadt*, and after converting her to a mine layer she was renamed her *Passat*. The two ships proceeded to lay minefields around NSW and Bass Strait (Perry 1973:49; Hunt 1999:24).

Although the use of searchlights enabled the detection of any vessel entering the Heads, their illumination also provided a stark signal of the Port Phillips location for any enemy traffic (Brown 1999:1). These circumstances led to the development of a number of experimental installations for detecting vessels entering the Rip. In March 1942, a facility called the "Magic Eye" was installed which shone a photo-electric (infra-red) beam from two transmitting units at Pt Lonsdale across the Rip to two receiving stations at Pt Nepean. The transmitter produced a light source that was projected through an infra-red filtering screen and passed through a series of holes in a rapidly revolving disk, which broke the beam into a series of pulses as it was projected. At the receiving side it was focused to a pinpoint beam (via a paraboloidal mirror) onto a photo-electric receiver cell tuned to a specific frequency (M.E.E, n.d.:2). The amplified signal triggered an alarm in the Nepean Battery Observation Post (via a cable that went ashore at the Quarantine Station) and automatically switched on the searchlights whenever shipping broke the beam. This cutting edge facility was used in conjunction with the batteries and searchlights at the Heads (which were operated by the army), and although it operated for a few years, the system often failed when it was activated by birds, waves and rain, despite the installation of a higher beam which allowed the lower beam to be switched off in heavy weather. An indicator loop was installed across the Rip underneath the beam (in August that year), but had been removed by 1944 (DON 1942; Army Reports 10/3/1942, 23/4/1944, as cited in Honoury Editor 1989:9; Nelsen 2002). Despite these failures, the potential of this new technology led to the installation of another facility at Sydney, and also other indicator loops around Australia.

A second piezo-electric light beam station known locally as the "Chinaman's Hat" (and officially known as "Station M") was installed on a dolphin near Popes Eye before 1942, which transmitted two electronic beams across the Rip that was reflected off a large mirror to two reflectors located at either Fort Franklin, Fort Nepean or Portsea known as "Station P" (its exact location was not determined) and to Swan Island ("Station S") that sounded an

alarm when broken, although this too proved unsuccessful. The mechanism was removed in 1944, only after the army gave priority to the development of radio direction finder equipment which made the system redundant. An indicator loop was installed on this structure to detect the magnetic presence of submarines in 1942, but was abandoned in 1943 (Honoury Editor 1989:10; Nelsen 2002; [JB]).

Furthermore, the attack on Pearl Harbour in 1941 led to another review of defences that identified weaknesses in air and naval defences at the Heads, which were open to aerial bombardment as there were only seven active guns, and no aerial defences. Emergency defences were planned, and these included sinking ships to block the fairways (as mines were in short supply), and mounting torpedoes tubes on two Portsea Piers (which proved unsuitable; Noble 1979:108). As the gun emplacements at Fort Pearce were considered vulnerable to aircraft attack, they were moved to Cheviot, where a dual gun emplacement was built. Additional protective concrete shields were also installed over several guns, and a new battery observation post was built at Pt Nepean, along with a new 14 pr Nordenfeldt gun at Fort Pearce to cover the examination anchorage (O'Neill 1988: 55).

In 1942, two 6" Breech loading Mark 7 guns were removed from Fort Queenscliff to be remounted at Pt Lonsdale Battery, and two 4.7 quick firing guns were mounted at Crows Nest Battery. Both sets of guns had rear protection shields. The guns at Fort Pearce were also relocated to Cheviot Hill. In that same year, a sentry at Crows Nest was killed by an unknown person, who later fired on other soldiers. The threat of war appeared closer to home around this time, when enemy submarine and aircraft were sighed in the area (Tate 1982: 97-9, 114, 121). In 1943, the port war signal station was moved to Eagles Nest, a hill at Pt Nepean (Veale nd:5). The existence of the Burnt Point Causeway road during WWII was obviously perceived by the military as a possible defence threat, and in 1944 the area was surveyed for barbed wire entanglements (Tate 1982: 104). By mid 1944, it was proposed that the Crib Battery be withdrawn, and that the Lonsdale Battery be placed into maintenance (Tate 1982: 104).

With the threat of war so close to home, proposals were made towards the end of the war for dual purpose lightweight guns for anti-aircraft and small vessel deterrence, which were installed at the football ground and near Crows Nest. The operations at the Heads were scaled down by the end of the war, and Pt Nepean defences were declared redundant. In 1946 the guns were removed from Fort Queenscliff and it was converted to the Australian Staff College (Noble, 1979:109; Perry 1973:49; Hunt 1999:24), as were the guns at Pt Lonsdale batteries (NAA A82/2/84: MT/1131/1-1/9/1961). In 1951, the Commonwealth Government acquired temporary use of part of the Quarantine Station from the Health Department for use as officer cadet training, but this was closed in 1985 pending the opening of the Australian Defence Forces Academy opened in Canberra (O'Neill, 1988: 56). In 1988, the site was occupied by the School of Army Health.

Appendix C-3: Significant Vessels in the Victorian and the (Post Federation) Victorian Based Australian Navy

Defence Vessel	Date Start	Event	Date End	Type	Size tons	Armament	Comments
HMS Electra	1851		1856	sailing sloop			Became headquarters for Hobsons Bay Water Police
Sir Harry Smith	1855		1868	blockship			
HMCSS Victoria	1856	1860-1862	1878	screw sloop	880	8 x 32 pr	Replaced *Electra* - Specifically built for Colony. Temp leaves Bay for Maori War, and to Gulf of Carpentaria to find Bourke and Wills
Pharos	1864		1881	gunboat	156	2x 18pr	Former lighthouse tender
HMCS Elder		1865		Gun raft		1 x 68pr	Catamaran hull built in Williamstown
HMVS Nelson	1868		1891	Two Decked Frigate		between 16 & 46 smooth bore (62 & 64 pr) guns and howitzers (less over time)	
HMVS Cerberus	1871		1921	Monitor Class Iron Clad	3480	4 x 10" MLR, 2 x 6pr, 4 x Gatling, 4 x 1"	Hulk used as a breakwater at Black Rock, Melbourne
HMVS Miner	1882		1904	Mine-laying launch		submarine mines	Owned Defence Dept, complement of Vic Engineers
HMVS Albert	1884		1897	Steel Gunboat	370	1 x 8' RBL, 1 x 6" BL, 2 x 9pr, 2 x 3lb, speed 10 knots	
HMVS Victoria	1884		1896	Gunboat	370	1 x 10inch RBL, 2x 13 lb, 2 x Nordenfelt 3 pr	
HMVS Childers	1884		1918	1st Class Torpedo Boat	60	2 x 15" torpedo tubes for Fiume torpedoes (4 carried), 2 x 1pr Hotchkiss guns, speed 19 kts	Possibly hulked at Swan Island
HMVS Lonsdale	1884		1914	2nd class torpedo boat	12	Dropping Gear for 2 x 14" Whitehead torpedoes, speed 17kts	Used as Breakwater in Queenscliff Bight to protect foreshore houses.
HMVS Nepean	1884		1914	2nd class torpedo boat	12	Dropping Gear for 2 x 14" Whitehead torpedoes, speed 17kts	
HMVS Gordon	1884		1914	timber turnabout torpedo boat	56	dropping gear for 2 x 14" torpedoes, 3 x 1" double/four barreled Nordenfeldt guns	

Batman	1885-1886 1914			hopper barge/ auxiliary gunboat/ minesweeper	387	1 x 64 pr	Owned by Harbour Trust, served 1914 as non-commissioned minesweeping flotilla. Scuttled in Ships Graveyard, Barwon Heads
Fawker	1885-1886 1914			hopper barge/ auxiliary gunboat	387	1 x 64 pr RML,	Carried compressing engine for Sth Channel Torpedo Division, owned by Harbour Trust, served 1914 as non-commissioned minesweeping flotilla. Scuttled in Ships Graveyard, Barwon Heads
Gannet	1884			paddle tug/ auxiliary gunboat	246	1 x 64pr RML	Owned by Harbour Trust
Commissioner	1885			launch/ auxiliary spar torpedo boat/ torpedo launch		torpedo spar, later two sets of dropping gear	Harbour Trust Launch
Vulcan	1889		1918	coastal minelayer	75	submarine mines	Two laying out parties of 9 men could work simultaneously. Owned Defence Dept by Vic Engineers
Mars	1891		1946	tender	45	assisted with mine laying	tender for Vic Artillery
Spray	1885		1885	launch/ auxiliary submarine minelayer/ spar torpedo boat	40	submarine mines/torpedoes	Owned Defence Dept, used by Vic Engineers to service fort Franklin
Customs No 1	1885			spar torpedo boat/ torpedo Launch	30	two sets torpedo dropping gear	Owned by Customs Dept
Lion	1885			launch/ spar torpedo boat	35	torpedo spar, later torpedo dropping gear	
HMVS Countess of Hopetoun	1891		1924	1st class steel torpedo boat	75/120	3 x 14" torpedo tubes, 4 sets dropping gear, 2 x twin barreled 1" Nordenfeldt guns	Hulk used as a jetty at Swan Island

J Class Submarines	1919		1923/ 1924	J Class Submarine. Obsolete vessels presented to Australia at end of WWI			*J3* used as jetty at Swan Island.1923. *J1, 2, 4* and *5* scuttled in Ships Graveyard, Barwon Heads 1926/1927. *J7* used as Breakwater at St Kilda Marina 1930,
SS Reay		1930s	1946	launch		used in conjunction with the Mars to transport troops and supplies between the Heads Forts	
Mynah		1920s				used to transport supplies from Melbourne	
Sacramento/ Deborah		1878	1882	mine magazine ship			Originally used as prison ship (1850s), then as store-ship/ mine assembly ship for torpedo corps in 1878, replaced by storehouses at Williamstown in 1882
Ragle				tug/ auxiliary gunboat			

(After Noble 1979; Tate 1982; Jones 1986; Kitson 1987).

Appendix C-4: Rifle Ranges of Queenscliff and Swan Island

1) Chinamans Point Rifle Range

The first rifle range in Queenscliff was located on the spit between Plank Road and Swan Island (Chinamans Point), but had to be abandoned after it presented dangers to boats entering Swan Bay (Cuzens 1912:7). The volunteer military corps was formed not long after 1859, when men drilled twice a day at Queenscliff. Every anniversary, a shooting match for prizes was held where the fishermen's flats now stand, but had to be discontinued in this area as it presented a danger to incoming boats crossing the bar (Fanning 1893). The rifle range was moved from here for this reason, and the area was required for fishermen's allotments. The range had target plates to mark the accuracy of the shots, with a pit dug in which to shelter during firing practice (Simpkin n.d.:6).

2) Shortlands Bluff Rifle Range

By 1861, a new rifle range had been established behind the Botanical Gardens facing Lonsdale Bight (Dod 1931:59). A line of trees were cleared from the Crows Nest in the direction of the Springs, but was later abandoned when the gunfire was found to be dangerous to farmers working at the springs (Cuzens 1912:7). It was still in existence in 1864 (GA 27/5/1864). A rifle match was got up at the Baths in 1864 [presumably near the site of the old baths at Shortlands Bluff] (GA 27/5/1864). The Queenscliff Volunteer Artillery unit set up its own shooting competition at this location, where targets were placed on the sand dunes of Lonsdale Bight and firing parties stood on land behind the botanic gardens (Dod 1931:59).

3) Swan Bay Rifle Butts

The new rifle Butts at Swan Bay The rifle range was established in 1884 to the east of the High School at the Narrows near the railway line (near W. Werry's cottage stood), and was used by the Queenscliff Rifle Club for many years (Cuzens 1912:7; QS 19/7/1884; 13/6/1908). They were abandoned in 1907 (QS 2/11/1907) after construction had begun at a new range at Swan Island that same year (QS, 19/10/1907). Calls were made to remove a shed associated with this facility as early as 1907 when it was inhabited by 'undesirables (QS 2/11/1907), and by 1908 it had been dismantled (QS 13/9/1908). It was located near railway lines close to the Swan Bay Yacht Club in 1912 (QS 2/11/1907, 5/10/1912). Locals described the remains of the facility:

> Alongside the yacht club building on the west corner, you'll find the remains of the Rifle Butts… take a line across to McDonalds Jetty...It was the 3rd rifle range in the area and was 860 yards long. The butts were in the water and they fired out over the water at the targets towards McDonalds Jetty. Jack Golightly found dummy lead shots out there. On a very low tide you'll find some of the butts if you are lucky. The butts were the posts on which the targets were mounted. I found one of them once, and marked it with a white marker pole, but someone must have knocked it over. All I found was stakes 4ft or so high of 3x 2 timber. [CA]

> There was once a small rifle range at the junction of the King and Flinders St. Queenscliff had a rifle range called "the butts" near the junction of the Geelong Road at the former Queenscliff High School site. A tree there was used to support the rifles when firing out over Swan Bay. This site retarded the use of the causeway across Swan Bay, as it was in the firing line. I used to collect 303 shells from the banks and shoreline here. [LID]

4) St Georges Hall

A shooting competition was also conducted at St Georges Hall in 1907 between the A.N.A. and A.O.F lodges in Queenscliff. The range was 40ft long and contestants used B. B. Gun ammunition (QS 31/8/1907). This meeting was arranged as an adjunct to the service firing at the ranges, and as such was more a sporting occasion than a permanent range.

5) Swan Island Rifle Butts

A new firing range was built at Swan Island around 1907 (QS 19/10/1907), and was located just above the golf course, which was granted land for that purpose at Swan Island in that year. A track was constructed from the second bridge at Swan Island to the Rifle Range, which could serve as an extension of the Swan Island tramway line, and an underground telephone cable was also installed between each rifle mound and the target butts (QS 30/11/1907). Work at the rifle range was delayed after an initial work began, and was still not completed by 1908. The rifle range was constructed by Royal Australian Artillery, and was to be used by the Queenscliff Rifle Club, whose numbers were dwindling due to wont of a practice range (QS 29/2/1908). The construction of the Queenscliff Golf Club at Swan Island around the same time, led to notices that golfers used the course during rifle practice at their own risk (QS 14/3/1908). It was finally opened in June 1908, and provided range firing from 200 to 1000yards distance, telephone communication between all the butts and Fort Queenscliff (QS 13/6/1908; 21/11/1908). The range was a popular location for shooting practice for troop sports days from Fort Queenscliff in the late 1920s (Tate, 1982:144). The range was being used by the Royal Australian Engineers by 1909 (QS 22/5/1909), but it appears that the range was not open to the public until 1910, when it was first used by the Queenscliff Rifle Club (17/9/1910). Concern was expressed about cadets using the range in 1912, when they obtained live ammunition and riddled a shed with bullets in the area (QS 25/5/1912). A local resident described the site:

> A small rifle range was once located along the NW edge of Swan Island. There are numerous small steel plates located here that were used as by the range marker personnel for cover (to hide behind) when livefire activities were undertaken – these plates are often buckled and bent where they have been hit by bullets. [LID]
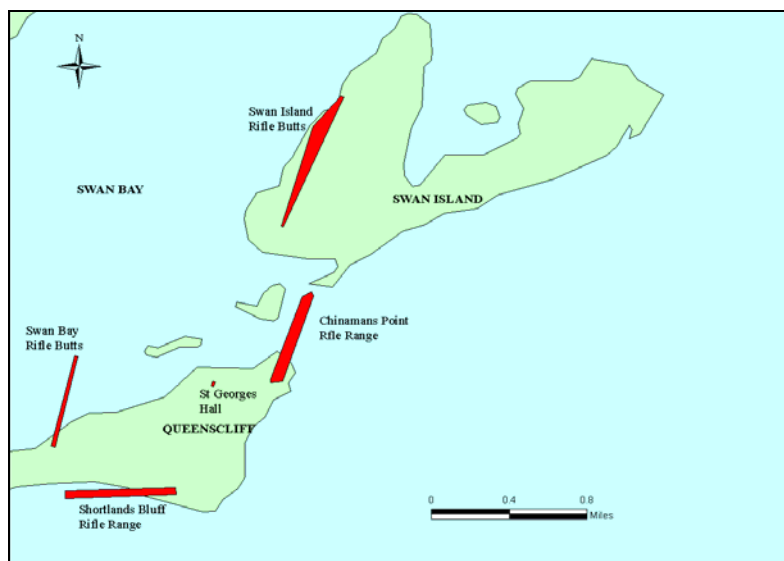
Figure C-4. 1: Rifle Ranges of Queenscliff and Swan Island.

Appendix C-5: Military and Volunteer Corps Organisation Used for the Defence of Queenscliff

Year	Event	Force	Effect
1859	Formed	Victorian Volunteer Forces	Volunteers -serve in voluntary capacity as soldiers. Drawn from Towns Population
1860	Scratchley recommends infantry training for Volunteer Corps	Queenscliff Volunteer Artillery Corps	Corps join Victorian Volunteer Artillery Regiment to avoid being trained as infantry
1861		Queenscliff Volunteer Artillery Corps	Required by regulations to attend drills and practice - fines applicable for non-compliance (but not enforceable due to voluntary unpaid nature of Force)
1863	Poor discipline leads to reformation of Volunteer Forces	2nd Geelong Artillery Corps	Queenscliff Corps transferred to Geelong Corps
1873		Geelong Corps Royal Victorian Volunteers Artillery	
1873		South Grant Volunteer Artillery Corps	
1883		Militia Forces Formed	Soldiers now subject to military discipline and law
1884	New Militia Garrison Battery begun at Drysdale in preparation of disbandment of Volunteer Forces	South Grant Battery Militia Garrison Artillery	
1889	South Grant Battery Moved to Queenscliff and taken over by Victorian Permanent Artillery	South Grant Battery , Queenscliff	
1892	All non-commissioned officers	Port Phillip Battery	
1897		Victorian Permanent Artillery	

Appendix C-6: Archaeological Signatures of Defence Landscapes

1) Fortresses and Batteries

As made clear from the discussion above, defence has played a large role in the shaping of the Port Phillip landscapes, both physically and cognitively. Fortress sites and gun emplacements were the most obvious archaeological signatures of defence activities, and were spread along the southern shores of Port Phillip at Swan Island, Queenscliff, Crows Nest, Pt Lonsdale, Pt Nepean, Eagles Nest, Pt Franklin and on artificial islands in the south and west channels. Many are still extant (including Swan Island and South Channel Forts, Forts Queenscliff, Nepean, and Franklin, and Eagles Nest), and some were still used by the military. In particular, the Queenscliff and Swan Island Forts were monolithic structures resembling a medieval castle in stature [BMn] (see Figures C-6.1 and C-6.2). The extant Fort Queenscliff is surrounded by defensive walls on the landward side, along with traces of the former ditch (known locally as the moat), and tunnels leading to the foreshore and the searchlights. The extant South Channel Fort (Figures C-6.3 and C-6.4) as is the partially completed annulus at Popes Eye (Figures C-6.5 and C-6.6). The former demonstrated the change in defence strategies to low profile camouflaged structures with sand parapets, and it notable that most new fortresses after this time incorporated this principle (eg Fort Franklin and Crows Nest Fort).

Introduced or re-introduced vegetation was an important component of camouflage for fortresses from the 1860s onwards (Scratchley 1863:14, 30, 1864:32; Tate 1982: 62) and included pine, prickly acacia, wattles trees, ti-tree, samphire scrub, pigface, grasses and boxthorn. It appears that several of the thorned plant species were also intended as a natural version of barbed wire (eg boxthorn), and were discovered at several fort locations around The Bay including South Channel Fort, Fort Queenscliff and Crows Nest Fort. A willow plantation was planned to make gabions and fascines (baskets and faggots for constructing fortification earthworks) at Williamstown (Scratchley 1864:32), but it is unclear if this ever eventuated, and it is possible that other material such as native ti-tree may have been exploited for this purpose.

The introduction of the threat of aerial warfare to the area in 1942, led to new approaches to camouflage of battery sites, whereby tonnes of leather off-cuts from shoe factories were spread around pathways on the dunes of the Crows Nest Battery to disguise their location from aerial surveillance [LB], and were still evident in great densities around that site.

Barbed wire entanglements were also present at most military installations. Often the entanglement line would only be visible by a line of steel star pickets which were used to secure them in place. Numerous other types of sites were associated with batteries, but were not recorded in this study (due to their vast numbers, divergence from the maritime theme, and previous recording elsewhere). These included sentry boxes, tank traps, civilian air raid shelters, accommodation quarters, messes, barracks etc).

Batteries were usually located on the highest elevated site in most areas (which had usually been retained as a military reserve from a very early date) as this gave the optimum field of fire (Figure C-6.7). Gun emplacements in these structures originally began as earthen embankments with timber carriages in the 1860s, of which little or no evidence usually remained. However, batteries from the 1880s period were usually evidenced by massive casemates set below ground level (up to 8m wide), with circular iron gun supports beds and complex underground tunnel networks for supporting magazines (Figure C-6.8). Batteries from this period were also low

profile, with buried external aprons and recessed casemates which were either circular or semicircular in shape (e.g. Crows Nest Fort– Figure C-6.9). Casemate size and gun supports reduced in size over time, and were eventually replaced with central pillar mounts, which were evident from either recessed square shafts (South Channel Fort, Pt Lonsdale Battery - Figure C-6.10), or by a circular ring of bolts set in a concrete pad which was reinforced with a cylindrical concrete base that extended at least 1.5m underground below the gun (eg Crows Nest Battery – Figure C-6.11).

Figure C-6. 1: Fort Queenscliff.

Figure C-6. 2: Fort Queenscliff Keep.

Figure C-6. 3: South Channel Fort (Photo: Lighthouse Designs, Pt Lonsdale).

Figure C-6. 4: South Channel Fort.

Figure C-6. 5: Popes Eye (Fort) annulus (Photo: Lighthouse Designs, Pt Lonsdale).

Figure C-6. 6: Popes Eye annulus (Fort).
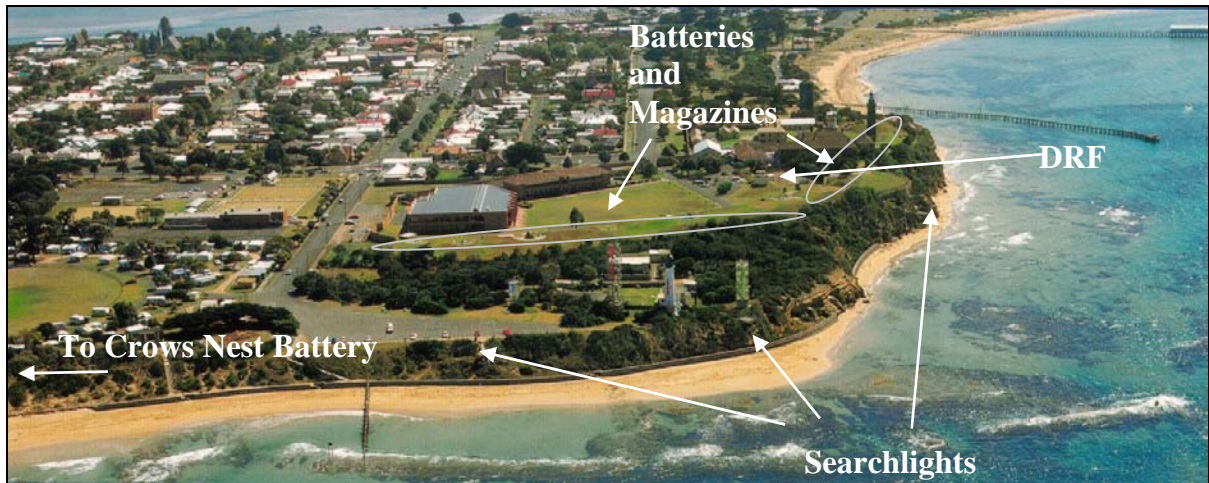
Figure C-6. 7: Fort Queenscliff from south (Photo Postcard: Neil Cutts, Rose Stereograph Co., Mt Waverly).

Figure C-6. 8: Fort Queenscliff 9" HP disappearing gun casemate, Fort Queenscliff.

Figure C-6. 9: Exterior (formerly buried) apron of the 8" HP gun casemate, Crows Nest Fort (1886).
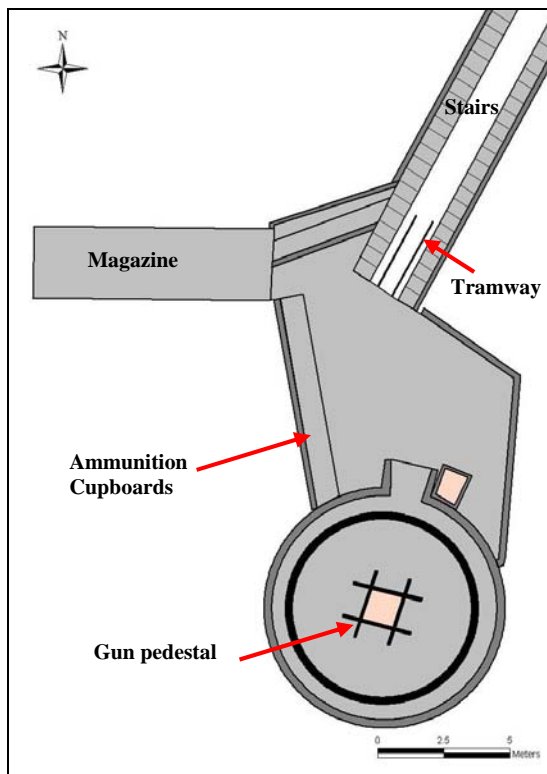
Figure C-6. 10: Survey plan of Pt Lonsdale Battery #1 c. 1942.

Figure C-6. 11: Crows Nest Battery WWII 4.7" gun emplacement.

Figure C-6. 12: Laurie Barras with leather off-cuts used as camouflage at Crows Nest Battery in WWII.

A) *Magazines, Tunnels and Other Infrastructure*

Many other features were associated with the gun installations. Each battery demonstrated associated underground magazines where ammunition was stored. In the nineteenth century, magazines were located directly adjacent to the battery as the shells were too heavy to transport over lengthy distances. Magazines were therefore often installed underground (to efficiently utilize space and for protection from bombardment). Magazines usually evidenced a series of lifting hoists (either earlier pulley operated or later mechanical) to lift ammunition to the surface (Figures C-6.13 and C-6.14), along with ventilation pipes, and isolated passages where naked lamp flames were lit. The introduction of electric lights led to the cessation of these passages in later periods. These magazines were evident from either tunnels leading from the surface (Fort Franklin, Fort Queenscliff - see Figure C-6.15), or by a raised squared mound alongside the battery position (Crows Nest Fort).
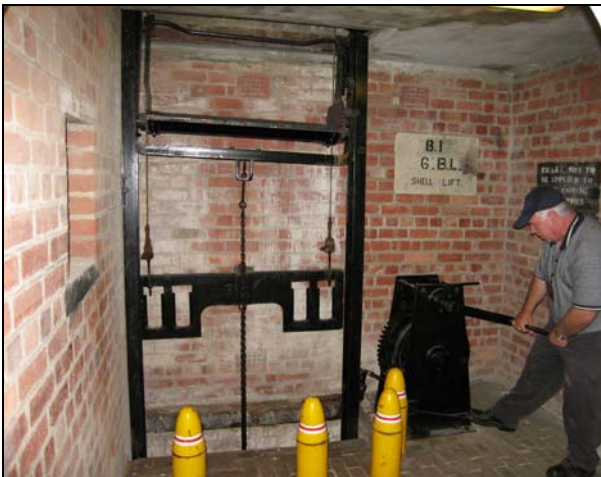
Figure C-6. 13: Bob Marmion operating the mechanical shell hoist in underground magazine, Fort Queenscliff.

Figure C-6. 14: Scott Allen near the block and tackle shell hoist, Fort Queenscliff.

Figure C-6. 15: Magazine, store and lamp passage tunnel entrances, Fort Queenscliff.

The two Pt Lonsdale Mark 6" VII batteries from WWII also had attached magazines, but these were located behind sand dunes to afford some protection from incoming enemy fire (as opposed to underground), and were supplied via individual tramways connecting to the service road below (Figure C-6.16). However, the smaller Crows Nest Battery (of two 4.7" guns) had a common reinforced rectangular magazine located a maximum of 20m away (Figure C-6.17). The reduction of the size of ordinance (and subsequently ammunition) over time enabled the magazine (in this case) to be situated further away from the batteries as it was light enough to be carried between these facilities [LB].

Figure C-6. 16: Ammunition magazine (left), Pt Lonsdale Mark VII Battery #2.

Figure C-6. 17: Crows Nest Battery WWII Magazine.

B) Direction Range Finder (DRF) Stations /Battery Operations Posts (BOP)

Wherever gun emplacements were located, range finding observation posts (known as Direction Range Finders - DRF) were located close by (within 400m), along with searchlight installations (see below). Each DRF was set on a prominent elevated position with a clear view of the surrounding terrain, and usually had an elevated pedestal which housed an alidade for taking angular measurements of incoming shipping (Figure C-6.18). The earliest design encountered was located 400m to the west of Crows Nest Fort (Figures C-6.19 and C-6.20). This two story concrete bunker was built in 1886 with a bombproof steel plate roof above a very narrow observation port, with internal access stairs to an underground work/barracks area. The alidade in this case had been previously set into a raised slate sill. Later DRF stations (postdating 1886) were cube shaped reinforced bunkers with a narrow observation window on three sides (Pt Lonsdale, Forts Nepean and Queenscliff, South Channel Fort – Figures C-6.21 and C-6.22), and it is probable that the earliest versions (South Channel Fort), once housed an iron plate roof instead of the later reinforced concrete structure. Another type of DRF (known as a Battery Observation Post – BOP) station dating to 1905, was a smaller narrow structure (approx 10ft x 9ft 4") mounted atop the remains of the redundant Crows Nest Fort, but only the concrete pad was still evident (Figure C-6.23 and C-6.24). A similar example of this type was seen in Auckland NZ (Figure C-6.25). The Fort Queenscliff DRF evidenced two alidade pedestals which faced in opposite directions, suggesting that it had been extended to also service the Crows Nest Battery in WWII (which did not evidence its own local DRF) (Figure C-6.26).

Figure C-6. 18: Pt Lonsdale DRF station interior, showing alidade pedestal mounting.

Figure C-6. 19:Lonsdale Bight DRF Station (c.1880s. Photo: John Patrick Collection).

Figure C-6. 20: Seaward view of Crows Nest Fort DRF station (Photo: John Patrick Collection).

Figure C-6. 21: South Channel Fort DRF station (c. 1886).

Figure C-6. 22: Pt Lonsdale WWII DRF Station. Note that the top structure (on right) was formerly an electric (search) light detector (E.L.D.).

Figure C-6. 23: Crows Nest Fort BOP 1905.

Figure C-6. 24: Crows Nest Fort BOP 1905.

Figure C-6. 25: Extant example of the same type of BOP encountered at Crows Nest Fort. Located at North Head Battery, Auckland, New Zealand.

Figure C-6. 26: Fort Queenscliff dual DRF station, built 1915.

C) *Enemy Detection: Searchlights, Engine Houses and Sensor Beams*

Several extant and partially demolished searchlight bunkers were located at Queenscliff, Pt Lonsdale, Pt Nepean and South Channel Fort. The earliest searchlight types constructed in 1886 (Shortlands Bluff - Figure C-6.27) were concrete circular keep like structures which were based at the foot of cliffs and stood approximately 3m above the waterline. The searchlight enclosures were semicircular in shape to facilitate maximum arcs of visibility. The emplacements at South Channel Fort (Figure C-6.28) were an exception to this rule as they were built within the confines of the artificial island, and their shape was tailored to suit. In that case, the searchlights were accessed via a narrow tunnel, were mounted on a light rail (so they could rolled back if under fire) and were covered by a concrete cube shaped bunker with a smaller rectangular concrete surround viewing port at the seaward end. Searchlight design was modified by 1908 to become cube shaped structures fronted by a semicircular enclosure (Figure C-6.29) with a small internally accessed room (probably used for wire connections and range finding calculations). The design was slightly modified again by 1914, when the semi-circular frontage became more angled (probably to facilitate easier construction -Figure C-6.30). Later models dating from WWI onwards were box like structures which exhibited a 1.5m high opening on the seaward and (partially on the) side walls (Figure C-6.31). Searchlights were always used in conjunction with batteries, were close to the waters edge and were increasingly elevated in later models. As batteries were dismantled or became obsolete, the searchlight emplacements were also made redundant. Archaeological remnants of the carbon rods used inside the light arcs of the searchlights emplacements were still evident at Fort Nepean in 1988 (Honoury Editor 1989:8), and in collections at Fort Queenscliff (Figure C-6.32).

The searchlights emplacements were either butted against the cliff face (Shortlands Bluff, Pt Lonsdale), or mounted atop sand dunes (Crows Nest, Pt Lonsdale), and usually had an associated engine room located nearby to the rear, which were often underground (Fort Queenscliff, Pt Nepean, South Channel Fort - Figure C-6.33) or behind elevated sand dunes (eg Crows Nest Camp, Pt Lonsdale - Figure C-6.34). The size of engine rooms reduced considerably over time, especially given the introduction of gasoline driven generators in the twentieth century. The latter type exhibited a raised concrete bed for the generator; an external storage area for flammable liquids; a recessed vehicle access ramp; and exhaust pipe vent holes in the roof (Figure C-6.35and C-6.36).

Figure C-6. 27: Shortland's Bluff searchlight #2, (c. 1886 – 1892).

Figure C-6. 28: Searchlight emplacement, South Channel Fort (c. 1888).

Figure C-6. 29: Crows Nest searchlight #1 (c. 1908).

Figure C-6. 30: Pt Lonsdale searchlight #1 (1914).

Figure C-6. 31: Shortland's Bluff searchlight #1, c. 1940s?

Figure C-6. 32: Unused searchlight carbon arc rods (FQ Collection).

Figure C-6. 33: Engine house entrance, South Channel Fort (c1888).

Figure C-6. 34: Pt Lonsdale engine house.

Figure C-6. 35: Pt Lonsdale WWII generator shed bunker (c. 1942).

Figure C-6. 36: Pt Lonsdale generator bunker interior.

Remains of the Magic Eye mechanism were still evident at Pts Lonsdale and Nepean (Figures C-6.37 – C-6.40). The device consisted of a large (ex searchlight bunker) (Victoria Police 1942 [plan]) and a small concrete hut (which resembled a sentry box) at Pt Lonsdale, with a similar hut and split level receiver housing bunker at Pt Nepean. Both facilities were located low near the waterline. The Chinaman's Hat was a circular concrete caisson structure that was built on Queenscliff Pier, and floated out to its site, and the bottom knocked out to allow it to settle onto the seafloor [JB].   The beam mechanism was removed not long after it was installed, and the structure was temporarily used for an indicator loop network, until being abandoned for use by seals (Figure C-6.41). The Chinaman's Hat was removed from the area after it was deemed a hazard to navigation in 2004 (Figure C-6.42). A section of the concrete caisson structure still lies below the seabed, where it was left behind when the upper section was sawn off during its removal. No other archaeological relics were found under the structure during inspections by the Victoria Archaeological Survey in the 1980s, suggesting that either the structure was unmanned or sporadically occupied [MS]. The transceiver locations for this device at Portsea and Swan Island were positively identified, but a concrete structure known locally as the Swan Island Beacon (which lies approximately 20m offshore on Swan Spit), and another concrete structure located at the base of the Fort Franklin cliffs are possibly contenders based on their locations and very similar appearances to each other and the structure at Pt Nepean (Figures C-6.43 and C-6.44) A WWII copper communications cable is still extant between the Swan Island Fort to Popes Eye which crosses through the *Gambier* wreck (1940), and another cable is known between Pt Nepean and Queenscliff which is often caught by boats [PF; TA] is probably part of an indicator loop cable (see Walding n.d.) which was installed in conjunction with Chinaman's

Hat and the earliest Infra-red beam. The concrete bunkers at Pt Nepean, Swan Island and Pt Franklin all have similar appearances to other indicator loop stations overseas (see Walding n.d:1) and may also have acted as indicator loops receptor stations.
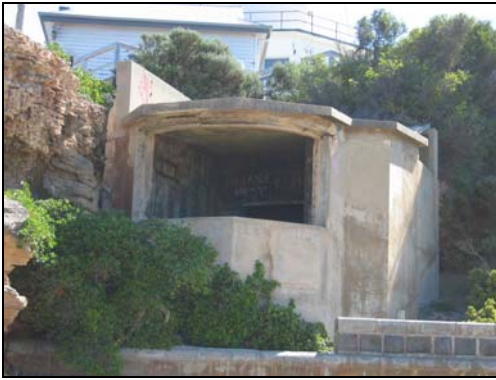
Figure C-6. 37: Pt Lonsdale Searchlight #1/ Magic Eye transmitter.

Figure C-6. 38: Magic Eye transmitter, Pt Lonsdale.

Figure C-6. 39: Magic Eye receptors #1 and 2, Pt Nepean, (John Patrick Collection).

Figure C-6. 40: Magic Eye receptor #1, Pt Nepean, (John Patrick Collection).

Figure C-6. 41: Chinaman's Hat (Station M) in situ, 1995.

Figure C-6. 42: Chinaman's Hat after removal to Melbourne 2005 (Photo: HV Collection).

Figure C-6. 43: The Swan Island bunker, which was possibly the former transceiver Station S used in conjunction with the Chinaman's Hat.

Figure C-6. 44: Possible Station P transceiver, Pt Franklin.

D) Shipwrecks

Several shipwrecks/hulks associated with defence were known in the area. Several former Victorian Navy and Royal Australian Navy vessels and hulks used for breakwaters or piers at Queenscliff (*HMVS Lonsdale* Figure C-6.45) and Swan Island (*HMVS Countess of Hopetoun* (Figure C-6.46) and *Childers, J3* Submarine (Figure C-6.47)*,* and an unknown vessel under *J3*). The timber ketch *Mystery* was also used as a breakwater at Swan Point in 1922 (Foster 1987:13, 97).   Several wrecked military vessels included the *Isa* (gunpowder hulk in Swan Bay), *HMAS Goorangi*, an unidentified wreck associated with the construction of Popes Eye, and also scuttled vessels in the ships graveyard (eg *Courier*). The hulk of the *S.F. Hersey* was purchased by the navy in 1923 for use as a pier, and lies alongside the J3 Submarine (Foster 1987:39). Outside the study area, the hulk of the *Cerberus* (Figure C-6.48 and C-6.49) has been used as a breakwater near Melbourne, along with the hulk of the *J5* Submarine. Furthermore, substantial brick deposits are still evident at the *Trusty* stranding site in Nepean Bay*,* which were destined for the Pt Nepean Batteries (Figure C-6.50).

Figure C-6. 45: Excavated conning tower of *HMVS Lonsdale* in 1995 (Photo: John Hargraves, HV Collection).
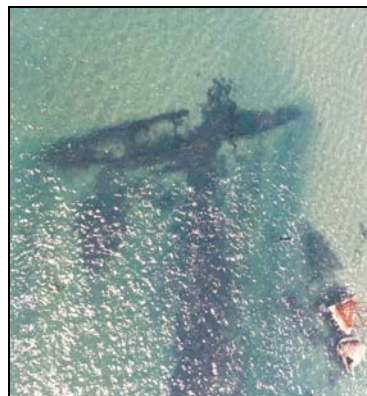
Figure C-6. 46: Aerial view of the *Countess of Hopetoun* hulk, Swan Island, 2001, with the remains of the jetty to access the wreck when used as a landing, and Swan Island bunker on right (Photo: Photo Mapping Services, DSE).

Figure C-6. 47: Swan Island submarine (J3) with mine assembly sheds at rear (Martin Gibbs Collection).

Figure C-6. 48: *HMVS Cerberus* at Black Rock (Melbourne) in 1990 (Heritage Australia Collection).

Figure C-6. 49: The hulk of the *HMVS Cerberus* in 1995.
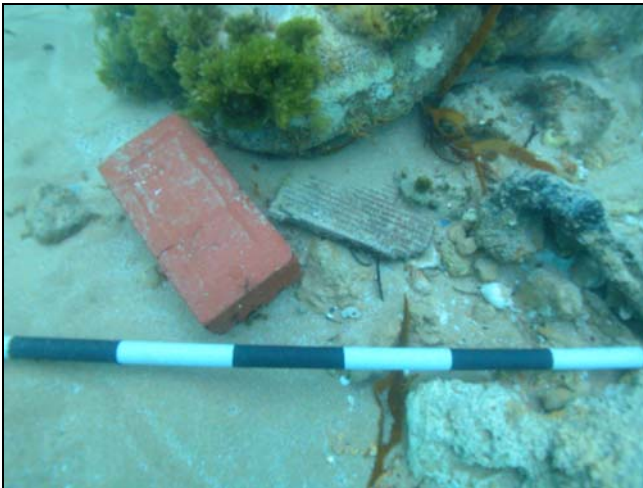
Figure C-6. 50: Bricks from the *Trusty* stranding at Pt Nepean (Photo: HV Collection).

E) Mines and minefields

Two extant sheds at Swan Point were identified as former mine manufacturing sheds that dated at least to WWII (Figure C-6.51). These sheds were used to install the explosives charges in the mine bodies which were manufactured by the Ford Motor Car Company in Geelong. The mine shells were transported by truck to Swan Island, where they were fitted with detonators [GW; JP;   LID].

Extensive mine deposits were located close to the end of Swan Island, which at first consideration would indicate a minefield close by, but also were probably associated with the mine assembly sheds contiguous to this area. Contact and limpet mines have been identified inside Swan Bay near Swan Island [PF] and round mines (Figures C-6.52 - C-6.54) and electrically detonated mines have been found attached to cables at Pt Nepean [CP; MS]. When submarine mining was discontinued, the explosives from the mines were removed and used for blasting for channel deepening (Topp 1930), and the mine shells used as incinerators throughout the district, with evidence of this practice found at Portarlington, Lake Connewarre (15km west of Queenscliff) and Drysdale. Hence the mines in this region are more likely to be empty shells used to stop coastal erosion in this area or those discarded into the water (Anon. 1993b:4, 5, 20). Mine detonation mechanisms have been found at Swan Island Spit and and Pt Lonsdale [DL; PF], although the latter may be associated with blasting operations in The Rip in the 1960s [PF] (Figures C-6.55 - C-6.57).

Figure C-6. 51: Swan Pt mine assembly sheds.

Figure C-6. 52: Swan Island mines.

Figure C-6. 53: Swan Island mines.
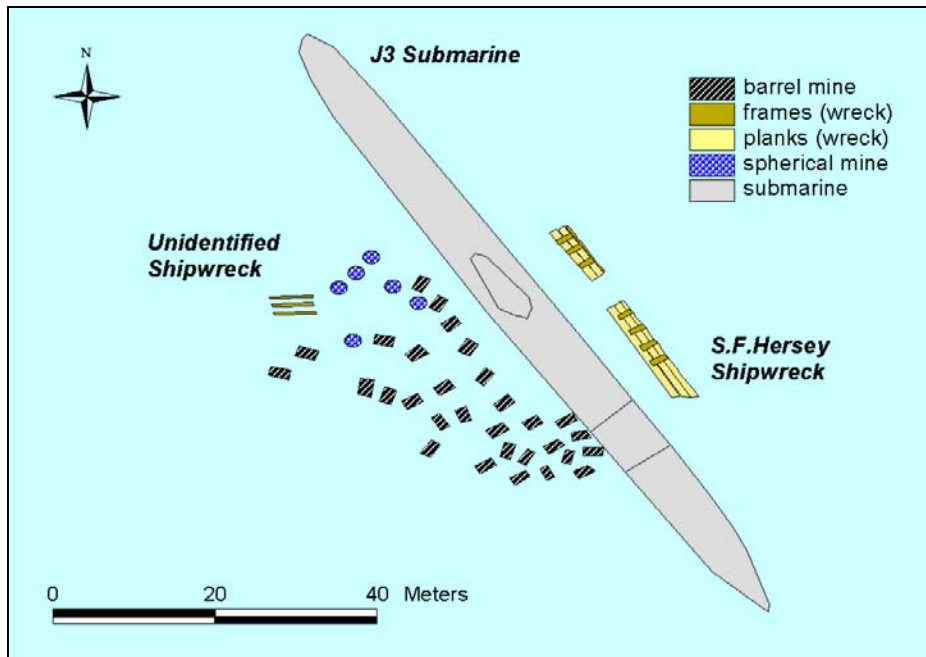
Figure C-6. 54: Survey sketch of underwater mines, and shipwrecks at Swan Point

Figure C-6. 55: Electrical contact mine (FQ Collection).

Figure C-6. 56: Electrical contact mine detonation mechanism (Peter Ferrier Collection).

Figure C-6. 57: Mine Used as an incinerator (Lake Connewarre).

No further direct evidence of underwater mines was discovered, although a cable associated with mine detonation and communications between Swan Island and Observatory Point (via Popes Eye) has been seen by many divers [MS; PF]. Local divers [DL; PF] have suggested that isolated stranding sites found on either side of the South Channel from the 1880s onwards suggested that shipping may have been trying to avoid mined areas by navigating close to the edges of the channels (particularly on the northern side which was seeded with remotely detonated mines as opposed to contact mines on the south side), but this observation could not be adequately tested during this study.

F) Firing Ranges, Gas Check Plates and Ammunition Dumps

Several divers [CP; DL; PF] reported the discovery of an arc of scattered bronze expansion cups around the Swan Island and Queenscliff Forts, and at Popes Eye. Gas check plates/plugs (also known as plates expansion cups/ disks) were seated between the explosives charge and the projectile to maximise the explosive force with a more effective seal by retarding the loss of gas that escaped past the shell in the bore. They also retarded erosion of the gun bore, facilitated greater range and accuracy, and later aided rotating shells in rifled guns (Patterson 1985:7; Hawkins 1888: 152, 155).

Ferrier's collection includes over 24 gas-check plates, of which two types (Figures C-6.58-C6.61) were apparent tentatively dated to the period 1860-1880 [ME]. The larger type was embossed with "9 in GUN, I" (30 cm diam.), with the more predominant smaller size marked "80 Pr, I, R↑L" (20 cm diam.). These gas- check plates are from 9" Palliser Shot RML dating from 1866/67 - 1888 (Cundill 1877: 185, 209, 219; Hawkins, 1888:152, 418, 424), and the latter was an automatic gas- check from an 80 pr (possibly Palliser) RML guns dating sometime from 1872 onwards (Cundill 1877: 234, 238; Hawkins 1888:156, 418, 424), and specifically 1878-1888 for this area. It is notable that the recessed grooves in the latter type may be used for diagnostic dating (they originated in the period from 1877-1888), and were introduced to automatically attach to the shell upon firing (Hawkins 1888:155 - see differences between Figures C-6.62 and C-6.66). Many of these robust bronze artefacts showed obvious signs of distortion, and some were missing their centres as a result of the force of the explosion (Figure C-6.64). Similar finds have also been discovered in front of forts at Warrnambool in Western Victoria [PR], and at Fort Gellibrand, Williamstown ([PT] as cited in Duncan 2003a: 279).

Other evidence of artillery practice included fuse detonation devices used to explode artillery shells [LM; PF]. Several types of fuses were evident in both the study region and adjacent areas. These fuses included a possible Petman percussion Fuse (Figure C-6.67 and C-6.68) for a shrapnel round which postdates 1877 (Cundhill 1877:47; Hawkins 1888:234) and a later model timed percussion fuse from WWII (Figures C-6.69 and C-6.70), both of which screw into the nose of the projectile. The former is marked "V" "A" "11/03", which could either signify it type and batch number (Mark II and batch 03) or its date of production (November 1903), and that it was manufactured by the Victorian Artillery (Hawkins 1888:115).

The gas checks and fuses themselves represent not only tangible evidence of the gun batteries and the size of the guns, but also the gun types and size of charges used. Cannon balls have also been discovered in this region and in Lonsdale Bight [DL; PF]. The range of the guns located in some of these areas was known from trajectory diagrams (Barrett n.d. [plan] – Figure C-6.71), and these were compared favourably with the artefact scatter range. However, it should be noted that the explosives charges for the later guns were halved, as full charges often threatened communities on the other side of The Bay, and many of these later explosives shells were originally filled with sand or salt to simulate the normal weight of the projectile (Covill 1989:7).

Figure C-6. 58: 9" gun gas check plate. Scale = 20cm (Peter Ferrier Collection).

Figure C-6. 59: Markings on 9" gun gas check plate (Peter Ferrier Collection).

Figure C-6. 60: 80 pr RML (possibly Palliser) automatic gun gas check plate (Peter Ferrier Collection).

Figure C-6. 61: Underside view of 80 pr RML (possibly Palliser) automatic gun gas check plate. Scale = 20cm (Peter Ferrier Collection).
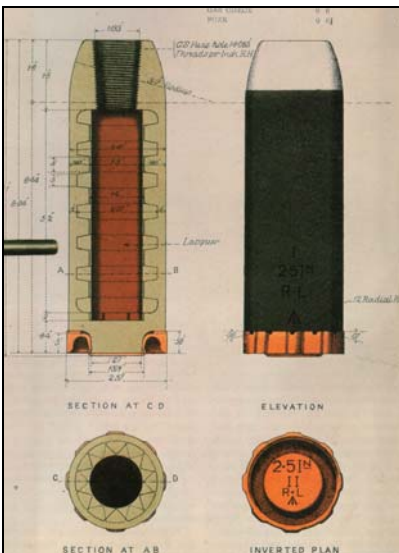
Figure C-6. 62: Gas check plate from a (non-automatic) 2.5" RML shell (In Hawkins 1888: 39).
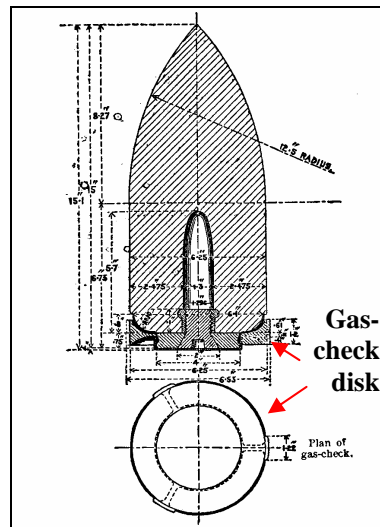
Figure C-6. 63: Automatic gas check plate from 80 pr studless Palliser shell (After Hawkins, 1888:252).

Figure C-6. 64: Ferrier collection of gas check plates (Peter Ferrier Collection).
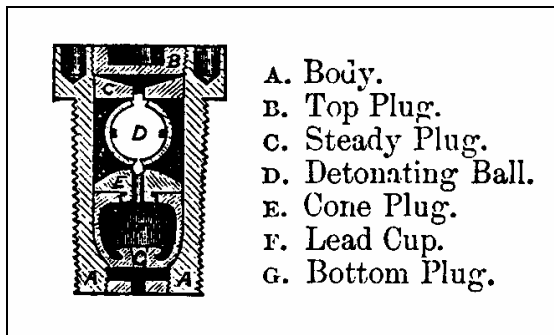
Figure C-6. 65: Basic pattern of a Petman Percussion artillery shell fuse c. 1880s (In Hawkins 1888:129).
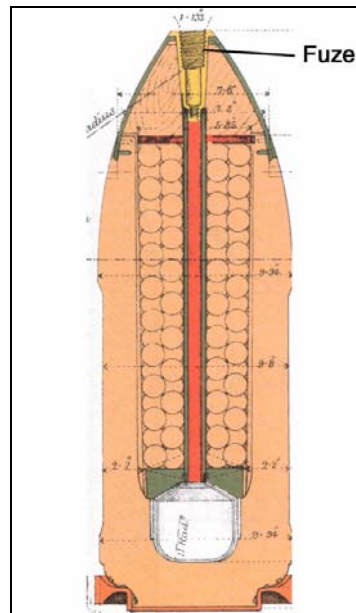
Figure C-6. 66: 10" RML Shrapnel shell Mark I shell showing percussion fuse (After Hawkins 1888: 23).

Figure C-6. 67: Shrapnel round percussion fuse (Peter Ferrier Collection) .

Figure C-6. 68: Shrapnel round percussion fuse (Peter Ferrier Collection).

Figure C-6. 69: Artillery shell fuse from WWII Torquay Firing Range (Lyall Mills Collection).

Figure C-6. 70: Unused Artillery shell fuse (QMM Collection).
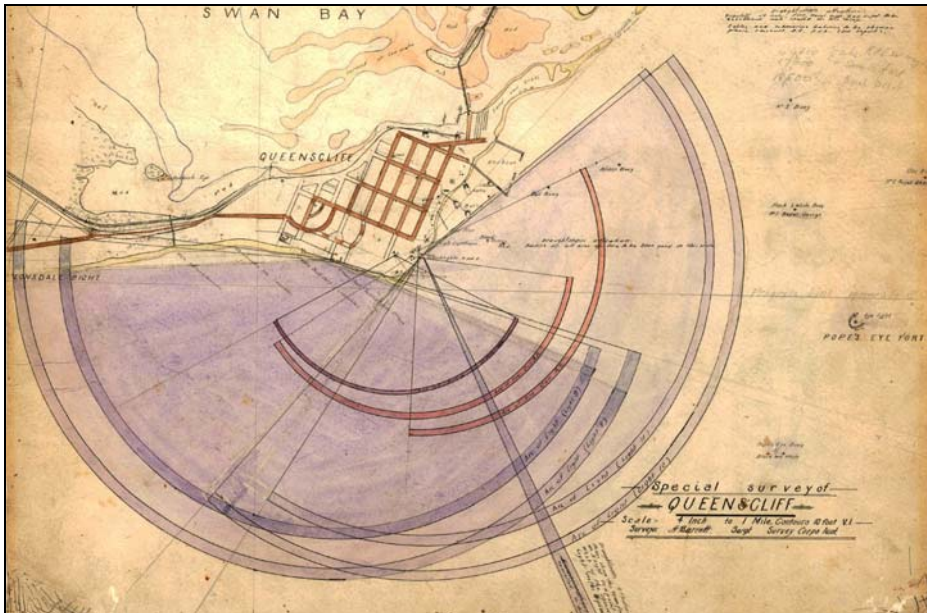
Figure C-6. 71: Plan showing searchlight and gunfire trajectories (red) and searchlight ranges (blue) ranges of defence facilities at Queenscliff (Barret n.d. [plan], FQ Collection).

Artillery practice firing at Duck and Swan Islands was evident in numerous large craters around the island up to 1.5 m deep and 2 m diameter. Dod (1931:84) recorded that barrels were used as targets in the West Channel, and could be the source of anchors and piles of chain discovered there [CP; DL; PF], and targets were also towed behind military vessels in the 1930-40s [GW]. More subtle evidence of artillery might be found in the neighbouring house construction, where gaps were built into windows to stop them shattering during gunfire practice [GW].

Many ammunition dumps were identified in The Bay, and included large artillery shell (45 cm long x 20 cm diam.) sites at Pt Nepean and the South Channel (Figure C-6.72), smaller shells (10 cm long x 2 cm diam.) at Drapers Reef, cases of WWII bullets and paper cartridges off Swan Island Bight and the West Channel, and mortar shells (approx 45 cm long) in the same area [CP; DL; HG; LM; MS; PF; SA; TA]. Mortar scatters have also been observed offshore from similar military sites at Melbourne [PT].

Other spent ammunition was found in association with former rifle ranges at in Swan Bay and Swan Island [CA; GW; LID], and similar observations have been made at Geelong and Williamstown [JA; PT]. Remains of the former rifle range targets known as butts (timber posts) have been located in the shallow waters of Swan Bay [CA], and extant earthworks, communications poles/wires and rifle butts are still extant on Swan Island ([CA; LID] – Figure C-6.73). See Appendix C-4 for further consideration of firing ranges in this area. Furthermore, ammunition shells and heads from WWII strafing runs have also been observed outside the study area where reefs (appropriately named AkAk reef) and wrecks (*Orungal*) were used for firing practice [JA] (Figures C-6.74 and C-6.75).

Figure C-6. 73: Swan Island rifle range butts and earthworks.
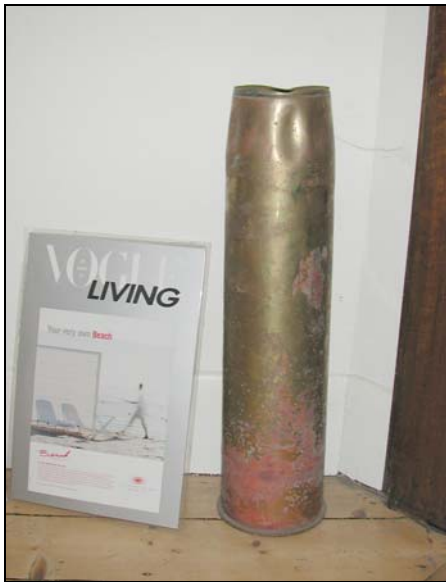
Figure C-6. 72: Artillery shell from South Channel (Carl Paolini Collection).

Figure C-6. 74: Ammunition casing from strafing runs on Ingoldsby/Charlemont Reef (Jim Anderson Collection).

Figure C-6. 75: Ammunition casing from strafing runs on Ingoldsby/Charlemont Reef (Jim Anderson Collection).

G) Bottle scatters

Other evidence of defence occupation was less obvious and relied on observations gleaned from a number of divers. The presence of the characteristic "Bombardier" Victorian Artillery soda water bottles (Figure C-6.76) were noted offshore at many fortification sites, especially at the South Channel, Swan Island and Pt Nepean Forts [CP; DL; LID; PF; SA]. Arnold (1990:168) observed that these bottles were only manufactured for use at the forts, and it therefore appears that these bottle types may indicate the presence of military sites in this area.

Figure C-6. 76: Victorian Artillery "Bombardier" soda water bottle. Scale = 20cm (Peter Ferrier Collection).

There were often many other non-alcoholic bottles (glass and stoneware) and some bottles known as "blacks" (which were generally alcoholic) were found in these areas, and near the Swan Island Submarine, and the southern end of the West Channel (near a naval anchorage). Their concentrations suggest that these were official rubbish dumping areas [CP; DL; PF; SA]. Most of the soda water glassware originates from Melbourne and Geelong [PF; SA], particularly in the area in front of the Swan Island Fort to the submarine   Another dump over the reef ledge at Bell Rock (Shortlands Bluff) appears to be discard from the Fort, and varies slightly from the other sites due to its inclusion of ceramics and brass.

Although the military provided their forces with aerated water, it appears that alcohol was still consumed in many areas. Interviews with many divers [CP; DL; PF; SA] indicated that there are a number of isolated finds of alcoholic bottles on the periphery of military establishments. These finds are within throwing distance of the shore or jetty extremities (Pt Nepean, South Channel, Crows Nest and Swan Island Forts), and may indicate surreptitious drinking by military personnel in fringe areas where the evidence is easily disguised.   Similar deposits have been located in isolated areas of the Fort Queenscliff moat:

> …When the gardeners used to clean the moats out from time to time, I would follow behind them on the tractor, and we would sometimes find alcohol bottles and other artefacts from Queen Victoria's time, you know before Federation. [SH]

H) Transport Systems: Roadways and Island Access

Transport systems were an integral component of the military landscape, and existed in several forms in the area. The remains of the original timber Swan Island Bridge are located to the west of the current bridge (Figure C-6.76). Army Engineers and Naval personnel were transported to and from the island base across the bridge originally via a horse and cart to the island (Ferrier 1991:5), and later by an electric trolley across the island. Local residents have reported remains of the tramway are still evident within the current road surface at Swan Island [GW; LID], and extensive sections of the former tramway line is evident along the eastern foreshore where it has been used to control foreshore erosion [CC].

Figure C-6. 77: Old Swan Island Bridge.

The Queenscliff Railway Station, workshops and line were still extant and demonstrate the scale to which military transport systems affect the landscape (Figure C-6.78).

Figure C-6. 78: Queenscliff Railway Station (Photo: HV Collection).

I)   Piers

A number of purpose built piers were erected for the immediate use of the military. These piers were generally short as the vessels using them were of shallow draught to enable their rapid and unlimited use of the sea terrain of the bay. The military also made extensive use of former defence vessel hulks as piers, especially around Swan Island. All these piers, including the hulks (Anonymous, 1993b: 13-16), were serviced by narrow gauge tramways. A military pier (which was evidenced by two extant piles and an iron ringbolt and chain) and extant loading dock at the South Channel Fort (Figures C-6.79 and C-6.80) were inspected by the author above

water, both of which were surveyed by a small gauge tramway. An underwater inspection of this area was undertaken by Anderson and Caldow (2000) they did not specify the type of bottles present in this area. Substantial underwater evidence was found of the Pt Nepean supply pier (Figure C-6.81 and C-6.82), which was used extensively by the steamer *Mars* to deliver supplies from Queenscliff. Of note there were was an abundance of broken earthenware ceramics, Queenscliff aerated water bottles, bluestone rubble, bricks (from the *Trusty* stranding) and electrical insulators; tramway remains, no alcoholic bottles were observed. Battery remains from former jetty lights were present, but the ammunition shells previously reported at the end of the pier [PF] had been removed. No sign of any archaeological remains were found of the former dolphin pier that once stood between the two main piers at Queenscliff, which was used to store coal for the *Mars*. Coroneos (2006) observed a concentration of tramway tracks on the foreshore close to the *Countess of Hopetoun* Jetty, which are probably the remains of the former access tramway.

Although the Swan Island Dock was not inspected, from historical documentary records it demonstrated similar characteristics to the South Channel Fort Dock/ Nepean Bay Pier in that it's geographical location was situated to provide relative shelter from both the elements/ incoming fire and protective coverage from each forts guns. Figure C-6.83 shows the location of military piers in the study area.

Figure C-6. 79: South Channel Fort Dock for torpedo boats.
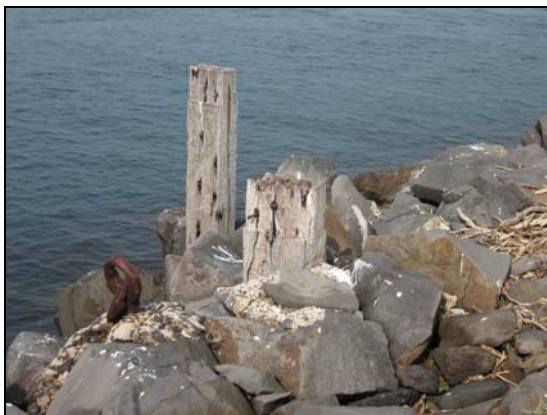
Figure C-6. 80: Remains of the South Channel Fort Pier.
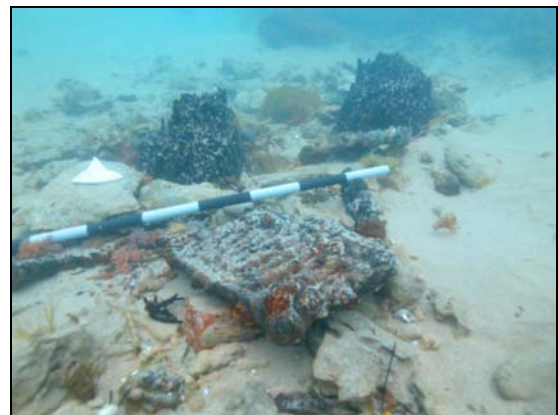
Figure C-6. 81: Pt Nepean pier piles and Battery Plates (Photo: Heritage Victoria).
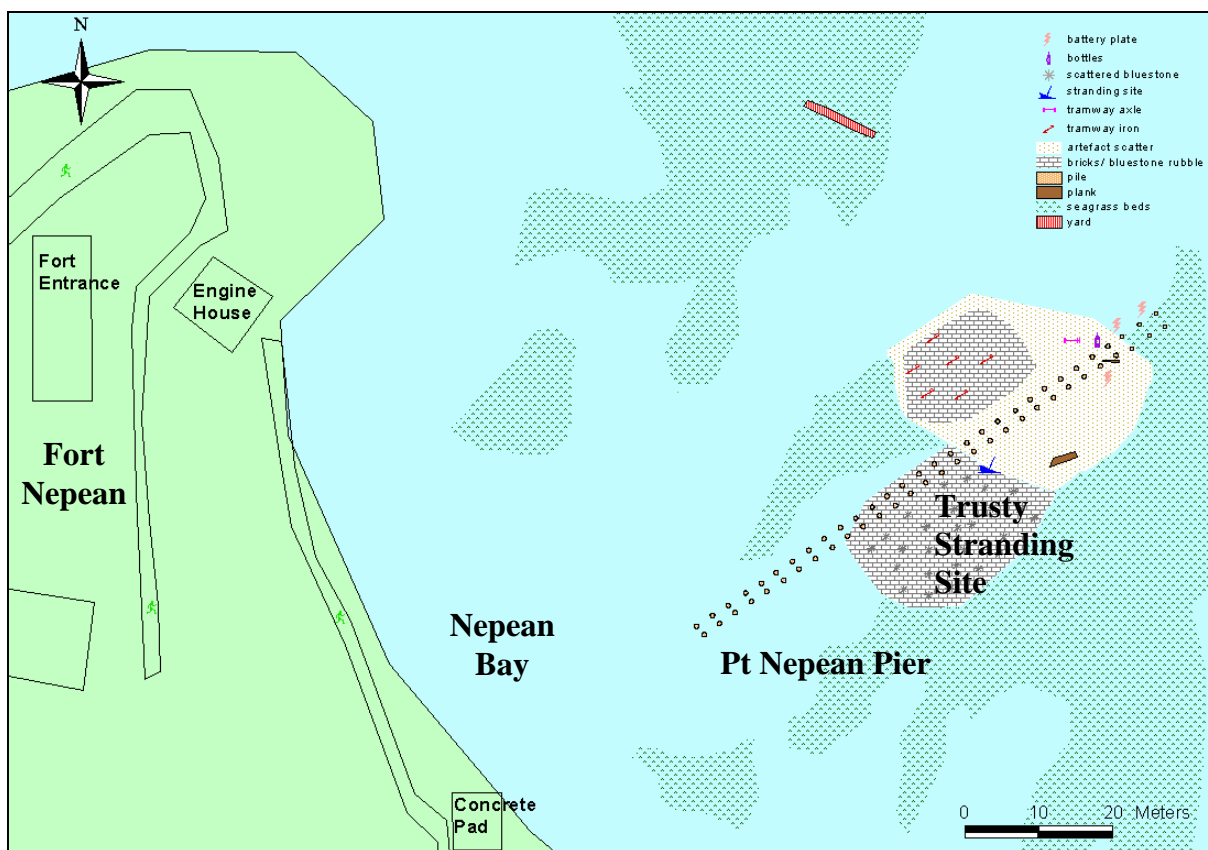
Figure C-6. 82: Survey plan of Pt Nepean ammunition pier, *Trusty* stranding site, and yard arm remains.
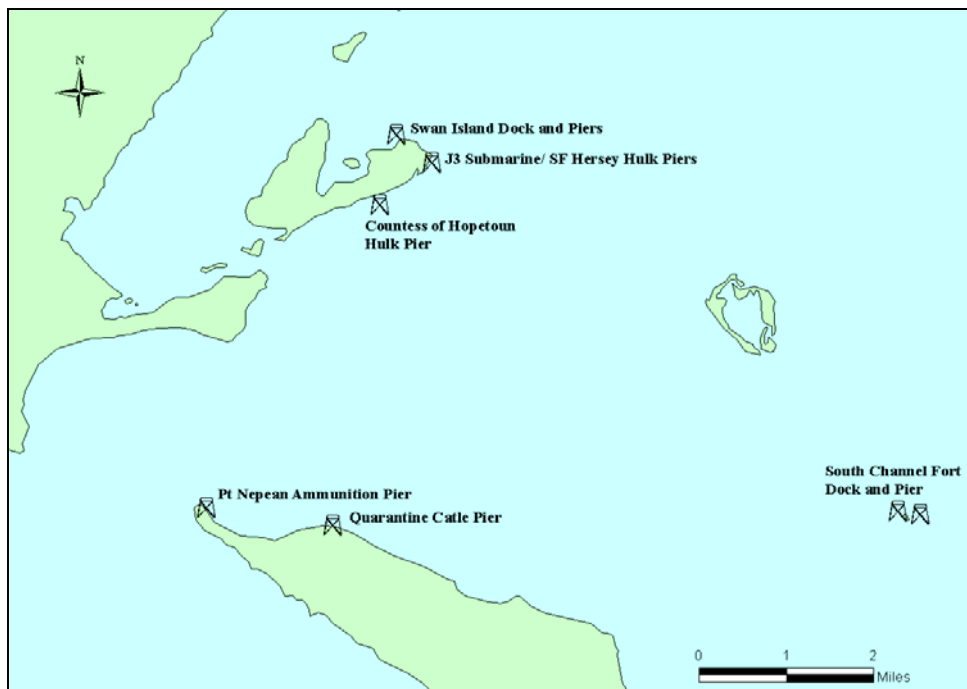
Figure C-6. 83: Plan of military piers and jetties.

J) Naval Anchorages

Two naval anchorage areas were located close to Swan Island. A large anchorage for the *Gannet*, *Commissioner* and *Victoria* was located approximately 1 km offshore from Swan Point (A11, c.1889; Anon. 1889; HCW 1889 [updated 1938] [plans]).   Many bottles (predominantly aerated water, torpedo and lemonade bottles from Melbourne and Geelong) were found in this naval anchorage area by local divers. The deposits were concentrated in a 360º circle around a mooring anchor and chain which formerly served as a special mooring buoy [DL; PF]. The absence of any form of ceramic, particularly plates of Naval or other origins, in this area may indicate that although naval personnel were stationed aboard vessels in this area, their meals were served ashore. The torpedo boat mooring area used by the *Childers*, *Lonsdale* and *Nepean* was marked by a post which is still evident underwater, with black alcoholic and beer bottles dating to the 1850s-90s of predominantly English manufacturers [PF]. The concentration of alcoholic bottles in this area would suggest that these vessels were out of sight of the commanders ashore, and that these moorings were more permanent and not used only during war maneuvers when discipline would have been closely monitored.

Given the abundance of many other naval moorings which were repeatedly used as part of the Easter War Games and for the planned Heads defence networks (Figure C-6.84), substantial deposits are also expected in those areas, but were not examined as part of this study.
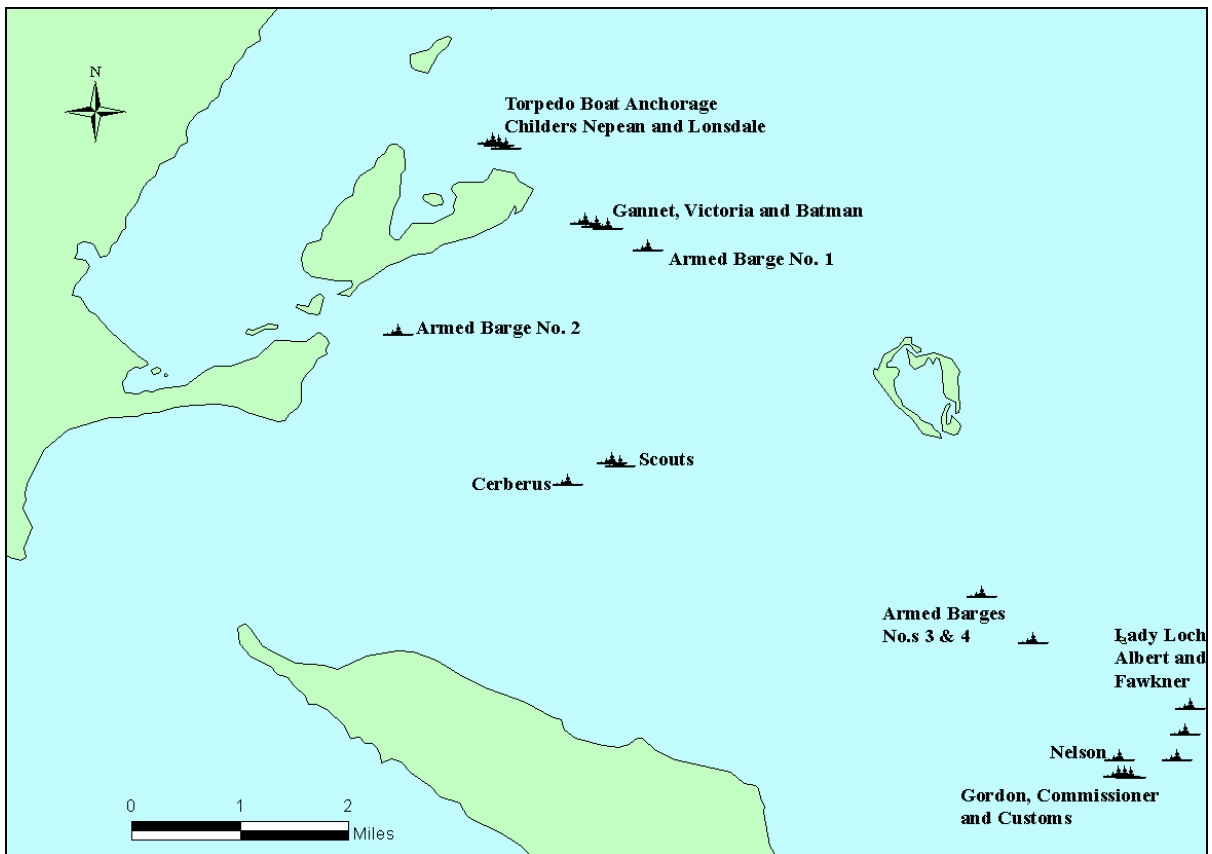
Figure C-6. 84: Plan of known military anchorages. Note: Artefacts have been located at the anchorages near Swan Island.

K) Communications Cables

With the introduction of electrically powered telegraph technology and electrical circuitry, communications cables became a part of the defence landscape. Communications cables were used to link Pt Nepean, Queenscliff, Swan Island and South Channel Forts (Figures C-6.85 and C-6.86). A WWII copper communications cable is still extant between the Swan Island Fort to Popes Eye which crosses through the *Gambier* wreck, and another cable is known between Pt Nepean and Queenscliff which is often caught by boats [PF; TA]. This cable could either be a telegraph cable, but is more likely to be an indicator loop cable (see above). Other armoured communications cables are also evident in the foothills at the WWII defence facilities at Pt Lonsdale.

Other items including a pile of knuckledusters found off Swan Island are possibly attributed to the military (all had a broad arrow stamp), but could also be cargo confiscated by customs as all the grips had been crimped shut [SA; MS; TA].
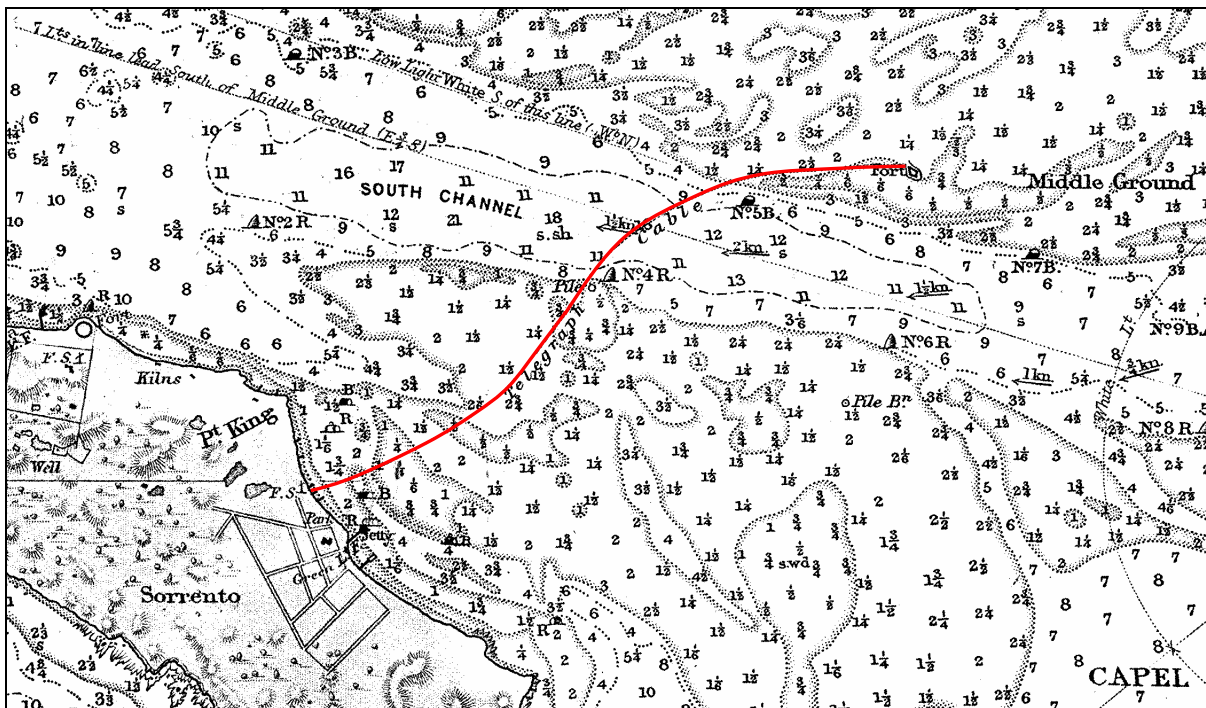
Figure C-6. 85: Telegraph cable from Sorrento to South Channel Fort in 1895 (Chart 1171A:3062, [updated 1897]).
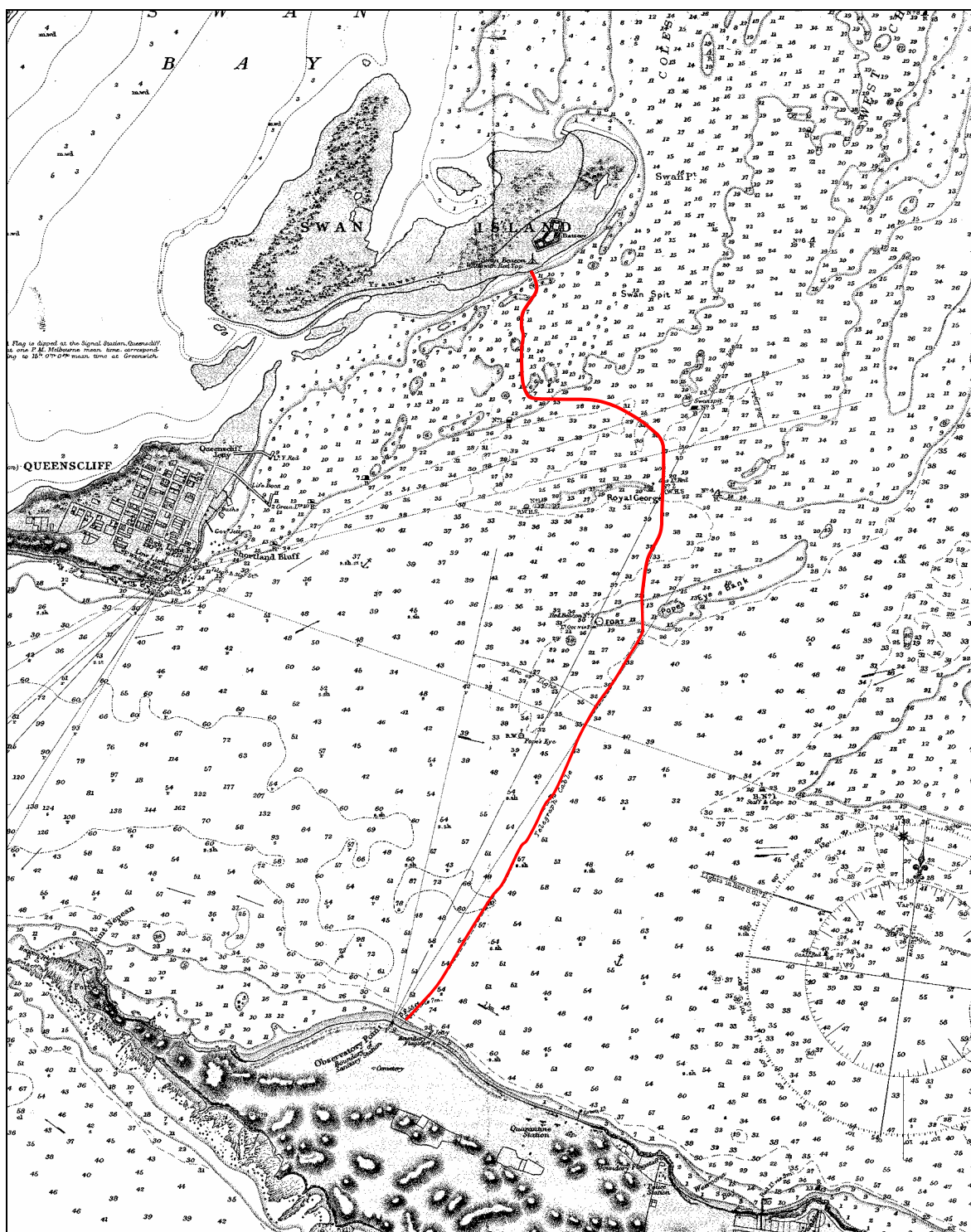
Figure C-6. 86: Cox 1864 [Updated 1903] chart showing location of submarine telegraph communications cable.

L) Memorials

Many defence memorials were scattered around the peninsula. Of particular note were those at Shortlands Bluff (Figure C-6.87) which commemorated seamen lost in many conflicts, along with a major maritime accident in The Bay (*HMAS Goorangi*) where many local defence personnel were lost; and a war memorial at Pt Lonsdale, where an annual service is still held (QH Nov 2003:1). Other less obvious memorials were the avenue of trees on the narrow neck road into Queenscliff (Figure C-6.88), and the RSL hall near the Fort Queenscliff. These sites provided important foci for grief whilst also acting as tangible reinforcements of identity (and hence belonging) within the general community.

Figure C-6. 87: Avenue of Honour, Queenscliff.
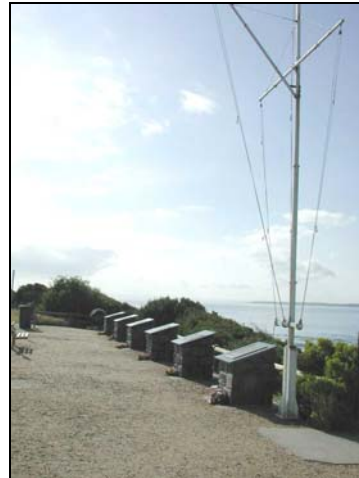
Figure C-6. 88: Shortland's Bluff defence memorials.

Appendix C-7: Potential and Actual Archaeological Signatures of Defence Landscapes

Feature	Artefact	Capel Sound/Rye	Sorrento/South Sand	Portsea	Ticonderoga Bay	Pt Nepean	The Rip	Pt Lonsdale	Lonsdale Bight	Shortlands Bluff/Queenscliff	Queenscliff Bight	Popes Eye Shoal	Swan Bay	Swan Island	Duck Island	Swan Spit	St Leonards to Portarlington	Coles Channel	West Channel	Loelia Channel	Symonds Channel	Mud Islands	Pinnace Channel	South Channel	Geelong	Melbourne	Westernport Bay	Western Victorian Coast
Defence																												
Defence Establishment	absence of alcohol bottles near official landing places jetties					a																						
	bombardier cordial bottles	a				a						a		a		a								a				
	knuckle dusters - dumped															a												
	pier - dedicated			ah										eh													ah	
	pier -shared with community										aeh																	
Artillery Practice	ammunition (projectile heads)					a									a													
	ammunition dump (bullets in cases)															a			a									
	ammunition dump (large artillery shells)					a																		a				
	anchorage/ mooring											h	a	ah					h					h				
	artillery shell craters													ah	ah													
	artillery shells/ shrapnel					a								a	a													
	batteries on high ground		a			a	a	a	a																			
	battery - usually located on elevated ground		ah			ah		ah	ah	aeh		ah	h	aeh											h	aeh		
	bombardier bottles					a						a				a								a				
	camoflauge - shoe leather for ground camoflauge							ah																				
	camoflauge - vegetation: pigface, samphire, weeds, pine trees, wattle		h						h					h										h				
	cannonballs								a			a				a									a			
	communications/telegraph cable		a			a		a				a				a								a				
	dead rabbits/wildlife																											
	defensive ditch around fortress										aeh																	
	direction range finding station + internal			eh				eh	eh	eh				eh										eh	h	aeh		
	engine house/generator shed			eh				eh		eh				h										eh				
	erosion control device/ hulk/pier												a	a		a												
	fortress - artificial island										ah													aeh				
	fortress - semi or totally enclosed		aeh			aeh			ah	aeh		a		aeh										aeh		aeh		
	fuses											a				a												
	gas check plate scatter											a	a	a												a		a

Category	Feature																					
	gabion																				h	
	magazine - above ground: later period			ae h		ae h	ae h															
	magazine - below ground: earlier period			ae h		eh	eh			eh									eh	ae h	ae h	
	mortar shells									a									ah			
	pier/ dock			a			h		a	a							a					
	plantations - willow for constructing gabions																			p		
	powder hulk								a													
	refence reserve	h		h	h	h h	h		h h	h		h		h h	h h	h h						
	searchlight carbon arc rods			h																		
	searchlight directing station - ELD					eh	h															
	searchlight emplacements - low to medium elevation			a		a	a	a										a				
	searchlights emplacements			a		a	a	a	a		a							a				
	structural alteration to local housing to accommodate gunfire effects - gaps around windows						h															
	tampions							a														
	targets - barrel remains				h									h								
	targets - mooring chains and anchors from moored barrels				h									ah								
	tramway - along shore and on pier			ah						ah							ah					
Batteries	1860s - earthen embankments and timber carriages.						ah												h			
	1880s gun sizes increase - large casemates, underground magazines, large iron pedestals			ae h		ae h	ae h			ae h							ae h		ae h			
	1890s Battery Pedestal mounts - recessed square shafts						ae h										ae h					
	1940s recessed pedestal shafts, rings of gun mount bolts					ae h	ah	ae h									ae h					
Naval Torpedo Depot/ Mining Operations	blockade ship hulks									p							p					
	explosives siding at local railway station						h															
	hulk/shipwreck - used as pier								ah	ah												
	hulk/shipwreck - used as power source								ah											h		
	mine assembly sheds								eh									h				
	mine detonation cables		ah						ah		ah						h					
	mine detonation devices					a																
	mine laying vessel								h										ah			
	mine storage hulks																		ah			
	minefield - submarine			a				h		ah		h					h					

Appendix C-7: Potential and Actual Archaeological Signatures of Defence Landscapes

Category	Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
	mines - discarded - empty											a	a										
	mines - used as breakwater											h											
	mines - used as local rubbish bins/ incinerators						ah						ah										
	naval anchorage						h					ah	ah		h						h	h	
	pier/dock											eh										h	
	powder hulk										ah										h	h	
	stranding sites on edge of minefields																				h		
	test room - for detonating mines											ah									h		
	timber groynes											a	a										
	torpedo boat dock											ae h									ae h		
	torpedo boats/ and subsequent hulks									a		h	a								h		
	torpedo charging facility - air compressor shed											ah											
	torpedo depot											ae h										h	
	tramway on pier											ah	ah									h	
	underwater topographic damage																						
	wreck (possibly transporting mines)																						
	wrecks - miltary										a												
Other	air-raid shelter									h											h		
	antiaircraft guns				h					h											h		
	barbed wire entanglements						ah																
	barracks	ah	ae h		ae h	ae h						ae h									h	h	
	boxthorn - as substitute for barbed wire				eh	eh															eh		
	bridge										ah												
	coal reply station									h													
	comunications cables	ah	ah	ah		ah						ah											
	erosion control devices		ae h			ae h						ah	ah										
	foxhole				a																		
	machine gun emplacement				a																ah		
	memorials									e													
	military base	ae h	ae h	ae h	ae h	ae h						ae h									ae h	h	
	prisoner of war camp				ah																		
	railway line/station									eh											eh		
	recycling or redundant equipement, eg hulks stripped, hulks as breakwaters, mine shells re-used											ah		ah									h
	rifle range - spent bullets heads and cartridges									h		ah	ah								ah	ah	
	rifle range - target butts and embankments								h	h		ah	ah								ah	ah	
	tank traps																						

Degaussing Range																				ah		
Infrared Beam Detector	concrete structure resembling sentry box			ae h	ae h																	
	cubic concrete structures - split level windows in structure reveal higher and lower facilities		ae h	ae h	ae h				ae h													
	infrared beam		ah	ah	ah		ah	ah														
	reuse of searchlight				ae																	
Indicator Loop	armoured copper alloy wire						ah				ah			ah							
	circular/cubic concrete structure		ah	ah					ah						h						
	concrete bunker (cube)		ah				ah	ah														
Radar Station				ah																		

CODE	archaeological	a
	extant	e
	historical	h
	planned	p

App. C-7:4

Appendix C-8: Table of Installation and Decommission Dates of Forts in Port Phillip Bay

Fort	Where	Why	Date Begin	Date Serviceable	Date End
Pier Battery	Williamstown, Melbourne	Protect Hobson's Bay	1861		1889
Pt Gellibrand Battery/ Lighthouse Battery	Williamstown, Melbourne	Protect Hobson's Bay	1854/ 1861		1890s
Central Battery	Williamstown, Melbourne	If cruisers enter bay, to stop bombardment of Melbourne.	1861		1890s
Right Battery	Williamstown, Melbourne	Protect Hobson's Bay	1861		1890s
Fort Gellibrand	Williamstown, Melbourne	Repel Land Attack	1865		1890s
Sandridge Battery	Williamstown, Melbourne	Protect Hobsons Bay	1855	1855	
St Kilda Battery	St Kilda, Melbourne	Protect Hobson's Bay		1863	
Emerald Hill Advanced Battery	Albert Park, Melbourne	Protect Hobson's Bay	1861	1863	
Emerald Hill Central Battery	Albert Park, Melbourne	Protect Hobson's Bay		1863	
Sandridge Lagoon Emplacement	Albert Park, Melbourne	Protect Hobson's Bay		1863	
Sandridge Lagoon Battery	Albert Park, Melbourne	Protect Hobson's Bay		1863	
Beach Battery,	Beach St Geelong	Protect Corio Bay and Geelong Waterfront	1863	1863	1870s
Railway Pier Battery	Port Melbourne	Protect Hobson's Bay	1885		unknown
Swan Island Fort	Swan Island	To operate minefield in West Channel	1879	1881/ 1885	1909
Fort Franklin Examination Battery 2	Portsea	Support South Channel Fort, Cover dead ground between Pt Nepean and Portsea	1886	1889/1930	1906? /1943
Fort Nepean	Pt Nepean	To protect The Heads entrance and Nepean Bay/ Quarantine Station	1878	1882/1884	1945
Fort Pearce	Pt Nepean	To protect The Heads entrance and Nepean Bay/ Quarantine Station	1911		1941/1945
Eagles Nest Battery	Pt Nepean	To protect The Heads entrance and Nepean Bay/ Quarantine Station	1885?	1889	1945
Examination Battery	Pt Nepean	To protect Examination Ground inside Heads		1914	1945
Fort Queenscliff	Queenscliff	To protect The Heads Entrance and Lonsdale Bight	1860	1862?/1884	1946
Crows Nest Fort	Lonsdale Bight	To protect The Heads Entrance and Lonsdale Bight		1886, 1908?/ 1914	1918
South Channel Fort	South Channel	Protect and control South Channel minefield	1879	1888	1906
Popes Eye Fort	Popes Eye Shoal	Help close the West Channel	1886-1889		1894
Crows Nest Battery	Lonsdale Bight			1943	1944
Pt Lonsdale Battery	Pt Lonsdale			1942	1944

Appendix C-9: Chronological Comparison of War Scares and Technological Advancement on the Development of Port Phillip Defences

War Scare/Technology Development	Date	Defence upgrade	Date
French Exploration of area	1803	1st Colony established – Sullivan's Bay	1803/04
Melbourne Settled	1835	1st troops sent to colony	1836
Victoria Secedes from NSW	1851		
Crimean War	1853-56		
Aust. Imperial Troops responsible for defence	1853	*HMS Electra*	1853
French exploration and bases/ Russian warships in Pacific	1854		
War scare - *SS Great Britain* fires salvo at Heads	1854	Panic in Melbourne - call for defences at Heads	
Gold discoveries	1850s	Fear foreign warship could hold port to ransom	
		Pt Gellibrand/ Sandridge Batteries (Melbourne)	1854
		Geelong Volunteer Rifles and Artillery Corps formed	1855
		Sandridge Battery (Melbourne)	1855
		HMCS Victoria- new warship	1856
		Volunteer Corps expanded	1858
Introduction of Armstrong Gun (New Technology)	1859	Forts recommended at Heads	1859
		Shortlands Bluff Battery Built - Recommendations for four batteries at Heads	1860-1863
***Warrior* launched in England (New Technology)**	1860		
Threat of war with America	1861	Queenscliff Company of Volunteer Artillery - compulsory attendance	1861
		Forts at Hobsons Bay preferred to those at Heads - Select Committee Report	1861
		Four Williamstown Batteries constructed	1861
		Victorian Batteries constructed - Williamstown, Sandridge and Queenscliff	1861-1862
Russian Warship visits colony	1862	Guns installed at Queenscliff	1863/64
Merrimac vs. Monitor in Civil War - Ironclads (New Technology)	1862	Victorian Govt is advised the Admiralty will possibly approve Ironclad for colony	1862/63
		Increased defences at Hobsons Bay and Heads - completed and planned	1863
		Volunteer Corps replaced with Enrolled (paid volunteer) Corps	1863
Armed barges (New technology)	1864	Recommended for Hobsons Bay/ Heads Channels after smaller Armstrong guns proposed	1864

Confederate Raider *Shenandoah* enters Port Phillip	1865	*Cerberus* commissioned	1865
		Permanent Geelong Rifle Club formed	1865
		Demands for Victoria to be replaced	1865
		Hobsons Bay - Fort Gellibrand recommended to repel land attack	1865
		HMS Nelson granted to/arrives in Victoria	1866/68
Palliser Guns (New technology)		Palliser (rebored) guns approved for Colony	1867
Submarine mines (New Technology)		Submarine Minefields Hobsons Bay	1867
Imperial Troops withdrawn from Victoria	1870	*HMVS Cerberus* arrives Port Philip (New Technology)	1871
France and Russia at War	1870	Mud Islands declared Defence Reserve	1872
		Geelong Corps of Royal Vic Artillery formed - man Fort Queenscliff	1873
		Scratchley Report on Defences	1877
		Scratchley/Jervois Survey Defence at Heads	1877
Island Forts/Torpedo Fields/Searchlights (New Technology)	1877	Two island forts planned for Bay + torpedo field + searchlights (New Technology)	1877
		Permanent Artillery planned for coastal batteries	1877
Whitehead Torpedo Introduced/Torpedo boats invented (New Technology)	1877		
Imminent Russian Scare	1878	*HMS Nelson* fitted with 28 guns	1878
		Pt Lonsdale still Defence Reserve	1878
		Fort Queenscliff - 68 pr guns replaced with four 80 pr rifled guns	1878
		Pt Nepean Battery - temp	1878
Britain and Russia close to war in Constantinople - Russian War scare	1879	Queenscliff - Geelong Railway line opens	1879
Armstrong Guns now give greater firing range (New Technology)	1879	Scratchley Report - planned Armstrong guns installed at new fort at Swan Island to replace Popes Eye Fort + torpedo training depot + work to begin on South Channel Fort	1879
		Torpedoes (Mines) introduced to defences	1879
		Work begins South Channel Fort, Fort Queenscliff (remodeled) and Swan Island Fort	1879-1882
		Fort Gellibrand upgraded	1879s+
		Submarine mines used at Heads (New Technology)	1879
Disappearing Guns Introduced	1883	South Channel Fort - Low profile fort with disappearing guns ongoing work (new technology)	1882
		First permanent garrison at Heads	1882
		Minefields - West and South Channel	1880s
		Fort Queenscliff - defence wall, keep and ditch	1882 - 1885
		HMVS Miner obtained for Torpedo Corps at Swan Island/Pier built	1882
		Dept of Defence established	1883
		Swan Island Torpedo Depot established	1884

		Work ongoing at Swan Island, South Channel and Pt Nepean	1884
		Three torpedo boats (*HMVS Lonsdale, Nepean & Childers)* + torpedo launch (*Gordon)* + two gunboats (*Victoria, Albert)* + Nordenfeldt machine guns purchased for colony (new technology)	1884
Britain and Russia close to war in Afghanistan - Russian war scare	1885	Forts upgraded at Heads - guns now placed in position	1885
		Fort Franklin - compulsory acquisition of land, work ongoing (earthworks and guns installed)	1885
		Eagles Nest - 9 or 10" gun installed	1885
		Pt Nepean Batteries - work ongoing	1885
		Fort Queenscliff now an enclosed battery - moat and gunfire banks/ own water supply	1885
		Swan Island Fort enclosed battery - nine entanglements to deter land assault	1885
		West/ South Channel Torpedo fields being installed + block-ships prepared to be sunk in South Channel if necessary	1885
		Victorian Artillery - 50 extra men	1885
		South Channel Fort - work still underway	1885/86
		Crows Nest Fort/ Pillbox	1886
		Popes Eye Shoal surveyed for fort	1886
		Plan for succession of forts from fort to the narrows	1886
		Defence System Finished - includes minefield	1886
		Searchlights - two constructed at Queenscliff	1886
		Pt Nepean Batteries completed	1886/7
		Swan Island Jetty completed	1887
War Scare - Telegraph Cable Melbourne to London Accidentally Cut	1888	South Channel Fort fully operational - electric minefield, searchlights, low profile sand parapets, disappearing guns, Nordenfeldt machine guns (New Technology)	1888
		Fort Queenscliff - two batteries - Armstrong guns and other modern guns slowly replace old guns, wall raised to 12ft	1888
		Swan Island Fort - eight guns and torpedo field across the West Channel	1888
		Fort Franklin/ Pt Nepean Forts unprepared for war - in dismantled state	1888
		Fort Franklin/ Eagles Nest complete	1888-1889
		Popes Eye Fort Annulus constructed	1889
		South Grant Battery (Corps) moved to Queenscliff and renamed Port Philip Battery	1889
		South Channel Fort - 4.7 " quick fire gun installed - world first (New Technology)	1889
		Melbourne best defended city in the Empire	1890

		Hobsons Bay - Lighthouse Pier and Right Batteries removed	late 1880s early 1890s
		Swan Island Fort - tenders for gun emplacements	1890
		Fort gunfire practice - monthly	1890-1908
		Coles Channel to West Channel Minefield and Practice area	1890-1907
		HMVS Nelson withdrawn	1891
		New torpedo boat *HMVS Countess of Hopetoun*	1891
		6 pr gun planned for Crows Nest Battery	1892
		Searchlights (fixed and wandering) installed Swan Island, Queenscliff (two), South Channel, Pt Nepean Forts	1892/3
		Victoria Rangers proposed station at Heads to operate machine guns	1892
		Port Phillip Battery (Corps) disbanded - permanent soldiers only	1892
4.7' Guns (New Technology)		Fort Franklin - quick firing 4.7" gun installed	1893
Long range guns on Swan Island make fort obsolete		Popes Eye Fort abandoned	by 1894
		HMVS Victoria, Albert retired	1896
Federation of Australia	1900	State defence forces unified with Commonwealth Military Force under Federal Government	1901
		Focus defence moves to Heads from Pt King to Pt Lonsdale and Queenscliff - South Channel Fort redundant	1906
Anglo-Japanese Alliance - potential hostilities with America	1902 - 1922		
		Plans for Depression Range Finding Station at Crows Nest Battery	1905
		Australia standardises Coastal Defence Guns - Vic uses 6" Mark VII and 4.7" Quick Fire Guns	1906
War Scare - Tensions Japan and America	1907		
		Fort Queenscliff installs Mark VII Guns	1908
Great White American Fleet visits Port Phillip	1908	Calls to establish own Australian Navy	1908
		Fort Queenscliff - obsolete guns replaced	1908
		Crows Nest - Engine room and gun emplacements installed	1908
		Crows Nest - electric searchlights installed	1908-1910
		Pt Nepean and Queenscliff Forts - gun replaced (New Technology)	1908

		Swan Island/South Channel Fort demanned - Navy take over	1909
Defence focus now on Navy (New Technology)		Australian Navy formed - shift away from coastal batteries to armed seaborne fleets. Submarines recommended to replace mines	1911
		Fort Pearce (Pt Nepean) Battery established	1911
		Swan Island Torpedo depot placed under navy control	1912
		HMVS Lonsdale and Nepean used as destroyer targets	1912
		HMVS Childers used as breakwater Swan Island	1912
		South Channel Fort abandoned	1914
First Shot WWI	1914	Examination Battery and Port War Signal Station (Cheviot Hill) established	1914
		Infantry forces guard narrow neck, light-horse regiments guard surrounding countryside	1914
		Electric search lights, engine room and Electric Light Direction Station established at Pt Lonsdale	1914
		HMVS Cerberus used to protect Victoria	1914-1918
		South Channel Fort reduced to skeleton force	1914-1918
		Crows Nest Fort - used in WWI	1914-1918
		Barbed wire entanglements in front of Queenscliff guns	1914-1918
		Fort Pearce Barracks established	1917
		HMVS Albert sold as hulk ashore at Swan Island	1918
		HMVS Childers hulked as breakwater at Swan Island	1918
		7 ft high barbed wire fence installed around Pt Lonsdale defences	1919
		J Class Submarines given to Australia	1919
		Submarine mines given to Australia Navy by Admiralty	1919
		Searchlights - Fighting Lights - Pt Nepean (two pairs), Pt Lonsdale (one) and Queenscliff (two pairs)	1920s
		South Channel Fort - five men stationed here week at a time	1920s+
		Cerberus used as submarine depot ship	1921
		Navy takes control of Swan Island Mine Depot	1922-1960s
		J 3 Submarine scuttled as breakwater at Swan Island	1923
		J Class Submarines fleet decommissioned	1923-24
		HMVS Countess of Hopetoun used as pier at Swan Island	1924+
		Cerberus scrapped as a breakwater at Sandringham	1926

		J Class Submarines (J 1, 2, 4, 5) scuttled in Ships Graveyard	1926-27
		Fort Queenscliff - two searchlights, Pt Nepean and Pt Lonsdale	1929-45
		J7 Submarine scuttled as breakwater at Sandringham	1930
First Shot WWII	1939	Port War Signal Station estab. at Pt Lonsdale/Examination Service Estab. to inspect incoming vessels (Pilots Service and Master Mariners Drafted) and supported by Fort Nepean Examination Support Battery	1939
		Cottage by Sea used for military, Narrow Neck/Pt Lonsdale Tank Traps, Pt Lonsdale Internment camp	1939-1945
		Crows Nest Fort Gun and other Fort guns removed for scrap metal - replaced by wooden mockups	1939-1945
Pearl Harbour - Long Distance Plane Attack /U-boat Patrols (NewTechnology)	1941	Review - air and naval defences inadequate - sinking ships proposed to block channels in emergency	1941
		Fort Pearce guns vulnerable to aerial attack - moved to Cheviot Hill - dual gun emplacements built	1941
		German Minelayer *Passat* Mines Bass Strait	1941
		New Battery observation post and new Nordenfeldt gun at Fort Pearce	1941
		Two Fort Queenscliff guns removed to Pt Lonsdale	1942
		All Fort Pearce guns relocated to Cheviot Hill	1942
Japanese Midget Sub Attack in Sydney Harbour		Magic Eye/ Station M/Chinamans Hat	1942
		Sentry killed at Crows Nest	1942
Enemy planes and submarines sighted in area	1942	Anti-aircraft guns at Football ground, Shortland's Bluff to Crows Nest Fort restricted area	1942-1945
		Crows Nest - 4" gun battery built opposite *Maytone* Guesthouse	1943
		Port War Signal Station moved to Eagles Nest, Pt Nepean	1943
		Burnt Point Causeway surveyed for barbed wire entanglements	1944
		Crib Battery withdrawn/Pt Lonsdale Battery placed into maintenance. Guns removed from latter 1946	1944

Appendix D: Selected Tourism Landscape Data

When these things come to pass, then a great day for Queenscliff will have arrived. Villas and summer retreats, snug little boxes for the thriving trader and loftier mansions for his rich neighbour over the way, will dot this picturesque peninsula from end to end (GA 24/11/1855:2)

Queenscliff varies little to the other seaside towns – same hotels and a noisy army of touts (QS 7/4/1894)

Appendix D-1: Tourism Landscapes

1) Introduction

Although tourists represent a foreign influence on a local economy, their large numbers and seasonal appearance undoubtedly impose considerable influences on the structuring of any holiday destination region. Many towns cater for tourists' needs, which hence may lead to the installation and improvement of essential and recreational services, increased employment and opportunities for profitable ventures. Tourism can also result in inundation of territorial space, lack of privacy, (locally) unwanted redevelopment and conflict with residential communities. Tourists' interaction with any town's residents invariably establishes particular types of relationships between them, and may also introduce aspects of their own practices and perceptions both to the residential neighbourhood and the visitors. Therefore tourists and tourism play an active role in the shaping and re-shaping of local communities and their landscapes.

This chapter will examine the role that tourism has played in the development of Queenscliff, and its subsequent effects on the local population. Since its earliest days the borough was invaded annually by hoards of tourists, and many facilities and services were established to cater for their needs. The economic income that their visits generated has shaped (and continues to shape) the very structure of that society (both physically and cognitively), and still pervades the very character of the township in many different aspects.

To understand the nature of recreation in the area, it is necessary to examine the various ways that tourism has moulded the region. This chapter presents a summary history of tourism in Queenscliff with particular regards as to what factors influenced its evolution and the town's popularity. It will outline the types of facilities constructed to service the trade, and other key tourist local landscape features which were central to the tourism experience. The examination of the archaeological signatures of tourism activities is investigated in further depth, and several

characterisations of these landscapes are outlined. Early tourism landscapes will be shown to have been driven by underlying ideologies surrounding health, and values of escapism. The role of Queenscliff as a frontier tourism landscape will be investigated in greater detail, with particular regard to the notion of the area as a health resort and escape from normality.

It will be shown that early tourists imported with them hierarchical structures that were influential in shaping the social scene of Queenscliff, which further reinforced existing social status. The changing nature of the tourism scene will be explored in further detail, to examine what determinants drove its development. The inextricable links between tourism and folklore will be further investigated to highlight the importance of the latter in tourism/tourist landscapes. It will be further demonstrated that the seasonality of tourism played a pivotal role in the organisational structure of the township, but also led to exclusionary zones within the landscape based on status that were often inaccessible to some local townsfolk. Finally the different perspectives of tourism will be further explored, with particular regard to different gender experiences of tourist landscape.

2) An Historical Overview of Tourism in Queenscliffe

A) A Healthy Climate: Miasma and Pure Sea Air

In nineteenth and early twentieth century Australia, living conditions within the major metropolis' were affected by smoke pollution, sewerage and industry discharges, which inevitably led to chronic health problems. At the time of the founding of Melbourne and the Colony of Port Phillip (in 1835), the issue of health was paramount in many people's minds. The open sewers of early Melbourne produced an unhealthy environment where sickness was often attributed to the bad air, the miasma that transferred sickness. Medical practicners often espoused the therapeutic benefits of taking in the fresh air of the seaside regions, as the pure cool air and a salubrious climate was thought to assault germs and poisonous miasma in the air that caused sickness (QS 19/7/1884; Wells 1982:43; Inglis 1999:22).

The belief that sickness was caused by miasma was responsible for the popularity of the seaside English holiday, a practice which was also widely adopted in nineteenth century Australia (Inglis 1999:23). Seaside excursions became popular activities, and as early as 1842 pleasure trips were being undertaken to and around The Bay (Day 1992:286). By 1844, Superintendent Charles La Trobe had established a weekend cottage at Queenscliff, which he used for family outings (Inglis

1999:3), which drew attention to the small seaside area even before it was opened up as a township in 1853. When blocks were first sold in the Queenscliff area in 1853, many were purchased either by wealthy Victorians for holiday homes, or by speculators who recognised the potential of the area as a seaside resort (Fanning 1893; "Bluelight" 1912; Dod 1931:8-9). The attraction of Queenscliff as a major tourist destination was realised very early on, and in 1855 it was predicted that the township and peninsula would become a thriving tourist Mecca (GA 24/11/1855:2).

The township quickly grew into a seaside resort patronised by wealthy tourists from Melbourne, Ballarat, Bendigo and the Western Districts (QS 22/7/1893; Inglis 1999:72; [JG]), and many tourist excursion vessels plied the waters from Melbourne for holidays to the municipality. The virtues of Queenscliff as a resort were often extolled by regional newspapers (e.g. GA 19/8/1870:3), and the town was frequently compared to other famous health resorts in the Mediterranean (QS 23/9/1893). The major excursion vessels of the late nineteenth century reflected these philosophies, and were named to indicate their association with healthy living (e.g. the vessels *Ozone*; *Hygeia* (Goddess of Health); *Weeroona* (Indigenous term for sea breeze): Fitchett 1973:18).

Tourist accounts of the time also stressed their indulgence of "the pure sea air" (QS 22/2/1908) and the healthy lifestyles: "Living after the manner of vegetarian and consequently free from diphtheria, we look joyously forward to a good time in the coming summer" (QS 22/7/1893). Local residents still maintain that the sea air is responsible for the health of the local population:

> During the 1930s there was a polio epidemic. A doctor said that no-one in Queenscliff would get polio, as they were surrounded by sea air on two sides…and nobody did, except [name not recorded] who had gone to live in Melbourne for 3 months, where she caught it. This was the reason why the Cottage by the Sea [a children's convalescent home - discussed further below] was built here, so kids could convalesce in the healthy sea air. [GW]

When the Fishermen's Pier was altered to facilitate ferry access in 1860/61 (VPRS 2143), Queenscliff boasted five hotels and many other attractions (Inglis 1999:12). As time went on, many other tourist diversions were touted, which included a botanic garden, lovers walk, many parks, bowling greens and a golf course, all of which enabled visitors to partake of the healthy outdoor atmosphere. The town maintained a relatively exclusive and elite population of wealthy tourists right through the 1860s, and Queenscliff hotels were often promoted for their provision of accommodation and service for Governors, Judges and gentry (Beavis and Raison 1984:30, 35).

Rival resorts eventually sprang up on the opposite side of The Bay at Sorrento (1870), Portarlington (1886; QS 3/4/1886), and Frankston (1896), and also at Lorne (1873) on the West Coast, being described by one author in 1872 as "miniature Ramsgates and Brightons". Many of the customs and traditions of the English seaside were transplanted in these towns and were familiar facilities that reminded new colonists of their homelands, including bands, rotundas and promenades. By the late 1870s, Queenscliff offered many luxurious hotels, a pier, pavilion and subscription library (Inglis 1999:29, 31, 38). These resorts also focussed on healthy climates to market their services. For instance, the township of Sorrento was named after a Mediterranean Italian seaside town, whose region was also promoted as a health resort (Rogers 1960:66). The renaming of Ticonderoga Bay (which was named after a quarantined ship that previously anchored at this location with large loss of life) to Weeroona Bay (after the popular paddle steamer) around 1874 when it began to be extensively used by holiday makers (Welch 1969:33), and reflected the preoccupation with healthy environments and new attitudes to recreation where escapism from reality was paramount.

B) Getting There: Bay Steamers, Trains and Excursion Fares

In order to understand the popularity of Queenscliff as a tourist destination, it is also necessary to examine the tourist attractions available. In the nineteenth century, a cruise on a ferry was considered as much a part of the essential health experience to take in the sea air as the holiday at the resort, at least for the wealthy to begin with. Many vessels have serviced the township from Melbourne since its establishment in 1850s. The steamers *Aphrasia* and *Vesta* operated passengers and mail services around 1850 (MMH 19/8/1850:2; Fanning 1893), along with numerous others during that decade (*Wynvern* and *Williams,* GA 7/9/1855:2; *Apollo* and *Empire*) some of which often brought the former governor of Victoria, Sir Charles La Trobe on his regular sojourns.

The earliest dedicated Bay Steamer into Queenscliff (c.1862) was a small steam tug (*Mystery*) that transported about 200 passengers at full capacity into the town ("Bluelight" 1912; Fitchett 1973:24) with a solitary steamer (*Williams*) servicing Sorrento at exorbitant prices for the trip. When suggestions to reduce fares to improve trade to the area were ignored, a local businessman purchased the steamer *Golden Crown* from NZ in 1874, and ran the route himself at the lower rate. This sparked a price war, and the first competition for The Bay trade steamers was initiated

(QS 1/5/1886; Fitchett 1973:4, 8, 30-1, 39), which led to the introduction of other vessels to this route (eg. *Queenscliff*: Wynd 1988:130).

With the opening of the Railway in 1879, alternative access was now available to the town from Geelong, Ballarat and Bendigo, and although it facilitated easier access to wealthy graziers from the Western Districts of Victoria, it was not commercially competitive with the Bay Steamer traffic (QS 18/3/1893).

This situation was further exacerbated by the introduction of cheap Bay Steamer excursion fares, which led to increased numbers of "daytrippers" (tourists who came down for the day or weekend) who inundated the town (QS 21/1/1884, 26/5/1894; Inglis 1999:73-8). Until this time the township was fairly exclusive, and used mainly by wealthy tourists who could afford to stay in the township or owned holiday houses. The steamers were often overcrowded, and eventually in 1882 fines and taxes were imposed for every passenger above the number that the vessel was licensed to carry (QS 23/12/1882).

New opulent steamers offering luxurious comfort and capable of carrying thousands of passengers were introduced to The Bay Run. The introduction of the new bay steamer *Ozone* to the Queenscliff run by 1886 markedly increased the tourist trade (QS 3/4/1886). By 1889, a contract was issued to an overseas firm to design and construct another new vessel (*Hygeia*) that could be accommodated at the shallow bay piers, and was two knots faster than the *Ozone* (QS 22/6/1889).

By the early 1890s, tourism operators called upon the government to introduce excursion rate fares to encourage further tourism by rail (QS 8/3/1893); these cheap and fast fares also made the township accessible to the general community, not just the wealthy. Special excursionist trains began making short trips to the area, and in the peak of the summer season there were often four trains a day [JP]. Accordingly, the range of Steamer fare types available were extended, which included long weekend ferry tickets with return via train (QS 26/5/1894). By the mid-1890s, there was fierce competition for trade, with a number of newer vessels introduced that had increased carrying capacity, were faster and more luxurious (QS 26/5/1894, 23/11/1895). The frantic turnaround of Bay steamers often led to collisions with the pier at Queenscliff (Fitchett 1973:38, 40). This led to a boom time for the township as thousands of tourists flooded the town during the holiday season (Figure D-1.1), which was readily welcomed by the local business

community (Inglis 1999:13, 92). By the late nineteenth and early twentieth centuries, larger vessels (e.g. *Ozone*, *Hygeia* and *Weeroona*) were licensed to carry between 1100-1600 passengers, which meant that there could be up to 2500 passengers disembarking at the pier on holidays on any given day (Fitchett 1973:16-7).

By 1897, The Bay resorts had become so popular that there was discontent amongst the Melbourne resorts at the loss of their trade to their southern rivals:

> …the steamers plying to and fro are floating palaces and those who can afford it prefer a trip to some distant resort rather than spend a holiday at a resort close at hand…an excursionist floats around the world on the bosom of case and comfort in the time that he used to devote to picking up pebbles at Queenscliff and Sorrento shores at holiday time. (QS 18/9/1897)

A local businessman highlighted the enormous seasonal tourist influx:

> The boats and trains were big feeders for picnics. There were two boats in the 1930's that brought 3500 people on one day, 2000 on one and 1500 on the other. Once, a Greek picnic had 50 buses to drop everyone off. There were always picnics happening, Butchers', Grocers', Fruiterers' Picnics. They often came twice a week. There would often be 600 on the train from Geelong, bringing people from Ballarat, Bendigo and Colac districts for picnics. Every second house in town was let… over summer if you had a spare room, the guest houses would hire it from you [for the tourists]…this went on from 1900 to the 1930s when the boats finished. [CA]

In 1909, a new steamer to rival the existing *Ozone* and *Hygeia* was proposed (QS 18/9/1909) and was introduced the following year. The *Weeroona* (Figure D-1.2) operated from Port Melbourne to Queenscliff, and offered a two hour journey to The Heads (QS 17/12/1910). In 1915, The *Awaroa,* a steamship owned by the Queenscliff and Sorrento Steamship Company was introduced that could ferry 500 passengers and service The Bay trade all year round (QS 27/2/1915). The Bay Steamers were integral components of the Queenscliff economy, continuing until the last steamer, the *Weeroona*, was sold in 1942 (Fitchett, 1973:18, 56). A summary history and table of the regular Bay Steamers is presented in Appendix D-2.

After the *Weeroona* was withdrawn, there was a sorely felt need for transport to link the Bellarine and Mornington Peninsulas, and a fleet of smaller cross Rip ferries were introduced to service the southern end of The Bay. From 1953-1965, five motor driven ferries (*M.V. Judith Ann, Komuta, Weeroona, Hygeia, Nepean*) were built locally at Queenscliff for services to Sorrento and Portsea. These vessels provided a vital connection between the three communities, which had previously been continually linked by ferry services for at least 100 years. The size of these vessels gradually increased in size as demand for the service grew (Fitchett 1973:81-2, 94-5), and were

eventually replaced by two multiple decked car ferries in 1993 that currently operate between Queenscliff and Sorrento.

Figure D-1. 1: "Large group of people on the Queenscliff (*New*) Pier" in 1914 (Photo: L.L. Pitts, Image MM 000106, MV Collection).

Figure D-1. 2: Bay Steamer *Weeroona* approaching the New Pier c.1910 (Image a33146, SLV Collection).

With the advent of the motor car, later visits to the area included daytrips from Geelong:

> We used to go on Sunday drives from Geelong. There was a Sunday school train that used to bring church people to Queenscliff. There was a 100m track opposite Hewitt's old shop where they used to hold a kids race. There were caves above the pilot's enclosure in the sandstone, and we would play in them and in the pill boxes around the fort. There was a rumour that you could get in to the fort by going up the tunnels behind the searchlights. [LM]

However, the availability on personal transport markedly effected the reliance on local food and transport service providers, as picnic lunches could now be brought from home and tourists could travel at their own leisure/schedules.

C) *Sea Bathing*

The perceived health benefits of ocean environments were an important factor in the development of seaside bath complexes in Victoria. Local tonic manufacturers often claimed in testimonials that their products were "equal to a trip to the seaside" (QS 18/11/1911; Inglis, 1999:60). Many sea baths were established at Melbourne both in the Yarra and Maribyrnong Rivers, and at more popular resorts at St Kilda, Emerald Hill, Port Melbourne, Brighton and Williamstown from the 1840s onwards, with a flurry of bathing resorts appearing from the mid-1850s (Cooper 1931:160-61; Duncan 2003a:282, 317, 359, 383, 384, 385, 408). Sea baths were not just used for the swimming holes they later became, but were essential facilities which were used for cleanliness and washing, especially given the often grimy conditions of the metropolis. However, the proximity of these facilities to the city often still exposed the bathers to the noxious odours and effluent from many drain/sewerage outlets of the city, thus restricting some of the intended benefits of the experience. Additionally, as many of the baths were located closer to the poorer suburbs of the metropolis, they were often inundated with working class citizens, much to the chagrin of the wealthy elite who sought alternative bathing facilities amongst more "exclusive and respectable" patrons (Inglis 1999:72).

Figure D-1. 3: Governors Hole rock pool and bathing sheds, Shortland's Bluff (Samuel Gill, c. 1865, Mitchell Library, State Library of NSW Collection).

The first of a series of baths were established at Queenscliff starting with a natural rock pool below the Lower Lighthouse on the Back Beach (QS 2/11/1907) called *Governors Hole* (McWilliams 1865 [plan]) or *La Trobes Hole* (Cuzens 1912:1), which was reputedly used by the Superintendent (and later Governor) of the same name for bathing. Bathing sheds (see Figure D-1.3) were erected on the adjacent shoreline in the early 1860s (GA 12/6/1912), but after several

accidents due to their proximity to close to a tidal rip and undertow (QS 25/3/1893; Dod 1931:12), the shed was dismantled in the early 1860s (GA 12/6/1912) and new baths were planned in the sheltered waters of Queenscliff Bight Front Beach in 1862 (GA 22/5/1862:2). Although the back beach was used for 40-50 years (Cuzens 1912:1), by 1888 bathing at Queenscliff was only promoted on the eastern side of the bluff (Sutherland 1888b:158).

When the new Queenscliff Bathing Company Baths in Queenscliff Bight were completed in 1866 (Figure D-1.4), they filled the community desire for safe and commodious bathing houses. The new establishment contained 20 boxes, guard chains fixed to iron stanchions (to confine bathers to shallow water away from tidal influences) and a surrounding fence (GA 15/1/1866:2). The facility appears to have been built on the site of the (later) Steamer Pier (SGO 1882 [plan]), which could explain its short working life.
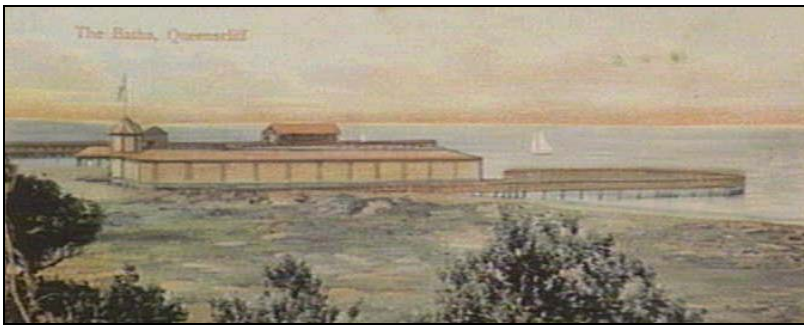
Figure D-1. 4: "The Baths, Queenscliff" c. 1908 (Image a03545, SLV Collection).

A new bathing facility which was available to men and women was constructed in 1871 (Figure D-1.5), with segregated bathing times available for each sex based on a flag system (GA 2/10/1871; 27/9/1871; 1/11/1871; 3/11/1871; [GW]). When the enclosed inshore portion (known locally as a "paddock") of the new Men's baths was built in 1889, they allowed separate facilities to be allocated for exclusive use of each sex, and this complex was extended to include a second paddock two years later (QS 2/11/1907).

The Queenscliff baths drew huge crowds to the borough, and were recognised as an essential component of the town's economy. The baths were owned by the municipality, and rivalled the Melbourne baths as they were situated close to ocean currents and not near river and sewer outlets. The healthy aspects of the baths were promoted in many testimonials in local newspapers, which attested to the mildness of the winter resort as a cure of rheumatism, gout and

sciatica, and its similarities to the Mediterranean climate (Beavis and Raison 1984:15-8), a very loose interpretation indeed as known by anyone who has ever experienced a Queenscliff winter!

> The baths are situated directly over the sea, ensuring the pure ozonic qualities of the water supplied. As a winter resort, the climate of Queenscliff is almost identical to that of Algiers or Orotava...the air is deliciously soft and mild…The postmaster told me that he never experienced such mild temperatures, and that he never knew what it was to be cold in Queenscliff, even in midwinter…it resembles the Isle of Mann in that particular… with temperatures around 17 degrees between midwinter and mid summer…it was the concentration of quietude. There are no baths the equal of the Queenscliff Baths in Victoria... and the hot sea baths have proved a very great acquisition for invalids. (QS 23/9/1893)

Figure D-1. 5Queenscliff c.1882 showing new baths, and remains of the old facility (Photo PH 294, QHM Collection).
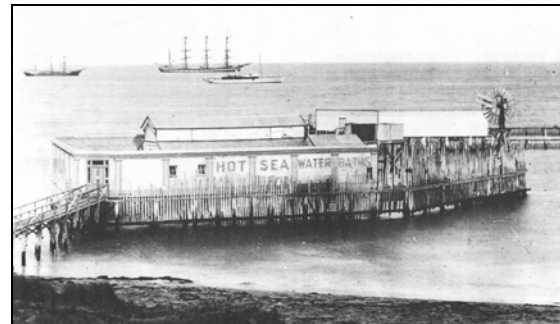
Figure D-1. 6: Queenscliff Hot Seawater Baths (QHM Collection Offprint).

A proposal for hot-water baths was raised in 1884 (QS 10/5/1884), after it was suggested that trade was being lost to a similar facility at Melbourne. The hot water baths (Figure D-1.6) were erected in 1892 consisting of five marble and four white painted baths, with associated waiting rooms for bathers, heating apparatus and a windmill/auxiliary oil engine for pumping seawater (QS 24/9/1892, 22/10/1892, 26/11/1892, 2/11/1907). It was suggested that while men preferred to bath in the sea, women favoured hot water baths (QS 7/4/1894), with the facility being open from 7.30 am on Sundays and Wednesdays in winter (QS 23/9/1893). The curative properties of the baths attracted increased numbers of patrons, often upon referral by doctors, especially for the treatment of rheumatism, kidney disease and lumbago. The popularity of the baths led other operators in Williamstown to open baths facilities there, with similar success (QS 2/11/1907). [JM] recalled the baths in the 1940s:

> My parents were employed by the local council to manage the Hot Sea Baths and the Seawater Baths, which were in the carpark near Harrys [Restaurant]. Water was pumped up from the beach, and a furnace heated up the salt water. There were eight individual bath rooms, a terrazzo with sunken baths that were three steps down and showers. They first baths built on the water, but were destroyed by the sea. The Hot Water Baths were built on the land in 1937. The locals were too poor to use the hot water baths. It was the

> tourists and squatters and the well to do who used them. The footballers used to use them too. The local kids would use the sea baths. There were no bathers before my generation. People didn't expose themselves to the sun. The costumes people use expose them when wet, more than when they are nude. There used to be a rope tied across the pool and people would jump up and down in the waves shrieking. [JM]

In the initial years men and women were segregated, particularly as it was common practice for men to bath nude (QS 23/11/1895). This habit proved hard to curtail, and in 1907 a local newspaper editor lamented that "I suggest the council make it imperative that every bather in our baths should wear a bathing gown of some kind…the only surprise is that the rude practice of bathing without attire should have been allowed to go on for so long" (QS 19/10/1907). Pickets were lowered down between the piles of the structures to provide modesty screens, and these were again raised at the end of the season to prevent storm damage during winter, and a tarred/ sanded raft was moored in the men's outer paddock. In 1907, the seasonal bathing season was advertised as from 1st November until 1st May (QS 2/11/1907, 21/11/1908).

The cost of maintaining the baths was considerable and ultimately contributed to the downfall of the facilities. Extensive repairs were often warranted, particularly after heavy storms (QS 2/11/1907). Siltation was a constant problem for the baths, but the severity varied over time, and in 1907, the depth of the baths was reported to be deeper than the previous season. The silting was reportedly caused by the installation of walings on the new pier, which slowed the current and dumped suspended sediment. The depths in the baths varied from 0-8 ft in the Ladies Baths, and 6-12 ft and 3-6 ft in the gents outer and inner bath paddocks, respectively (QS 2/11/1907). Alterations to the ladies baths were again proposed in 1911 (QS 11/2/1911), after the shallow depth of water in the facility proved unpopular amongst tourists and locals, and were approved in July to extend the baths by 100 ft to seaward (QS 29/7/1911); two alterations had been made during the previous nine years to combat this problem. The heavy reliance of the community on the baths as a tourist attraction was demonstrated when a councillor commented that if the situation was not remedied, hotels and guesthouses would have to be closed as tourists would go elsewhere for their holidays (QS 11/2/1911).

The baths dominated the visual landscape of Queenscliff Bight for many years (Figure D-1.7), as they occupied an area up to 500ft out to sea, with about 500 ft between them. They were removed around the 1950s, when the army blew up the piles for explosives practice [GR; GW].

Changing attitudes to the segregation of the sexes led to the introduction of mixed bathing at the ladies baths in 1917 for a period of two hours each day (QS 15/12/1917). This heralded a major turning point in approaches to bathing, which in conjunction with the relaxing of the strict standards of beach attire (particularly for women), saw an increase in popularity of open sea bathing (QS 14/2/1914; Wells 1982:86-7).
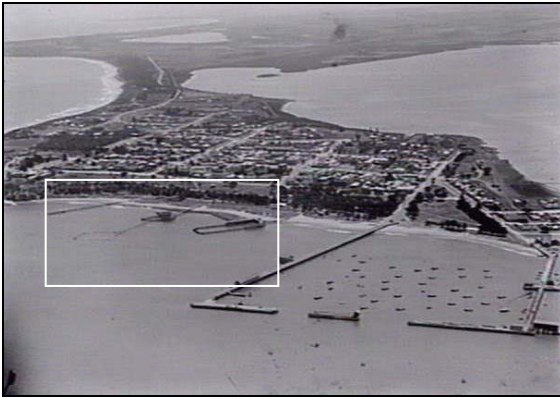
Figure D-1. 7: Queenscliff baths and piers c. 1925 (Photo: C. Pratt, Image b14708, SLV Collection).

By 1894, open sea swimming was popular at Pt Lonsdale, although the currents along the beach accounted for many drownings (QS 20/1/1894), which led to the installation of lifebuoys and lines on the foreshore in various locations (QS 14/2/1914). Although open sea bathing had been practiced around this time (QS 26/11/1892, 19/8/1911) and opinions of mixed bathing had been relaxed by the turn of the century, social inhibitions about changing in public had not. This led to a proliferation of beach bathing boxes along the beaches of Lonsdale Bight between Crows Nest Camp and Crows Nest Fort (associated with the army, MCL, and other private boxes (Read 1918 [plan])), and along the Pt Lonsdale front beach foreshore that were associated with the guesthouses and other private residences (Drosten 1929 [plan] - Figure D-1.8):

> There were many guesthouses here…They had their own bathing boxes in the early days too, as the only way you could come to bath in those days was that if you had a beach hut, as you couldn't get changed on the beach. [DS]

The widening of the Rip Channel with explosives from around 1901 had adverse effects on the beaches in Lonsdale Bight at Pt Lonsdale (Dunn 1949:72-4; [JP]). Historic photos revealed that until the 1920s, beach boxes were located on the foreshore dune (PH4941, PH 5370 – QHS Photo collection), but after that time the shoreline at Pt Lonsdale had begun to erode away, undermining the cliffs and exposing rocks on the shoreline for the first time. The flow of the tide in the area was also supposedly increased, and people now had to run to escape the increased velocity of the

incoming seas (Dunn 1949:73, 74; [JP]). This also affected swimmers, as the currents were now closer to the shore, and hence presented a greater danger. By the mid-1930s, sand groynes had been installed to slow the rate of shoreline erosion ([GH; MW]; PH375 - QHM Photo Collection; see Figure D-1.9). However by the 1950s, a seawall had to be installed to prevent the bathing boxes washing away, which further affected the dynamics of the shoreline [AH; JP]. When the sand groynes were later removed in the period 1977 -1990, the whole beach stripped away again, and three new groynes were recently introduced to stop the erosion [DS; GA; MW; WN].

Figure D-1. 8: Pt Lonsdale Front Beach c. 1920s (PH 5370, QHM Collection). Note the absence of a seawall or groynes.

Figure D-1. 9: Pt Lonsdale Front Beach c. 1950s. Note the seawall built to protect the bathing boxes, and sand groynes (PH 3791, QHM Collection).

From around the late 1920s, the attractiveness of ocean holidays increased, and surf beaches along the West Coast became increasingly popular with resorts appearing at surf beaches of Ocean Grove, Barwon Heads, Torquay, and Apollo Bay. As surf beaches became increasingly accepted as holiday destinations from the 1930s onwards, the popularity of bay-side beach holidays gradually declined (Wells 1982:151-59). This may have also been prompted by the closure of popular beaches at Lonsdale Bight and Pt Lonsdale during WWII [GW].

D) Accommodation: Hotel, Guesthouses and Boarding Houses

As a necessary accompaniment to the tourist facilities discussed above, visitor accommodation has been an integral income source to the community. Numerous grand hotels were originally established to cater for the needs of the elite, and demonstrated an opulence normally reserved for upper class society. However, with the introduction of reduced fares to the township from the late 1870s onwards, accommodation for the middle to lower classes also became a viable concern, and many boarding houses were established at Queenscliff from that period onwards.

The boom period of the 1880s saw the construction of many Victorian and Edwardian hotels of palatial stature, including the Royal, Grand (Figure D-1.10), Ozone and Queenscliff Hotels (Baker and Lawson 2004).

Tourism often provided a stable income that was exploited by families for many generations:

> My Grandmother [Hutchins] purchased *Olinda* guest house in 1915. She built the Queenscliff Inn on that site in 1926. She built Whitehall guesthouse in 1942 and cooked for over 60 people at the age of 76, and my wife and I took over this business in 1945. [CA]

Figure D-1. 10: Grand Hotel, Queenscliff c.1906(Image a03347, SLV Collection).

Boarding houses also offered short term accommodation, and were prolific throughout Pt Lonsdale and Queenscliff. Local families would also let out houses to tourists to make some extra money:

> In summer there could be 7000 people coming here by boat…every second house in town was let… there were little cottages in the back of the fishermen's houses, which they would move into and let the main house out…Over summer if you had a spare room, the guest houses would hire it from you [for the tourists]…this went on from 1900 to the 1930s when the boats finished. [CA]

Even the lower class fishing families profited from the provision of visitor accommodation. Many homes had small cottages or sheds in their backyards, which were used to house the family whilst the main house was rented to tourists (Ferrier 1991:2; [CS; HM; LID; WN]). Furthermore, many fisher women owned, operated or worked in the guesthouse trade:

> I used to work there with Nola (Auntie) when I was younger. We would wait on tables and serve meals. They always served heavy hot English food. There was also a French pastry Chef who made apple charlottes. I was about 17 or 18 then. I worked all morning until the afternoon when I got some time off. I would wake up early and clean rooms and set the table, and then clean out the rooms, change beds and clean the floors. Sometimes I would have a quick swim at the beach, and then prepare for lunch, which was soup, a main course and roast. The washing up was huge, and I would set the tables for tea and have a break between then and dinner time, when I would go to the beach. After that I would go back to work for the evening meal. It was 12 hour days.

> They had a ballroom, tennis court, crocket lawn and aviary, and they often had 100 people stay at a time. [DS]

The inundation of tourists led to boom times for the local business community. Numerous small businesses opened to directly service the needs of the tourists, including cafés, a coffee palace and other forms of entertainment. In turn other small service business centres sprang up around the town, including butchers, bakers, grocers, fruiterers/greengrocers and dairies [CA; JP]. Local transport companies also proliferated to meet the need for neighbourhood trips to tourist facilities and for cartage of tourist possessions to and from the piers [GW].

About a dozen of guesthouses were established at Pt Lonsdale from 1882 onwards (Allom Lovell 1984:11), and provided for every whim of their guests.

> There were many guesthouses here: Kora-weari, The Terminus, The Beach House. They would all get together for balls, lantern shows and that sort of thing in the 1950s. They organised social things together, but that changed in the 1950s and 60s. They had a ballroom, tennis court, crocket lawn and aviary, and they often had 100 people stay at a time. There was a culture of guesthouses. People would come here for 30 years, and then their kids took over their annual booking. There was often competition between houses in tennis and crocket matches. [DS]

The economic boon of tourism for the town can not be over stated. Anything that might adversely affect tourism was shunned, and on one occasion some townsfolk were criticised for shuttering their windows as a mark of respect for local deaths because of the gloomy image it portrayed to tourists:

> ...of all places, Queenscliff is the last which should perpetuate a practice of melancholic effect on passers by, many of whom depressed in mind and body by their own troubles and sorrows come here to "Exhilarate the spirit, and restore the tone of languid nature" Let us try and help them to this result by a cheerful appearance and not add to the depression by a custom more honoured in the breach than in senseless observance. (QS, 25/3/1893)

E) Convalescent Homes

The perceived healthy environment also led to the establishment of two convalescent homes at Queenscliff. In 1895, the former residence of Capt. Lilley was purchased by the MCL for use as a seaside vacation resort for underprivileged children and sick children, which became known as "the Cottage by the Sea" (Figure D-1.11; QS 1/6/1895). Prior to this time, children from various institutions and charitable societies (including the Victorian Deaf and Dumb Institution; QS 10/3/1894) visited the facility, and were often entertained by local philanthropists (e.g. Ballieu

family). Funds to run the Cottage by the Sea were provided by the MCL, and could accommodate up to 22 children at a time (QS 31/8/1907). The League also organised picnics for children from Melbourne, which often filled an entire excursion steamer (e.g. QS 22/2/1908, 17/12/1910). Another nearby facility, "Santa Casa" was run by Catholic nuns for similar purposes. These facilities received no government funding, by relied on charitable donors to keep operating (QS 14/12/1895). Many ill children used the facility:

> Santa Casa and Cottage by the Sea were both full of convalescent polio children. I heard of cases where they were strapped or bandaged to frames so they could take them down to the water to bathe. Cottage by the Sea had mirrors on the beds so that the children could see the ships going in and out. The Nuns at Santa Casa pushed kids on prams like a big flat platform with wheels onto the beach, so they could unbandage them and bath in the water. If there was a polio scare you were not allowed to go to school [in the early 1940s]. [JP]

Several holiday homes were established for clergy and nuns to recuperate, including Lathemstowe in Gellibrand St and Mt Nagle in Queen St (Allom Lovell 1984:39; [JP]).

F) *Local Transport Services:*

The influx of daytrip tourists saw the need for different types of services that did not revolve around accommodation. Carts were often used to transport sightseeing tourists to see local tourist attractions at Pt Lonsdale, or to wreck sites further along the coast (GA 4/1/1872; 15/1/1872; Dod 1931:68). Tourists predominantly used the central tourist facilities, but also occasionally ventured to more remote areas in Swan Bay for large picnics. Many locals recalled fleets of omnibuses that ferried picnickers to events and up to four daily trains serviced the town during summer [JP]. The small businesses around the town continued to thrive by servicing the daily tourists' refreshment needs.

G) *Central Landscape Features: Tourism Sightseeing Attractions*

Although these seaside attractions offered a healthy atmosphere to tourists, any use of the baths and the sea was heavily weather dependent, and so other aspects of the town's everyday life were promoted as tourist attractions (Beavis and Raison 1984). Tourists made the most of the many attractions the township provided. In the early days of the colony, the main attractions focused around the service industries and defence forces that were based in the township which forced an overlap between the visitors and the local residents. Many of the maritime industries based at Queenscliff were promoted to visitors and excursion tourists for sightseeing during both the

nineteenth and twentieth centuries. It was at this point that the tourists' landscapes began to markedly overlap with those of the local residents.

The navigational facilities in the Queenscliffe area were extensively touted as tourist destinations, as it possessed one of the earliest lighthouses in the colony (QS 29/6/1907, 22/2/1908; Raison 1997:2), and the local Progress Association often advocated the opening of these facilities to encourage tourism from as far afield as Ballarat and Bendigo. Lighthouses were often described in romantic terms in the late nineteenth century (QS 7/4/1894), and given that gas lighting was not available in the town until after 1884 (QS 21/1/1884), their beams must indeed have been a spectacle to behold in the darkened night sky.

Figure D-1. 11: Cottage by the Sea convalescent home for children (Photo: PH 7290, QHM Collection).
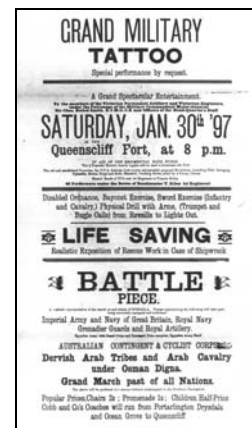
Figure D-1. 12: Military Tattoo advertisement (QS 10/1/1897).

Fort Queenscliff was a great attraction to colonial tourists, especially given the military fervor during the time of the Russian Scares. The fort represented state-of-the-art military hardware, and was listed in several tourist guides of the day (e.g. Sutherland 1988b:158; QS 7/4/1894, 29/6/1907, 22/2/1908; Beavis and Raison 1984:10). The annual Easter War Games (see Chapter Five) also provided a wealth of free entertainment for tourists, with momentous displays of firepower and mock battles, where night time artillery practice was particularly spectacular (QS 1/5/1886, 30/7/1910), as were the marching of the artillerymen to the railway station afterwards (QS 1/5/1886). The military also used these events to show off for the tourists, possibly in an attempt to secure more funding for defence, sometimes with fatal consequences, such as in the case of an accidental mine discharge in 1881where the explosive charge had been increased provide a more impressive display (Tate 1982:60). Military Tattoos (Figure D-1.12) were popular

performances, and often included displays of lifesaving in case of shipwreck, mock re-enactments of famous battles and trooping the colours (QS 5/1/1897).

Promenading on the pier was very popular in the 1890s as a way of taking in the sea air (QS 7/4/1894). The Pilots Station, Health Officers crew and fishers were also promoted as tourist attractions (Beavis and Raison 1984), as were the lifeboats used in shipwreck rescues. The monthly practice session attracted large tourist numbers, where the crew launched the lifeboat and fired the lifesaving rocket that was used to pass a line to shipwrecks:

> …once a month…they would fire off the rocket for practice. Everyone knew it was coming, but we would all jump when it went off, it made a hell of a bang, and it would go flying up high in the air over The Bay. Everyone in the town used to turn up to watch them practice, especially the kids. They came from miles around to see it set off. [GW]

Other unexpected events such as shipwrecks attracted hundreds of visitors to Pt Lonsdale and the surrounding surf beaches whenever they occurred (GA 4/1/1872, 17/1/1872:2; Dod 1931:68). This aspect is discussed in further detail in Chapter Seven.

Environmental features also formed an important part of the tourist landscape. A bush track along Lonsdale Bight (Lovers Walk) and visits to the natural rock formations at Pt Lonsdale were popular attractions, both of which were popular destinations for picnics, as were trips to Swan Bay, and Swan and Mud Islands for bird-watching and fishing.

By 1888, Queenscliff was also promoted for its range of facilities, including postal, telegraph and money order offices, a savings bank, entertainment facilities (Foresters Hall, Mechanics Institute), churches, administrative services (Health, Customs, Police Officers, Courts, Pilots) and local newspaper (Sutherland 1888b:158). Other attractions around the district were also of interest, including dedicated tourist facilities such as a botanic garden, exotic performing troupes, lovers walk, maze, bandstands and rotundas (used for dancing and bands), rifle club, and many other sporting endeavours (Dod 1931:65; Beavis and Raison 1984; Ferrier 1989:19; [CA; GW; PF]). Annual lawn bowls tournaments from 1887 onwards drew large crowds for many years from districts as far field as Ballarat and Bendigo (QS 28/5/1887, 2/11/1907; [CA]). By 1907-08 the tourism attractions at Queenscliff included: excursions to other tourist towns on the Bellarine and Mornington Peninsulas; fishing excursions, sailing round The Bay; the golf links on Swan Island; and the wreck of the *RMS Australia* (QS 29/6/1907, 22/2/1908).

From around the late 1880s onwards, drinking also became an important part any Queenscliff holiday, particularly for the daytrip excursionists from Melbourne. Many oral accounts in particular recalled how police often had to confiscate alcohol the tourists brought with them (Ferrier 1989:17) and that these visitors would often head straight for the hotels, only to return home the worse for wear with a bag full of alcoholic beverages [CS]:

> They would come off the boat and down the Esplanade [Street] into the Esplanade, Vic
> and other pubs. They would stay there all day, and then come out with a Gladstone bag
> full of grog for the trip home. [CA]

These behaviours often meant the town was full of drunken tourists, an aspect that greatly affected their relations with the local population (this is discussed further in Chapter Eight). The introduction of this type of behaviour radically altered the previous environment of gentility for which the township had become famous.

Queenscliff's tourist trade was heavily reliant on the annual picnics of many trades' organisations and other government institutions. Geelong Fire Brigade, Painters, Trade Clubs, Ports and Harbours Department, Post Office, MCL and numerous other agencies held their annual picnics there, often inundating the town's commons and parks (GA 27/1/1866:2; QS 27/2/1915 [JP; PF; GW]). The Bay Steamers were often besieged with people, far beyond their official capacity, and Captains were often forced to leave their berths to avoid overcrowding with hundreds of passengers still waiting to embark. The parks along the eastern edge of the township were very popular with daily tourists, and [WN] recalled how her mother and uncles would jump from the ferry onto the Queenscliff Pier and run to the park to claim a table for the family picnics, which were always in great demand.

H) Folklore and Tourism

Even folklore was manipulated to increase the tourist market. Three folklore accounts were identified in the area that persists even to this day. The origins of these tales were of interest, as they have persisted despite contrary historical and archaeological evidence. After many interviews with the local community, it became evident that these legends were associated with the tourisms industry, and will be therefore explored in greater detail.

The first concerned an escaped convict (William Buckley) from the failed Sorrento settlement (of 1803) who walked around The Bay and lived with the local Wathaurong Indigenous community

until discovered by Batman's exploration party at Indented Head in 1835. Although Buckley was an historically documented figure, local rumours abounded that he had lived in a cave at Pt Lonsdale for many years (Figure D-1.13), and this became the popular focus of many tourist forays after it was widely publicised in 1888 (Sutherland 1888b:158). In 1890, it was reported that a petrified body had been uncovered inside the cave after it had been scoured out by a violent storm, and it was insinuated that the government had tried to suppress news of the discovery (QS 27/9/1890). This attempt to inspire a conspiracy regarding the site, may demonstrate active attempts by the tourism operators to attract visitors to the area. The cave continued to be an important draw-card for the area (QS 23/7/1909). Given that Buckley was known to have lived in this area, the cave provided a tangible anchor for the romantic tale, which could then be exploited as a focus for tourism operations. The legend of Buckley still plays an active role in the area's tourism, and is the subject of a heritage trail around the Bellarine Peninsula.

Figure D-1. 13: William Buckley and his cave (Sutherland, 1888a:64).

The second legend involved the visit of an historically documented pirate, Benito Bonito, who was as legend would have it sailed into Swan Bay to bury his treasure before being captured and hanged by the British Navy. This tale dates to at least the 1860s (Lawson 2004a), and was perpetuated by a local fisher (Kerosene Jack) who once lived on Goat Island, and identified himself as the son of the pirate. According to Jack, after re-discovering the buried loot, he blew up the cave where it was located to make sure it was never found again. He was said to have had a treasure map tattooed on his arm, and was subsequently pursued by numerous interested parties intent on getting him to reveal the treasures secret location, but never revealed its secret (Dod 1931:26; Argus 7/7/1937; Anon. 1938:85; Van de Klouster 1980:14; Hayden n.d.:9-14, 18;

[LID]). Many different versions of the story abounded in Queenscliff, but all maintained that the treasure was buried along the Swan Bay foreshore of Queenscliff.

Many attempts were undertaken to find the treasure, beginning with visitors and locals digging and poking around the cliffs/foreshore (Hayden n.d.:19; Anon. 1938), and coin hoards (some dating to 1816) that were discovered between 1909-26 (QS 25/9/1909; Thompson n.d.:8), along with a box marked "B.B." that contained a compass stamped 1777 (Hayden 1966:15; Lawson 2004a). [A more plausible explanation of these finds is offered in Chapter Seven].   The legend had such veracity in the Victorian community that it even spawned several mining syndicates to undertake serious searches with heavy machinery from the 1920s until 1994 (Hayden n.d.:19-21; Lawson 2004:9). Another similar legend also circulated about treasure on Swan Island in 1909 (QS 25/9/1909). An expanded consideration of these folklores is contained in Appendix D-3.

3) The Archaeology of Tourism Landscapes

A) Transport: Routes and Departure Points

There were many tangible remains of tourism evident in Queenscliff and the surrounding regions. The New Pier provides tangible evidence of the important seaborne tourist trade, as does the railway station. The buried and almost intact remains of the former Fishermen's Pier were also discovered in 2006 (Hewitt 2006). The two waiting shelter sheds are located on and adjacent to the pier, and demonstrate the connection of passengers to the pier and ferries (Figures 6.14-6.17). Similar features were also located on or next to the piers at Portsea and Sorrento.

Perhaps the most extensive indicators of tourism lie in the water. The large piers of Queenscliff, Sorrento and Portsea serviced The Bay steamer trade, which would discharge and collect thousands of day trip tourists. Accordingly, enormous deposits of predominantly aerated water bottles of Melbourne and Geelong origins dating up to as late as the 1930s were reported by divers at the approaches to, and under many piers in these areas [DL; LM; PF; SA]. One diver [SA] observed that he had only ever found lemonade and torpedo bottles (but no alcohol bottles) bottles at Bay Steamer Ferry piers located at Sorrento, Dromana and Snapper Point, and this observation was repeated for recreational fishing areas such as Portsea Hole (a deepwater hole just off Portsea). Oral histories also record that thousands of these types of bottles were uncovered when the first large steamers began to use these areas (uncovered by propellers and dredging), particularly at Sorrento Pier [PF]. These deposits vary slightly from those inspected in

Geelong, where the proximity of the piers to public houses meant they were used as rubbish dumps by the hotels, resulting in large concentrations of alcohol bottles ([CA]; Duncan 2004a). Many deposits of aerated water torpedo bottles have also been located in Lonsdale Bight which was probably associated with the many former bathing boxes scattered throughout this area.

The lack of alcoholic bottles on the seabed at the resort piers might also be explained by known contemporary recycling practices, whereby the crews of the Bay Steamers were known to collect all bottles to claim the recycling deposits levies (Fitchett 1973; Ferrier 1989:18, 1991:2), and by the prohibition of drinking alcohol outside of the local hotels.

Figure D-1. 15: Waiting Shed near New Pier.

Figure D-1. 14: The Waiting Shed (right) on the New Pier.

Figure D-1. 16: Queenscliff New Pier Waiting Shed, 2001 (Photo: M Gibbs).

Figure D-1. 17: Interior of Queenscliff New Pier Waiting Shed.

Furthermore, the West Channel route, which was used extensively by the Bay Steamer ferries, evidenced large concentrations of Victorian manufactured soft drink and alcoholic bottles, which contrasted highly with the South Channel, where artefacts were mainly of international origins.

The former observation was repeated in the Sorrento Channel, which was extensively used by ferries calling at Sorrento, Portsea and Queenscliff. The concentration of alcoholic bottles in the West Channel might also be related to the consumption of alcohol purchased at the resorts, which would have been drunk from the bottles and discarded overboard, whereas alcohol purchased onboard for the trip down would have been served in glasses, and the bottles retained by the crew for recycling.

B) Baths and Bathing Sites

Surprisingly, little survives of perhaps the most iconic structures for this area, the baths.   No evidence of the Queenscliff Bight baths or any associated relics were visible during an inspection of the sites in 2002, but it is probable that vast archaeological deposits of relics from these facilities lie buried under the seabed, given numerous other observations of similar structures along the Hobson's Bay foreshore (Duncan 2004a). The natural reef rock platform known as Governors Hole was exposed during storms in 2002 and 2006, and now lies buried under prograding sand dunes on the southern side of Shortland's Bluff, and are still used by modern swimmers. It should be noted however, that remnants of the baths were exposed by storms in 1912 (50 years after they were demolished; GA 12/6/1912) and it is therefore possible that archaeological remnants of this structure are buried under the foreshore dunes. In 2005, a timber post possibly associated with this structure was exposed in front of the seawall after storms (Figure D-1.18). Changing rooms and a façade associated with the former hot water baths are still extant and is currently used as a café (Figure D-1.19).

Figure D-1. 18: Possible remains of Shorthand's Bluff Bathhouse at Governors Hole.

Figure D-1. 19: Former Managers Quarters and Changes Rooms of the Hot Water Baths, Now Harry's Restaurant.
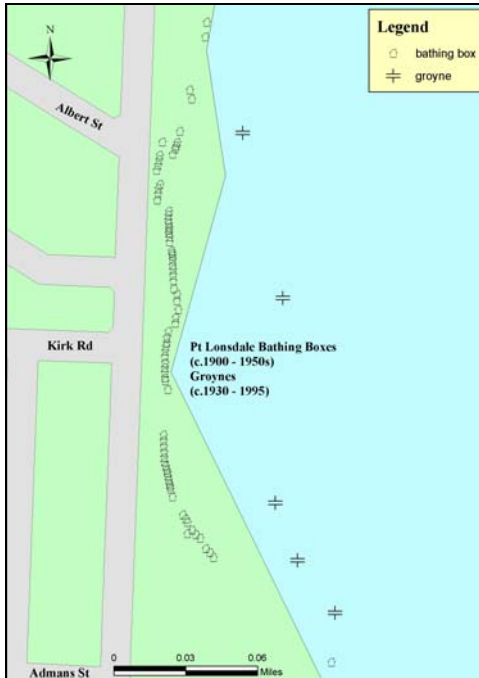
Figure D-1. 20: Pt Lonsdale Bathing Hut Sites and Groynes.
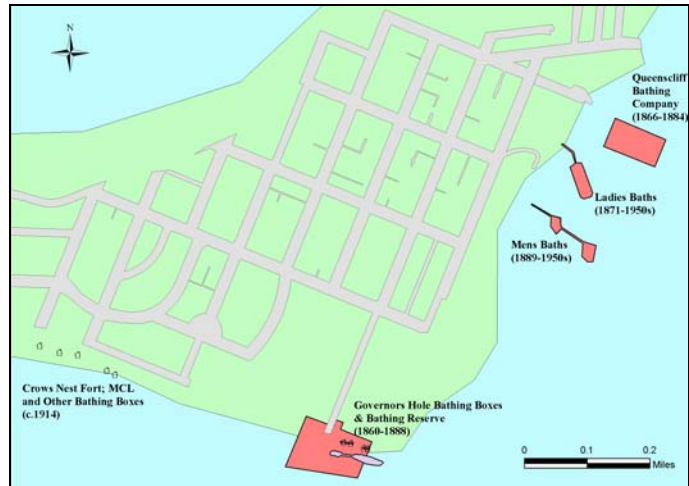
Figure D-1. 21: Bathing Sites at Queenscliff.

In general, baths and bathing places in this region were characterized by their close proximity to tourist population centres, and (except for the earliest facility at Shortland's Bluff) were located in local Bays predominantly sheltered from prevailing adverse weather (from the south west). The lack of evidence of the former baths structures in this area contrasts starkly to several other similar structures investigated at Melbourne and Geelong (see Duncan 2003a; 2004a), and others inspected at Clifton Springs and Portarlington during this survey, where often substantial archaeological deposits of both structural components and relics associated with former site use were evident. These difference in archaeological signatures might be attributed to the proximity of the Queenscliff sites to a defence facility (where they were used for explosives practice by the military, and removed at seabed level in the 1950s [GR]) and an active bottle collecting community. Furthermore, the proliferation of maritime infrastructure in Queenscliff Bight, along with other extensive modification of the littoral zone caused by Channel deepening and harbour redevelopment (see Chapter Eight) has led to progradation along this foreshore area, which may have buried any archaeological sites. In contrast, the bath sites at Melbourne were very exposed to prevailing weather patterns, which resulted in seasonal erosion of the sand covering those sites. The baths sites of Queenscliff, Melbourne, Geelong, Portarlington and Clifton Springs were all characterised by the existence of promenade approaches, consisting of bluestone seawalls which supported concrete pathways, and these sometimes features often added to the erosion of these

areas due to reflected waves [JP; PF; WN]. Furthermore, the actual entranceways to the baths at many of these locations were often evident by relict gaps in the seawalls, by doglegs in the seawall structure (Duncan 2003a), or piles from the access piers (at Portarlington).

Figure D-1. 22: Pt Lonsdale sand groyne in 1994 prior to demolition.

Figure D-1. 23: Pt Lonsdale sand groyne.

Figure D-1. 24: Pt Lonsdale seawall and promenade.

Open sea bathing facilities were still evident at Pt Lonsdale Front Beach in the remains of several timber sand groynes spread along the beach, which had been installed to encourage sand accretion along to stabilize the beach. These groynes consisted of a row of substantial timber piles (Figures 6.22-6.23) which supported horizontal beams and planking, which were often reinforced by natural rock formations or bluestone ballast rock. Similar evidence was found along the foreshore from St Leonards to Portarlington, where extant timber sand groynes were usually located close to popular swimming areas, and several small stone groynes performed a similar function at Indented Head. Furthermore, the accumulation and erosion of sand deposits in

these areas (caused by the above structures) is in itself an archaeological signature of bathing activities.

Bathing boxes were generally located close to guest houses and other private residences at Pt Lonsdale, and were also associated with seawalls, promenades and other local amusements. It is probable that the remains of bathing box stumps are still located behind and under the current seawall at Pt Lonsdale (Figure D-1.24), but this could not be ascertained as the promenade is still extant and intact. Many other examples of intact (and still used) bathing boxes were identified along the shores of the Mornington Peninsula. The continued use of those structures suggested that they were privately leased or owned (Port Phillip Authority 1985:13), as opposed to guesthouse/ tourism ventures, and may have survived as their existence did not depend upon the commercial viability of associated accommodation businesses. The lack of extant bathing boxes in Pt Lonsdale could either be attributable to the failure of their associated commercial accommodation ventures, to the subsequent erosion in Lonsdale Bight caused by the deepening of The Rip Channel, or their proximity to a commercial business district, where private use of public land was discouraged in the mid-late twentieth century.

Other evidence of bathing facilities included the installation of hulks to act as breakwaters to provide safe swimming areas at Indented Head (*Ozone* and *Dominion* shipwrecks).

C) Accommodation

Many tourism sites were still extant, or evident as archaeological sites, the most obvious being the accommodation in the form of extant inns, guesthouse and boarding houses (see Figures 6.25-6.28). The most opulent extant hotels date to the 1880s and earlier period of the town, and included the Royal, Vue Grand, Queenscliff and Ozone Hotels (Figures 6.29-6.32), which were located on the mid-to upper levels of the township close to the central business district. All of these structures had (at one time) been fitted with viewing parapets/spires, and all had at one time enjoyed clear fields of view to the water.

Many guesthouses were scattered around the township at numerous locations, and dated to the period of later middle to lower class tourism of the late nineteenth and twentieth century (Figure D-1.33). Guesthouses were particularly prolific near the waterfront at Pt Lonsdale (Figure D-1.34), and many dated to the later periods associated with open sea bathing of the twentieth century from around the 1920s onwards. These buildings were large multiple roomed structures

of simple construction usually located on large acreages where numerous outdoor sports could be undertaken. It was difficult to relocate the locations of many guesthouses, as the exact address of many were not listed in contemporary historical accounts, and secondary sources (e.g. Baker and Lawson 2004, Brown 2004) were used where available to pinpoint whether these sites still existed. Many early guesthouses were located on elevated areas, close to the business districts at Pt Lonsdale and Queenscliff, and those at the former were usually located within walking distance of the beachfront. Spatial and temporal analysis of accommodation sites presents another avenue of investigation yet to be undertaken.
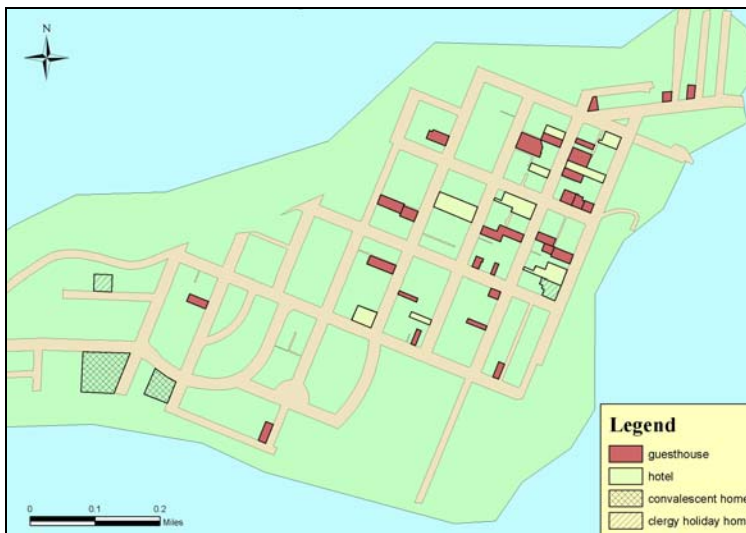
Figure D-1. 25: Historic visitor accommodation sites in Queenscliff.
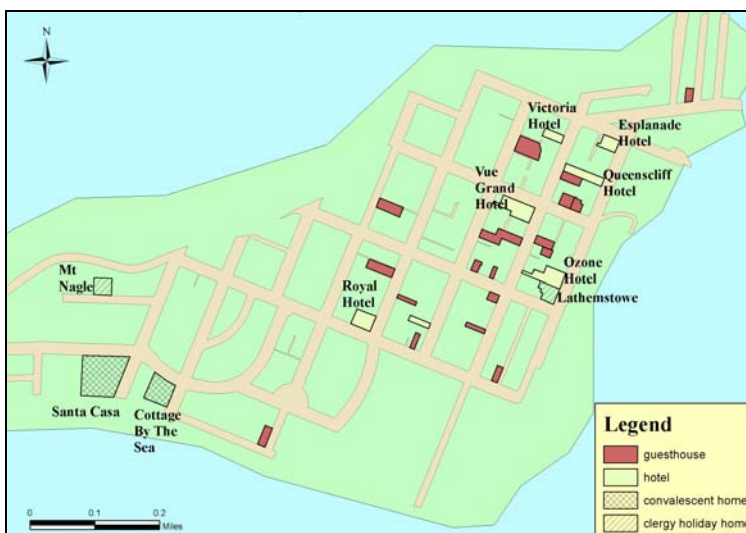
Figure D-1. 26: Extant visitor accommodation sites in Queenscliff.

Many fishermen's allotments demonstrated a main house (which was rented to tourists) with a secondary cottage at the rear for the owner's accommodation during the tourist season. These structures were very simple timber constructions of usually one or two rooms located at the rear of the main house (see Figure 7.8).

Figure D-1. 27: Historic Visitor Accommodation Sites in Pt Lonsdale.

Figure D-1. 28: Extant Accommodation Sites at Pt Lonsdale.

The tourism presence was also evidenced by a number of ornate timber shelter structures in parks and close to the pier (i.e. rotunda, waiting/shelter sheds in Princes Park - Figure D-1.15), which indicate where the tourists are entering the township. The presence of the large waiting shed on the pier itself was an almost certain indicator of tourism, as no similar structure was ever built on the other jetty, which was predominantly a working structure. Other extant tourism facilities included sporting facilities (Swan Island and Pt Lonsdale golf course, bowling greens, tennis courts etc), former botanic gardens (which was evident by a reserve), extensive parks, back beach walks and promenades. These dedicated tourist areas were often evident by empty space in the form of parkland which usually fronted the waterfront, and the proliferation of these types of sites in such a confined area was notable. Furthermore, the reclamation of former swamps for parkland, especially where numerous parks already existed might further evidence the tourism in this area.

Figure D-1. 29: Hotel Queenscliff, Gellibrand St.

Figure D-1. 30: Lathemstowe and the Ozone Hotel, Gellibrand St.

Figure D-1. 31: View Grand Hotel

Figure D-1. 32: The opulence of the Vue Grand Dining Room

Figure D-1. 33: Queenscliff Inn.

Figure D-1. 34: Kora-Weari Guesthouse, Pt Lonsdale.

The convalescent tourism facilities were also still extant and being used for their original purpose (Santa Casa and Cottage by the Sea - Figure D-1.35 and 6.36). These multi-roomed large

buildings did not display the luxurious architecture of the hotels, and were set on large acreages close to the beach. This factor is discussed further below in regards to the significance of empty space.

Figure D-1. 35: Cottage by the Sea convalescent children's home.

Figure D-1. 36: Santa Casa convalescent children's home.

The sheer density of all these types of sites, along with the former duplication of many mercantile businesses (e.g. butcher shops, grocers, bakers, greengrocers, banks etc) and multiple local business districts within the town was perhaps the most potent evidence of tourism in the township especially in a settlement as small as Queenscliff.

D) Shipwrecks

Several wrecks of former bay steamer ferries are located in the Ships Graveyard area to the west of the Heads and include the *Coogee*, *Hygeia* and *Courier* (Duncan 1994). The wrecks of several other former steamers are located at Cape Schank (*Alert*), inside Port Phillip Bay (Williamtown - *Black Eagle*; Swan Island - *Mystery*; St Leonards - *Empire*), and eastern Victoria (Gippsland - *Despatch* and *Awaroa*). The Bay Steamer *Ozone* was subsequently used as a breakwater at Indented Head, fittingly to provide shelter for a recreational beach area.

The abundance of these abandoned former tourist ships tangibly reflect the changing nature of tourism in The Bay, and the shifting economics fortunes of maritime industry, a notion which has been further generally explored on nationally by Richards (2002). The changing size and specifications of these tourism vessels wrecks over time is also indicative of the evolution of the needs of the tourism industry, both in terms of passenger capacity and hull construction that has adapted to changing environmental conditions (see below). These observations are consistent with Westerdahl's (1998) predictions relating to the evolution of hull design and transport zones.

This aspect is discussed further in Appendix D-4. A summary of the archaeological signatures of tourism sites is included in Appendix D-5.

E) Changing Tourism Landscapes/ Excursion Boat Landscapes

In the early days of the colony, small sailing and steam vessels were used to transport supplies and occasional passengers around The Bay. However, as the popularity of excursion trips increased, the size of the vessels grew to gigantic proportions, until they were disappeared over a short period of 20 years, predominantly due to the rise of road and rail transport networks (Fitchett 1973). These vessels were eventually replaced with smaller, locally built vessels to provide ferry services across The Bay entrance.

A temporal study of vessel size provides significant indications of the changing preferences of the public for this activity over time. Initial craft are smaller paddle steamers originally designed for cargo transport, where passenger conveyance is incidental. Over time, the design of the craft was more focused on passenger comfort, and designs encouraging increased speed and size were favoured. At about this time, there was a reversion to moderately sized craft that were involved in passenger and cargo deliveries. However, with the decline of The Bay excursion trade, vessel design sizes were reduced abruptly, and became more squat but sturdy vessels used for short, cross channel voyages only. These vessels again slowly increased in size as passenger demand grew, and the current use of large car ferries is indicative of the significance of these cross channel ferries to the local community.

The predominant use of screw steamers on the Geelong to Melbourne run is indicative of the relatively deeper waters encountered between those two area, whereas the use of paddle wheel steamers between Queenscliff and Melbourne is symptomatic of the shallow waters to be traversed at the Yarra River Delta and around the peninsula tourist pier (QS 22/6/1889).

The Bay Steamer ferry routes present insights into the changing tourism landscapes of Port Phillip Bay. Initial tourism was conducted from Melbourne to Geelong, and these were predominantly predetermined by the lack of other suitable destinations. However, around the beginning of the 1850s, tourism reports began to prosper originally at St Leonards and Queenscliff, and then later at Sorrento and Portsea, and then Portarlington and Clifton Springs. The popularity of annual picnics replaced the previous fervour for healthy air, and many more

destinations arose, particularly on the eastern side of The Bay at Carrum, Rosebud, Dromana and Mt Martha. As attitudes to recreational holidays changed and terrestrial transport networks developed, ocean sea bathing became more popular. As holiday makers were no longer constrained by the confines of the resorts, and tourism destinations along the open coastal beaches became trendier. After the disappearance of The Bay Steamers in 1942, the two peninsulas again became isolated from one another, necessitating a 130 mile trip by road (via Melbourne) to get to the other side (Fitchett 1973:82). However, the introduction of localised cross Rip ferry services from 1953 onwards reconnected the tourist landscapes again, leading to another bay excursion trade, this time across the strait. This has changed the contemporary tourist and working landscapes of many Geelong and Mornington Peninsula residents, as now Melbourne is no longer an essential component of the tourist landscape as the cross Rip ferries avoid the need for motorists to pass through there on a trip around The Bay.

The change in bathing/holiday destinations from the bathing resorts to the open beaches also changed the archaeological focus of relics, which were no longer centred on the piers/baths, but were scattered over much wider areas along the open coast. The former presence of bathing boxes, timber sand groynes, seawalls and promenades at Pt Lonsdale confirms this observation.

4) Cognitive Landscapes

A) Folklore and Tourism

The stories of Buckley's Cave and Bonito's Treasure also appear to have been adopted and exploited by the town to bolster the local tourist trade after open sea bathing became popular at the newly discovered surf beaches further along the West Coast [RL]. Some guesthouses were known to plant old coins in the area to keep the latter story alive [WN], and the popularity of the treasure story as a tourist attraction was evident in a newspaper advertisement from 1938 that encouraged treasure seekers to visit the town:

> Come to sunny Queenscliff and hunt for treasure…Have a holiday and exercise at the same time and perhaps grab a million or two of gold to boot. It's yours for the digging. Don't forget your pick and shovel and Miners Right. (as cited in Hayden n.d.: 19)

The influx of treasure seeking visitors and syndicates to the town proved a bonus for local businesses, and charities that made collections amongst the visitors (Hayden n.d.:23). 7000 visitors were recorded in one weekend in 1954 when a new syndicate started work (Lawson 2004b:12). As a former tourism operator [CA] commented: "Benito has done no harm to

Queenscliff's reputation". The mayor of Queenscliff in 1938 summed up the indifference of the local community towards the actual legend: "The Queenscliff treasure is like every other treasure – nobody ever finds it!" (Anon. 1938:87).

Although the story has interest as a social phenomenon, it also has implications for cultural landscapes studies due to the potential disturbance it may cause archaeological sites in the area. Additionally, the treasure hunting searches in themselves have generated archaeological signatures that are still visible even today along the Swan Bay Foreshore. Many shafts (up to 15m deep) were lined with iron or timber, and have only been filled in by the council in recent years (Lawson 2004b).

 The continued prevalence of these legends in the area is notable, as it appears that the folklorism was being practiced as a draw-card to encourage tourists into the area. These three examples demonstrate the importance that folklore plays in actively shaping tourist landscapes in this area. Although the truth behind the legends of pirate treasure and habitation in caves may be doubtful, it has nonetheless shaped the tourism landscapes, and indeed the local community landscapes of Queenscliff through their exposure to those who were seeking the sites.

The legends have encoded various "natural" areas with cultural meaning, which have been actively exploited to draw tourists and thus encourage business opportunities in those areas. Given the proliferation of other tourism ventures in the surrounding region, which offered similar services and natural attractions, the presence of these additional cultural attractions added an exciting new dimension to the tourists' experience that may have given Queenscliff a competitive edge over their rivals. Similar folkloric traditions which use legends of buried treasure or mysterious artefacts have also been observed at Warrnambool in Western Victoria (in relation to the Mahogany ship legend; Mahogany Ship Committee 1985; Loney 1985:20; Potter 1987) and at Geelong (where ancient keys were said to have been discovered under several layer of rock during limestone mining: Gill 1982, 1987; McKiggin 1987), and have probably been similarly exploited. It is also notable that the name Buckley's Cave was formalised as part of the tourist toponymy of the area, which in itself demonstrates the significance of this folklore as part of the local history and economy.

These tourist and treasure hunting landscapes represent only one aspect of landscape associated with this legend. There also appears to be secondary folklore landscapes at Queenscliff, where it

is known that these legends are exaggerated, but where this knowledge is primarily accessible to the local community only. As such, there is a duality of treasure hunters/tourist and tourism landscapes, which represent opposing perspectives of the same legend, but which is used by the latter to exploit the former. These accounts effectively represent "Folklorism"(Gazin-Schwartz and Holtorf 1999:12) in which second hand introduced folklore is used for a particular agenda, in this case to bolster tourism in the area.

B) Empty Space

Tourism was predominantly evident by large tracts of empty space in the form of park land along the foreshore, both at Pt Lonsdale and Queenscliff, which retarded development in these areas. The use of open space in these cases did not function as an exclusionary boundary (such as for the defence landscapes) but acted as a catalyst to facilitate communal interaction. In a way these areas acted as space to be filled, rather than voids used for separation. These parks in effect assigned communal landscape space to visitors, thus placing them within the community framework of the township. It is interesting to note the liminality of these reserves, which were always on the edges of the township, and thus reinforced the notion that tourists were indeed removed from the local community. Furthermore, this parkland may have been deliberately used to marginalise of the transient lower class daytippers from the upper class (temporary resident) tourists through the assignment of their recreational own areas in the township. Figure D-1.37 demonstrates the development of tourist reserves within the township, and show how the appropriation of new areas by the military led to the reduction and transferral of park reserves to other sections of the town. It can be seen that the first tourist reserve areas were located at the southern edge of the township, and gradually spread down the hill along the eastern coastline. Archaeological traces of the parks are often remnant in current sporting facilities, caravan parks, and coastal walking paths. The botanical gardens, a former major tourist attraction is now the football oval.

Figure D-1. 37: Changing landscapes of Queenscliff parks and reserves.

C) *Landscapes of Exclusion and Changing Tourism Landscapes*

The purchase of many of the original township blocks by wealthy graziers and Melbourne's elite led to the exclusion of many poorer tourists from the local Queenscliff area. The town's founding population included Governor La Trobe, Judge Fellows, and Governor Barkly [PF]. The original focus of the town on the elite tourist market through the 1860s was evidenced by many Queenscliff hotels who often touted for their accommodation for the elite and gentry (Beavis and Raison 1984:30, 35).

> Another reason for Queenscliff popularity was that Governor LaTrobe came here, and had his own house in the area. Victoria was a class-based society, and the servants were often sent ahead to open up the houses [JG]

Many high ranking clergy also visited Queenscliff as a seaside attraction, and health retreat and resort. Lathamstowe, an impressive three story mansion, was constructed by funds donated from

Latham of the Carlton United Brewery Company to build a retreat for senior bishops and priests, which was used for many years until sold when the maintenance costs ran too high (QS 30/11/1907; Inglis 1999).

The annual trip to the seaside was to escape the heat and disease of Melbourne, but also the mixed rank beaches of Melbourne. St Kilda, the most popular seaside resort in Melbourne, was the favourite haunt of the working class as it was close to the city and easily accessed by train. By contrast, the cost of the trip by Bay Steamer to The Heads in the 1870s equated to around two-thirds of the weekly wage of the working class. Queenscliff offered an exclusive retreat away from the lower classes, where middle and upper class status groups could mix with their own rank and display their gentility at "fashionable" resorts. Inglis (1999:72, 73) has postulated that the seaside resorts operated as theatres where the gentry could identify themselves as members of a socially distinct and recognisably superior social class:

> The high costs of transport to Queenscliff, along with the very high house rents served to retain the area as a tourism enclave of the upper and middle class. The high cost of Bay Steamer transport also meant that not only the luxurious worlds of the early steamers were denied the poor, but also the experience of the waterborne trip and Bay itself. It was not until the later years of the nineteenth century when transport costs were reduced with the introduction of trains and excursion tickets that the township began to open up to the middle and lower classes. At that time, when middle class business and tradesmen first began to infiltrate the predominantly upper class social worlds of Queenscliff and Sorrento, the socially elite sought refuge in the "cult of gentility", whereby ones status was of utmost importance and was maintained by the performance of rituals associated with one's holiday, such as promenading, concerts, soirées, grand balls, fine dining, use of smoking, ladies and reading rooms, and extensive bathing. The pier was seen as a particularly important place to see and be seen in 1909, and was frequented by stylish fashionable people and the military alike. (Inglis 1999:73-8, 85).

Of particular note, status within the holiday makers' community was displayed by the standard of different accommodation used. Residence in one of the grand hotels which overlooked the water also overshadowed the lower class accommodations of the guesthouses and cottages (i.e. status is reflected in height above ground/views and grandeur). Visitors' books were used as much to observe status of former clientele, but also to record your own as a previous guest. Prestige was further gleaned from owning one's own marine villa, which symbolised wealth; at Queenscliff these included El Tambo, The Ridge and Mt Edgecombe (Inglis 1999: 81-2).

The influx of lower class tourists to Queenscliff from the 1880s onwards effectively lowered the social tone of the tourist trade, and hence the status of a Queenscliff holiday dropped accordingly. The often raucous nature of the new breed of tourists effectively deterred not only the socially

conscious classes from holidays in the region, but also family groups, as violence, drunkenness and vandalism began to permeate the town (QS 26/11/1892). This was a time of great forced intermingling of the classes [JG]. Wealthy families began to move further afield in search of more isolated (and socially acceptable) holidays at more remote areas like Lorne (Inglis 1999:94).

Many of the poorer or lower class Queenscliff residents (particularly the fishermen) were also excluded from the tourism facilities. Many residents could not afford to enter the more expensive hotels, and one resident declared that the hot water baths were never used by fishermen's children as they were too expensive [JM]. This led to differential access to some areas of the town, and introduced further class distinctions similar to those outlined above that were imposed on the poorer permanent members of the community. This will be discussed in further detail in Chapter Eight.

Furthermore, the introduction of convalescent homes for sick children also led to exclusionary landscapes in those areas in times of epidemics, as local children were forbidden from playing in those regions for fear of them being exposed to the diseased polio victims.

> Santa Casa and Cottage by the Sea were both full of convalescent polio children… If there was a polio scare you were not allowed to go to school. [JP]

This is succinctly demonstrated by the marginalisation of these two adjacent facilities at the very edge of the township, which was a form of pseudo-quarantine that enabled sick children to still enjoy a holiday whilst isolating them from the township's general population. In this case the space between these features and the township formed a cognitive protective barrier, as did the space around the buildings themselves that separated the facilities from the adjacent roads (see Figures 6.25 and 6.26).

D) Frontier Tourism Landscapes

It can be seen above that the tourism landscapes gradually progressed from central Melbourne to extend to the extremities of The Bay, and this can be clearly seen by the spatial progression of bathing complexes towards the Heads over time (see Figure D-1.38). Originally the wealthy classes chose Bay resorts as an escape from exposure to the lower classes, and as a demonstration of gentility embodied in one's ability to achieve/afford that escape. The remoteness of the township from Melbourne ensured that the social hierarchy was maintained. When decreased

transport costs brought the working class reality of the metropolis to Queenscliff, most of the elite simply moved to more remote locations.
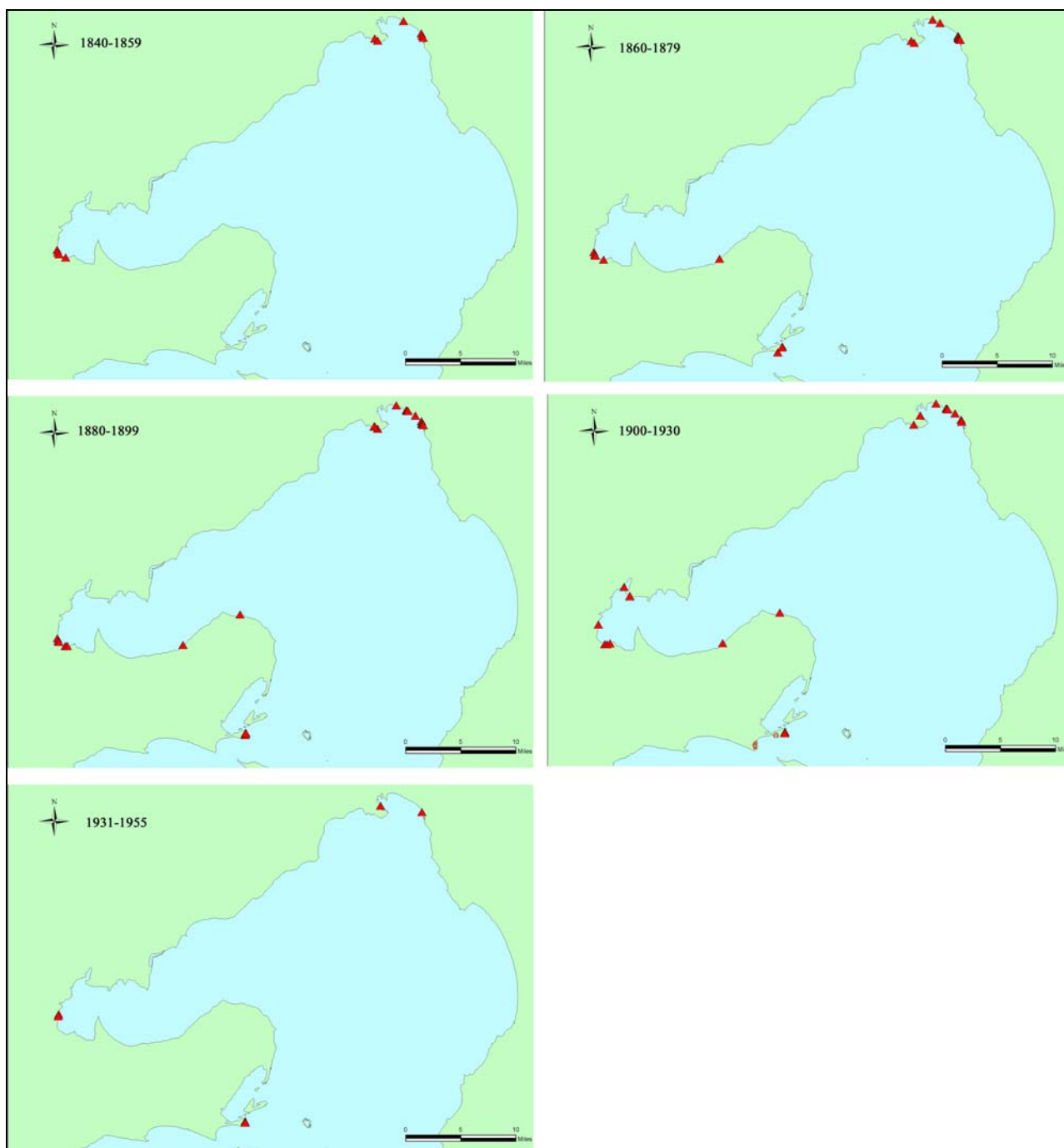
Figure D-1. 38: Bathing landscapes of Port Phillip Bay.

Furthermore, the demonstrated preference of the lower and middle classes for remote bay side holidays in preference to Melbourne resorts (QS 18/9/1897) suggests that the crux of their

tourism experience may have lain in their escape from the monotony of everyday life. Again, as more efficient transport lessened the perceived distance between their working and holiday lives, they moved further afield in search of more remote areas, which led to the opening of many resorts along the Western Victorian coastline.

Even within the Queenscliff holiday experience, many tourists sought remote areas on the frontier of Queenscliff itself such as at the Mud Islands, Swan Bay, Swan Island, Pt Nepean to escape the holiday societal culture (Beavis and Raison 1982:9). This situation is still true today, where backpackers endeavour to find even more remote locations to explore. It is possible that the less remote a destination is, the less its popularity will be, as it will become perceived as an extension to the mundane landscape of everyday life, and hence loses its appeal as an escape from it. It is therefore postulated that each time suburbia began to overlap with holiday landscapes, the tourist destinations would change. These observations suggest that the space between the tourist destination and the metropolitan area is significant, as it acted as a liminal region that separates mundane everyday life from the holiday experience. The visitor is temporarily transformed into a tourist, where there is a shedding of responsibility and cares. When the tourists again depart for home, they return to everyday life refreshed and in a sense born anew to again resume their daily responsibilities.

E) Traditional Ancestral Tourism Landscapes

Queenscliff has always relied on tourism from the gold field areas, particularly from the Ballarat and Bendigo regions (QS 22/7/1893), in addition to the trade from western region farming districts. Community members from these areas were predominantly affluent and desired the traditional seaside holiday so favoured in Britain. They often expressed their strong sentiments for Queenscliff and the welcome they received there (QS 13/8/1887), and responded favourably whenever collections were made for heroic deeds that were seemingly unrelated to their region (e.g. lifeboat service). The close ties established between these communities eventually led to the sporting competitions between those regions and Queenscliff, with sporting teams regularly sent to those areas (e.g. QS 30/11/1907). Reciprocally, when children from the Ballarat Orphans Society arrived on an excursion in 1890, full and free access to the municipal baths was afforded to them (QS 15/2/1890).

Many informants indicated that families from Ballarat and Bendigo would book the same accommodation in advance each year for the next annual holiday, or would return for every year to the same location for their holidays [CA; DS; PF; WN]. The practice of a habitual holiday destinations was (and still is) a common practice in this and many other Victorian coastal regions, where families have returned to the same location for over 50 years (Inglis 1999: 85-6; Wells 1982:132). At a recent meeting of the Geelong Historical Society, the author witnessed many people speaking of these types of repeated coastal holidays, the events that took place there, and the meaning of landscapes features to them. This suggests the presence of ancestral tourism landscapes, where families are introduced to, and educated about, their kin's holiday regions and the familial understandings and meanings attached to them. This observation is notable, as it suggests that permanent residence in an area is not a prerequisite for the formulation of cultural landscapes, as places can still have conations and meaning that stretch back several generations.

Furthermore, the existence of traditional coastal holiday destinations, which not only provided accommodation but also for other forms of entertainment, is reminiscent of the traditional British seaside holiday (Inglis 1999:29). English seaside holidays resorts were initially constructed to cater for similar health reasons, but later developed into cheaper holiday destinations that offered communal accommodation along with catered entertainment, and a variety of other attractions, which included bathing, promenading, carnivals, lighthouses, bands, joyrides and many other activities (see Pearson 2002) that were similarly available at Queenscliff, and many of the other resorts around The Bay. Although Queenscliff never appears to have engaged in the sideshow spectacles that were so common in the UK (which have also been adopted by some Mornington Peninsula tourist towns e.g. Mornington), the evolution of the town does have remarkable similarities to its British counterparts. Given the abundance of immigration from Britain in the nineteenth century, the Queenscliff tourism ventures may therefore exemplify a transported tourism landscape, where tourists and tourism operators alike sought to recreate aspects of their traditional homelands in the new colony.

F) Gendered Tourism Landscapes

Even within the tourism experience there appears to have been a gendered landscape, and this was most obvious in the segregation of women and men within the bathing structures. This was evidenced by the evolution of new material culture in the design of the baths (complete with segregated paddocks or access times; modesty screens in the form of enclosed paddocks with

removable pickets between piles; and restricted bathing rooms) and later enclosed bathing boxes and/or bathing machines to protect the modesty of female bathers. As attitudes to mixed bathing were relaxed, so too did the rigidly defined social structures associated with intermixing of the sexes. Mixed bathing led to the gradual blurring of the differential swimming landscapes between men and women, and also led to the evolution of new material culture in the adoption of new forms of swimming costumes and new forms of water sports such as surfing (Wells 1982:95-116).

However, within the tourist world, women and men were also commonly segregated in hotels via smoking and lounge rooms, public and ladies bars. Furthermore, men were often free to engage in nude bathing and sporting pursuits such as hunting and fishing, that frequently excluded female participation, especially in the mid to late nineteenth century where it was recorded that women were more prone to undertake croquet, archery or shell collection (Inglis 1999:90).

Figure D-1. 39: "Seaside Sketches - Arrival of the Husbands Boat at Queenscliff", 1874 (Calvert, IAN 25/2/1874, SLV Collection).

Although numerous wealthy families stayed in Queenscliff for extended periods, many husbands were forced to either abscond or return home for work commitments, and therefore only holidayed at weekends. Inglis (1999:90) has suggested the predominant presence of upper and middle class women at holiday resorts, especially during weekdays, may have further contributed to the upholding of genteel behaviour as Victorian women of their status often were the guardians of notions of conduct and decorum. Additionally, these situations often led to scenes of despair and jubilation (Figure D-1.39), as husbands respectively departed and returned from Melbourne at the beginning and end of each week, and the women were left to fend for themselves and their

children for the week alone (see Dod 1931:19). This further highlights the gendered differentiation and multivalent perceptions associated with the piers and railway stations as significant landscape features within the tourist landscape.

Furthermore, the guesthouse tourism industry was experienced differently by the genders as it appears to have been predominantly run by the women of the town, who also were heavily involved as staff such as maids and waitresses [CA; DS; JM; PF; WN]. Tourists and tourism therefore offers the best evidence encountered for the gendered landscapes of women in the Queenscliff area, which are readily accessible through both archaeological and historical evidence.

5) Discussion

The study of the tourist theme has relied heavily on archaeological and historical as evidentiary sources, which further exemplifies the foreign nature of these landscapes within the local area. Where local oral histories and ethnography were accessible, they were more likely oriented to the viewpoint of the local community than the sightseers, and hence in many cases presented a tourism, rather than a tourist perspective. Given the hindsight derived from the data collected, perhaps a more efficient way to have accessed tourist perspectives of the township would have been to canvass families in Ballarat, Bendigo, Geelong and Melbourne who have habitually holidayed in the region. However, this point is significant as it highlights that tourist landscape may never be personally accessible within a specified study region itself, as by definition tourists are foreigners to the area. This was reflected in the dearth of oral histories and ethnography (from the visitors' viewpoint) that were available in the area. The only sources in this respect that were accessed derived from Geelong residents with whom the author was already cognizant through personal connections. Without these sources, investigation of the tourist perspective would have been problematic.

Tourism has been demonstrated to have played a pivotal role in the shaping of Queenscliff. It has influenced the development of the township since its very inception, and has led to the provision of many essential services. Many extant structure and archaeological sites still exist today that characterise the effects of tourism in the area. These include accommodation buildings, piers, baths remains, but also less obvious structures such as sand groynes, seawalls, shipwrecks and even seemingly natural features such as eroded/ prograded beaches. These sites provide tangible

evidence of the importance of tourism in the evolution of the settlement. It has also been demonstrated that even seemingly natural places, such as bathing holes, beaches and other undeveloped regions have cultural significance and are the foci of complex social/cultural meanings.

Cognitive landscapes have also been shown to be integral components of tourism landscape development. Tourism has also been shown to be driven by ideological notions of health that influenced not only the development of many coastal townships as health resorts around The Bay, but also those nationwide. Furthermore, folklore and legends have been shown to be powerful determinants in the construction of local tourist landscapes, as they often create cultural landscape features which might otherwise be of little interest to tourists as "natural" places. These tales are important components of tourism landscapes, as they also allow sightseeing operators to both exploit and entertain tourists, whilst also distinguishing social divisions between those who have access to the truth available in local knowledge and those who do not. This observation further demonstrates the existence of both tourism and tourist landscapes within the area, where the same region is experienced differentially based on the origins of the participant, and even non-residents of Queenscliff can experience ancestral landscapes based on continued and hereditary tourism practices, knowledge and perceptions.

More importantly, it has been shown that tourism has affected the very fabric of the community, through the transportation of hierarchical social structures that used restricted access to tourist facilities based on initially on wealth and later class, and the use of empty space as a tool of social separation to reinforce the social status quo. Tourism in the middle nineteenth century was therefore a social structuring agent that both reflected and reinforced the notions of social class distinction at that time. Furthermore, it has been demonstrated that tourist landscapes often represented escape from the mundane reality of the metropolis which was embodied in the space between the holiday venue and the homeland, and therefore this empty space was a significant component of a tourist's landscape. In the poorer classes, the journey down The Bay was symbolically utilised to shed the restraints of socially accepted behaviour that was required in the city, and to indulge in conduct outside the social norm. Furthermore, empty space was locally used as a tool to facilitate social interaction through the provision of public parks, and may have even been used to separate the upper class tourist (residents) in the township, from the daily visitors.

The socially restrictive standards of acceptable bathing practices have also driven the changing nature of tourist landscapes. It has been shown that as segregations between sexes were relaxed, and tourist landscapes expanded beyond the restricted framework of the enclosed baths to embrace open sea bathing. These practices led to a twofold redefinition of coastal tourist landscapes beyond the former resorts to open ocean areas, and to the disbandment of the gendered divisions of bathing landscapes.

Tourism also responded in surges and falls to other landscape users which have not been further addressed here. Military occupation of tourism areas often restricted tourism access, and vast crowds were often drawn to the area in response to wrecks. These factors are discussed further in Chapters Seven and Eight.

The structuring of tourism landscapes varied markedly to defence landscapes which are directed by technological developments and political events. Tourist landscapes have been driven largely by social phenomena, such as ideologies of health, class, escapism and gender segregation, many of which reflect similar practices in ancestral homelands. However, they were also heavily determined in their locations by the environment, through the placement of tourism facilities beside suitable natural tourism features, but also by changes in topographic environmental features (such as the deposition and erosion of beaches). The study of tourist landscapes therefore presents an opportunity to also investigate the ideological frameworks that underpinned Victorian society, and is therefore is a crucial theme for the examination the maritime cultural landscapes of any society.

Appendix D-2: Bay Steamers Ferries

1) Bay Steamer

Queenscliff has always been heavily reliant on Bay Steamers for tourism patronage and supplies for the town.

A) Express

In 1854, Capt Howard Smith brought the schooner rigged steamer express from England to Victoria, and the Port Phillip Bay Steamer Trade was born. She was used in the Melbourne to Geelong Trade for many years as the principle carrier on that run. The vessel was sold to his Geelong agent, T.J. Parker in 1862, who used it to form the Express Steam Agency, and was replaced by the *Despatch* in 1869 (Fitchett 1973:1-2).

B) Black Eagle

Around the same time that the *Express* ferry was established, a small paddle steamer tug, the *Black Eagle*, established a service to St Kilda, Brighton and Mornington, and was later joined by many other craft that provided regular ferries for weekend travellers. She was brought to the colony by Dove and Oswald, but sold to James Deane in 1872. She ended her life when she sank at the St Kilda Pier in 1884. She was removed from alongside the pier to be broken up around that time (Fitchett 1973:4, 22).

C) Despatch

The *Despatch*, which had been sent from the Clyde in 1869, was very successful in the Bay Trade and led to the formation of the Huddart Parker Company. The vessel was replaced by the steamer *Alert*, and was chartered by the government as a lighthouse tender. She later became a ferry used for trips to the Gippsland Lakes, but still offered weekend trips to Queenscliff (enroute to Gippsland) returning on Tuesday (QS 26/5/1894). She was eventually sunk at Lakes Entrance in 1911(Loney 1971:94).

D) Empire

The *Empire* was the first government schooner that was used by the Harbour Master. It was replaced by the *Pharos* in 1867. It was the first vessel to service Queenscliff, and provided for the lighthouse service, pilots and boats crews at the Bluff (Noble 1979:37). By 1853, the area began to be recognised as a potential township location, which was sorely needed to provide for the needs of the pilots. As smuggling and duty avoidance were rife during this time, a Customs Officer was stationed there, along with a Health Officer and their respective six boat crews. All of the men at this time were married, and their families' needs had to be catered for, and eventually money was allocated to construct houses for them. The *Empire* was engaged regularly to convey men and materials to Shortlands Bluff (Cuzens 1912:1).

A pier was eventually built on the later location of the Fishermen's Pier to a depth of 9ft, to service incoming vessels and the boats stationed there. It connected via a raised plank road that extended to the current Gellibrand St. The road was used for about ten years, until a programme of organised roadworks was undertaken when the Queenscliff Borough was proclaimed (Cuzens 1912:1).

Queenscliff was recognised as the gateway to the Colony, through its provision of pilots and the navigation lights located there. It also provided the first point of contact to the outside world, as

the first mails from incoming overseas and interstate vessels were transferred here, which led to the establishment of the first telegraph service outside Melbourne and Geelong (Cuzens 1912: 2).

E) *Aphrasia* **and** *Vesta*

By 1851, the paddle steamers *Aphrasia* and *Vesta* operated services between Geelong and Melbourne. George Cole, a local St Leonards landowner, later purchased the *Vesta* to establish a steamship service to Melbourne attract buyers to his seaside resort. Cole purchased the hulk of the St George in 1853, which had stranded at Swan Island, and used it as a landing stage for the *Vesta* at St Leonards. This service was extended later to Queenscliff and Portsea, and the channel from St Leonards to Portsea was named Coles Channel (Noble 1979: 42-3).

When the government took over the cattle station lease at Shortlands Bluff, the steamship service and established a road to Geelong, Queenscliff was also established as a seaside resort (Noble 1979: 43).

F) *Temporary Bay Excursion Steamers*

During the late nineteenth century, many coastal steamers joined the bay excursion trade to take advantage of the huge demand during the summer season and other public holidays. The coastal steamers *Elingamite*, *Nelson* and *Leura* all offered services to Snapper Point, Sorrento and Queenscliff, and even tugboats (eg *Sprightly* and *Resolute*) were licensed to carry passengers, in addition to smaller trading vessels such as the, *Casino, Dawn, Onion, ,Maitland, Manawatu, Murray, Vesta,* and *Wyrallah.* Services were run to St Kilda, Brighton, Portsea, St Leonards, Point Henry (outer Geelong), and Werribee (Fitchett 1973:24).

G) *Mystery*

This paddle steamer tug was engaged as a ferry to Geelong from Melbourne whenever tug boat work was unavailable. She operated between 1867-1872 (Fitchett 1973:3).

H) *Williams*

The first regular passenger first class service to Queenscliff, Sorrento and other southern towns began in 1872, when the *Williams* was placed on that run. This paddle steamer was specially converted for that trade, and made her first trip to Queenscliff in November 1872. She proved a popular service until the introduction of the faster and larger vessels *Ozone* (1886) and *Hygeia* (1890). The steamer was sold for scrap when she was unable to compete in 1894 (Fitchett 1973:4).

I) *Golden Crown/ Lonsdale*

The *Golden Crown* was a paddle steamer specifically built in New Zealand for tourist excursions in 1874 for the Sorrento and Queenscliff Steam Navigation Company. It rivalled the *Williams* for competition, and both vessels were around the same size and speed and could hold just over 200 people. A special train was provided by the Melbourne and Hudson Railway Co. from Melbourne to Sandridge to meet the vessel on Sundays. Another steamer, *Lonsdale*, was purchased by the company in 1883, which changed its name to Port Phillip Steamship and Hotel Company. The *Lonsdale* was purpose built for the trade by James Deane, but when she proved too slow she was sold to the Port Phillip Steamship and Hotel Company, who rebuilt her. When the company experienced difficulties when new faster vessels were introduced to the trade (i.e. *Ozone* and *Hygeia*) both vessels were repossessed by the bank. The *Golden Crown* was broken

up for scrap sometime after 1888, but the *Lonsdale* remained in service until 1889, after which time she suffered the same fate (Fitchett 1973:4, 8, 30, 31,39).

J) *Queenscliffe*

A new steamer, the Queenscliff was introduced into the Bay Trade in 1876, and ran from Melbourne to Portsea, Queenscliff, and Portarlington return (Wynd 1988: 130).

K) *Alert*

The steamer *Alert* arrived in Port Phillip in 1878, and was purchased by the newly formed Huddart Parker Company to replace the *Despatch* on the Geelong run. The vessel regularly stopped at Portarlington and operated until 1893, when she was placed on the Gippsland trade. The vessel foundered off Cape Schank during a coastal voyage (Fitchett 1973:3, 33).

L) *Edina*

Howard Smith again entered the Bay Steamer Trade in 1875, when he purchased the *Edina*. The vessel had been first brought to Victoria in 1862 to establish a service between Melbourne Portland and Port Fairy, and was later used for trans-Tasman Sea voyages. The vessel was refitted for the Bay Steamer Trade in 1880, when she began a service between Melbourne and Geelong via Portarlington. She was eventually forced to retire in 1938, after road transport led to decreasing passenger numbers, and after becoming a lighter (*Dinah*) was broken up in the Maribyrnong River (Fitchett 1973:2, 6, 7; Duncan 2004a:111).

M) *Excelsior*

The excursion trade was well established by the 1880s, which led Huddart Parker and Co. to commission a new steel screw steamer, the *Excelsior,* in 1883. The vessel was involved in two mishaps, the most famous being the collision with the Edina, where she was sunk off Pt Gellibrand in 1897, but when raised was returned to the run until 1919 when she was dismantled (Fitchett 1973:7).

N) *Ozone/ Courier*

This paddle steamer was introduced by Bay Steamers Ltd in 1886, and was known for a short time as the greyhound of the bay, as she was exceptionally fast compared to the other bay ferries. This title was threatened by the introduction of the Huddart Parker screw steamer *Courier* in 1888, which advertised that they were contenders for the title. . This led to great competition between the two vessels, despite the fact that they traded on different routes. The *Courier* was designed as an ocean going vessel, and at the request of the Victorian government incorporated 14 pound Nordenfeldt gun platforms on her bow for use in time of war, although the guns were never fitted (Fitchett 1973:7-11, 42). The *Ozone* was sunk as a breakwater at St Leonards after it was dismantled in 1925 (Foster 1988:55). The *Courier* was stripped and scuttled in the ships graveyard in 1928 (Duncan 1994).

O) *Coogee*

By 1890, the Huddart Parker Company had purchased a new vessel, the *Coogee*, which operated between Melbourne and Launceston and in the Bay Excursion Trade. The vessel was used in the Melbourne to Launceston trade fro 1890 until 1910, when she was re-introdcued to the Geelong excursion trade. The *Coogee* was inducted into the Australian Navy in the final years of WWI. In 1928, the stripped hulk was sunk in the Ships Graveyard Area (Fitchett 1973:11, 14, 44; Duncan 1994).

P) Hygeia

The arrival of the paddle steamer *Hygeia* in 1890 coincided with the peak years of the excursion trade, which lasted for forty years. Eight vessels were engaged in the trade (*Hygeia, Ozone, Coogee, Courier, Edina, Alert, Williams,* and *Excelsior*), with the same number twenty years later (the *Alert* and *Williams* had been replaced by the *Weeroona* and *Charlotte Fenwick*). By 1930, there were only four vessels in the trade. The vessel was heavily involved in the annual picnic trade, and once took farmers from Werribee to Sorrento in 1916. Many of the crew made extra money selling the empty bottles from the bar, which were stored in the chain locker. On one rare occasion the vessel had to anchor after its rudder chains were damaged, and the crew frantically rushed to the locker to save their stash while the mate stalled the Captains orders. The vessel was later scuttled outside the heads, after nearly wrecking at Pt Nepean when her towline parted, and ended up ashore near Rosebud. The *Hygeia* was of light steel construction, as (apart from her delivery voyage where she was reinforced with timber braces) she was never destined to be used in open sea conditions (Fitchett 1973: 15-8, 46-7).

Q) Weeroona

The *Weeroona* was the biggest vessel ever involved in the Bay Steamer Trade in 1910. She was lavishly appointed and specifically built for the excursion trade, and was fitted with lounges, dining rooms, bars, a hairdressing saloon and bookstall. She was used in the bay trade until 1942, when she was sold to the US Navy during WWII, and ended up as a stripped hulk before being dismantled in Sydney in 1951. With the passing of the *Weeroona* the bay excursion trade declined, and was the end of an era in the minds of many locals (Fitchett 1973:18, 56).

R) Charlotte Fenwick/ Awaroa/ Reliance

Several smaller vessels continued the passenger cargo service on the bay for many years. The *Charlotte Fenwick* was a small screw steamer that operated on Port Phillip Bay from 1903-1913 servicing the needs of the tourist resorts of Queenscliff, Sorrento and Portsea.. Until this time the seaside towns had relied on passing small steamers and ketches to drop supplies off enroute. It was an essential service in winter, when the other bay steamers did not operate and left the towns virtually isolated. The *Awaroa* replaced this vessel in 1915 until 1918, and a third vessel, the *Reliance*, came into service on the same run in 1916, until it retired in 1943, when she was sent to Westernport Bay as a ferry. Meeting the local steamers became a major social event for seaside residents, who came down to the piers to meet passengers, collect cargo and generally mingle (Fitchett 1973:18, 52,53). The *Awaroa* was eventually used in the Melbourne to Launceston run and foundered off Cape Liptrap in 1925 (Loney 1971:84).

S) Sorrento

With the passing of the *Weeroona*, the bay excursion trade entered its twilight years. The former captain of the Weeroona tried to resurrect the trade when he formed the Port Phillip Ferries company in 1946. A smaller screw river steamer was purchased from Tasmania and renamed the Sorrento, but proved too slow and small for a public used to the former luxuries of the excursion steamers, and was sold to interests in Sydney in 1949 (Fitchett 1973: 18).

T) M.V. Judith Ann/ Komuta/ Weeroona/ Hygeia/ Nepean

After the closure of the last Bay Steamer Ferry in 1942, there was a sorely felt need for cross Rip ferry services to link the Bellarine and Mornington Peninsulas. From 1953-1965, the Cayser Brothers of Queenscliff built five motor driven ferries (*M.V. Judith Ann, Komuta, Weeroona, Hygeia, Nepean*) for services between Queenscliff, Sorrento and Portsea. These vessels provided a vital link between the three communities, which had previously been linked by ferry service for at least 100 years. The *Judith Ann* was originally built as a shark boat, and

began service in 1953, when it was converted to a ferry. Increased demand led to its replacement by the *Komuta*, in 1955, and another vessel (*Weeroona*) was added to the run in 1958. Further larger ferries capable of carrying twice as many passengers were added in 1962 (*Hygeia*) and 1965 (*Nepean*) to cope with increased patronage. The operators, Sorrento, Portsea and Queenscliff Ferries, was run by the Farnsworth Brothers, whose family had a long association with tourism on the Mornington Peninsula, and once operated a horse drawn coach service from Sorrento to Portsea to meet incoming steamer services (Fitchett 1973:81-2, 94-5). Two vessels, the *Hygeia* and *Nepean* were still operating in 1995, but were facing closure due to competition from the Queenscliff – Sorrento car ferry.

2) Changing Excursion Boat Landscapes

In the early days of the colony, small sailing and steam vessels were used to transport supplies and occasional passengers around the bay. However, as the popularity of excursion trips increased, the size of the vessels grew to gigantic proportions, until they were disappeared over the short period of twenty years, predominantly due to the rise of road and rail transport networks (Fitchett 1973). These vessels were eventually replaced with smaller locally built vessels to provide ferry services across the Bay entrance.

An archaeological study of the varying size of the vessels gives significant indications of regarding the changing preferences of the public for this activity over time. Initial craft are smaller paddle steamers originally designed for cargo transport, where passenger conveyance is incidental. Over time, the design of the craft is more focussed on the passenger comfort, and designs encouraging increased speed and size are favoured. At about this time, there was a reversion to moderately sized craft again, that were involved in passenger and cargo deliveries. However, with the decline of the eminence of the bay excursion trade, vessels designs size are reduced abruptly, and become more squat but sturdy vessels used for short cross channel voyages only. These vessels again slowly increased in size as passenger demand grew. The current use of large car ferries is indicative of the significance of these cross channel ferries to the local community.

The predominant use of steamers on the Geelong to Melbourne run is indicative of the relatively deeper waters encountered between those two area, whereas the use of paddle wheel steamers between Queenscliff and Melbourne recognises the shallow waters to be traversed at the Yarra River Delta. Lighter drafted vessels were required to operate in the shallower waters around the peninsula tourist pier (QS 22/6/1889).

The bay steamer ferry routes present insights into the changing tourism landscapes of Port Phillip Bay. Initial tourism was conducted from Melbourne to Geelong, and these were predominantly predetermined by the lack of other destinations. However around the beginning of the 1850s, tourism reports began to prosper originally at St Leonards and Queenscliff, and then later at Sorrento and Portsea, and Portarlington and Clifton Springs. The popularity of annual picnics replaced the previous fervour for healthy air, and many more destinations arose, particularly on the eastern side of the bay at Carrum, Rosebud, Dromana and Mt Martha. As attitudes to recreational holidays changed and terrestrial transport networks developed, ocean sea bathing became more popular as holiday makers were no longer constrained by the confines of the resorts, and tourism destinations along the open coastal beaches became more popular. After the disappearance of the Bay Steamers, the two peninsulas again became isolated from one another, necessitating a 130 mile trip by road to get to the other side (Fitchett 1973: 82).
However, the introduction of localised cross Rip ferry services from 1953 onwards reconnected the tourist landscapes again, leading to another bay excursion trade this time across the strait. This has changed the tourist and working landscapes of many Geelong and Mornington Peninsula residents, as now Melbourne is no longer an essential component of the tourist landscape, as the ferries avoid the need to pass through there.

Archaeological deposits were no longer centred on the piers, but along the open foreshore areas. The presence of bathing boxes, timber sand groynes, seawalls and promenades at Pt Lonsdale confirms this observation.

3) Table of Bay Steamer Ferries and Destinations

Bay Steamers	Date Start	Date Retire	Type	Fabric	Tons Gross	Comments	Owner	Geelong	Clifton Springs	Portarlington	St Leonards	Queenscliff	Sorrento	Portsea	Rye	Mornington	Brighton	St Kilda	Melbourne
Aphrasia	1851		paddle steamer					x											x
Vesta	1851		paddle steamer					x											x
	1853					To promote St Leonards resort	George Cole				x								x
	later											x	x	x					x
Empire	1853		government schooner			provided building materials to Queenscliff	Govern-ment					x							x
Express	1854	1862	screw steamer	iron	199		Howard Smith	x											x
	1862					replaced by the *Despatch*	T.J.Parker - Express Steam Agency	x											x
Black Eagle	1854	1872	paddle steamer tug	timber	110		Dove and Oswald									x	x	x	x
	1872	1884					James Deane Co												
Mystery	1867	1872	paddle steamer tug	timber	105	replaced by the *Williams, sporadic services to Qcliff*	James Deane Co	x		x									x
Despatch	1869	1878	Screw Steamer	iron	237		T.J. Parker	x											x
	1894	1911				Gippsland Trade via Queenscliff	Huddart Parker Co					x							x
Williams	1872	1894	paddle steamer	iron	322	replaced *Mystery,* retired when *Ozone* and *Hygeia* introduced	James Deane Co					x							x
Golden Crown	1874	1888	paddle steamer	timber	330	new service - Jame Deane owner	Sorrento and Qcliff Steam Nav Co					x	x						x
	1883	1888				company changes name , later liquidates	Port Phillip Steamship and Hotel Co					x	x						x
Queens-cliffe	1876										x	x		x					x
Alert	1878	1893	screw steamer	iron	243	replaced *Despatch, based on Clyde Steamers- retired to Gippsland Trade*	Huddart Parker Co	x		x									x

Name	Built	End	Type	Hull	Tons	Notes	Owner	1	2	3	4	5	6	7	8	9	10	11
Edina	1880	1938	screw steamer	iron	322		S.G.Henty	x	x									x
Lonsdale	1883	1889	paddle steamer	steel	551	slow vessel - leads to conversion	Port Phillip Steamship and Hotel Co			x	x							x
Excelsior	1883	1919	screw steamer	steel	350	collision with Edina	Huddart Parker Co	x	x									x
Ozone	1886		paddle steamer	steel	572		Bay Excursion Co			x	x							x
	1917	1925					Bay Steamer Ltd											
Courier	1888	1927	screw steamer	steel	762	scuttled ships graveyard	Huddart Parker Co.	x	x									x
Coogee	1889	1928	screw steamer	steel	762	Melb-Launceston	Huddart Parker Co.											
	1910					Geelong excursion trade		x										x
Hygeia	1890		paddle steamer	steel	987		Huddart Parker Co.			x	x	x						x
	1917	1931					Bay Steamer Ltd											
Charlotte Fenwick	1903	1913	screw steamer	timber	73	same construct-ion as *Awaroa* and *Reliance*	Carpenter Brothers			x	x	x						x
Weeroona	1910		screw steamer	steel	1410		Huddart Parker Co			x	x	x						x
	1917	1942					Bay Steamer Ltd											
Awaroa	1915	1918	screw steamer	timber	352	same construction as *Charlotte Fenwick* and *Reliance*	Sorrento and Qcliff Steam Nav Co			x	x	x						x
Reliance	1916	1943	screw steamer	timber	158	replaced *Charlotte Fenwick*, same construction as Charlotte Fenwick and *Awaroa*	Carpenter Brothers			x	x	x						x
Sorrento	1946	1949	screw steamer	timber	113		Port Phillip Ferries			x	x							
M.V. Judith Ann	1953	1955	shark boat	timber		sharkboat built by Cayser Brothers	Portsea, Sorrento and Queenscliff Ferry Service			x	x	x						

M.V. Komuta	1955	1965	motor ferry	timber		built by Cayser Brothers	Portsea, Sorrento and Queenscliff Ferry Service					x	x	x							
M.V. Weeroona	1958	1972	motor ferry	timber		built by Cayser Brothers	Portsea, Sorrento and Queens-cliff Ferry Service					x	x	x							
M.V. Hygeia	1962		motor ferry	timber	55	built by Cayser Brothers	Portsea, Sorrento and Queenscliff Ferry Service					x	x	x							
M.V. Nepean	1965	2004	motor ferry	timber	68	built by Cayser Brothers	Portsea, Sorrento and Queens-cliff Ferry Service					x	x	x							

Appendix D-3: Local Folklore Used For Tourism Promotion

1) Buckley's Cave

William Buckley was a former convict who escaped from the Sorrento colony in 1803 and made his way around or across Port Phillip Bay to become the first non-Indigenous resident of the Queenscliffe area. He lived with the local indigenous population (Wathaurong) on the Bellarine Peninsula [where he was believed to be one of their descendents come to life again (due to the colour of his skin (Blair, as cited in QS 23/7/1909)] until 1835, when he discovered Batman's exploration party at Indented Head. Buckley received a free pardon for his role as interpreter and peacemaker between the explorers and the Indigenous people.

A large cave located beneath the current Pt Lonsdale Lighthouse has always been known as Buckley's Cave. It was touted by Sutherland's (1888b:158) history of Victoria as "a stalactite formation, a natural curiosity well worth a visit". The exposed location of the sea cave make it doubtful that this feature was ever inhabited, given that many sheltered areas from the wind and rain exist are located just behind the primary dune less than 50 m away. In 1890, strange discoveries were reported at the cave in the shape of a petrified body uncovered when waves scoured out the cave, and it was insinuated that the government had tried to suppress news of the discovery (QS 27/9/1890). This attempt to inspire a conspiracy regarding the site may represent active attempts by tourism operators to attract visitors to the area. The cave may or may not have been home to Buckley, but newspapers stated that it: "was of interest to both visitor and townsman" (QS 23/7/1909). Given that Buckley was known to have lived in this area, the cave provided a tangible anchor for the romantic tale, which could then be exploited as a focus for tourism operations. The legend of Buckley still plays an active role in the area's tourism, and is the subject of a heritage trail around the Bellarine Peninsula.

2) Benito Bonito's Treasure

Benito Bonito was a Portuguese pirate who plundered a series of ports along the South American Pacific coast in the early nineteenth century. Historical accounts and legends record that he ransacked the annual Spanish gold shipment from Mexico City to Acapulco around 1821, a fortune said to be worth eleven million dollars. He stashed the proceeds in a cave on the Cocos Islands, near Costa Rica, and after a hostile disagreement with some of the crew, he abandoned them and sailed of in his vessel the *Relampago*. Later that year, he was supposed to have committed suicide during an engagement with a British corvette to avoid capture. Between this time however, Benito was blamed for the raid on another the vessel (*Mary Dear*) in which the Spanish were transporting some of Lima's riches from San Felipe to avoid capture by rebels. According to legend, rather than return to Cocos Island, he sailed around the Australian coast to Port Phillip, where he buried the treasure in the cliffs of Swan Bay in the area that was to later become Queenscliff, and upon sailing out the Heads, was chased by a Man o War and sunk. This end to the story is disputed by many historians, who maintain the Captain of the *Mary Dear* pirated the vessel himself (Hayden n.d.:9-14, 18).

At this time there were no European inhabitants in the Port Phillip area, aside from an escaped convict, William Buckley, who had escaped from a failed settlement at Sorrento in 1803 and who had lived with the indigenous peoples of the Bellarine Peninsula for the next 32 years. When he returned to "civilisation" he recounted sighting several vessels in this area, one whose crew had tied some of their shipmates to trees before shooting them. Although Buckley had tried to contact them by shouting out, he had assumed they were foreigners as they couldn't understand him. This account was used to reinforce the possibility of the pirate visiting the area (Hayden n.d.:15).

For many years, the legend has circulated in the Queenscliff community that Benito Benito was supposed to have buried a treasure along the shores of Swan Bay on the northern side of Queenscliff. Legend has it that Benito sailed his ship into Swan Bay in the 1840s, and in attempt to avoid capture and confiscation, buried his loot in a cave below the cliff face of the northern shores of Queenscliff. The story dates back to at least 1860s (Lawson 2004a) and was perpetuated by a local character, Kerosene Jack(sometimes known as Stingaree Jack), a local Portuguese/ Italian fisherman who lived on Rabbit or Swan Island (Anonymous 1938:85; Dod 1931:26). Kerosene Jack derived his name from his abode, a hut made of kerosene tins (Jurgens n.d.). He claimed to have been Benito's cabin boy /or son and to have a map of the treasure's location tattooed on his arm (Argus 7/7/1937: Van de Klouster 1980:14; [LID]), and also to have discovered the treasure, only to rebury it again in another location (Van der Klouster 1980:14). When Jack died in 1902, rumours circulated that the map was skinned from his arm and tanned, but was lost or taken out of the district, but this was contested by one resident [LID] who claimed that although there was great excitement when Jack died , no map was ever found on his arm.

Another version of the story names the fisherman as Giovanni Carossini/Karisino (Kerosene Jack), Bonito's illegitimate son, who discovered the treasure in a cliff cave on the Swan Bay foreshore, but blew it up in fear of its loss to authorities. Karisono lived on Swan Island, and enjoyed many years for free rum from those trying to glean the treasure's location. A third story was related by a convict, Mary Welch, who claimed she was Bonito's lover and therefore was transported from England to Van Diemans Land for her association with the pirate. She maintained that the pirate escaped the English to bury his treasure in the Swan Bay area (Hayden n.d.:16-7; Van der Klousten 1980:15).

Local stories have also rumoured that the local Baillieu family, one of Melbourne's wealthiest clans who lived in Queenscliff, could trace their fortune to the discovery of the treasure [PF].

Many attempts were undertaken to find the treasure, beginning with visitors and locals digging and poking around the cliffs and foreshore (Hayden, nd: 19, Anonymous, 1938). The earliest recorded search took place in 1911 when James Hillard (a friend of Kerosene Jack) uncovered a box marked "B.B." contained a compass stamped 1777, and other maritime artefacts (Hayden, 1966:15; Lawson, 2004a). Many local residents [e.g. CA] recall numerous searches for the treasure since at least the 1920s. Many syndicates were formed to hunt for the treasure, and in recent years a "copy" of the map had surfaced and been used for an (unsuccessful) search for the treasure. Serious attempts began from the 1930s onwards with the onset of the Great Depression, when several tunnels were dug under the high school, and several shafts were dug to reach the submerged cave from 1937 onwards under Mining Licences. Heavy earth moving equipment , liquid nitrogen (to freeze the water table), and explosives used in many searches often impacted on the local community, as aside from the constant noise, the earthworks size proved dangerous and local school children were often hit by glass from windows broken during blasting (Hayden n.d.: 19-21). Syndicates continued to search the area predominantly concentrated on the Swan Bay area between Hobsons and Flinders Streets using divining rods until at least 1994 (Lawson 1994:9), when the council stopped further explorations in the area. These activities further demonstrate the power and significance of legend for some sectors of the community.

Hayden (n.d.:16) maintained that the story may have been introduced from deserting sailors, many of whom were Portuguese, and may have hailed Bonito as a folklore hero whose adventures and treasure could have been transposed to include Queenscliff when recounted to their children.
The origins of the treasure story may lie hidden in factual historical events. One newspaper account detailed finds of coin hoards dating to 1816 that were discovered on Rabbit Island as early as 1909 (QS 25/9/1909), and Thompson (n.d.:8) reported that his brother also found very old coins on Swan island between 1913-1926. Kerosene Jack's story of his re-buried treasure

could have had some grounding in truth if contrasted with historical accounts of shipwreck looting and subsequent reburial of plundered items. Indeed the artefacts found by early treasure hunters could be attributable to these activities which were widespread throughout the community, as will be demonstrated in Chapter Seven. It is therefore possible that there actually **was** buried treasure in Queenscliff, but that it was attributable to a much more rational source than a long distant pirate.

The story of Bonito Benito could therefore represent an exaggeration based on actual events, which were incorporated into the local sea culture by wily old fishermen. The story also appears to have been adopted and exploited by the town as a tourist attraction. Benito story was actively exploited to bolster local tourist trade after open sea bathing became popular at the newly discovered surf beaches along the West Coast, and shifted away from Queenscliff [RL]. Some guesthouses were known to plant old coins in the area to keep the story alive [WN], and a former tourism operator [CA] commented that: *"Benito's has done no harm to Queenscliff's reputation"*. This was also evident in the historical record, where an advertisement in 1938 encouraged treasure seekers to visit the town:

> *Come to sunny Queenscliff and hunt for treasure…Have a holiday and exercise at the same time and perhaps grab a million or two of gold to boot. Its yours for the digging. Don't forget your pick and shovel and Miners Right* (cited in Hayden n.d.:19)

The influx of treasure seeking visitors and syndicates to the town proved a bonus for local businesses, and charities who made collections amongst the visitors (Hayden n.d.:23). Seven thousand visitors were recorded in one weekend in 1954 when a new syndicate started work (Lawson 2004b, 12).

Although the story has interest as a social phenomenon, it also has implications for cultural landscapes studies due to the disturbance of any archaeological sites previously located in this area. Additionally, the treasure hunting searches in themselves have generated archaeological signatures that are still visible even today along the Swan Bay Foreshore. Many shafts (up to 15m deep) were lined with iron or timber, and have only been filled in by the council in recent years (Lawson 2004b). The mayor of Queenscliff in 1938 summed up the indifference of the local community towards the actual legend: *The Queenscliff treasure is like every other treasure – nobody ever finds it!* (Anon.1938:87).

3) Swan Island Treasure

In 1909, a report appeared in the QS (25/11/1909) which old time residents of the Queenscliff had long maintained that a quantity of treasure was buried on the island in the early nineteenth century by sailors who had scuttled and deserted their ship in Swan Bay and disembarked on Swan Island. The report went on to state that three months earlier, a Melbourne resident (Miss Dugan) had discovered a concreted lump of coins on the Western Beach at Queenscliff. When cleaned, coins bearing the dates 1816, 1817, 1819 and George III's head, one Queen Mary shilling dated 1845, and two Queen Victoria sixpences of 1839 and 1846 were revealed. It was also advocated that the beach where the coins were discovered had altered considerably in the last 50 years, so that it was possible that the location where the supposed treasure was buried was now underwater, and that the bulk of other coins could lay close by. A thorough search of the beach was organised by a local resident in whom Miss Dugan had confided (QS 25/9/1909). It is possible that this account was responsible for either the genesis or continuation of the Bonito legend that has endured up until the present day.

4) Local Folklorism?

These three examples demonstrate the importance that folklore plays in actively shaping tourist landscapes in this area. Although the truth behind the legends of pirate treasure and habitation in caves may be doubtful, it has nonetheless shaped the tourism landscapes, and indeed the local community landscapes of Queenscliff through their exposure to those who were seeking the sites. The legends have encoded various "natural" areas with cultural meaning, which have been actively exploited to draw tourists and thus encourage business opportunities in those areas. Given the proliferation of other tourism ventures in the surrounding region, which offered similar services and natural attractions, the presence of these additional cultural attractions added a new and exciting dimension to the tourists' experience that may have been used to give Queenscliff a competitive edge over their rivals, particularly as access to these sites were not necessarily weather dependent. It is also notable that the name Buckley's Cave was formalised as part of the tourist toponymy of the area, which in itself demonstrates the significance of this folklore as part of the local history and economy.

These tourist and treasure hunting landscapes represent only one type of landscape associated with this legend. There also appears to be secondary folklore landscapes at Queenscliff, where it is known that these legends are exaggerated, but where this knowledge is primarily accessible to the local community only. As such, there is a duality of treasure hunters/ tourist and tourism landscapes, which represent opposing perspectives of the same legend, but which is used by the latter to exploit the former. These accounts may represent what Gazin-Schwartz and Holtorf (1999:12) call "Folklorism", in which second hand introduced folklore is used for a particular agenda, in this case to have been begun to bolster tourism in the area.

Appendix D-4: Transport Zones of Port Phillip Bay

The southern portion of Port Phillip Bay conforms neatly to Westerdahl's (2000) theory of Maritime Transport Zones. Examination of the structures of many vessels revealed a number of probable transport zones in southern Port Phillip Bay. Queenscliff conforms neatly to Westerdahl's definition of a maritime enclave. It operated for many years as an isolated virtual monopoly for Pilotage, Customs, Quarantine and Health, Navigational, Hydrographic and Postal services, until these were centralised predominantly at the harbour ports of Melbourne and Geelong. However, one aspect of Queenscliff society varied from Westerdahl's prediction. Fishing was a secondary introduction to the town, after numerous other maritime services had already been established which varied markedly from the Westerdahl's model that advocated that fishing activities generally led to the genesis of other maritime industries. This was evident in other social aspects of the town, namely in that fishermen were not involved in any pilotage activities, as would be expected, due to their late arrival in the town after a specialised service had already been introduced. This situation is anomalous to Westerdahl's prediction, and sees fishermen at the bottom of the social rung, instead of potential inclusion near it zenith.

1) Bay Steamers/Piers

Figure D-4.1: *SS Ozone* **at Queenscliff (SLV Collection).**

The development of the bay steamers which were specifically adapted to meet the specific conditions of the tourism trade demonstrates Westerdahl's notion of Transport Zones demonstrated in vessel hull designs. In the early days of the colony, small sailing and steam vessels were used to transport supplies and occasional passengers around the bay. However, as the popularity of excursion trips increased, the size of the vessels grew to gigantic proportions, until they were disappeared over the short period of twenty years, predominantly due to the rise of road and rail transport networks (Fitchett 1973). These vessels were eventually replaced with smaller locally built vessels to provide ferry services across the Bay entrance.

In particular, the *Hygeia* was specifically built for the local topographic conditions of Port Phillip Bay's tourist trade, and as such archaeologically demonstrates constructional local evolution. Bay steamers were required to be shallow drafted to enable their navigation through the shallow waters alongside the southern bay steamer piers (QS 22/6/1889). The *Hygeia* was of light steel construction, as (apart from her delivery voyage where she was reinforced with timber braces) she was never destined to be used in open sea conditions (Fitchett 1973: 46).
Although much of the Bay Steamer Trade has disappeared, ferry services are still offered between Queenscliff Portsea and Sorrento, and vessels used in these services vary from smaller purpose built ferries to modern car transport catamarans.

The predominant use of screw steamers on the Geelong to Melbourne run is indicative of the relatively deeper waters encountered between those two areas, whereas the use of paddle wheel steamers between Queenscliff and Melbourne recognises the shallow waters to be traversed at the Yarra River Delta. The latter lighter drafted vessels were required to operate in the shallower waters around the peninsula tourist piers (QS 22/6/1889).

An archaeological study of the varying size of the vessels gives significant indications of regarding the changing preferences of the public for this activity over time. Initial craft are smaller paddle steamers originally designed for cargo transport, where passenger conveyance is incidental. Over time, the design of the craft is more focussed on the passenger comfort, and designs encouraging increased speed and size are favoured. Around the turn of the century, there was also reversion to moderately sized craft again, that were involved in both passenger and cargo deliveries. However, with the decline of the eminence of the bay excursion trade, ferry vessels designs size are reduced abruptly, and become more squat but sturdy vessels used for short cross channel voyages only. These vessels again slowly increased in size as passenger demand grew. The current use of large car ferries is indicative of the significance of these cross channel ferries to the local community.

2) Couta Boats
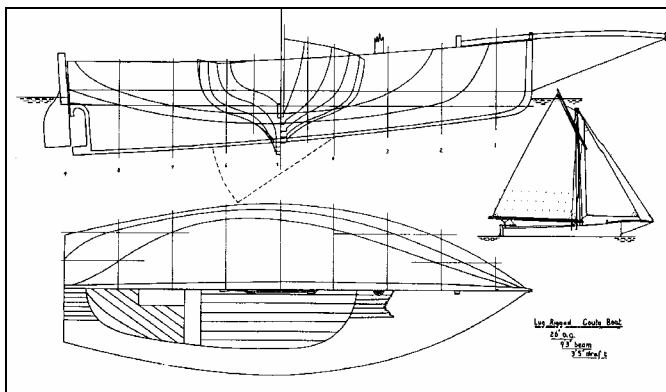
Figure D-4. 2: Couta Boat Design (In: Kerr, 1985:53).

Figure D-4. 3: Couta boats ashore between the two piers (QHM Collection).

During the earliest fishing days at Queenscliff in the 1860s, the abundance of fish stocks inside the Bay meant fishermen did not have to fish outside the heads (Thwaites, as cited in Kerr, 1985:54). Most of the early fishing boats at Port Phillip Heads were based on earlier designs used for net fishing, which were double ended (similar shaped bow and stern) to allow nets to be easily drawn in over the stern (Quote Couta boat book; Mouchmore, pers comms). As the

boats were subsequently used for barracouta fishing, a modified and widened square stern was added to allow two men to trawl side by side without tangling the lines, and the first of this type of vessel was introduced to Queenscliff by John Fitzpatrick (Jurgens n.d.). Many of these earlier boats and sails were made by Geelong and Melbourne boat builders. The earliest designs were cat rigged, clinker built open boats, with an iron centreboard and removable ballast (Raison 2002: 9).

When the couta stocks forced the boats to venture out of the bay and further offshore, the design of the vessels was further adapted to strengthen their construction for open ocean conditions (Quote Couta Boat Book). The vessels were lengthened and broadened, the foredeck partially enclosed for shelter and storage, and the sail design was altered to a gaff rig to allow better handling in fresh winds (Raison 2002:9, 19). Similar designs evolved at Port Fairy and Portland by the late 1880s, where fishing boats operate under similar open ocean conditions. In later years however, Queenscliff boatbuilders were supplying vessels for those ports, and others as afar afield as Western Australia and NSW (Raison 2002:10).

This observation was predicted by Westerdahl (2000:16) who stated that any successful innovation would soon be copied and adapted by peer polities (or communities) to the particular circumstances of their own transport zones, and that this would form the characteristic signature of vessels of those transport zones. The adaptation of vessel design from one region into another was further evidence of interaction between transport zones.

The design of couta boat construction has evolved to incorporate features specifically adapted to fishing to regions in and around the heads of Port Phillip Bay. These open, though robust vessels operate in the most marginal maritime zones, often over laden with heavy catches, and have to be able to handle heavy seas, strong currents and shallow waters. This had led to a design of heavy beams, shallow draught (both to access low waters and to minimise the effects of current, but with a centreboard to compensate in high winds) but able to handle often heavy loads and rough seas. The influence of Anders Hansen's Scandinavian boatbuilding traditions, where boats are built for similar boisterous conditions, may be seen in the heavy construction and wide beams of the couta boats.

Further modifications to this design occurred when the vessels were used at other regional locations. Queenscliff fishermen often had 18 and 21 ft couta boats that they used at Lorne. These boats were lighter than those used at Queenscliff, as the dearth of suitable harbour at Lorne meant boats had to be pulled out of the water and placed on the pier in bad weather (Kerr, 1985:71). The double ended net boats were of lighter construction than the couta boats, which reflected the shallower environment that they operated in. Prior to 1900, both types of boats had low freeboard for easier rowing, but this changed after 1900 when carvel construction was favoured in preference to clinker built designs (Kerr 1985: 49). Deep centreboards were introduced into couta boats around the 1880s, and were possibly a feature introduced from yachts. Prior to this time, as couta boats were essentially 13 -14 ft flat bottomed boats, they carried sand or rock ballast that was substituted with the fish catch on the return journey (Kerr 1985: 54). Motors were introduced to couta boats around the 1920s, and this led to a change in fishermen's habits, as they no longer had to rely on early morning tidal ebbs to get out of the bay (Kerr 1985: 56).

3) Pilots Boats

The pilot vessels have evolved dramatically in the Rip region over time. Originally standardised whaleboats were utilised to row out the heads to awaiting vessels, due to their solid construction and ability to handle rough seas. Eventually, these vessels were replaced by sleek lined schooners and yachts, whose deep keels and robust construction handled heavy seas well, but were still able to negotiate the current of the Rip. Later pilot vessels emerged as modern iron vessels capable of withstanding long periods stationed outside the Heads in the open ocean,

which were serviced by smaller fleet vessels as required. Perhaps the most interesting development is the evolution of the modern pilot boat, which combined the speed required to traverse the rough waters of the Rip, but are also capable of handling large seas in most weathers. This design represents the adaptation of many of the features of earlier sailing and steaming craft, into a deep streamlined hull with modern propulsion systems.

Figure D-4. 4: Pilots Tender Boat from Pilot Cruising Vessel Wyuna (QMM Collection).

Furthermore, until the high speed launches were introduced, all pilots were transferred via small clinker built, single ended boats to incoming ships. The design of the transfer boats was based on years of hereditary experience, and those used on the *Wyuna* (the last of the cruising stations), were very similar in construction to those used by the sailing pilot vessels (Noble, 1979:53):

> There were no plans used to make these boats. We used a moulding model. The only difference they ever had in their design was that we put in a bigger stern in to carry the engine. They were row boats originally, but they redesigned the stern and after mould to carry the engine. The only set of plans that were even taken were made by Tim Phillips, he's in Sorrento, he's a boatbuilder. The design was used until 1900, and they used a mould they had in the shed. In 1945, they put in engines and redesigned the stern and midships. [JB]

4) Swan Bay Flatty

Flatties were shallow drafted boats used to navigate the shallow waters of Swan Bay. Flatties were first mentioned by Dod (1931: 26) when describing small flat bottomed vessels used to row across the flats between Swan Island and Queenscliff. Ferrier (1989:17) detailed that they had topsides built with weatherboard planks, and flat floors, and were rowed or sculled. Monk (2003:10) described two examples which were 20ft and 10ft long, that were sailing boats used at the Swan Bay Boat Club in 1925. The later types of boats appear to be derivations of couta boat design, with the transom stern, short bowsprit and lug or gaff rigged sail.

Figure D-4. 5: Swan Bay Flatty of the later period (QHM Collection).

5) Swan Bay Duck Punts

Figure D-4. 6: Duck Punts from nearby Lake Moolap, (In: Wynd, 1988:151, source Mrs T. McAllister, Newtown).

Duck punts were used extensively in Swan Bay for duck hunting. [CS] recalled:

> We had a duck punt that we used on Swan Bay. We call the ducks to the boat, you know using duck calls, and then we would shoot them. We would give a lot of them away. We would go rabbit and duck shooting all the time. My family had big duck hunting punts, that was before my time. They took out whole flocks at a time, the whole mobs. I had a Belgian gun that shot pellets. [CS]

The boats were very simplistic in design, and resembled other punts known to exist in this region:

> In Duck Season, we went out in duck punts. They were long things, 16ft long and double ended. We later added sails to them and raced them. They were totally flat bottomed with 4 lining boards wrapped around them. My first boat was clinker planked and built of Kaurie. Peter Loch later rebuilt it. [CA]

6) Transport Zones – Differences in Channel Artefacts

Interviews with many divers, along with the authors personal experience revealed an interesting trend that may signify another source of Transport Zones. As mentioned earlier, Port Phillip Bay is serviced by two main channels through the Yarra River delta, the West and South Channel. Divers interviewed consistently reported two generally distinct types of artefacts were found in either channel. The West Channel revealed artefacts predominantly from two distinct periods and origins

1. Early artefacts (bottles and ceramics) from the United Kingdom (England, Ireland and Scotland) from c.1840s-1870s
2. Ceramics and bottles predominantly from coastal manufacturers around Port Phillip Bay (including Geelong, Queenscliff, Sorrento, Rye, Mornington, Portsea, and Melbourne).

Artefacts from the South Channel were predominantly of intrastate (Port Fairy, Portland, Gippsland), inter-colonial, interstate or international origin. Sample inspections by the author in these areas revealed similar observations, particularly in the West Channel. During a systematic swim-line inspection a 500m section of the southern portion of the West Channel in 2001 using four divers, all the artefacts located and identified were locally made around Port Phillip Bay.

Historical accounts reveal that differences in the types and origins of vessels using these two waterways. The West Channel was originally used by early colonial shipping as the preferred passage to Melbourne and Geelong. Due to restrictive British trade laws, most early shipping in the area originated predominantly from the United Kingdom. However, as larger shipping began to use the port, the shallow waters of the West Channel (and dynamic sandbanks surrounding it) proved hazardous, and another route through the longer South Channel to Melbourne was utilized predominately by foreign and interstate shipping. Smaller vessels that did not possess the local knowledge required to navigate the West Channel also used this route, as it was safer and deeper, and also the preferred pilots' route.

Generalized observations of other smaller channels within the Bay also displayed similar archaeological signatures related to the types of vessels using them. The Sorrento Channel, which hugs the shoreline between Rye and Sorrento, was used almost exclusively by Bay Steamers from the Excursion Trade vessels, and demonstrates predominantly aerated water and alcoholic bottles, but almost no ceramics tableware. This is consistent with expected archaeological signature for that trade, as vessels were exclusively used for day pleasure cruisers, and no facilities were provided for meals onboard.

Furthermore, artefacts form the Lonsdale Bight Channel (in front of Shortlands Bluff) consisted predominantly of modern beer bottles and lead sinkers, which is consistent with the use of this area for both recreational and early commercial fishing respectively.

Although it is recognized that the observations made by the sports divers were not undertaken systematically, initial observations suggest that the general archaeological signatures of each channel may be distinctive. It is therefore suggested that, (pending further investigation), that channels (and associated artefacts) may also be distinctive markers of transport zones in the landscape

Appendix D-5: Potential and Actual Archaeological Signatures of Tourist and Tourism Landscapes

Potential and Actual Archaeological Signatures of Tourist Landscapes																								
Feature	Artefact	Location																						
Tourism		Capel Sound/ Rye	Sorrento/ South Sand	Portsea	Triconderoga Bay	Pt Nepean	The Rip	Pt Lonsdale	Lonsdale Bight	Shortalnds Bluff/ Queenscliff	Queenscliff Bight	Popes Eye	Swan Bay	Swan Island/ Duck Island	St Leonards to Portarlington	Clifton Springs	Coles Channel	West Channel	Sorrento Channel	South Channel	Geelong	Melbourne	West Coast Victoria
Accomodation	bottle dumps large (land)									a											a		
	bottle dumps large (water)													a							a		
	caravan parks							eh		eh					eh						eh		
	close to beach									a													
	convalescent homes								ae	ae													
	cottages in rear of houses									ae													
	hotels, inns, boarding houses									e													
	tents							h		h					h						h		
Baths	aerated water bottles/artefact concentrations										a				a	a					ae		
	changing rooms/ toilets		ae	ae				e		ae											ae		
	enclosed paddock - private			aeh																			
	enclosed paddocks - public		a						ah		h				ah	ah					ah	aeh	
	piles								a		a				a	a					a		
	promenade/ seawall										a				a								
	rock cut swimming pool - natural										a											ah	
	siltation/ shoreline progradation										a												
	site later used as boatharbour																						
	space (between baths and home)		h								h				h	h					h	h	
	surf lifesaving club later built on site							e														ae	
Open Sea Bathing	bathing boxes (see below)																						
	bathing ship																					h	
	changing rooms/ toilets		ae	ae				e		ae											ae		
	erosion - groynes removed							a															
	lifesaving rings							e	a	a													
	sand groynes - piles/ planks	a	a	a				a							a						a	a	a
	scattered assorted artefacts on beach/ water							a	a	a											a		
	seawall/ promenade																						
	shipwreck /hulk as breakwater														ah								
	surf lifesaving club							e	e													e	

App. D-5:1

Category	Feature	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Bathing Boxes	levelled beach dunes						a														
	promenade/ seawall		eh	eh			a		a												
	stilt piles	h	h				a	a													
Promenade	seawall - rough cut rocks						a	e		ae											
	seawall - stone						a	ae	ae	ae			aeh	a					aeh	aeh	
	seawall - wood						ah	h		a											
Tourist Transport Pier	aerated water bottles/artefact concentrations around pier and approaches and channels		a	a					a				a		a	a	a	a			
	alcoholic bottles around piers and channels															ah		ah			
	anchorage - artefacts scatters		ah	ah					ah												
	landing stage - hulk																	ah			
	pier piles		a	a					a				a				a				
	shelter sheds (land and on pier)		e	e					e												
	shipwreck - landing stage																a				
	ticket shed						e		a												
Merchants	multiple examples of same service, eg butchers, banks, grocers, tearooms etc		e	e					e												
Tourist Facilities	bay steamer service - waterbourne transport		ah	ah					ah				ah	ah					ah	ah	
	boatsheds												ae								
	botanic garden							h													
	bowling green						e		e												
	breakwater - shipwreck/hulk								a				a								
	business district																				
	empty space																				
	fortress		aeh	aeh			aeh					aeh									
	golf course						e		e				e								
	guesthouse						aeh	aeh	aeh												
	hotel/ restaurant																				
	lifeboat and rocket practice						h		h												
	lighthouses						aeh		aeh												
	mines used as rubbish bins							h					ah								
	movie theatres						a		a												
	multiple parks/ sports fields								ae												
	natural features - eg Buckleys Cave, iconic rocks at Pt Lonsdale		e	e			e		e												
	parks on margins of township						eh		eh				eh	eh					eh	eh	
	public library/ mechanics institute								e												
	reclamation of marginal areas (eg swamps)								eh												
	rifle range - butts, bullets						a					a	a								
	rotunda								e												
	tracks - natural environment walk						eh	eh	eh	eh											
	train station								e										e	e	

App. D-5:2

Appendix D-5: Potential and Actual Archaeological Signatures of Tourist and Tourism Landscapes

								h	h		h	h						h		h
Folklore	planted treasure/ mysterious finds as tourist drawcard																			

CODE	archaeological	a
	extant	e
	historical	h

App. D-5:3

Appendix E: Selected Fishing Landscape Data

Appendix E-1: Economic Marine Species Exploited by Queenscliff Fishers

Fish

Local Name	Common Name	Species
Cod	Red Cod	*Pseudocaranx dentex*
Couta	Barracouta	*Thyrsites atun*
Eel	Estuary Catfish	*Plotsidae cnidoglanis macrocephalus*
Flathead	Sand Flathead	*Platcephalus bassensis*
Garfish	Southern Sea Garfish	*Hyporhamphus melanochir*
Leatherjacket	Toothbrush Leatherjacket	*Aluterus scripta*
	Unicorn Leatherjacket	*Aluterus monoceros*
Ling	Largetooth Beardie	*Lotella rhacina*
	Pink Ling	*Genypterus blacodes*
	Rock Ling	*Genypterus tigerinus*
Mullet	Sea Mullet	*Mugil cephalus*
Pilchards	Australian Pilchard	*Sardinops sagax*
Salmon	Western Australian Salmon (also known as salmon trout)	*Arripis truttacea*
Shark	Gummy Shark	*Mustelus antarcticus*
Snapper	Snapper	*Chrysophrys auratus*
Trout	Salmon Trout/ Salmon/ Trout	*Arripis truttacea*
Tuna	Skipjack Tuna	*Kalsuwonis Pelamis*
	Southern Bluefin Tuna	*Thunnus maccoyii*
	Yellow Fin Tuna	*Thunnus albacares*
Whiting	School Whiting	*Sillago flindersi*
	King George Whiting	*Sillaginodes punctata*
	Silver Whiting	*Sillago bassensi*
Whitebait	Australian Anchovy	*Engravlis australis*
Yellowtail	Horse Mackerel	*Trachurus novaezelandiae*

Birds

Local Name	Common Name	Species
Gannet	Australasian Gannet	*Morrus serrator*
Mutton bird	Short Tailed Sheerwater	*Puffinus tenuirostris*
Pelican	Australian Pelican	*Pelecanus conspicillatus*
Seagull	Silver Gull	*Larus novaehollandiae*
Tern	Unspecified	*Chlodonias* or *Sterna* Family

Other Fauna

Local Name	Common Name	Species
Cockle	Cockle	*Bivalvia cardiidae*
	Sydney Cockle	*Bivalvia anandara*
Crayfish	Southern Rock Lobster	*Jasus edwardsii*
Krill	Krill	*Crustacea euphasiacea*
Squid	Not specified	*Cephalopoda*
Mussel	Mussel	*Bivalvia mytilidae*

Appendix E-2: Fish Species Locations, Season and Exploitation Practices

Fish Species	Season	Where	Method	Who
Cod	Not specified	Outside Rip on edge of the 200 ft Bank - known as Grandma fish - soft eating for people with no teeth	line	[JB]
Couta	late spring - 2nd week Sept	San Remo - shallow water	troll	[HM]
	3rd week Sept - March	Port Phillip Area - channels/ 4-5 M offshore, fish bite around dawn onwards	troll	[HM]
	June, July, August	Lorne - fishermen live in Lorne	troll	[HM]
	Not specified	4-5 M offshore from Barwon Heads to Cape Schank	troll	[LF]
		Port Phillip Bay Channels / Open Ocean	troll	[PF]
Flathead	late spring	San Remo	line	[HM]
	unspecified	Port Phillip Bay - abundant flathead spawn in Swan Bay, but present in Bay for most of year	line	[HM]
Crayfish	15th Nov	Lonsdale Bight: west side of Clarke Beacon Leads	pots	[HM]
		Up to 20 fathom bank: Apollo Bay - San Remo	pots	[HM]
		Lonsdale Bight: Victory Shoal to Lonsdale Reef - Corsair Rock - edge of dropoff and reefs;	pots	[CS]
		Nepean Rock to Cape Schank - 100m to 1/2 M offshore	pots	[CS]
Garfish		Swan Bay - poaching	seine net	[CS]
	Anzac Day to Sept (Spring)	Swan Bay - St Leonards	seine net	[JB]
Eel/ Ling		Swan Bay - shallow waters	net	[CS]
Mullet	summer	Lonsdale Bight - come inshore from	net	[PF]
Salmon	summer - last quarter ebb tide	Behind Corsair Rock	line/ troll	[HM]
		Yellowtail Reef, Lonsdale Bight - Salmon are surface fish	net	[PF]
		Lonsdale Bight		[CS; GR]
Shark - Gummy		20 M offshore: Cape Schank to Apollo Bay		[CS]

Snapper	1st week Nov +	In Channels on ebb tide	line	[HM]
	1st week Nov +	West Channel: Ebb tide - fish feed in dirty water	line/net	[PF]
	1st week Nov +	Mornington	long lines	[HM]
	1st week Nov +	West Channel: Swan Spit - West Channel Light South Channel: The Rip - South Channel Light	lines	[CS]
	1st week Nov +	Mud Islands	net	[CS]
	1st week Nov +	Mud Islands - up to 2.8 M north of islands on Great Sands	net	[PF]
Squid	spring	grass beds: Pt Lonsdale to Queenscliff	jigs	[HM]
Trout		unspecified		[CS]
Tuna	summer		trolling	Wilson 1992: 37
Whiting	summer - morning daylight	Swan Island, West Channel	lines	[HM]
		Channel sand banks	lines	[PF]
		Mud Islands - up to 2.8 M north of islands on Great Sands	net	[PF]
		Mud Islands	net	[CS]
		Mud Islands	net	Fitzsim-mons
Yellowtail		deep water - Convent Beach - Lonsdale Bight	weighted lines	[HM]
		deep water - Convent Beach - Lonsdale Bight	weighted lines/ net	[CS]
		Yellowtail Reef: Pt Lonsdale	lines	[PF]
		Eliza Ramsden Shipwreck	lines	[PF]

Appendix E-3: Bait Types and Extraction Locations Used Queenscliff Fishers

Bait Type	Economic Catch Species	Where/how obtained	How used	Source
cockles	whiting	Swan Bay (at foot of Queenscliff Hill)	ground up for burley	[LID; PF; CS]
couta	crayfish	By-product of couta fishing	heads used to bait craypots	[HM]
crayfish	fishtraps	byproduct of crayfishing	undersized crayfish sometimes used in fishtraps	[HM]
gannets/ mutton birds/ pelicans	crayfish	Mud Islands Swan Bay	used by early fishermen to bait craypot	[PF]; Kerr 1985:78; Adam-Smith 1983
mussels	Whiting/ snapper	taken from piles in the bay, piers, and in the Creek	ground up (shells included) for burley	[HM]; Wedlick 1965:33
sheep heads	crayfish	butcher	used by early fishermen to bait craypots when gannets not available	[PF]
unspecified	couta		small burley nets used to chum up water to keep fish biting	[HM]
unspecified - fish	crayfish	fish were caught in fish traps	used to bait craypots	[HM]
various - snapper, couta, leatherjackets etc	crayfish	dead fish killed during Rip blasting operations floated to the surface and was scooped up by fishermen for bait	used to bait craypots	[HM]
whitebait	couta		whitebait thrown out in couta school to keep fish biting	[HM]

Appendix E-4: Seasonal Indicators of Various Fish Species Availability

Fish Species	Area	Season	Notes
Couta	Park opposite Ozone Hotel	3rd week Sept.	**1.** "The couta were running in the third week of September, regular as clockwork. It was the second week in San Remo. Big patches of them would be left behind, which we would catch. After March, we would go to Lorne…We would go to Lorne in the winter months, June July and August, following the couta" [HM] *2.* "In the park in front of the Ozone (hotel) there are The Harbingers of Spring. These are little white flowers, when they came out it signal that the barracouta would come" [JB] *3.* "The milkmaids flowers were called the Harbingers of Spring in Queenscliff, but that in Melbourne pink flowers (unspecified) heralded spring" [WN] These flowers are English Daisies (*Bella Perensis*)
Flathead	Swan Bay Hills	unspecified	*1.* "We could tell it was the flathead season when the paddock is yellow with Capeweed on the mainland. We called them the Flathead Flowers, as they indicated the season for flathead, as the fish came in to spawn then." [HM] **2.** "When the capeweed comes out, the flathead are around. There are yellow patches in the paddocks opposite Swan Bay, they are the yellow capeweed flowers, and that means the flathead are in the bay." [CS] **3.** "When the flathead flower, that was the capeweed, the dandelions, and the ti-tree flower bloomed it was the fishing season again for flathead and snapper. The fishermen pay off their debts and life became affluent again" [JM]
Snapper	Port Phillip Bay	1st week Nov.	**1.** "When the ti-tree flowers come out, the snapper are running in the bay." [CS] **2.** "When the ti-tree flowers the snapper are running" [JB] **3.** "When the flathead flower, that was the capeweed, the dandelions, and the ti-tree flower bloomed it was the fishing season again for flathead and snapper. The fishermen pay off their debts and life became affluent again." [JM] **4.** "When the ti-tree is in flower, the snapper come in." [PF] **5.** "When ti-tree flowers are out, the snapper come in." [GW]
Snapper	Port Phillip Bay	1st week Nov.	Blowflies attracted to ti-tree smell **1.** "When the ti-tree flowers it attracts the blowflies with its smell, and this signals that the snapper are running." [SJ]
Snapper			**1.** "When the bogong moths are here, the snapper are around."[CSp]

Appendix E-5: Ancillary Local Resources Used By The Queenscliff Fishing Community

1) Plants

Many other resources were used by fishermen for their industry, or for subsistence and daily survival. Some of these resources were used to either maintain or build essential fishing equipment. The location and traditional knowledge of these sources represents important components of the fishing cultural landscapes.

Common Name	Scientific Name	Use
Black Boy/Grass Tree	*Xanthorea australis*	Sap used to stain furniture. Collected by Jack Clay after fires and mixed with shellac and turpentine to stain timber. Also used by local Indigenous people to waterproof their water containers.
Bearded Glasswort	*Sarcocornia quinqueflora*	Burnt for potash for glass manufacturing.
Bower Spinach/ Warrgul Greens	*Tetragonia implexicoma*	Eaten fried or boiled as a substitute green vegetable during depression - and tasty too!
African Boxthorn	*Lycium fero cissimum*	Used by Military as a natural alternative to barbed wire.
Chinaman's Bread	*Malva australiana*	Segmented fruit bearing plant – eaten.
Coastal Beard Heath	*Leucopgon parviflorus*	Berries used by Indigenous People and children - white berries size of pea available in Jan and Feb. Tastes like a nashy pear.
Eel Grass/ Swan Grass - angiosperm	*Zostera muelleri*	1. Insulation in buildings and heaters. 2. Mulch to grow asparagus.
Flat leafed Sedge - Reed/ NobbyClub Rush	*Lamanda*	Used to make baskets.
Kelp		1. Manure for gardens. 2. Indigenous people rolled kelp into rolls to sustain them during inland hunting trips - provided basic sustenance. 3: Used to make tennis balls for children.
Kelp/ Seaweed		1: Potash/ Iodine/ Bromine - industry suggested, unclear if exploited. 2: Local use as an antiseptic for cuts.
Old Mans Beard	*Clematis aristata*	Indigenous people used the fluff from this bush to line the cradles for babies.
Ruby Salt Bush	*Enchylaena tomatosa*	Used by Indigenous people as a red dye.
Sour Sobs	*Oxalis pres-carpae*	Used by children to clean coins.
Ti-tree - Melaleuca	*Leptospernum & Levagantum*	Craypot/ fishtrap manufacture.
Wattle (Acacia)	*Papanacia vilbata melan*	Bark used for tanning fishing nets and lines.

Indigenous and introduced wild plant species exploited in Queenscliff.

A) Craypot Material from Ti Tree at Rye/ Fish Traps

Several fishermen reported that local ti-tree (*Melaleuca*) was used for the construction of crayfish pots [CS; HM], and also to construct fishtraps, which were used to catch fish for bait [PF]. This material was collected from the foreshore area at Rye on the north coast of the Mornington Peninsula, and could later also be bought from the same area [HM].

We would make the pots out of ti-tree sticks. We made big cray pots. [CS]

We used ti-tree for making the craypots, and the ti-tree came from Rye. You would get 51 trees to a bundle from near the Yacht Club at Rye. I made the pots in Cayzer's shed. It had an "L" shape at the end of the shed where we used to store the timber. I used to make my own craypots. I would go to Port Melbourne and buy the old SEC lines (electrical power lines) for the craypots. I would use them for the frame of the pots and I would weave the cane around them. We had to stop using the SEC wires after they changed to aluminium lines, as they wouldn't last in the salt water. I used cane for the pots. I bought the cane, it was ti-tree sticks from Rye. You would buy it by the bundle from a bloke over there. One time Paddy and I went over there and cut our own. [HM]

They used to go near Rosebud and get ti-tree for the craypots. The wire on the bottom of the pots they got from the SEC from the old electric wires, but they couldn't use the (electric) wires once the SEC changed to aluminium wires as they corroded too quickly in salt water. The only thing they had to buy was the cane for the necks of the pots. [GW]

Similar practices were undertaken by fishermen at Rhyll (Westernport Bay), Port Welshpool and Sealers Cove (Wilson's Promontory - Kerr n.d.: 29-30).

B) *Wattle Bark for Tanning Nets and Ropes*

Nets and ropes used by local fishermen were made of cotton and had to be tanned to protect them from rotting through exposure to salt water and jellyfish. The fishermen tanned the nets and ropes using a saturated solution of tannin from local wattle tree bark and saltwater:

The nets were made of cotton, and every year we used a cement tank in our backyard to tan the nets. You would get bundles of bark in the tank, which had the tannin, and put in salt water for half an hour, and then soak the nets in them for a couple of days. You'd then dry them and then wash them in salt water. We got the bark from Swan Island and Swan Bay from the black golden wattle trees. The kids used to strip the trees, and they would also fell the tree for timber. The nets would last up to thirty years old when they were tanned. [CS]

Wattle bark was also used by couta fishermen to tan the baited hand lines:

We used the wattle bark to tan the cotton fishing lines to make sure they had a long life and wouldn't rot away. No, we didn't have the concrete tanks for tanning in our house, but I knew some people who did further down the road. We put the wattle bark in a forty four gallon drum and boiled them up. You would light a fire under a forty four gallon drum and boil the bark in the drum, and you would leave it there for two to three days soaking, and then put in the lines...No, we didn't do nets, just the couta lines, which is what we mostly fished for. We did have small burley nets that we used to chum up the water to keep the couta around and biting, and we'd pop those in too. They were all made of cotton line in those days, the nets and the lines, and if it wasn't done they would rot away. The cotton hand lines were only done once and they lasted until they were worn out. We got the cotton lines from Jarmans in Geelong and a Melbourne chandlery, TH Smith I think. [HM]

C) Seaweed, Kelp and Seagrass
I) Kelp for Iodine

Several local informants indicated that they knew of traditional practices undertaken by the past local indigenous community, where kelp was wrapped around cuts and sores and used as a natural healing aid:

> Local aboriginals would come and wrap themselves up in it (kelp/ seaweed) for their sores. When they took off the seaweed the sores were healed...my dad told me that [GW]

[JP] also observed that after storms kelp would was up on the beach in banks, and water would often be trapped behind it in small pools. This discoloured water was often used by visiting Italians to paddle in, as the warm water was impregnated with the iodine from the kelp which was good for their feet.

II) Seaweed and Kelp for Gardens

> Nana would say to us "Are you going to the beach? Can you bring me back some seaweed?" She used it for mulch and manure. We often brought back long strands of it for her. [WN]

A former resident of Queenscliff, [BM] recalled the use of kelp for fertiliser at Barwon Heads. "They grew asparagus on it until about 40-50 years ago. Kelp is a good fertiliser, but seagrass is not. I took some home for my garden and you can dig it up two years later and its still there. [JP] reaffirmed this observation: "It wasn't uncommon for people to bring home kelp as manure. They used kelp, and seagrass from Swan Bay. Ernie's mum used kelp from the shore in her garden". Kelp was used as fertilizer, and was dug in to rot, while seagrass was used as mulch [LID]. The author also observed seagrass being taken from the Swan Bay foreshore in 2004. Upon approaching those concerned, the (unidentified) person stated that they were using the seagrass to grow asparagus, as they had always gotten good results when using it. Similar behaviour has also been observed on the Geelong foreshore at Corio by the author.

Although several people tried kelp farming in the area, it was not a successful venture as the kelp did not grow fast enough [LID]

III)   Kelp for Recreation

> My grandfather made tennis balls out of bull kelp, which the kids played with until they rotted and fell apart [LID].

IV) Kelp as an Indigenous Food

> The Indigenous community used kelp like a roll-up, you know like Uncle Toby's makes. They would take it with them when they went hunting to keep them alive. They would never put on any weight eating it, but it would keep them alive while they were moving if they didn't find anything else to eat. [DS]

V) Seagrass as an Insulator

A marine seagrass known locally as eel or swan grass (*Zostera muelleri*), was used extensively amongst the community for the insulation of houses and other public buildings such as the football ground grandstand and the Barwon Heads Golf Club [GW; LID].   Resourced principally from Swan Bay, the string-like grass was found in great quantities there, especially during the winter months. The grass had excellent insulation properties for both sound and heat,

and was used in many houses, especially in the fishing community, where it was stuffed into the recesses between the walls and ceilings [LID; PF].

> Swan grass from Swan Bay was used [for insulation] in the football ground grandstand. It had very good sound insulation. It could be roaring outside, and you couldn't hear a thing inside…it doesn't rot or burn, must be because it's damp, I don't know, but it's very good for insulation. [GW]

> …they [the fishermen] used eel grass as insulation in many houses. It had really good insulation qualities. [PF]

These qualities also made the seagrass suitable for use in thermal heaters, and it was also used by the local iceworks manufacturer (Icy Jones) to insulate the insides of (Jonette) kerosene heaters [LID].

> Swan grass was used for insulation in many homes in Queenscliff, especially amongst fishing families. Eel grass had good insulation properties, and also did not burn reputedly. It was also used by Icey Jones, an ex army engineer, who ran the iceworks. He also built Jonette heaters made with eelgrass insulation. The Barwon Heads Golf Club also used the seagrass for insulation. [LID]

Swan grass was also harvested in commercial quantities along the eastern coast of Westernport Bay until at least 30 years ago for housing insulation use in Melbourne [BM]. Similar practices using marine resources (eg reeds, shells) and other agricultural produce discard (eg oat and corn husks, walnut shells, straw) for insulation were known in Suffolk and East Anglia in England until at least the 19th century (Evans 1966: 43, 44), and it is possible that these practices were transposed here by early settlers from those regions.

Many other indigenous plant species were exploited by the fishing community and other sectors of the community, especially during the depression in the 1930s when many families could not afford vegetables or other mainstream commodities [DS; WN].

D) *Bearded Glasswort for Glass manufacturing/ Potash*

> Bearded glasswort was used at Limeburners Point in Geelong to make glass. It is also known as Samphire. They burnt it to extract potash which was used in the glass manufacturing process. You can eat it if need be to supplement your diet. It is very salty. [WN]

E) *Black Boy Resin for Furniture Staining*

> Jack Clay made a special furniture stain from the local grasstree. He used shellac as the base, and for the colouring agent he used the sap of grasstrees, the plants they call Black Boys. He would go into the Pt Lonsdale area after a fire had been through the area and grass trees would be popping up everywhere and he would find a burnt tree. When these trees are burnt, the sap bubbles up and makes globules of resin, which he would pick up and take home. He would melt them in a saucepan, and put in shellac and turps as a thinner, and he would use this to paint furniture. It created lovely stain finish, and had a beautiful smell to it. The Aboriginals also used this resin to fibreglass and waterproof their drinking containers. They would coat one side, and then the other with it, and it would waterproof their drinking containers. Its scientific name is *Xanthorreas australis*, and it is from the mallow family. [WN]

F) *Bower Spinach/ Warragul Greens (latter is its modern name)*

Another plant that grew wild here was Warragul spinach. That's what they call it at the trendy markets now, but back then the locals here called it Bower Spinach. The locals ate this to supplement their diet in the 1880s, to give them some greens when they couldn't afford vegetables. They ate a lot of it during the depression. My grandparents told us about it. Its scientific name is *Tetragonia implexicoma.* [WN]

G) *Chinaman's Bread*

There was another plant called Chinaman's Bread. It was a mallow, which people here used to use to supplement their diet in the 1880's and during the depression. It had a central core with segmented fruit sections surrounding it. It was mainly kids who ate these. It grew everywhere around the town, but a lot of it was along where the Bellarine Rail trail and line is now [WN].

We ate Chinamens bread when I was a child. [DS]

H) *Sour Sobs ("Sweet Grass")*

Those yellow flowers we used to clean coins with. We called them Sour Sobs, but their scientific name is Oxalis Pres- Carpae. We used to squeeze out the juice to clean pennies with the oxalic acid that was in them. They would clean coins up very well too. These plants were introduced from South Africa by the Adelaide Botanic Gardens in the 1880s as an ornamental bulb. We used to spend hours polishing our coin collection as a hobby. [DS, WN]

I) *Coastal Beard Heath Berries*

The Indigenous people used the Coastal Beard Heath (Leucopgon Parviflorus). Berries from this plant were used by Indigenous People. They ate the white berries that were the size of pea available in Jan and February. They tasted like a nashy pear. The berries from this bush are a glucose source. [WN]

J) *Old Mans Beard*

The Indigenous people used to use the fluff from this bush, it was called Old Mans Beard, to line the cradles that they used to carry their babies around in. The fluff was thrown away when the baby had dirtied it in the cradle. [WN]

2) Animals

A) *Rabbits - Swan Island/ Duck Island/ Swan Bay/ Lonsdale Lakes/ Mud Islands*

Many fishermen and other community members recounted the importance of rabbitting as part of their childhood. [CS] described how he would often take his dogs and hunts rabbits at Swan Island, Duck (formerly Rabbit) Island and Lonsdale Lakes, and would use them for pet food. [LID]'s grandfather also engaged in rabbiting, which were sold from his fish shop and later from home to supplement his income. Fishers also supposedly introduced rabbits to the Mud Islands as a food source, which later decimated the vegetation and large trees ([HM; LF; LID; MW; PF]; QH April 2002:12; Yugovic 1998:90, 96-7). Rabbits had reached plague proportions in the area by 1912, causing denudation of vegetation in parts of Swan Island (QS 11/5/1912);

but many fishermen stated that their families might have starved if rabbits had not been available to supplement their diet [CS; LID]. This situation was common in many other Victorian coastal towns, especially during the depression and WWII (Hunt 1999:9, 29):

> We lived on the Flats. We would walk along the railway line and hunt rabbits. There were lots of rabbits there at one time. We would head home at 3pm. We got most of the rabbits from around Lake Victoria, and we fed the dogs with them. We also got rabbits at Swan Island. The best rabbits were salt fed, on the salt bush. We had big wadis (sticks) that we killed them with. [CS]

B) *Wild Game*

Local game was also heavily exploited by both the fishing and local communities, particularly from Swan Bay which was a haven for wildlife. Specialised duck punts were used to shoot game on this area:

> We ate swans, wild duck and rabbits from Swan Bay. When they flew over the bridge we would shoot them. They were a big part of the fishermen's diet. The swans were around from November to April, and they were protected then, but the fishermen still used to eat them. We had a duck punt that we used on Swan Bay. We call the ducks to the boat, you know using duck calls, and then we would shoot them. We would give a lot of them away. We would go rabbit and duck shooting all the time. My family had big duck hunting punts. That was before my time. They took out whole flocks at a time, the whole mobs. I had a Belgian gun that shot pellets. We also used to hunt Quails in Swan Bay. The quails would fly across the straits into Swan Bay. They would fly into the head wind. We often caught eels in the mangroves at the north end of Swan Island. The eels used to go into Duck Swamp. They were just used for local meals, they were never exploited commercially. [CS]

> Nan grew flowers at Pt Lonsdale, and used to sell them to guesthouses and to Geelong for funerals and weddings. She would sit up all night to make wreaths for funerals, and Bob (grandad) would be feeding her cups of tea and coffee to keep her awake. Nans name was Edith Maude Beggood, nee fall. Mum was a fisherman's daughter. Fishermen lived off fish during the depression. Bob often went to the back paddocks behind the Lakes (Lake Victoria) with ferrets to get rabbits, and used to come back with them hanging on the bikes handlebars and would ride around Queenscliff selling them. He used to skin them and tan the pelts using urine. Bob bred greyhounds, and he used to have a box to hold the ferrets in. Bob would put the ferrets down the rabbit holes after he had put nets over their holes, and they would run out and into the nets trying to get away from the ferrets. [WN]

C) *Cockles*

> We used to swim over to Swan Island to get cockles. There were tons of cockles over there, and they were a good feed too. We used to get them near Langenby's Island, which was named after the bloke who lived on the island. That's the first one near the bridge. [CS]

Appendix E-6: Traditional Weather Indicators and Predictions

The following is an expansion of indicators used to predict weather both for Port Phillip Bay and Bass trait in general.

1) Local Weather Patterns

A) Effects of Tide on Wind, Seas and Tides through the Rip

Fishermen had to rely on local knowledge – the force of the current can hold back the tide, and you had to judge the tide before you could go out. You would follow the deep water out as it wouldn't break - you need to read the mood and colour of the water [LF].

B) Temperature change and noise

[LF] stopped during our conversation where we were sitting outside and said " I'll show you how your body tells you the weather. The temperature is getting cool, and I bet without me turning around, that the clouds behind me are getting dark, and that it is going to rain soon" [and sure enough dark rain bearing clouds had suddenly gathered behind him and it rained five minutes later]; "… body temperature can tell changes in the weather".

C) Bird movements (or not)

…look at the which way the birds fly, and that indicates the direction of the winds (or approaching winds)…you watch the direction of seabirds in V formations to tell bad weather. If the V is flying home to their nests, bad weather is coming…birds come home to roost (at the approach of bad weather) [LF].

Seabirds stay in their rookeries in gales…birds will not fly into bad weather, or will not leave their nests when bad weather is approaching…we used to watch the sandpipers, and someone would say, look at them they've been on that nest for days, and I would say, well you wouldn't go out into a big storm would you, and neither will they! [LF]

If the seagulls got past the park at the bottom of the hill it was going to rain. The seagulls would hang around the park looking for tucker [food], but you wouldn't see them come any further up the hill – this was just a saying amongst the kids only [GW].

Several British researchers (e.g. Goldsmith Carter 1945:10-11; Evans 1966:165) have recorded that bird movements in England also heralded the approach of inclement weather.

D) Wind

Many local residents had several observations regarding wind and weather:

…the wind was usually off the land in winter. If the wind came onshore we would pull the boats up on the shore. If it was offshore we left the boats on the moorings between the piers. [HM].

The Rip is controlled by natural elements and if you watch them you can judge the conditions…when there is no wind, it is calm, if there is a SW wind there will be a gale, and an easterly wind is generally calm weather [LF]

Weather lore was often encoded in phrases in Britain to record these very types of observations, for instance the following phrase: "When the wind backs round agen the sun, Trust it not, for back it will come" (East Anglian Weather Lore cited in Goldsmith Carter 1945:25, 38, 45). Although none of these sayings was encountered in the study area, they may exist but have not been accessed.

E) Boat Movements at Anchor

When asked what was first considered in judging the weather, [LF] responded:

> We would go down and look at the movement of the boats, and the way they were hanging at anchor…they were a forewarning of forthcoming conditions; forewarned is forearmed. Judging by the boats movements we would consider are the conditions calm enough to go through [The Rip]. [LF]

F) Clouds

Clouds were also used as weather indicators:

> You need to look at the sky and where the scud (clouds) was coming from, and how fast…The heavens above have different levels. If you see cumulous clouds, two days later you can expect calm weather. Wispy upper clouds can indicate the approach of changes in weather and storms, and most weather comes from Adelaide, so people today rely on weather forecasts from other states. [LF]

> The Fishermen used to say that if the sky had streaky clouds and cobwebs landed in the rigging, it meant that northerly winds were coming. [JB].

> We would always look at the glass, we would never miss a night to check it. There was one on each pier. You would look for streaky skies, you know the clouds. If they were windy looking skies it meant bad weather was approaching. The fishermen were always accurate in predicting the weather. [CS]

Goldsmith Carter (1945: 14) recorded similar familial observations of weather prediction:

> *Mackeral skies and mares tails*
> *Tall ships carry short sails*

G) Animal Movements - Cattle and Sheep

Observations of stock movement were also tangible weather indicators:

> I heard that the fishermen around the Prom watched cattle movements to tell the weather. The sheep would face the wind, but cattle would put their backsides into the wind, and they went to the lee side of the island as the cows don't like wind in their faces. If the animals moved, they could predict the weather movements. [JB]

Kerr (n.d.:21) records that the Swedish Norling Family also used stock movements on the Bass Strait Islands to predict wind directions. These observations may have older origins from continental Europe and the United Kingdom. Evans (1966:164) noted that cattle movements in East Anglia often heralded the arrival and direction of inclement weather in farming communities.

H) Rheumatics

One respondent [LF] indicated that intangible factors could be used to gauge weather changes: "sometimes you can feel the approach of bad weather. My body feels it, you know, rheumatics. I get a bad headache, and I know bad weather is coming. Not everyone gets that of course, its only me who gets the headache, but when people know I have a headache, they know to watch out for bad weather". When asked about the lore in the fishing community [LF] replied, "Look at the wind, look at the things you can touch and feel, look at the tides and who controls the tides, its controlled by the Lord!" (NOTE: [LF] was once an ordained Presbyterian Minister, and has very strong views regarding religion). When asked about how he judged sea conditions, [LF] replied: "You have a perception of things, sometimes a premonition of things to come. You use your perceptions of The Rip, built up from years of experience. I got my experience from life, the world was my University. You can feel what the weather is going to be like".

Proulx (1993:313) demonstrated intimate local knowledge for predicting weather patterns in Newfoundland. The character Yark predicts the arrival of bad weather: "Weather coming on. I see the spiders is lively all day and my knees is full of crackles".

I) Frogs:

The Frogs will start croaking when rain is approaching. [LF]

J) Coastal Silhouettes

Kerr (1987:166) reported that many Tasmanian ketch skippers often demonstrated an intimate knowledge of coastal and submerged features.

But those old skippers were clever old bastards, they knew every rock, reef, tide rip and shoal. They knew all the little quirks a particular cove or shelter might have. They made it a point of knowing a particular part of the coastline by its silhouette. The older they were or the longer they were at it the more they knew, and the tricks that went with it.

At the time of our trip the area was only partly surveyed as far as Balmoral Hill, the rest was in his head. (Kerr 1987:170)

2) Regional Weather Patterns
A) Cobwebs in Rigging

Cobwebs were also a sign of inclement weather direction:

The Fishermen used to say that if the sky had streaky clouds and cobwebs landed in the rigging, it meant that northerly winds were coming [JB].

Kerr (n.d.:21) recorded similar weather forecasting observations amongst Bass Strait fishermen.

B) Cloud Movements and Types

Meteorological observations of cloud patterns and movements were important indicators of approaching inclement weather, especially for fishermen:

You would look for streaky skies, you know, the clouds. If they were windy looking skies it meant bad weather was approaching. The fishermen were always accurate in predicting the weather. [CS]

The Fishermen used to say that if the sky had streaky (cirrus) clouds and cobwebs landed in the rigging, it meant that northerly winds were coming. [JB]

Other indicators included ranges of visibility. One local resident recalled that increased visibility across the Bay heralded the onset of bad weather.

Mount Martha was a good gauge of what the weather was going to be. The clearer it got the worse the weather was going to get. If you could see the houses on the Mount, the weather was going to be nasty. If it was misty, there would be light showers of rain. [GW]

This observation makes sense when considered from a meteorological perspective, as the bad weather usually is preceded by a high pressure system, the latter of which usually brings the clearest weather. Therefore the weather gets clearer as the high pressure system passes just prior to the onset of the low pressure system.

Similar observations were made by Goldsmith Carter (1945:114) in Dover, where the lighthouse light would be visibly brighter as a herald to an approaching easterly gale.

Kerr (1987:85) recorded that Hobart's ketch and bargemen used Mount Wellington as a weather indicator: "With the wind hard in the mornin' you never left town. You'd have a look at mountain, "Aw, sou-west or south'ard today, won't go today". Similarly, Goldsmith Carter (1945: xvii) observed that an increase in the visible loom of a lighthouse meant a storm was approaching.

Appendix E-7: Superstition, Folklore and Rituals

1) Birds Eggs/ Peacock Feathers

There were many examples of superstitious beliefs which were associated with influencing fate or bringing bad luck. The keeping of birds eggs was one such superstition, even though bird nesting to collect eggs was a popular activity amongst fishers' children (Dod 1931:93; [HM]):

> There were flocks of orange bellied parrots on Swan Island. We used to go bird nesting as kids to collect eggs. We couldn't bring bird eggs into the house. It was bad luck, our father wouldn't let us keep them. [CS]

Peacock feathers were also viewed unfavourably by some fishing families:

> My mother always reckoned that peacock feathers were bad luck in the house. [JB]

> My father told me off for bringing Peacock feathers into the house when I was 12 [1923]. He thought they were bad luck. [CS]

Although these observations may seem irrelevant, they do have implications for subsequent archaeological signatures. The absence of native bird species eggs in the archaeological record could be interpreted as a lack of exploitation of those natural resources (especially by the fishermen). However, the identification of traditional and possibly superstitious beliefs pertaining to these resources can explain their absence at some habitation sites, even though they were known to be exploited by fishermen's children.

2) Friday – Boat Launching

Some fishermen stated that there was an unwritten lore regarding boating activities on a Friday: "you wouldn't launch your boat on a Friday, It was bad luck. You wouldn't launch on a Friday even if you had won lotto" [CS]. A former boatwright with the Pilots' Service, confirmed the existence of this practice:

> No, they wouldn't do it. That came from England, the superstition. It was all the fishermen. They wouldn't do it, wouldn't launch on Fridays. If a boat had just been finished being built, and it was ready by the Friday, they would launch it on the Thursday, or delay it to the Saturday or Monday. No, they wouldn't go fishing on a Friday either. It was bad luck to go fishing on the Friday. One bloke had his boat up on the slip and he went to launch it on a Friday, and he broke his mast when someone forgot to open the door properly, and the mast broke on the way down. There were also no markets on a Saturday, so you couldn't sell your fish if you went out then. They fished from Monday to Thursday, and Thursday's fish was sold at Friday's market. They worked on the boats on their days off, went to Geelong to go shopping and mowed the lawns. Things like that. The small boats that worked inside the Rip sometimes caught snapper on the Friday. They kept fishing as they had local markets at Geelong and Queenscliff, and would sell them on the pier. [JB]

Although the inside vessels sometimes did work on a Friday, Mullen (1969:219, 211) has suggested that the incidence of superstition amongst fishermen was directly related to the amount of risk they were exposed to, and has observed similar behaviour in Texas, where inshore fishing vessels may risk breaking the taboo as they were less exposed to the dangers experienced by offshore fishermen.

Although other fishermen (eg [HM]) had no knowledge of this practice, this suggested that this was a personal belief limited to individual families:

> No there were none that I heard of, only walking under ladders and that sort of thing. No, there was never any problem launching your boat on a Friday, I never heard of that. I have heard of people putting pennies under their masts, but I didn't do it here or at Lorne. We had tabernacle in our boats, you know where you lower away the masts, so we couldn't have put a penny under there even if we tried. The older boats might have though. I have heard hearsay evidence of that happening here. [HM]

This worldwide phenomenon was related to the crucifixion of Christ on a Friday (Kemp 1992:847; Jeans 2004:308), and sailors would not risk ill omens by departing from port on this day (Patterson 1897; Mullen 1969:218; Poggie and Gersuny 1972: 69). The following familiar rhyme was related to it

> *On a Friday she was launched*
> *On a Friday she set sail*
> *On a Friday met a storm* (Jeans 2004: 308)

Mullen (1971:407) recorded that this belief amongst American fishers originated in England, which may also be the case in this study area.

[BM] offered a more pragmatic explanation, who stated that no fishing was undertaken on this day as there was no Melbourne market available until Tuesday, and that any fish caught on Friday would spoil before that time. Although this observation was also confirmed by [JB], he still maintained that superstition played a part in the practice. Later observations of this practice in modern times (post 1960s) may have been a continuance of traditional practices, but also for practical considerations:

> Gil Albutt told me he wouldn't launch on a Friday because if something went wrong you had to pay overtime for the crane driver and workers on Saturday. [LID]

Similarly, fishing on Sunday, the traditional Christian day of rest, was originally discouraged amongst local fishermen. Historical newspaper accounts detailed a rift between the Queenscliff fishing community and other fishermen in 1893, where some fishermen were working on a Sunday, contrary to popular religious beliefs. This led one pious fisherman to complain to the Customs Minister that the day was being desecrated, and that it would have a detrimental effect on ensuing generations (and he probably felt he was being penalised by loss of fish catches due to his religion). It appears that non-Christian fishermen were continuing their catches on this day, to the detriment of those whose religions required them in church (QS 3/6/1893). By the beginning of July that year, all the fishermen in the town had agreed not to fish on that day. However, this effectively meant that there were now three days that the fishermen did not take a catch, as any fish caught on Saturday usually spoiled before getting to market on the Tuesday (QS 1/7/1893).

These beliefs and practices were to have marked effects both locally and regionally, especially on the Melbourne Fish Market, where fresh fish was available from Tuesday to Friday, but meant that the fish market was closed on Mondays as no fresh produce was available [BM]. This practice appears to have changed in later years:

> ..before the Co-op was established, there was nothing to do [but fish]. Most fishermen fished on Sundays to get a catch for the market the next day. If you didn't fish on Sundays you missed a day supplying the market. After the co-op was built, you could

fish any day as they could freeze it, and you weren't dependent on supplying fish fresh on market days only. [GW]

The constraints of religious observance were also observed by Parker (1995:94, citing Duffy 1992) who observed that West Country fishermen would not go to sea on saints days, and Hunter (1994:262) in the Shetland Islands, where despite the presence of a rich potential catch presented by the appearance of 200 whales, the islanders waited until after the stroke of midnight on Sunday before they would launch their boats. Similar prohibitions were also observed by American Fishermen in the latter part of the nineteenth century (Procter 1873:92; Collins 1882:126-7; Mullen 1969:218).

3) Blessing of the Fleet and Religion

This Presbyterian ritual was a relatively recent introduction, first undertaken when the Reverend W. F. Hart conducted the first such ceremony Australia that was held at Queenscliff in 1935 [LF]. The ritual was undertaken to place a blessing on the fishing fleet to ensure their safety from inclement weather over the coming year, and a ceremonial cross (made of gelatine so it could not be souvenired from the water) was thrown into the water as a symbol of Christ's blessing on the water. The service was broadcast nationwide, and it was reported that Townsville fishermen who had gathered to listen to the service experienced record catches the next day (Wane 2003:31) perhaps explaining the popularity of later similar Catholic services, which are now conducted in many fishing ports around Australia (e.g. Fremantle and Ulladulla). The fishing communities at these ports were largely dominated by southern European immigrants from Italy, Greece, Dalmatia and Portugal (Broeze 1998:185, Anon. 2004; NRMA 2004). The Catholic rite practiced at the latter towns originated in southern Europe. After blessing the fleet, a priest originally threw a gold cross into the water, and local youths competed to retrieve it to receive his personal blessing. The service represents a ritual cleansing of evil from the sea, or a votive offering to the sea god (in this case Christ) to offset bad weather, which may have earlier origins in pagan rituals. Its relatively late introduction into traditional Australian fishing culture may reflect the changing fishing community composition and ethnic origins after 1945, as more southern European immigrants entered the industry (Broeze 1998:189). Blessing of the Fleet ceremonies have become popular social events, which often overshadow the spiritual component of the ceremony (Broeze 1998:191), a sentiment echoed by [GW] who said that: "it was more for show" [than religious purposes].

Until this time religion does not appear to have played a large role amongst the majority of fishermen. Indeed, one fishermen who was also a Minister commented:

> ...religion was non-existent to them. The fishermen would never go to church to worship, and the only time they had a need for god was when they got into trouble at sea - they talked down the Lord, who they had no need of at other times and would blaspheme his name when they got ashore, and would say 'by Christ I cried out to the almighty to save me'. [LF]

This view was shared by [GW]:

> Fishermen weren't religious, not a bit. The only time they had seen a church was at weddings and funerals - they weren't religious people…I once heard a minister say that Queenscliff was the most unreligious town he had been in. [GW]

4) White Rudders and Sharks

Fishermen in Port Phillip Bay have always feared the presence of sharks during their fishing activities. Sharks often followed snapper and mullet schools into The Bay, which were a problem as they usually stripped fish from the line before they were hauled in [PF]:

> You always let the sharks have the snapper if they were chasing it, as they would be attracted to the boat otherwise… If you saw Mako sharks under the boat, you would pull up the long line and all the snapper had been taken from the line. [HM]

Numerous historical accounts documented this happening (eg QS 4/11/1899), as did many oral accounts of where fishermen had "run-ins" with sharks:

> Sammy Culliver was fishing on the snapper beds once and was losing a lot of double enders as there was a snapper shark there, and he was losing a lot of fish. He decided to go for it and get both fish in before the shark took it. As he reeled the fish over the side of the boat, the shark leapt out over the back of the boat, and Sammy fell over backwards into the fish well, and had to fend the shark off with the tiller. There were teeth marks on the boat to prove it. Sammy was as white as a sheet when he got back, and staggered into the pub to tell his story. He was shaking so bad he could hardly hold his beer. [PF]

This story may also be conflated from many different occurrences, as the person concerned has been identified as Sammy Culliver, Bluey Walsh or Dugga Warren [JB; LID; PF].

Sharks were left alone for fear of them attacking boats.

> …another time, some Queenscliff fishermen went to Lorne and a great white started circling the boat. To get rid of it, the fishermen speared the shark, and it bit the back off the boat. [PF]

> Dugga Warren was out fishing in an old 21ft boat on a snapper bed with old Fred Farman, when a shark started to make a nuisance of itself. Fred decided to pull in the fish before the shark got it, and had it inboard and between his legs when the shark launched itself over the stern and across the brass horse as it was called. It bent the brass horse, and tried to get old Fred, and scared the hell out of both of them. It was a bronze whaler. Old Reggie Wells put down a drum attached to hooks, and the shark took the bait and drum and disappeared. [PF]

This story was also repeated in Hunt (1999).

[PF] recalled that this sometimes influenced the designs of boats:

> Fishermen would also not paint their rudders white, as it attracted sharks. It was my understanding that if you were fishing on the snapper beds…if you painted your rudder white you were more prone to damage when trying to get the snapper in ... because the reflection of the rudder as it moved [if painted white] used to attract the sharks to the boats.

Another circumstance was detailed where fishermen at Port Welshpool supposedly increased their catch of barracouta by attaching a mirror to the bottom of their rudder, but this was a ruse designed to fool Gippsland fishermen who were unfamiliar with couta fishing techniques:

> When Jocka Todd and Smacka Jackson went down to Port Welshpool, they cleaned up. They told all the locals that they had put a mirror on the bottom of the rudder, and that

this attracted the fish. Within weeks everyone there had a mirror on the bottom of their rudders, but they [the Queenscliff fishermen] had only been putting it over them. [HM]

Fishermen also gutted their fish out to sea, so as not to lead sharks back to shore around the piers. The Lorne Pier was apparently free of sharks until a fisherman broke the rule and gutted fish whilst tied up alongside, and there have been sharks there ever since [HM; PF]. One historical source supported these assertions (QS, 23/3/1907), where fishermen expressed concerns that sharks were intelligent enough to following net and line boats as they knew that fish would be caught near them. This observation has implications for expected archaeological remains for fishing sites, and might explain the lack of fish cleaning facilities in the Queenscliff area.

Sharks were obviously a constant tangible danger within the fishermen's world, and have also been incorporated into local lore in various forms. Although many tall fishermen's tales may abound, they appear to have a thread of credibility in most accounts given their similarities to other historical accounts, which were told and retold to the author on many occasions. These forms of folklore tales represent parables in which social history is recorded, but that also reinforce the underlying need for caution when dealing with sharks. Their significance therefore lies not so much in the facts of the past, as opposed to its' implications to that society, a notion which is consistent with Gazin-Schwartz and Holtorf's (1999:13) observations of folklore meaning. These forms of stories also provide insights into cognition and perceptions that are often not accessible elsewhere. The threat of shark attacks may also have produced tangible modification in vessel designs, albeit subtle avoidance of the use of certain colours.

5) Penny under Mast Steps

Other superstitions may have left more tangible evidence in the archaeological record. Hunt (1999:92) indicated that pennies were placed under the mast steps of some small boats in Lorne. Some locals [JB; PF] remembered this practice was undertaken by a number of boats in Queenscliff:

> It wasn't a penny, it was a shilling. Yes they all did it at Queenscliff when they built their boats. They got a shilling from the year that the boat was launched, and it stayed there until the boat was wrecked or sold. If a boat went elsewhere, and they pulled out the mast you would see the date that the boat had been launched from the date on the shilling. They stopped doing that about the start of the war, when masts were being replaced with motors, but until then all of the Queenscliff boats had it. We had no masts in the pilot service boats, so we didn't do it there. All the fishing boats had it. It goes right back to the start of building boats in Queenscliff. They always put shillings under the mast. [JB]

[HM] also recalled this practice, though never actually saw it:

> I have heard of people putting pennies under their masts, but we didn't do it here or at Lorne, not in my time. We had tabernacle in our boats, you know where you lower away the masts, so we couldn't have put a penny under there even if we tried. The older boats might have though. I have heard hearsay evidence of that happening here.

This custom has its roots in ancient times, where coins were always placed under the mast to appease the spirits of the deep, and to pay Charon the Ferryman, who in Greek legend ferried the souls of the dead across the Rover Styx to the underworld of Elysium (Jeans 2004:306). This tradition of votive coin offerings is evident in some of the earliest known shipwrecks, including the Blackfriar's Barge #1 in London (second century AD), and the first century BC Mediterranean wreck the *Chretienne* (Delgado 1997:64).

Hunt (1999:28, 33) recorded other examples of superstitions in the Lorne community, including swallows as harbingers of good luck, breaking mirrors and spilling salt was bad luck.

6) Seagulls on Masts

Many superstitions appear to have been introduced with the arrivals of immigrants:

> There was a fisherman down here after the war, who was from Scotland, and he was really superstitious. He was a sponsored fisherman, you know they get sponsored to come out here to work. When he got out in a boat and a seagull landed or sat on the mast he wouldn't go out, and refused to work. He was just a deckhand and the bloke who owned the boat would get wild with him. He was very superstitious, and we would all laugh at him. That was after the war (WWII) and he had been working over in Scotland on the trawlers there, and must have brought the beliefs with him from there. You would probably hear a lot more of that sort of thing if you went over there. [JB]

7)   Drowning Men

> In 1863, three Chinese fishers died after their brethren would not go to their assistance as they were superstitious about rendering assistance to drowning men (Simpkin n.d.:10). This belief was common amongst some mariners around this time (Jeans 2004: 326).

Appendix E-8: Fishing Marketing Companies, Associations and Transport

Fish Marketing Companies	Date
Lorimer and Company	ended 1859
Queenscliff Geelong and Ballarat Fish Company	1864
Tobias and Company	1866-1867
Queenscliff Fishing Company	1865-1878
Queenscliff Fishing Company (based in Geelong)	1878-1884+

Table E-8.1: Known fish marketing companies that operated in Queenscliff.

Fishers Associations (Local)		Fishers Associations (Statewide)	Date
Queenscliff United Fishermen's Association (UFA) - superceded by Victorian Fishermen's Association (VFA) in 1910	1864-1910		
Queenscliff Fishermen's Union (QFU)	1910-1930s	Victorian Fishermen's Association (VFA)	1910-1940s
Queenscliff Fishermen's Club (QFC)	1930s	Victorian Fishermen's League (VFL)	1920s
Victorian Professional Fishermen's League (VPFL)	1940s+	Victorian Professional Fishermen's League (VPFL)	1940s-
Queenscliff Fishermen's Cooperative Society (QFCS)	1949-1980		

Table E-8.2: Fishermen's Associations Engaged in Fish Marketing (Source: Raison 1987:7-8).

Transport	
Bay Steamer services, or a coach/cart service to access the Melbourne and Geelong Markets	pre 1879
Fishermen share responsibility to load 1-2 boats with days catch to deliver to markets	pre 1879
Train - louvered cars to Melbourne, Geelong, Ballarat, Bendigo, Portland	1879-1933
Ice imported to pack fish for market	1917
Truck - Alex Laker	1933
Ice works opens - Icey Jones Factory	1938

Table E-8.3: Known modes of fish market transport from Queenscliff.

The remoteness of Queenscliff from a major city was always a problem for fishermen, as the fish had to be transported to market before they spoiled. Prior to 1879, fish were transported to Geelong via a fish cart (Raison 1987:7). Before this time fishermen were also reliant on the regular Bay Steamer services, or a coach service to access the Melbourne and Geelong Markets. At one stage, the entire days catch would be loaded onto one or two couta boats and fishermen took turns to sail the catch up the bay to the market [CS; GW]. After a Melbourne trader began buying fish direct from the fishing boats at sea, at least four attempts were made to establish marketing companies at Queenscliff, including: Lorimer and Company (ended 1859 - GA 12/4/1859); Tobias and Company (1866-67 - GA 26/4/1867:3); Queenscliff Geelong and Ballarat Fish Company (1864), and the Queenscliff Fishing Company in1865, the latter of which lasted many years, and moved to Geelong in 1878 (Raison 1987:7).

In 1877, the construction of the Geelong to Queenscliff Railway in was approved by the Legislative Council (GA 13/9/1877:2). Although installed essentially for the convenience of the military, the train station was an integral component of the fishing landscape, as it opened markets in Melbourne, Ballarat, Bendigo and Portland. The introduction of regular local train services by 1879 dramatically changed the workload and viability of the Queenscliff fishing market, a situation that was repeated elsewhere around the entire state. However catches still spoiled enroute when trains were delayed. This situation led to the importation of ice for packing market consignments in 1917, and by 1938 a local iceworks was opened by Icey Jones for this purpose (Raison 1987:7, [LID]). The fish trains were recalled by [CS]: "When we got back to the piers, we would put the fish in crushed ice, and put them on the train in louvered carts for transport to Melbourne". In 1933, a local businessman (Alex Laker) contracted to take all fish to market using one of his two trucks, which ended the previous reliance on trains ([JP], Raison 1987:7-8).

The fishermen also began organizing the distribution of fish from a very early period. When an oversupply of fish at the Melbourne market in 1892 led to good fish being condemned for lack of demand, this generated concern to the local producers, who realised that they needed some mechanism to control fish supplies so as not to produce a glut (QS 10/12/1892). Fishermen imposed their own quota system which limited their daily catch:

> There were 30-40 couta boats in the early days. Twenty four of them were gaff rigged. There were usually 3 people onboard, a father and two sons. Boys 14-16 were allowed a quota of 3 boxes, and men could have 6 boxes a day. The quota was imposed by the fishermen to keep the price stable on the market. It was tough until after the war. [HM]

The Queenscliff United Fishermen's Association was founded in 1864 to protect fishing interests, and began marketing fish large quantities of fish in competition to other suppliers (GA 7/2/1866; Raison 1987:8). The organization was superceded around 1910 by the Victorian Fishermen's Association (VFA). Around this time the Queenscliff Fishermen's Union was founded into manage local procedures, and later became the Queenscliff Fishermen's Club in the 1930s. The VFA was superceded by the Victorian Professional Fishermen's League in the 1940s, and Queenscliff fishers assumed a greater role in this society. The formation of the Queenscliff Fishermen's Cooperative in 1949 allowed fishermen a degree of certainty regarding catch prices, as fish were now sold to the co-op at a daily fixed price, and fish could be held back to avoid a glut and low prices at markets (Raison 1987: 8; [JP]).

Appendix E-9: Boatbuilding in Queenscliff and Pt Lonsdale

1) Introduction

This appendix gives a chronological and geographical summary of boatbuilders in the Queenscliff and Pt Lonsdale area that is useful for understanding the progression of boatbuilding activities, both geographically and temporally. It also provides an overview of the personalities involved, and gives insight into the guild-like trade that saw each new boatbuilder first apprenticed to his predecessor. Significant boatbuilding sites are also outlined below.

2) Boatbuilders (Chronological)
A) Anders Hansen

Anders Peder Hansen emigrated from Denmark where he had a family history of boatbuilding. He learned the trade from the highly skilled craftsmen there, before migrating to Australia in 1890, where he began boatbuilding at Queenscliff. He worked as a boat builder with the Sea Pilots on the front beach in a shed formerly occupied by the Customs Shed (Raison 2002: 9-10), before establishing a boatbuilding business at the rear of the Vue Grand Hotel in the old Hall by the Sea building (at the corner of Learmonth and Hobsons Streets) where he built several large boats (QMM display; Ferrier 1981:1, Raison 2002:10; [PF]).

Hansen moved to Pt Lonsdale sometime between 1906 and 1912, where he established another boat building shed adjacent to the guesthouse *Elsinore* that was run by the Cooper family (his wife) on the corner of Kirk Road and Simpson St (Ferrier 1981:1; Raison 2002:10). Hansen was mentioned in QS 22/8/1908 when he launched new motor launch for Mr W. Murphy. Hansen transported his boats to Queenscliff on a purpose built boat jinker towed by George Werry, or launched them on the front beach at Point Lonsdale, where they were rowed to Queenscliff (Ferrier, 1981:8, Raison 2002:10). Hansen built the first boat with an engine in Victoria when he installed the motor from a lifeboat from the RMS Australia. Hansen's clients spread nationally, with regular clients from South Australia. He was famous for being able to build a clinker boat in one day, where he charged by the foot to build a boat. Hansen returned to Denmark in 1924, and his shed burned down in 1928(QMM display).

B) Mitchi Lacco

Mitchell Lacco, (colloquially known as Mitchi) was descended from a lighthouse crew family, and was born at McCrae in 1883. Mitchi served as an apprentice to Hansen at Point Lonsdale in the early 1900's. After marrying his wife, Lucy Marie, they had four children, three of whom also became boat builders (Ken, Alex and George). The Lacco family moved to Queenscliff from Rosebud in 1916, and established a sail making and boat building business at 31 Beach St, where the boats could be manhandled directly into Port Phillip Bay behind the allotment, which stood at the edge of the high tide mark. Larger boats were launched with the help of many assistants, who were rewarded for their efforts with a keg of beer (QMM display; Ferrier 1981:1, 5; Kerr 1985:62; Raison 2002:10).

Lacco and his daughters also operated a small sail making business in a small loft at the side of their house. Lacco worked closely with fishermen to improve the sail designs for the couta boats, and eventually replaced the dipping lug rig with gaff rigged sails which were easier to handle in windy conditions (Raison 2002:19).

When Peter Locke, who had been working for Lacco since 1924, took over the business in 1926, Lacco established another sail making and boat building enterprise at the south west corner of Hobson and Learmonth St, opposite the former premises of Anders Hansen. Lacco returned to Rosebud between 1928-34, where Lacco's son Ken began building shark boats with the Pompei Brothers Boat Builders at Mordialloc. Mitchi Lacco died in 1974 (QMM display; Ferrier 1981:1, 5, Kerr 1985:62, 64; Raison 2002:19).

C) *Peter Locke*

Born to a fishing family at St Leonards in 1900, Peter Locke worked for Mitchi Lacco, for two years before buying his original business in Beach St in 1926 (Kerr, 1985: 64). Part of Lacco's original boatshed was moved to the northern end of Beach St in 1935/36, where a large slipway was also constructed. The shed was either enlarged or a second shed constructed to build the Bass Strait Crayfishing boat (the *Hilda Norling*) in 1939/40 and was also used to build shark boats (QMM Display; Kerr nd: 48; Ferrier 1981:1; Raison 2002:19). The last boat was built at 31 Beach St in 1939 for N Zanoni (Ferrier 1981:7). Locke was joined by former house builders Bob and John Cayzer in 1934, and took on Bob's son Aston as an apprentice in 1938. Locke built over 109 boats until 1947, when he leased the business to the Cayzer Brothers to go shark and crayfishing until he retired in Melbourne. When he died in 1988, his ashes were scattered over the waters south of Shortlands Bluff (Raison 200:19; QMM Display).

D) *Cayzer Brothers*

Figure E-9. 1: Locke's/Cayzers Brother's boat shed dock/ slipway.

Figure E-9. 2: Cayzer Brothers (Photo: PH7026 QHM Collection).

John and Robert (Bob) Cayzer were born at Pt Lonsdale, and in their formative years were exposed to the activities of Anders Hansen, where Bob served as an apprentice. He also worked for Peter Locke at Queenscliff (Ferrier 1981:1). By the end of 1947 they had leased the building from Locke, and the business became known as Cayzer Brothers Boatbuilders, who bought the shed in 1957. The two brothers died in 1970 and 1972 respectively and were buried in Pt Lonsdale Cemetery (QMM Display, Ferrier 1981:1). [HM] also manufactured craypots at Cayzers boat shed for many years, and recalls the shed was originally manufactured by Mitch Lacco in 1916, and was subsequently moved to the site. He recalled:

We used titree for making the craypots, and the teatree came from Rye. You would get 51 trees to a bundle from near the Yacht Club at Rye. I made the pots in Cayzers shed. It had an "L" shape at the end of the shed where we used to store the timber. There was big boat building here at one time. They made fishing boats, shark and couta boats early on. Peter Locke made many of them, and Mitzy Lacco built a shed in 1916 that was the original boat shed. [HM]

E) A&R Cayzer/ Cayzer Boats

Aston Cayzer, son of Bob, worked as an apprentice to Peter Locke prior to WWII, and following the war resumed boatbuilding with his father and uncle. Alan and Keith, sons of John, worked as apprentices in the business. By 1957, the business became known as A & R Cayzer, when Aston went into partnership with his father. Aston and his wife Joyce later established Cayzer Boats with his son Alan as a business partner in 1969, after the death of Bob Cayzer. The proposed widening of the road in 1981 saw the sheds relocated to the eastern corner of Larkin and Harbour St, where they were renovated and the business renamed Cayzer Boats. Over a forty year period, the Cayzer family had built 200 boats. Although Aston has retired, and Alan manages the Royal Geelong Yacht Club, Keith has a mobile boat building business (Raison 2002:19; QMM Display).

The site was subsequently purchased in 1987 by the shipping chandlers West Coast Marine Corporation, which was operated by Chris Dyer and Claire Grundy. Timber boat repairs were made available at the chandlery, and David Gough operated a fibreglass boatbuilding business on the premises (Raison 2002:19).

F) Gilcraft Boats

The founder of the company, Gil Allbutt, was born into a fishing family at Portarlington in 1931. By the age of 16 (1947), he had commenced an apprenticeship with Peter Locke, and continued work with the Cayzers until he established his own business in 1957 near the rear of the Vue Grand. He later transferred his premises to Roddrick Grove, and then to a large workshop on the corner of the Bellarine Highway and Ward St, where he built timber boats up to 40 ft. By 1974, he began producing the first of two series of fibreglass boats, (Gilcraft 20') and by the late seventies the Gilcraft 27' went into production. He built a range of vessels, including the Metani schooner and developed a fibreglass displacement pleasure fishing boat (QMM Display; Raison 2002:19).

G) Graeme Ruffin

Ruffin was born in 1943, and became an apprentice to A & R Cayzer in 1959. By 1963, he had had established his own business with two other boat builders at Leopold. Around 1970 he moved to Queenscliff and established a 80 x 50 ft boatshed adjacent to the boat harbour on the eastern boundary of the Port of Geelong Authority in Larkin Parade. He built scallop and couta boats, pleasure launches, yachts and pur seine skiffs, and employed up to 10 craftsmen. The shed was sold in 1976, when Ruffin moved to South Australia. The site was until recently occupied by Parks Victoria Offices (QMM Display).

H) Charles Zanoni/ James (Dugger) Warren

Charles Zanoni was born in Queenscliff to a fishing family, and like Dugger Warren, built boats in addition to being a professional fisherman. Warren introduced many new technical innovations into the industry, and was the first to install an echo sounder and radio direction (from an airplane)

finder into vessels in the area [LID]. He was also the first person to fish commercially for scallops in Port Phillip Bay (QMM Display, Raison 2002: 20). They built the vessel *Olympic* in the 1950s, and it was launched in 1956 between Bridge and Bay Streets. They launched it at right angles to the new bridge after they had dredged the area beside the bridge [AH; LZ].

I) Sea Pilots Boatbuilding

Many boat builders were also employed by the Port Phillip Sea Pilots to build and maintain whaleboats used to ferry pilots between the cruising vessels and client ships. These shipwrights included Anders Hansen, William Hill, Peter Menzies, Ernest Munns and Jack Beasley (Raison 2002:20).

J) Swan Bay (Near Nye Rd/ Yarram Creek)

A number of informants mentioned a one off construction of a boat/barge near the Nye Rd end of Swan Bay, but as this site was not inspected during fieldwork, its existence was not confirmed:

> There was big sheoak and little sheoak, where they moored the barges in Swan Bay for taking out the wattle bark. They used to go into the creek at Walpole. They would go in there and load up the barges with wood and bark. There was a sailing barge that was built on the banks of the creek, it was called the *Fidge*, and it was 50 ft long. It was located down the road just before the service station on the way to Portarlington. As you go round the bend before the farmhouse, Dunrobbins, it was just over the hill, and you would go down to the right. It is fenced off now and you'd have to get permission to go onto the land (North of Nye St). They built a barge there on the creek entrance. They got wattle bark out from there, and they would float the boats into the creek and pick up the bark. There are just a few sticks left there now. The barge would go ashore, and at low water a horse and cart were used to bring bark out and wattle tress for the bakeries at Melbourne. They would be loading while the tide was out, and the barge would sit there for three or four days until it was loaded up. [JB]

> There was once a 60ft boat built up there...this was a one off, but it shows how deep the water once was [CA].

3) Significant Boatbuilding/Boat Maintenance Locations
A) Slipways
I) Tobin's Jetty/ Swan Bay Slipway

Tobin's Jetty stood just in front of the present railway station, and its date of manufacture is uncertain (QS 24/12/1910). A new slip was being built at Swan Creek in 1912 to allow boats to be slipped and cleaned after the crane was removed from the old Pier (QS 25/5/1912), which fits the general location of this facility.

A slipway of unknown origin is located behind the Queenscliff Railway Station, and consists of parallel timber ways mounted on heavy timber piles. [LID] suggested that based on local speculation that the facility was used for launching an early lifeboat, but this would have presented problems when insufficient water would have been available for crossing the Queenscliff Bar, which would have slowed response lifesaving response times as the vessel would have been forced to row around the top of Swan Island to get to the heads. The facility may be associated with early craft moored in Swan Bay, or possibly with Anders Hansen's boatbuilding establishment at the top

of Learmonth St. However, the construction of the Railway in front of the facility, along with the installation of the low bridge to Swan Island either suggest that it was only used for slipping smaller vessels, or predates those facilities.

> There was a yacht club behind the Railway Station once. That was before my time. The Swan Bay Yachts used to use it, and they sailed in the bay there. Lewis Ferrier had a boat that he sailed, and he used it for that. Dr Germain, we used to call him the German, his son had one (boat) too. They had regattas there, and the slipway was put in for them. [HM]

> There was an old slipway that was behind the Railway Station. It was used to slip boats in Swan Bay until at least the 1930s. I can remember seeing boats pulled up there around that time. There were also three pipes that came out around that area, and one of these was close to this slip. You can still see the remains of the slip in that area…No, it's not the remains of the pipe outlet, its definitely part of the slipway. [CA]

This slipway may also be associated with Hansen's business, as it lies almost directly in line with the end of Learmonth St, and would have been the shortest direct route to the water. Further work is required to positively identify the origins of this structure.

Figure E-9. 3: Swan Ponds Slipway Remains, 2004.

II) Fishermen's Pier Slipway/ Crane on Fishermen's Pier

During the 1920s and 30s, a slipway was based on the extremity of the Fishermen's Pier, which was used to slip vessels for maintenance. The slipway was used in conjunction with a winch shed to haul small fishing craft onto the pier for maintenance and repairs. All boats were pulled out of the water and stored on the pier during rough weather, and a similar situation also occurred at the pier at Lorne.

**Figure E-9. 4: Fishermen's Pier Slipway
(Photo: PH3757, QHM Collection).**
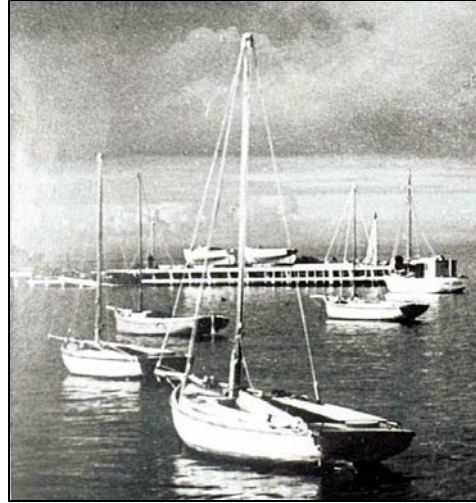
**Figure E-9. 5: Fishermen's Pier Slipway
(extreme left) and couta boat moorings c.1920
(Photo: PH4869, QHM Collection).**

III)   Fishermen's Basin Slipway

In 1964, a new slipway was built on the western end of the Fishermen's Harbour to replace the former facility that stood on the Fishermen's Wharf (Raison 1987:26).

Figure E-9. 6: Queenscliff Slipway.

Figure E-9. 7: Queenscliff Slipway Winch Shed. Note former Fisherman's Pier Barometer and Fishermen's Meeting Place Seat on right.

B) Careening Beaches

I) Swan Spit Beach

Many couta boats were careened by early fishermen along the shore of the Swan Spit beach. The boats were dragged ashore on greased rollers using block and tackle, were chocked on each side with timber lengths, and then antifouled and painted [CS; LID]. This practice was evident in lithographs as early as 1866 (see Figure 7.1).

> There was a big beach at Swan Island. The creek came out at the end of it near Swan Island. It was a very pretty beach. You would pull your boat up on the beach on rollers using a rigging block and tackle to paint and anti foul it. [CS]

II) Queenscliff Bight Careening Beach: Boat s Pulled onshore in Rough Weather Between Piers

Figure E-9. 8: Fishing Boats Ashore between the Piers, facing north (Photo PH2350, QHM Collection).

Figure E-9. 9: Fishing Boats Ashore between the Piers, facing north (Photo PH2350, QHM Collection).

Boats were pulled up on shore between the two piers in rough weather, and when boat maintenance was required.

> The wind was usually off the land in winter, but if it came onshore we would pull the boats up on shore. We usually kept the boats off shore on moorings if the wind was right. [HM]

C) Resource Locations
I) Military Sites Provide materials for Boatbuilding

Several Queenscliff fishermen indicated that various military sites provided materials for boatbuilding. After the South Channel Fort closed in the 1960s, fishermen would go over and take the jarrah supporting beams which were used as the keels for constructing their boats [CS; LID], a factor that probably led to the collapse of some of the underground sections of the fort (Kitson 1987: 5.4). The former entrance tunnel into Fort Queenscliff at the base of Shortlands Bluff, which was once lined with thick jarrah beams, also appears to have been mined for this resource [SH]. Kerr (1985:54) has recorded similar behaviour at Port Melbourne, where fishermen cut sections off the pier to form the stem and sternposts for their fishing boat.

Artillery sites also provided unexpected boons for fishermen. It was common knowledge in the community that shells had been fired at Duck Island for artillery practice [CS; HM; LID]:

> The fishermen used to go to Duck Island to get the rifling bands from the shells that they fired at there. They used them for the quarter bands on the backs of the couta boats, you know as a rubbing strake to protect the stern of the boat. They had a howitzer in Swan Bay that used to fire at the island. [HM]

> Fishermen used to salvage shells fired at Duck Island. They would remove the driving bands off the shells (copper rims around the iron shell), which were then flattened and straightened out and used as rubbing strakes/strips on the stern of couta boats to protect the vessel when it rubbed against the wharf [LID]

> In the south west corner of Swan Bay on the Portarlington Road the army had a howitzer that they used to fire at a target on Duck Island. They knocked over all the sheoaks that used to grow on the island, and there big holes on the island and dead rabbits everywhere. [CS]

The former shelling of Duck Island was still evident during fieldwork, where large craters up to 1.5m deep and 2.5m wide were found scattered around the island, along with shrapnel and artillery shells fragments.

II) Ancillary Materials for Boatbuilding

The Gasworks was also an important component of the fishermen's and boatbuilding landscape. Many fishermen recalled the use of tar during boatbuilding:

> When I was a kid, I was sent up to the gasworks at Queenscliff to get tar in a four gallon kerosene drum. We used to tar the yards with it, and used to tar the inside and outside of the boats before we put on the anti-fouling. It gave a good seal for the boats. We would throw beach sand on it after it was finished, and this was done every year. We used to get a sixpence for doing it [CS]

[HM] also recalled the use of tar to preserve craypots and buoy float lines

I used to make my own craypots. I would go to Port Melbourne and buy the old SEC lines (electrical power lines) for the craypots. I would use them for the frame of the pots and I would weave the cane around them. We had to stop using the SEC wires after they changed to aluminium lines, as they wouldn't last in the salt water. I used cane for the pots. I bought the cane, it was ti-tree sticks from Rye. You would buy it by the bundle from a bloke over there. One time Paddy and I went over there and cut our own. We used tar to tar the ti-tree, and we tarred the pot lines in the early days too. We used sisal for the ropes. [HM]

4) Boat Building Locations

Figure E-9. 10: Boatbuilding locations in Queenscliff.

A) *Corner Learmonth and Hobson St*

Anders Peder Hansen emigrated from Denmark where he had a family history of boatbuilding. He learned the trade from the highly skilled craftsmen there, before migrating to Australia in 1890, where he began boatbuilding at Queenscliff. He worked as a boat builder with the Sea pilots on the front beach (F. Ferrier 1981:1) before establishing a boatbuilding business at the rear of the Vue Grand Hotel (at the corner of Learmonth and Hobsons Streets) where he built several large boats. When Peter Locke, who had been working for Lacco since 1926 took over his business in 1930, Lacco established another sail making and boat building enterprise at the corner of Hobson and Learmonth St, in the former premises of Anders Hansen. In 1931, the Lacco returned to Rosebud, where Laccos son Ken began building shark boats. Mitchi Lacco died in 1974. The founder of Gilcraft Boats, Gil Allbutt, was born into a fishing family at Portarlington in 1931. By the age of 16 (1947), he had commenced an apprenticeship with Peter Locke, and in 1957 opened his own business near the rear of the Vue Grand (QMM display).

B) Corner Kirk and Simpson St, Pt Lonsdale

When Anders Hansen moved to Pt Lonsdale in 1894, he established another boat building shed adjacent to the *Elsinore* guesthouse that was run by the Cooper family on the corner of Kirk Road and Simpson St. Hansen transported his boats to Queenscliff on a dray or launched them on the front beach at Point Lonsdale, where they were rowed to Queenscliff. Hansen's had clients spread nationally, with regular clients from South Australia. He was famous for being able to build a clinker boat in one day. Hansen returned to Denmark in 1924, and his shed burned down in 1928(QMM display).

C) 31 Beach St: Sail Loft

Mitch Lacco, (colloquially known as Mitchi) was descended from a lighthouse crew family, and was born at McCrae in 1883. After marrying his wife, Lucy Marie, they had four children, three of whom also became boat builders (Ken, Alex and George). The Lacco family moved to Queenscliff from Rosebud in 1910, and established a sail making and boat building business at 31 Beach St, where the boats could be launched directly into the water behind the allotment. Peter Locke worked for Mitchi Lacco, for four years before buying his original business at 31 Beach St in 1930. Part of Lacco's original boatshed was moved to the northern end of Beach St in 1935/36, where Locke built a large slipway. The last boat was built here in 1939 for N Zanoni (F.Ferrier, 1981: 7).

D) 1 Beach St

Part of Lacco's original boatshed was moved to the northern end of Beach St in 1935/36, where a large slipway was also constructed. The shed was enlarged to build a Bass Strait Crayfishing boat (the Hilda Norling) in 1939/40 (QMM Display; Kerr, nd: 48), and was also used to build shark boats. Locke built over 109 boats until 1947, when he leased the business to the Cayzer Brothers. He later went shark and crayfishing until he retired in Melbourne. When he died in 1988, his ashes were scattered over the waters south of Pt Lonsdale, and in their formative years were exposed to the activities of Anders Hansen, and joined Peter Locke at Queenscliff. By the end of 1947 they had leased the building from Locke, and the business became known as Cayzer Brothers Boatbuilders, who bought the shed in 1957. The two brothers died in 1970 and 1972 respectively and were buried in Pt Lonsdale Cemetery. Aston Cayzer, son of Bob, worked as an apprentice to Peter Locke prior to WWII, and following the war resumed boatbuilding with his father and uncle. Alan and Keith, sons of John, worked as apprentices in the Cayzer business. By 1957, the company became known as A & R Cayzer, when Aston went into partnership with his father. Aston and his wife later established Cayzer Boats with his son Alan as a business partner in 1969 (QMM Display).

E) Corner Larkin and Harbour St East

By 1981, the A & R Cayzer's shed (originally Lacco's shed from 31 Beach St) had been relocated from 1 Beach St to the eastern corner of Larkin and Harbour St, where Cayzer Boats operated until it was subsequently purchased in 1985 by West Coast Marine Corporation. Over a forty year period, the Cayzer family had built 200 boats. Although Aston has retired, and Alan once managed the Royal Geelong Yacht Club, Keith has a mobile boat building business (QMM Display).

F) Corner Larkin and Harbour St West

Ruffin was born in 1943, and became an apprentice to A & R Cayzer in 1959. By 1963, he had had established his own business with two other boat builders at Leopold. A few years later he moved to Queenscliff and established a 80 x 50 ft boatshed adjacent to the boat harbour. He

built scallop and couta boats, pleasure launches, yachts and pur seine skiffs, and employed up to 10 craftsmen. The shed was sold in 1976, when Ruffin moved to South Australia. The site is now occupied by Parks Victoria Offices (QMM Display).

G) Private Boatbuilding Charles Zanoni/ James (Dugger) Warren

Charles Zanoni was born in Queenscliff to a fishing family, and like Dugger Warren, built boats in addition to being a professional fisherman. Warren introduced many new technical innovations into the industry, and was the first to install an echo sounder and radio direction finder into vessels in the area. He was also the first person to fish commercially for scallops in Port Phillip Bay (QMM Display).

Boatbuilder	Location	Region	Date Begin	Date End	Apprentice to:
Anders Hansen	Port Phillip Sea Pilots,	Queenscliff Bight	1890	unknown	
	SE Cnr Learmonth and Hobsons St	Queenscliff	unknown	unknown	
	SE Cnr Kirk and Simpson St	Pt Lonsdale	1906-1912	1924	
Mitchi Lacco	Cnr Kirk and Simpson St	Pt Lonsdale	early 1900s		Anders Hansen
	31 Beach St	Queenscliff	1916	1926	
	SW corner Hobson and Beach St	Queenscliff	1926	1928	
Peter Locke	31 Beach St	Queenscliff	1924	1926	Mitchi Lacco
	31 Beach St	Queenscliff	1926	1939	
	1 Beach St	Queenscliff	1935/36	1947	
John and Bob Cayzer (Cayzer Borthers)	SE Cnr Kirk and Simpson St	Pt Lonsdale	1906-1912	1924	Anders Hansen - (Bob)
	1 Beach St	Queenscliff	1934	1947	worked with Peter Locke
	1 Beach St	Queenscliff	1947		
Aston Cayzer (A& R Cayzer/ Cayzer Boats)	1 Beach St	Queenscliff	1938		Peter Locke
	1 Beach St	Queenscliff	1947	1957	Cayzer Brothers
A& R Cayzer	1 Beach St	Queenscliff	1957	1969	
Cayzer Boats	1 Beach St	Queenscliff	1969	1981	
	E Cnr Larkin Parade and Harbour St	Queenscliff	1981	1987	

West Coast Chandlery	E Cnr Larkin Parade and Harbour St	Queenscliff	1987		
Gil Allbutt (Gilcraft Boats)	1 Beach St	Queenscliff	1947		Peter Locke
	1 Beach St	Queenscliff	1947	1957	worked with Cayzer Brothers
	SE Cnr Learmonth and Hobsons St	Queenscliff	1957		
Graeme Ruffin	1 Beach St	Queenscliff	1959	1963	A& R Cayzer
	W Cnr Larkin Parade and Harbour St	Queenscliff	1970	1976	
William Hill, Peter Menzies, Earnest Munns, Jack Beazley	Port Phillip Sea Pilots	Queenscliff			

Table E-9.1. Queenscliff and Pt Lonsdale boat builders.

5) Sailmakers Supplies/ Poverty Sails

Many sail-makers provided products for the Queenscliff fishermen in the 1920/30s, from as far afield as Melbourne and Geelong. Poverty sails were also available from the suppliers at half price, and carried advertisements for Fosters Lager, Canton Ale, Victorian Bitter and Velvet Soap ([CS; PF]; Raison 2002: 19).

6) Changing Boatbuilding Landscapes

The first boat builders in Queenscliff operated close to the open shoreline of Port Phillip Bay just above the high tide mark, and were forced to launch into exposed water over sand dunes. However as the port evolved with the opening of the Cut in the mid 1930s, boatbuilding facilities were moved closer to the sheltered waters of Swan Bay, where an outlet to the deep water was now available. In former times the only way to get in through the gap was to unload ballast on the dolphin and to sail in sideways across the bar [HM]. With the construction of the new harbour in the 1960s, along with two new slipways in the 1970s, boatbuilding activities moved closer to the centre the Queenscliff Harbour precinct. Eventually, as road transport networks improved, later boatbuilding, especially of smaller craft, decentralised outside the central borough region.

Appendix E-10: Potential and Actual Archaeological Signatures of Fishing Landscapes

Potential and Actual Archaeological Signatures of Fishing Landscapes

Feature	Artefact	Location

Fishing

Feature	Artefact	Mt Martha to Snapper Pt	Capel Sound/ Rye	Sorrento/ South Sand	Portsea	Triconderoga Bay	Pt Nepean/ Nepean Bay	The Rip	Pt Lonsdale	Lonsdale Bight	Shortalnds Bluff/ Queenscliff	Queenscliff Bight	Popes Eye	Swan Ponds/ Creek/Cut	Swan Bay	Swan Island/ Stingaree bay	Duck Island	Swan Spit	St Leonards to Portarlington	Coles Channel	West Channel	Lochia Channel	Symonds Channel	Mud Islands	Pinnace Channel	South Channel	Geelong	Melbourne	Lorne	Westernport Bay (Hastings)	Port Albert	Port Fairy - Portland
Fishing Communities	cottages (small) in backyards - rented out during summer										e h																					
	driftwood/ corrugated iron shacks in remoter locations/ flattened ground															a h								a h								
	drop-pit toilets										h					a h																
	erosion control devices - groynes, stone seawalls & hulks- as result of above fishing harbour construction											a							a									a				
	exotic vegetation															a h								a h								
	fishing line tanning drum - former 44 gallon drum - heated on fire										h																					
	flattened areas of former house sites															a h								a h								
	foetus/ infant burials in dunes					h					h																					
	hotels - (preferred recreational) located close to fishing harbour (within sight of)										e h																		e h			
	houses (small) timber framed houses, few rooms										a e h																					
	huers hut - elevated positon overlooking bay			h																												
	located close to most of facilities listed below																															
	located close to wreck bell and lifeboat facilities										e h																				a h	e h

Category	Feature																												
	located on geograpically high land, especially if fishers arrived before/ at time of township			h	h																									
	located on geograpically low land on periphery of towns near beach/swamp, especially if fishers arrived after township founded	h		h				a			a	a	a		a				a h										
	looted shipwreck material near houses/ workplaces							h																						h
	looted shipwreck material in structural components of house/ structures/fences							h																						h
	looted shipwreck material near temp camps/ anchorages										a h		a					h											
	net storage sheds							a h																						
	net tanning tanks - concrete with corrugated iron formwork, or rectangular shallow concrete tanks							h																		a h				
	net tanning tanks - cut down corrugated iron water tanks							h																						
	seagrass as insulation in houses							a e h																		h				
	water procurement - timber barrel/ iron tank sunk into dune/ around spring							a																						
	wreck bell close to community		e h					e h																					e h
Fishers Anchorages	boat storage cave			a h																										
	close to fishing communities	a e h	a e h	a e h	a e			a h		a e h	a e h	a h		a h			a h		a e h	a h									
	fishers basin (enclosed) - formed by two piers							a										a												
	erosion/ changes in coastal geomorphology							a		a			a																	
	erosion control devices - groynes, breakwaters, seawalls, hulks							a	a				a																	
	harbour - enclosed breakwater arms, narrow entrance	e h																e h	e h										
	harbour - large breakwater arm, sheltered from SW																													e

App. E-10:2

	Feature	Signatures
	marble bottles with intact engine oil	a
	mooring chain	a
	ringbolts/ eyes embedded in natrual bedrock	a h / a h
	sheltered from prevailing winds (SW) by breakwater or headland	e … e e … a … e a h … a … e
	sheltered using shipwreck hulk	a e … a
	tie posts - iron or timber upright posts 10-15m apart perpendicualr to shore	a h / a h / a h / a h … a h … a h … a h / a h … a h / a h / a h
	wrecks - fishing boats	a … a
-moorings	**ballast -** lead ingots	a
	ballast - pig iron/ fireplates	h
	curbing stones fitted with ringbolts	a h
	engine blocks	h … h
	kerosene tins filled with concrete	a h
	oceanic mooring - two anchors at Bow, stern rope to pier	h
	sheltered mooring - one anchor on swivel	h
	train wheels	h … h
	tie posts- iron/timber	a e / a … a … a / a a
-rat infestation	dead rats	h
	rat traps	h
Fish Landing/ Processing Locations	fish cleaning platform	a
	hard or fishers access road across swampy terrain	a h … a … a a
	iceroom - concrete underground bunker (usually in remoter areas)	a
	paddocking posts - substantial timber posts in shallow sheletered waters	a
	paddocking posts/stakes - lightweight timber shallow in sheltered waters	h … h h … h … h
	sheep shears	h … h … h … h h

Appendix E-10: Potential and Actual Archaeological Signatures of Fishing Landscapes

Category	Feature	Signatures
Fisher Piers - Official	barometer	e
	boat accomodation on pier -usually associated with oceanic setting	h … e e
	crane for lifting cargo/boats	h h … h e … h … h e e e
	fish storage shed	a e … e
	fish transport- louvered rail cars	h
	fishing co-operative (close to pier and transport)	e h h … e … e … e e e e
	iceworks - nearby	h
	landing stage - set at lower level to main pier	h … e h / e h / e e h / e e h / e h
	lifeboat shed	a e h … h / e h
	louvered railway cars	h h … h
	pier - large robust/ substantial with breakwater planks	e e e … a e / a e h … e … e e e e
	railway track/ tramway on pier and nearby	a e
	sheds on pier - for rope, waiting, fish and buoys	a e … e h
	slipway & winch shed on pier	h … e
	tramway line through back of houses to train station -	a h
	weather vane	e
Fisher Piers - Vernacular	rough/lightweight construction	a a a a … a … a a
	hards, tieposts nearby	a h / a h / a h … a h … a … a … a a
Boatbuilding	boatbuilding yard	h h h a e h / a h … a e h … a e h
	careening beach	h … h
	gasworks nearby (for tar)	h
	sail loft	e
	slipway - official: robust	h … a e h / a h … a e … e e
	slipway - vernacular: greased skids/ debris	h
	slipway- vernacular: lightweight construction	a a
	timber beams stolen - collapsing military structures/ piers	a h … a h h

Category	Item	Signatures (codes)
Fishing locations	anchors	a ... a a
	bottle and can scatters/ trails	a ... a a ... a ... a
	craypot bases	h a h h
	fishers camp (temp) nearby	h ... a h ... a a
	grapnels/ anchors	h h h h
	hards/ roads	a ... a
	hooks	a h
	huers hut - set on high ground close to foreshore	h
	nets	a
	paddocking stakes (see above)	
	scallop dredges	a ... a
	sinkers (around rocky reefs) - snapper fishing	a a ... a
	snapper long lines - linseed lin and looks	h
	vernacular transits markers: structures	h h ... h ... h
	vernacular transits markers: trees	h ... e
Conflict Amongst Fishers	sinkers	h h h h
Couta Boat Wrecks/ Capsizes	Ballast - pig iron and fireplates	h
	Ballast - Lead Ingots	a
Couta Boats	artillery shell copper alloy bands as rub rails	h ... a
Crayfishing	tarred ropes	h
	tarred ti-tree cane	h
	denudation of ti-tree stocks	h a
	craypots	a
Recreational fishing		a a ... x x
	From pipes	h ... h

CODES		
	archaeological	a
	extant	e
	historical	h

Appendix E-11: Fishing Children's Landscapes of Queenscliff

This section expands on Fishing Children's Landscape contained in Chapter Seven. As many children often played together, irrespective of social distinction, it proved difficult to separate the landscapes of fishing children from those of other social groups. For this reason, the joint landscapes of children in the district are presented here collectively. The only exception to this was where children were recruited to fish with their fathers, often when they were in their early teens. Additionally, the childhood landscapes covered here are biased towards the male perspective, as a result of the majority of interviewees were male.

1) Fishing with Fathers

Many fishermen used their children to assist with fishing activities, and given that many followed their fathers into the business, these formative years can be seen as a prelude to a fishing apprenticeship. Fisher's children were educated in the use of boats from a very young age to prepare them for a maritime career:

> I knew a lot about boats and boat handling from Dad and Granddad. I was always in boats with Grandad. To get to the boat, we would go out in the dinghy, and (we would) muck around on the pier and other boats. [JB]

Often children missed school to go fishing with their fathers:

> Oh Yeh, they went out fairly early, most kids were fishing by 14. Razzo Kiddi didn't get to school too much. He got as far as the 6th Grade. I can remember the schoolmaster shouting and waving at him as he went out in the boat when he was supposed to be at school….as soon as you could walk you went fishing with your father.. a lot of kids often didn't go to school in the early days because they were out fishing. [GW]

However, not all children had the strong stomach required for a life at sea, and one informant [JB] who admitted to the nickname Perko (due to seasickness) went on to join the Pilots service instead as a boatbuilder:

> .. .some kids were seasick all the time… Jack Beazley went out with his uncle, but got so seasick he had to give it up … they called him Purko! [GW]

Although fishing was physically demanding, children on the whole were treated well, but also expected to perform, with some exceptions:

> Walter Shapter was a cruel man. He often had the kids out fishing at night, up to their waists in cold water, and with no shoes. They were often cried because they were so cold. [JM]

> Their father [Sibba Shapter] made them get out [of the couta boat]) into the water without waders to push the boat through the shallows. The poor kids would often cry, their feet were so cold. [GW]

The initial excitement of fishing often became a mundane chore for many children, some of whom would go to extreme lengths to avoid it:

> The fishermen would go down to the shed of a morning before going out, and to see how the water was. If there had been a rough sea, the pier would be covered in kelp, and that usually meant it was too rough to fish. The boys would often put kelp on the pier to save having to go out fishing. [PF]

Children were often recruited to assist their fathers with the maintenance of fishing equipment. Boys were often involved in procuring bark (for) and tanning nets, and tarring fishing boats:

> When I was a kid (around1920s), I was sent up to the gasworks at Queenscliff to get tar in a four gallon kerosene drum. We used to tar the yards with it, and used to tar the inside and outside of the boats before we put on the anti-fouling. It gave a good seal for the boats. We would throw beach sand on it after it was finished, and this was done every year. We used to get a sixpence for doing it. The (fishing) nets used to be made of cotton. We had a concrete tank in our backyard and every year we would get bundles of bark and put them into the tank. We put in salt water for half an hour and the bark, which was for the tannin, for a couple of days, and then we'd take them out and dry them, and then put them back in salt water.   We would get the bark from Swan Island and Swan Bay from the golden wattle trees. The kids would strip the trees and also fell the tree for timber. The nets would last up to 30 years when tanned [CS]

2) Rabbiting

Many fishermen and other community members recounted the importance of rabbitting as part of their childhood. [CS] described how he would often take his dogs and hunts rabbits at Swan Island, Duck (formerly Rabbit) Island and Lonsdale Lakes, and would use them for pet food. [GW] described similar tales, but he would sell his catch by the side of the road for pocket money. Rabbits had reached plague proportions in the area by 1912, and were denuding areas of Swan Island of all plant growth (QS 11/5/1912). Many fishermen stated that their families might have starved if rabbits had not been available to supplement their diet, a situation that was repeated in many other towns, especially during the depression and WWII (Hunt 1999:9, 29).

3) Swimming

Swimming was a popular past time in the area for youths. Many swimming holes existed, and swimming landscapes varied dependent on the available structures and dangers of the time. The area in front of the Doctors Jetty was reported by Bluelight (QS 19/8/1911) to have been a popular swimming area for boys around 1866, where they would throw apples into the water and race each other to retrieve them. Nude swimming was also undertaken around 1916 in the area below the bridge to Swan Island (Ferrier 1991:1). As late as the 1950s, young children swam between the tramway and coal exits from the Fishermens Pier, which provided a degree of shelter from the Bay currents and swell [LID].

4) Feather Boat Racing

Many informants described a childhood activity called feather boat racing. Curlew feathers gathered on the beach were often inserted into a timber plank (which had often been stolen from local fences), and tin for a keel and rudder to create a small boat which would be sailed for spontaneous competitions on Swan Bay (QS 24/12/1910, Ferrier 1981: 1, 1989:17; Thompson n.d.; [GW]). The boats were sailed either on Swan Ponds, or on Porters Pond; This pond once stood next to the old school building (near the old post office), and "played its little part for every boy of the Cliff in those days. Haven't some of you sailed boat on or waded through it or fallen into it…" in the 1860s (QS, 24/12/1910).

> I suppose I would like my ashes scattered on Swan Bay, because that's where we used to play when I was a kid. We mucked around a lot down there. We would get a fire going, and cook some stuff up, and once we tried to get over to Tip Island in a boat, but didn't make it as the boat got stuck. We used to live up near the Church of England there on the hill, and we played along the area straight down from there. There was always 20-30 kids down there, and we would have gang fights and that sort of thing. We used to race

feather boats down there too. Just playing around. We would get chunkys, you know leatherjackets, and go spearing for flounder and flatheads. It was illegal to spear then, but kids did it anyway. It's a shame, they've taken all the joy out of fishing now. You need a licence to do anything now. We used to get a motorbike battery and go spearing at night. There was one bloke who was very good at spotting them through the water, and he could always see them even when we thought there was nothing there. Every now and then someone would stick a net in, and clean up the fish. [GW]

5) Swan Bay/ Lonsdale Bight

Swan Bay appears to have been a popular haunt for young boys. A early as the 1860s, young boys groped for shellfish and dragged nets in the channels behind the Railway Station, which they cooked onshore (Dod 1931:25). During the 1930s, youths would gather in this area to stage mock fights, hunt rabbits, go fishing, lights fires (to cook their catches), collect spent bullets and to cross the causeway to Tip Island to make sinkers ([CS; GW; HM; LID]; Thompson n.d.:6). Occasionally small dinghies would be "borrowed" to try to cross to Tip Island [GW], and many hours were spent rowing or sculling in Swan Bay whilst recreationally fishing (Ferrier 1991:2; Raison 2002:22). This area appears to have been the equivalent of a voyaging nursery akin to Irwin's (1992) concept, where budding fishermen learnt the skills that were to lead to their future careers.

[WN] maintained that the Lonsdale Bight bushland known as Lovers Walk was important to children who lived near the narrow neck area of Queenscliff:

> All the tracks you see here were only known to the local kids. They knew all the small trails through the bush in Lonsdale Bight, which the tourists didn't know about.

Other popular activities included kite flying, glass and ceramic marbles (obtained from soft drink bottles), cricket, hopscotch, and nuisance door knocking, where a string attached to a knocker was used to remotely knock on someone's door (Ferrier 1991:1).

6) Military Training:

At weekends older brothers often had military training at Swan Island (Ferrier 1991:2).

7) Pocket Money, Rewards and Economic Opportunities

Queenscliff youths displayed a flair for exploiting every economic opportunity possible from their maritime environment. Maritime Resources in particular were valuable sources of extra income.

A) Recreational Fishing

The former Swan Island Bridge was a popular fishing location for young boys, who often marked ownership of their favourite spot by carving their initials into the bridge. Many of the fish were often sold to the holiday makers (Ferrier 1989: 17, 1991:2; [CS]). The Swan Bay side of Queenscliff was another popular location, where gangs of youths would drag nets or spear flounder or flathead [CS; GW]. Shellfish were also important snacks, with perriwinkles were caught near the Queenscliff Point lighthouse (Ferrier 1991:2), and cockles taken near Langenby's Island in the Swan Ponds [CS]. Hunt (1999: 25) has reported similar practices from his childhood at Lorne where minnows (small fish) were fried up as snacks. Squid were sold to the Chinese living at Queenscliff Point, and would often fill them up with sand to increase their weight [CS].

B) *Nautilus Shells*

These shells were found along the seashore and also in Swan Bay, and were sold to tourists for 10/- each (Ferrier 1991:2). Nautillus shells were known to have a seven year cycle (Tate 1982: 183; [DB; GW; RB]).

>   Nautilus shells come into the [Swan] Bay every seven years [DB].

>   The Nautilus shells end up at Swan Bay….they come in a cycle of about every 7 years. [GW]

C) *Seagull Trapping*

Seagulls were often caught in rabbit traps on the beach and were sold to tourists for pets after their wings had been clipped (Ferrier 1989:18, 1991:2).

D) *Beachcombing*

Beachcombing was often a profitable affair, and was undertaken on the bathing beaches where lost jewellery and coins from tourists was often found. Additionally, the arrival of the Bay Steamers often heralded a bonanza of fruit that had been thrown overboard, which was eaten if it was not spoiled (Ferrier 1989:17, 1991:2).

E) *Bottles Recycling*

Young boys made extra pocket money collecting and selling empty bottles. The influx of thousands of tourists from the excursion steamers often presented very profitable opportunities, from the collection of beer and soft drink bottles (Ferrier, 1991:2). This practice was widespread in many tourism towns (e.g. Lorne - Hunt, 1999:10) and often proved a financial boon for local children.

F) *Rabbiting*

Many fishermen recounted the importance of rabbiting as part of their childhood. [CS] described how he would often take his dogs and hunts rabbits at Swan Island, Lonsdale Lakes, and Duck Island, and would use them for pet food. [CS] described similar tales, but he would sell his catch by the side of the road for pocket money. Rabbits had reached plague proportions in the area by 1912, and were denuding areas of Swan Island of all plant growth (QS 11/5/1912).

>   We lived on the Flats. We would walk along the railway line and hunt rabbits. There were lots of rabbits there at one time. We would head home at 3pm. We got most of the rabbits from around Lake Victoria, and we fed the dogs with them. We also got rabbits at Swan Island. The best rabbits were salt fed, on the salt bush. We had big wadis [sticks] that we killed them with… Up past Swan Island is a place called Duck Island, which was once called Rabbit Island. As kids we would come across from Swan Island to Duck Island looking for black rabbits… [CS]

>   My grandfather used to have ferrets for rabbiting. He caught rabbits within 5-10 miles of Queenscliff and sold then for 2/6. He used ferrets and nets to catch rabbits, and would put rabbits into boxes with sliding tops, and store them until he was ready to go home, when he killed them. He was reputed to supply the freshest rabbits around, as he would dong them on the head with a club killing them instantly and drained them, rather than breaking their necks which prolonged their deaths and made them tense up. Fishermen

and families often survived on rabbits, and fish and picked coal up off the beach to burn. When I was a kid used to go out to islands to trap rabbits. I would build huts made from driftwood and tin along the foot of Swan Bay. One hut they built even had an old stove in it to cook any shellfish/ fish or rabbits they caught during the day
[LID]

G) Bird Hunting

Quails were caught in Swan Bay, and duck hunting was carried out extensively on Swan Bay. Children often used a pellet gun to shoot birds, which were used to supplement meals at home [CS].

We also used to hunt Quails in Swan Bay. The quails would fly across the straits into Swan Bay. They would fly into the head wind. [CS]

H) The Ice-cream Manufacturer

An ice-cream mixing plant was situated near the Esplanade Hotel in a two story shop in Symonds St, and in return for a turn at winding the ice-cream mixture, the boys were rewarded with ample ice-cream in return (Ferrier 1991:3).

I) Bird Nesting

This activity was popular with young boys, and was undertaken at least as early 1864 by Dod (1931:93) when large trees were still extant along the Railway line Hill and at the fort site. [CS] recalls bird nesting at Swan Island (probably for Orange Bellied Parrot's eggs). In some circles though, there was a social taboo on keeping birds eggs, and children were often prevented from keeping them in the house. Eggs were collected for hobby collections as described by [HM]:

We used to go bird nesting along Swan Bay. We used the eggs for our collections, you know as a hobby. We used to blow the yolks out of them. We would make a hole in each end of the egg with a needle, and squirt out the yoke by blowing at the other end. We got all sorts of eggs for our collections. I could get down [from the tree] with two magpie eggs in my mouth. That was how we would carry them. We never thought twice about putting them in your mouth, you just did it. There are not as many birds around now. There were gull finches and Linnets around everywhere then, but you don't see them anymore. They were about the size of canaries, and the gull finches had maroon under their chin. They were easy to find as they lived in the Cyprus trees. [HM]

The eggs were gathered for a hobby collection, and Hunt (1999: 28) records that bird nesting was also popular in Lorne, and that some eggs were hatched by placing them under nesting chickens.

J) Orchards and Market Gardens

These places provided opportunities for children to supplement their often meager diets.
A Garden belonging to a Chinese (Known as One Eye) was a popular haunt for boys who stole radishes from there (close to the school building) in 1860s (QS 24/12/1910). An orchard behind the Nursing Home was regularly exploited by boys who threw stones to dislodge the fruit, and then rushed in to collect the spoils ([CS]; Ferrier 1991:3).

We used to raid the fruit trees in the orchard behind the nursing home. They were big pear trees, and we would throw pieces of bluestone at the pears from outside, and then

charge in to pick up the pears afterwards. There were also pigs in town that were kept in a sty, and the kids would ride the pigs, and get covered in fleas. [CS]

K) Bullet Collection

Expended bullets from the firing range were often collected by children and used to make sinkers for fishing tackle. The lead from the bullet heads was collected from the various former rifle ranges around the town, including those at Swan Island and near the Butts in the south west corner of Swan Bay (Thompson n.d.:5; [LID]).

The kids would also shoot 22 rifles into the bank here, and would dig the bullets out to reload in shells later on. [LID]

Appendix F: Selected Shipping Mishap Landscape Data

Appendix F-1: Sample of Wrecks/ Strandings in Southern Port Phillip and Victoria Identified From Documentary Records

- *Ranger* – **Customs Dept Revenue Cutter – West Channel and Bird Rock, Geelong**

The Ranger went ashore near Shortland's Bluff on Saturday during the late tempestuous weather, and was speculated that she could get off without any injury (GA 14/8/1841). The vessel had been sent to the area to install buoys for the West Channel (GA 21/7/1841).

Buoying of the channel entrance into Corio bay had commenced by 1842, when the revenue cutter *Ranger* laid the first large buoy, and returned to Williamstown for the remaining six buoys. Each buoy was made of large tin butts, securely looped and fastened. The moorings are of such weight as required, and the buoys float high out of the water. The vessel Ranger had arrived with earlier with emigrants, and had grounded on the sand spit of Bird Rock, the first known occurrence of its kind at that location (GA 28/2/1842). The master was later criticized as incompetent (GA 4/4/1842).

- *Dusty, Miller* **and** *Truganini*

The above ships were damaged and wrecked in bad weather (GA 5/12/1842).

- *Rebecca* – **King Island**

The Bandicoot was proceeding to the Straits to visit the wreck of Rebecca. The Bench at Melbourne determined that the former crew must render as much assistance as possible before they can recover wages (GA 2/11/1843:2). The wreck lies at King Island (GA 20/11/1843:3).

- *Thalia* – **Indented Head**

Ashore at Indented Head, but was gone when the Customs boat went to render assistance, probably blown off on Tuesday evening, in which case her hull may be found on the eastern shore. It is supposed that she must have originally drifted from her anchors, while the crew were on shore (GA 1/5/1846, 2/5/1846:2).

- *Domain* – **Wilson's Promontory**

Wrecked off Wilson's Promontory (Gippsland), only one person makes it ashore. Vessel capsized and buried in surf. The wreck lies about 4 miles south of Shoal Lagoon. Sole survivor picked up by 14 year old boy, Daniel Anthony, who lived on shellfish and now suspected of being mad from it (GA 6/5/1846:2). Rescued by cutter *Vanguard*, after her crew saw boy on beach waving a flag midway between the Prom and Cape Liptrap. Boy washed ashore on hatch (GA 9/5/1846).

- *Sophia* – **Pt** *Nepean*

Sank in deep water alongside the reefs off Pt Nepean, and thought it would break up without any hope of recovery. Wreck sold for £5, but was discovered to have drifted inside heads and forced by tide well up on Pt Nepean Beach. Two lighters now alongside trying to raise her. Mr Raleigh, who had purchased the *Thetis*, will make nothing to compared to the salvage of this wreck (GA 7/6/1848:2).

- *Albeona* – **Tasmania**

(GA 11/7/1848:2).

- *Princess Royal* – **Pt Lonsdale?**

Total wreck on reef off the outer Head. The cause blamed by the Captain on the lighthouse being on the inner instead of outer head (GA 1/3/1849:2).

- *The William Hyde* – **West Channel**

Grounded in the West Channel at high tide in a gale, whilst under command of the pilot. The vessel would need to be lightened to get her off. It was later got off (GA 24/7/1849:2).

- *The Lady Mary Pelham* – **Port Fairy**

Brig wrecked at Port Fairy (GA 8/9/1849:1).

- *Tasman* – **Corio Bay**

There was no pilot station at Geelong in 1849, which caused much concern for vessels departing there, as Pilots had to be notified in advance to come from Williamstown. This was compounded by a direct communications route to Melbourne, resulting in long delays before the message was even delivered. Several vessels had been kept waiting up to 10 days, and one vessel, the *Tasman*, left in Pt Henry in frustration and was subsequently grounded (GA 14/4/1849:2).

- *Victory* – **Lonsdale Bight**

The wreck lies on a bank of rocky ground half way between Shortland's Bluff and Pt Lonsdale. The passengers were got off by the Government Schooner Apollo, and the vessel eventually was refloated 3 days later. The incident occurred mainly because pilots did not service vessels until after they were inside the Rip, and almost on top of the reef described (Intelligencer 31/8/1850:902, Ballieu Collection #51, QHM). The steamers *Vesta* and *Aphrasia* aided in towing the vessel off the reef, and two of Captain Coles lighters aided in transferring goods that would otherwise have been thrown overboard. Even then 50 tons of bale goods had to be discarded over the side to lighten her enough to get off the reef (MMH 19/8/1850:2). The assisting parties filed salvage claims for assistance rendered, and it was indicated that iron pots were thrown out of the way (probably overboard) to get to the more valuable cargo (MMH 28-29/8/1850:2, 12/9/1850:2). The barque was from Glasgow. The salvors making a case were Capt Bunbury (R.N. Harbour Master, and master of the government schooner *Apollo*) and the *Apollo* crew, E. Toby (master of *Aphrasia*, and also on behalf of his crew), J. Raleigh (on behalf of the owners of the *Aphrasia*), L. Moodie (Sub-collector of Customs at Geelong), C. Friend (Landing Waiter of Customs at Geelong), G. Cole had withdrawn his salvage claim after

- *James T Foord* –**Symonds Channel**

This London immigrant vessel (300 emigrants) was aground in the Symond's Channel on a sand bank after having entered the heads without a pilot the previous night. The Harbour Masters vessel, The *Apollo*, was headed to the scene to render assistance Attempts were being made to charter the steamer *Diamond* to free her (GA 1/5/1851). The vessel still remained stuck 2 days later, and her cargo would need to be removed before she could be got off, and the authorities appeared to be in no hurry to remove the passengers (GA 2/5/1851). Eventually, the *Maitland* was sent to evacuate the passengers and cargo, but returned only with the single women and married couples, as the lighter could not get close enough to the vessel due to spring tides (GA 3/5/1851:2).

- *Lancastrian* – **South** *Channel*

This vessel from London was aground near the buoy in the eastern channel. Attempts were being made to charter the steamer Diamond to free her (GA 1/5/1851).

- *Triad* – **Hobson's Bay or Shortland's Bluff**

This schooner grounded on weighing anchor after she drifted ashore on the rocks near the lighthouse. It was implied that Capt Bunbury of the Government Schooner was a wrecker, when he and Mr Lovell of the Water Police (in a whaleboat), went to render assistance. It was expected that she would be off again at high water (GA 23/5/1851:2). Note this could be at Hobsons Bay.

- **Wreck near Cape Otway – *The Marie* – Cape Otway**

The lighthouse keeper at Cape Otway informed that a schooner had gone ashore near Cape Otway, one half of the vessel is Apollo Bay and the other about 8 miles from the lighthouse. She is copper fastened, and from her timber English built. Whaleboat found but no name seen or cargo found (GA 8/10/1851:2). The wreck was later identified as the Marie, based on the Hamburg flag and other articles found in the area. Six bodies were washed ashore (GA 11/10/1851:2).

- ***Maitland* - unspecified**

Captain Cole has raised the vessel to water level, but is having problems in further salvaging her as there is no diving bell in the port (MMH 28/2/1852:2). The vessel was eventually completely raised after a diver went down and plugged all the stopcocks, which had mysteriously been left open. 12 pumps worked to keep her dry and she was to be taken to the slips where her engines and boilers were to be replaced (MMH 9/3/1852:2).

- ***Thames* - unspecified**

The steamer was a total wreck (MMH 9/3/1852:2).

- ***Isabella Watson* – Pt Nepean**

Went ashore on Pt Nepean after her rudder became unshipped after striking a submerged rock. (Full account of wreck). Capt Addis and Mr Moody immediately chartered the steamer Aphrasia to proceed to the wreck (possible salvage attempt??) . After some of the passengers drowned, the others were taken off, along with some of their luggage, and landed at Pt Nepean and Shortland's Bluff. The captain and crew, and customs and boat crews remained at the wreck to save as much as possible (GA 24/3/1852).

- ***Union* – Swan Island NE Tasmania**

The schooner Union bound from Geelong to Hobart was wrecked on a reef about a mile and a half north west of Swan Island on 3/4/1852. She became a total wreck in ten minutes, although all her crew were safely ferried ashore by Mr Johnson and his two assistants (from the lightship?) and others from the *Victoria Packet* who carried a boat 1.5 miles overland to launch at the end of Swan Island. (MMH 6/4/1852: 2).

- ***Lady Peel* – Shortland's Bluff**

Barque with coal from Newcastle was grounded ashore between Shortland's Bluff and Swan Pt (GA 7/6/1852:2), but had been got off (MMH 8/6/1852:2) and docked at Melbourne by 10June (GA 10/6/1852).

- ***Xylon* – Mud Islands**

The Xylon from Newcastle was at the heads and reported to have been ashore at the Mud Islands (MMH 8/6/1852: 2).

- ***Abberton* – West Channel**

Barque bound from London from Melbourne was ashore on the east coast of the West Channel, between the Red Beacon and Prince Georges Bank, she has since got off (GA 4/8/1852:2). However, she was reported still aground on 11/8/1852 (MMH). Pilot Toby was dismissed from the service for neglect of duty while in charge of her (MMH 13/8/1852:2).

- ***Faug a Ballah* – West Channel**

The vessel went ashore on the 7th, near the wreck of the Clarence in the Western Channel, with the ensign flying upside down, and apparently making a great deal of water. No less than 5 vessels are ashore inside the heads (includes *Duke of Cornwall, Abberton, John Souchay*, and *Gazelle*) and that is was some time since so many vessels had been ashore at one time (MMH

9/8/1852:2). The vessel parted her anchors on 6/8, and is now full of water and a total wreck (MMH 11/8/1852: 2).

- *Duke of Cornwall, Abberton, John Souchay*, and *Gazelle* – **Inside The Heads**

These vessels were reported ashore inside the Heads, and that is was some time since so many vessels had been ashore at one time (MMH 9/8/1852:2).

- *Henry and Edward* – **Gellibrand Pt**

When coming in on the 12th, the vessel went on shore inside of the black buoy off Gellibrand Pt on the rocks. The captain was drunk, and the mate flew the ensign upside down as a signal of distress (MMH 13/8/1852:2).

- *Australasian Packet* – **Port Albert – not sure if sunk**

The passenger of this vessel (which was bound to Adelaide) returned to Melbourne, and informed that there was no doubt she will be condemned at Port Albert as she is completely water logged (MMH 13/8/1852:2).

- *Considine* (**misspelt - actually the** *Conside*) **and** *Portland* – **Lonsdale Reef**

Iron Steamer ashore at Pt Lonsdale Reef on Tues night and was total wreck. 180 passengers. Guns repeatedly fired during the night. Boat lowered but upset and drowned 14 people. Schooner also observed on reef as a total wreck. Geelong Harbour Master, Capt Friend proceeded to wreck (GA 16/9/1852:2). The schooner was later identified as the *Portland*, from (reg. Hobart, sail from Sydney). The *Considine* was wrecked after she followed the lights of the wrecked schooner ashore, and was travelling full steam ahead and her bow was hanging over deep water on the lee of the reef (GA 17/9/1852:2).

- *Cossipore* – **Prince George Shoal**

Vessel went ashore on the 8th, on Prince George Shoal. About 100 tons of water had been started, but without lightening the vessel, to try to refloat her. She was at the time under the charge of Pilot Steele (MMH 9/12/1852:4). The vessel was still aground, but in a safe position, with the Shamrock schooner engaged in lightening her so she might be floated off. The mishap was caused by the pilot mistaking a small boat for the buoy, who perceived his mistake before she touched, and put about, but too late to avoid the shoal. The vessel had left Geelong on the 3rd in ballast for Calcutta. It was hoped that she could be floated off and re-ballasted that night (MMH 10/12/1852:4).

- *St George* – **Swan Island**

The ship from Plymouth with 240 immigrants struck rocks on Pt Nepean, but was carried clear by currents. When the pilot was taken on board inside Pt Lonsdale, she was leaking so badly that he decided to beach her in Swan Bay. The captain proceeded overland to Geelong and via steamer *Victoria* to Melbourne to procure the assistance of the river steamers to disembark the passengers. The ship is in a perfectly safe position, beached in Swan Bay, and the Captain is confident that he can refloat her after part of her cargo is discharged. The whole of the cargo will be damaged as far as the water has penetrated (Argus 31/12/1852:4). The vessel had grounded on the 28th, but the captain deemed it advisable to run ashore in Swan Bay. The government schooner *Boomerang* was despatched to lend assistance. The ship was from Plymouth with 240 immigrants and an assorted cargo. The ship was holed after she ran onto rocks and was swept off by the current (MMH 31/12/1852:6). The wreck was purchased by Capt Cole for £500, who raised it and towed it to Hobsons Bay, where she was expected to yield a considerable profit as she was built of a large quantity of iron, and her cargo was still included in the hull (MMH 14/2/1853:4)

- **Disasters at Sea**

Six wrecks in six weeks. Short editorial on circumstances of : Undecipherable name (outward bound vessel – no name - captain asleep & species lost) ; *Frisk* (suspicions of crew killing Captain outside heads); *Sea* (drunk captain); *Rebecca*; *Monumental City* (hugging coast too closely in good weather) (Argus 1/7/1853).

- *Lillias-* **Warrnambool**

Schooner wrecked off the Hopkins at Warrnambool (Belfast Gazette 8/1/1853, In MMH 12/1/1853:4). The wreck was being broken up as she was too damaged to refloat (Belfast Gazette 22/1/1853, cited in MMH 26/1/1853:4).

- *Mary and Ellen* – **Port Albert**

Schooner was reported ashore at Port Albert and likely to become a total wreck (MMH 20/6/1853:4). The vessel (from Sydney) struck the bar on the 9th, and after throwing most of her cargo overboard, she floated off on the 11th, but was found to be leaking. The pilot boat rendered assistance, and on returning the Captain to the vessel capsized killing all on board (MMH 29/6/1853:6).

- *Julia* – **near Heads**

The Julia was involved in a collision at the Heads, doing considerable damage, and was burnt (Argus 12/9/1853:4)

- *Anthracite* – **Lighthouse Pt Williamstown**

The vessel ran aground, even though the pilot was on lookout in the forecastle. All efforts to refloat her with an aft hauser were futile. She is likely to have to be lightened before she can float, but is currently lacking the tidal depth (Argus 15/9/1853:4). Efforts to slue her around using canvas had still failed to get her off (Argus 17/9/1853:4).

- *Winchester* – **Popes Eye Bank**

Barque from Newcastle anchored inside heads, as she was prevented from proceeding to sea by a strong SW wind. The tide was ebbing rapidly, so that she lay with her head to NE, and a fire broke out in the lazarette. The crew were rescued by the pilot. The wind fanned the flames from stem to stern. After burning for 2 hours the powder magazine exploded, and half an hour afterwards was burnt to within a few feet of the waterline. She was lying between the two Popes Eye buoys, the lighthouse bearing N by W. She was 393 tons (GA 18/4/1853:2).

- *Sacramento* – **Heads**

By 1853, the Melbourne Harbour Master, Capt Ferguson, had arrived at Pt Henry to begin surveying the bar, but was diverted to the *Sacramento* shipwreck (GA 29/4/1853:2). The vessel was totally broken up by the beginning of May, and her deck timbers lie about a hundred yards from the skeleton of the hull, which is broken in two, and not two bullock loads of timber remain. She carried only 30 tons of cargo, mainly spirits and ale. The beach between Pt Lonsdale and the Bluff is strewn with fragments of the wreck. The conduct of the Mr and Mrs Potter at the Flagstaff, and Mr Foy (Superintendent of the Lighthouse) displayed great promptitude in sending a dray to convey the emigrants from the wreck to the heads, where Mrs Dod (at Government house) hospitably cared for them on this and on other occasions (GA 2/5/1853:2)

Although no lives were lost at the wreck, the loss of the cargo and luggage must be felt by those to who it belonged. When the immigration agents arrived from Geelong, the scene was heart rendering, as many people as possible had been fed and sheltered by the pilots, but but there was neither food nor accommodation for 300 people. Many sufferers were scattered along the beach, wringing their hands in despair… and relatives had lost each other in the confusion. The

arrival of the Government agents with provisions and other comforts was a most acceptable relief, and steps were taken to find out the scattered and lost…On arrival of the Aphrasia from Melbourne, they safely embarked and were conveyed to Melbourne (GA 3/5/1853:2). The mate was later accused of negligence after twice leaving his post, and was later convicted of this charge (GA 5/5/1853, 21/5/1853).

- *Marmion* – **The Heads**

The brig from Liverpool while entering the Heads kept too far to the east, and was seen to let go of her anchor when nearing Pt Nepean to prevent drifting ashore, but did not hold. The vessel swing broadside on to the reef, with the waves breaking over her. The wreck as reported to the pilot and government vessels, via the flagstaff. Only seven of the crew were saved, as the brig went to pieces soon after striking. Cargo of the wreck is floating about the entrance to the harbour (GA 30/5/1853:2).

- *New Zealander* - **Portland**

Portland burnt at mooring on 16/12, - no passengers on board (GA 23/12/1853:4).

- *Lady Bird*

The vessel is ashore opposite the Port Masters residence, about a mile from the beach, near the spot where the *Lady Bird* got ashore last year, but the weather being so fine it is hoped she will escape damage (GA 27/1/1854:2).

- *Marco Polo* – **Queenscliff Anchorage/ Swan Bay?**

The vessel is ashore opposite the Port Masters residence, about a mile from the beach, near the spot where the Lady Bird got ashore last year, but the weather being so fine it is hoped she will escape damage (GA 27/1/1854:2).

- *Nestor* - **Portland**

The vessel had slipped her chains and went ashore in an effort to save her after the hull was discovered to be leaking (GA 3/11/1854:4).

- *Sylvia* – **Drapers Reef**

The schooner from Sydney bound for Geelong with a cargo of sugar, treacle, tobacco and flour, went aground on the reef under the Lower Lighthouse (Drapers Reef). The master attributed the grounding to the tide, but it was advocated that this was another example (amongst many) of vessels trying to evade pilotage fees from the vessel outside the Heads. It was suggested that the master was "penny wise, pound foolish". At daylight, every assistance was rendered by the pilots and crew, and had been towed off by 5pm by the steam tug *Lioness* (GA 8/9/1855:2).

- *Flying Arrow* – **found abandoned off King Island**

Ship found abandoned off King's Island with decks completely swept and no crew aboard. Towed back to Hobsons Bay by *Marion*, while the *Fantome* searched the area for the crew (GA 18/11/1859:2).

- *Gil Blas* - **Heads**

This vessel from Auckland shipped a sea whilst entering the heads, resulting in the loss of life of 4 people (GA 7/5/1859: 2).

- *Gem* – **West Channel**

The schooner from Newcastle bound for Melbourne with coal was ashore on the east bank in the West Channel. The tug Sophia was rendering assistance (GA 2/5/1855:2).

- *Notion* – **West Channel**

The schooner *Notion* was bound to Newcastle from Hobson Bay in the winter of 1859 via the West Channel when she got ashore in the vicinity of No. 6 buoy. When the crew went out in the only boat with an anchor to haul her off, the boat capsized drowning most of the boat's crew (QS 26/11/1892).

- *Simoda* – **West Channel**

The outward bound ship grounded in the north east bank of the West Channel on 25th May, where she remained hard and fast in a most dangerous position. While the wind blew from the north, the whole pitch of Hobsons Bay set on the sands. Two kedge anchors (as the ships boat was not robust enough to carry the bower) were set to try to haul her off, but proved too light and were hauled back. The customs officer returned from the stranded vessel to telegraph the Chief Harbour Master in getting the ship off as she was in great danger. The vessel bumped hard all through the night (GA 26/5/1862:2). The vessel was eventually refloated on 27 May (GA 28/5/1862:2).

- *Success* – **Shortland Bluff**

During the late SE gale the brig from Newcastle with coal ran ashore between the customs quarters and the bathing houses. The customs boat went to the ship at daylight, but could not render assistance, so returned to take her provisions and telegraph Melbourne for steamer. The captain was allowed by port regulation to throw the coals overboard, and has offered them to anyone who will take them away, though few takers offered due the seas state, though the ship is close to the beach (GA 20/4/1862:2). It was refloated on 20th April (GA 21/4/1863:2)

- *Tybee* – **Swan Spit**

The barque arrived from Newcastle on the 17th April, but weighed anchor on 18th and went aground on the Swan Spit (GA 20/4/1863:2), where she remained until being floated off on the 19th.

- *Colchester* – **14ft Sand**

Brig aground on the 14 ft Sand, but was got off (GA 20/4/1863:2).

- *Apollo* – **Gippsland Lakes Entrance**

(GA 14/6/1864).

- *Vesta*, *Express* and *Victoria* – **Hobsons Bay**

Collision between vessels in Hobsons Bay (GA 22/6/1864:2)

- *Ant* – **Breamlea**

(GA 14/6/1866:2). The discharge of the cargo from the wreck was intermittent, according to the state of the weather. If the weather intervenes, the hull, machinery and some portion of the cargo will be saved. "The wreckers have made sad havoc with all available materials. It is known, and those who have done the despoiling will be called upon to render an account of their ill doing" (GA 28/6/1866:2).

- *Barwon* – **Lonsdale Bight**

Steamer from Newcastle ran ashore in Lonsdale Bay at 4am on 24th June. She was high up on the beach, and swinging with her port bilge amidships on a ledge of rocks or bank of sand. It was low water when she struck. Her position, 100 yards westwards of the lower lighthouse. She can not be got off unless lighted, and extraordinary means are resorted to immediately. The tugs *Resolute* and *Sophia* are down trying to tug her off (GA 26/6/1866:2). The water tanks from the vessel had been salvaged by 27th June, and a quantity of coal was sold from the vessel to a Mr Pagan in Queenscliff. The steamer was still embedded in the sand (GA 28/6/1866:2). An enquiry was held into the grounding of the Barwon in July (GA 6/7/1866:2).

- *Netherby* – **King Island**

Wreck of the Netherby at King Island (GA 23/7/1866:3).

- *Jessie Black* – **Mud Island**

The barque was ashore at Mud Island. The lifeboat was launched and manned by the health officer and custom crew and the tide surveyor (14 crew in all). The vessel got off on her own by the time the lifeboat reached her, and it took the lifeboat crew about 6 hours to get back again as a gale was blowing (GA 18/4/1867:3).

- *Seabird* – **West Channel**

The large 3 masted schooner carrying coal from Newcastle went aground near the upper lightship on 19th June. A steam tug from Melbourne and the lifeboat crew attended, but were unable to assist, after the vessel parted her anchor and went bumped very heavily on the bank with 4ft water in the hold. The vessel was considerably damaged in the heavy seas and remained aground on the 20th June (GA 24/6/1867).

- *Sophia – ships boat* – **Dromana**

The ships boat from the steamer *Sophia* was scheduled to take people to the Mud islands for a boxing bout on 9th July 1867, but could not land the spectators due to a slight swell. They then proceeded to Dromana, where a skiff was launched, but overturned in the surf, drowning a number of people (GA 26/7/1867:3).

- *Light of the Age* – **Pt Lonsdale**

Account of wreck (GA 17/1/1868). The vessel remained in the same position, and the steamers returned to Melbourne as they could do no good without lighters. Seven hands remain on board, along with two of the customs crew. A number of men of men to assist in the discharging of the cargo arrived from Melbourne last night, along with some police from Geelong. The latter are quartered in a house close to the beach (GA 18/1/1868:3). Wreckage from the *Light of the Age* was strewn for miles along the beach when she broke up this morning. The goods might have been salvaged by lighters, but the steamers themselves were useless (GA 20/1/1868:3).

- *Yarrow* –**Pt Lonsdale**

The coal brig from Newcastle wrecked on 23rd August with 7 crew at 4am. The Queenscliff lifeboat attended, as did the steamer *Mystery*. The crew and passengers were taken off on board the lifeboat, and were towed by the *Mystery* to Queenscliff. The brig is a total wreck, but no lives were lost. The vessel was beginning to break up by 3pm, and by 5pm the vessel had fallen over and the masts were gone (GA 24/8/1870:2).

- *Hector* - **Swan Spit**

The wreck has been abandoned by the insurance agents, which was stranded on Swan Spit. The pump engines and part of her gear have been removed and will go up for auction. Yesterdays surf increased the damage originally done to the vessel (GA 5/7/1871:3).

- *Queen of The Thames* – **Unknown**

Account of the wreck (GA 8/7/1871:3).

- *Sussex* – **Barwon Heads**

When the Sussex wrecked near Barwon Heads, police and Customs forces from both Geelong and Queenscliff were stationed near the wreck to prevent theft from it. " *In all directions 0-under bushes and beneath some canvas tents that had been erected, suspicious looking prowlers may be seen evidently anxiously awaiting a squall. To give them the opportunity of wrecking. Picnic Parties mixed with those who were bent on more earnest work*" Many men from Queenscliff had come to look for salvage, and were being ferried across the Barwon river by a

crayfisher who was kept very busy by visitors going to and fro to the wreck. Many speculators from the Melbourne Iron trade also visited the wreck with valuators prior to its sale. The vessel was speculated to have confused the lights at Pt Lonsdale, or that the Cape Schank light was not lit at the time. A survivor from the boat wreck was given clothing and food at a farm nearby (GA 4/1/1872). The day after the wreck there were 1500 people encamped on the shore nearby. At an investigation into the circumstances of the wreck, it was alleged that the remains of 3-4 fires on the shore may have been confused for the light at Queenscliff, and that the pilots blue flash lights may have been thought to be those of Cape Schank (GA 6/1/1872).

- Many reports appeared of items not only being looted from the shoreline, but visitors property also being stolen (GA 17/1/1872).
- A Mr Miller (the famous salvor) was hurt when salving the wreck of the Sussex. Two lighters and a steamer were involved in landing the cargo, which included iron tanks, brooms and casks of rum (GA 20/1/1872). At the enquiry, the Captain was charged with neglect (GA 23/1/1872).
- Cargo from the Sussex at Barwon Heads was washed up on the beach at Pt Lonsdale. The road to Heads was besieged with vehicles of every description, including many dignitaries including Geelong councillors and politicians. The cliff at the Barwon Heads were covered with the tents of customs and police officers, along with former crew from the wreck, who had been sent down to watch over the wreck. "There were a large number of carts in close proximity to the shore, and scores of land sharks waiting for something to turn up" (BS 5/1/1872).
- Account of capsized boat crew member (GA 11/1/1872).
- The Captain of the vessel saw two lights one above another suddenly appear on his port side and immediately steered towards them (GA 10/1/1872).
- Indeed, a case of boots was found at Portarlington about a fortnight after the *Sussex* wreck, but it was insinuated that they may have arrived here by other means. Scores of people made use of the half holiday and went out to see how the wreck of the Sussex was getting on. Divers were in the hold sending up goods as fast as possible, and these were transferred to a lighter alongside to be transported ashore to an iron tramway that had been set up over the dunes to the tents above. Tents were also established for the accommodation and refreshment of visitors. Cries of "to the wreck, Now for the wreck" were heard throughout Geelong, as the touts secured passengers for their vehicles. "Visitors (men women and children) were scattered in every direction looking for mementoes of the wreck, but finding few" The salvors of the wreck threw floatable items overboard (such as masts, yards etc) and these ended up to half a mile to the westwards of the wreck (GA 15/1/1872).
- Had the ship gone ashore another100 yards to the west she would have struck the boiler of the Ant. "It was about Midday that numerous visitors commenced to arrive, and at two o'clock picnic parties could be seen scattered over sand hummocks in every direction, every sheltered spot within a radius of half a mile seemed to have occupants, and great hilarity prevailed. People had gone there for a days pleasure, and wreck or no wreck, pleasure they would have". Visitors had come from as far away as Geelong, Melbourne and the surrounding districts In at least one case , the Sussex, shares were offered to salvage the wreck, and this particular wreck proved very profitable as it was salvaged before it was destroyed (GA 1/2/1872:2).

- *RMS Ceylon* – **South Channel**
The Royal Mail Ship grounded in the South Channel on the 14th July whilst going out with the mails. Though two tugs and another mail ship (the Ellora) tried to tow her free, she was still aground (GA 15/7/1875:2). She was eventually refloated on the 15th July, with no damage sustained (GA 16/7/1875:2).

- *Loch Levan* – **King Island**

The Elizabeth had just returned from the camp at the site of the wreck and had recovered 200 bales of wool before abandoning the camp (GA 15/1/1872)

- *Holyhead* – **Pt Lonsdale**
- "old Salt" States that: The artist who drew the picture of the Holyhead on the Rocks at Pt Lonsdale, and which appeared in Thursday Nights Herald, must have drawn the object through a thick heavy fog (QS 15/2/1890).
- There was a large quantity of slate on both the George Roper and Holyhead, which prevented recovery of the cargo of railway iron below it (QS 15/2/1890).
- the Holyhead purchased by Captain Currie for £1700 (QS 29/3/1890)

- *Joseph H. Scammell*

In 1891, Lloyd Hooper, Grocers of Geelong, advertised kerosene, cases of seafood and axe handles for sale from the *Joseph H. Scammell* shipwreck (QS 4/7/1891).

- *RMS Australia* – **Pt Nepean**

Notice was given that the *RMS Australia* was to be removed as it presented a danger, especially to small fishing craft (QS 11/2/1911).

- *Campbell* – **Corsair Rock**

The wreck Bell was rung when the Whaling Steamer Campbell was wrecked on Corsair Reef (QS 20/6/1914).

- *Hovding* - **Heads**

The Norwegian vessel *Hovding* broke her mast and was dragging her anchors towards shore outside the heads when the lifeboat crew was summoned by the wreck bell. The tug *Nyora* eventually rescued the vessels when she was towed to Melbourne (QS 18/7/1914).

- *Blue Anchor* **liner**

The night the *Blue Anchor* liner was wrecked on the coast it was the dirtiest night out. There was 4 hours of waiting for the pilot and the terrible time they had (the lifeboat men) will never be forgotten (QS 26/4/1919).

- *Cufic* - **Rip**

The work of channel deepening in the Rip had to date taken ten years and lowered the entrance by only 7ft. After the vessel *Cufic* struck the bottom in a large swell, it was recommended that the work proceed with great haste (QS 29/7/1911). Work proceeded slowly over the next few years, and by 1914 it was anticipated that a uniform depth of 40ft would be provided in the Heads Channel within three years (QS 28/2/1914).

Appendix F-2: Lifeboats and Lifesaving Equipment

1) Lifeboats and Lifesaving: Rescuers and Wreck Management Landscapes

Wherever ships wrecked, lifesaving crews were sure to operate close by, and Queenscliffe was no exception. In the late eighteenth and early nineteenth century, almost a third of British seamen would die either from accidents on board or in shipwrecks (Bathurst 2000:2). The massive loss of life associated with early UK shipwrecks led to the design of many innovative life saving devices from around 1808 onwards, including Manby's lifesaving mortar (that fired a shot weighted rope to wrecked vessels) and a lifesaving vessels with watertight compartments which were the forerunners of modern lifeboats. By 1824, the Royal Society for the Preservation of Life from Shipwreck was established to facilitate organised rescue of shipwreck survivors (Bathurst 2000:2, 3).

Figure F-2.1: Health Officer's Yawl c1864 (Photo: PH42, QHM Collection).

The agglomeration of shipwrecks around Port Phillip Heads fell within the time period of the development of lifesaving services in the UK eventually led to the establishment of a lifeboat service at Queenscliff. From the 1840s onwards pilots were expected to assist all distressed vessels, which became a formal requirement from 1852 -1856, and when the *Sacramento* wrecked at Point Lonsdale in 1853, both pilot boats were used to assist, and the pilot later proceeded to an incoming vessel immediately from the wreck (Draper 1900:10).

An ordinary ship's lifeboat within floatation tanks and emptying capacity was put into service at Shortlands Bluff in 1856 as the first dedicated lifeboat, and as there was no shed or jetty, it was moored off the Customs Quarters (near the current Pilots Jetty). It was crewed by members of the Customs, Health and Pilots Boats (Fanning 1892b; McGrath nd:1; Noble, 1979:48; Boyd and Roddick 1996: 3).

Another more suitably designed lifeboat was built in 1858 at Williamstown, and was housed in a purpose built shed (constructed 1860) on the northern arm of the Queenscliff Pier, from which she was manned for 30 years (Raison 2002:26). As she was lowered from falls on the pier a buoy was supplied offshore from which to haul her off in bad weather (Loney 1989a: 4) The oared vessel was

rowed by 10 men, and had a Coxswain, Bowman and Superintendent (who was the Head Lightkeeper), and was first used to attempt (an unsuccessful rescue) of the barque *Asa Packer* in 1861. The crew of the lifeboat were mostly fishermen, but were supplemented with crews from the Health, Customs and Pilots service, were awarded £5 each in recognition of their bravery (Fanning 1892b; McGrath n.d.:1; Allom Lovell 1985:161). The boat was commissioned as the "Official Queenscliff Lifeboat" in 1865 (Noble 1979:48). After the Customs and Health Boats crews were withdrawn from Queenscliff around 1867, the fishermen formed the entire crew, with the superintendent of the Lighthouse Service in charge (GA 18/4/1867; Raison 2002:26).

The wreck of the *Gange* in 1887 again brought the need for the lifeboat into the public arena, and the necessity for a boat to be stationed at Point Lonsdale after time was lost rowing from Queenscliff to Pt Lonsdale. A new larger self -righting lifeboat was purpose built by the Customs Department the government at Williamstown (Noble, 1979: 48; Boyd and Roddick 1996: 3). The former Fisherman's Pier Lifeboat #1 was moved to the Pt Lonsdale lifeboat shed by 1893, where it replaced a smaller vessel that had been used in that area from 1859-1890 (Noble 1979:48). However, the former Fisherman's Pier Lifeboat #1 proved to be unsuitable as it was too heavy to remove from the water on to the pier (Boyd and Roddick 1996: 3).

The new lifeboat arrived in Queenscliff in November 1890, and briefly replaced the *Queenscliff* lifeboat there (whilst it was repaired) before taking up her position at the new pier and boatshed provided for her at Point Lonsdale in 1891 to reduce travelling time to wrecks at the Point (QS 22/11/1890; Syme 2001:37). However, problems were experienced in extracting the vessel from the water, along with a lack of protection from environmental conditions when launching, and the 14 metre vessel was exchanged with the old Fisherman's Pier boat by 1893, where it remained until it was sold in 1926 (Syme 2001:37). A new shed had been built (to hold its increased weight) on the New Pier in 1888, with alterations in 1894 (VPRS 2143: 88- 9-133, 94-5-196; Syme 2001:37).

Until 1896, the crews of the lifeboats were not provided with waterproof clothing unless they used their own, and the fishermen often left these on their moored boats. The Customs Department resisted a proposal to supply waterproofs, which were the norm in lifeboats in England, due to a policy of retrenchment (QS 6/1/1894).

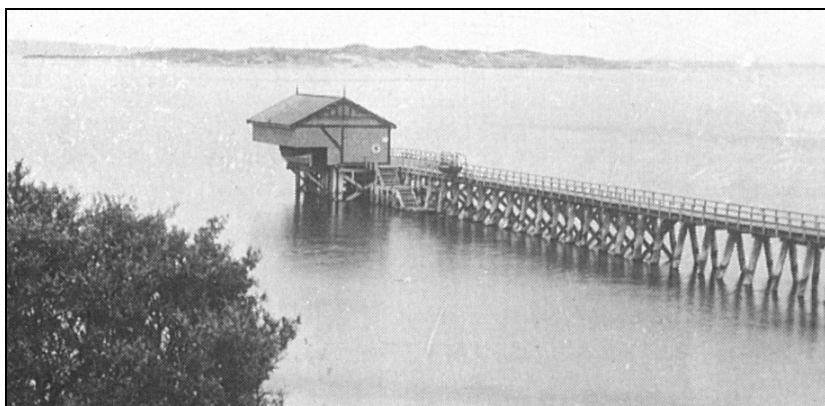**Figure F-2.2: Pt Lonsdale lifeboat shed and pier, c. 1890 (Photo: QHM Collection).**

The older smaller lifeboat (*Queenscliff*) was transferred back to Pt Lonsdale, where it remained until the 1930s, and it was withdrawn from service in the 1940s. Its crew were transported from Queenscliff and although it was used for practice, it was never used in any rescue (Boyd and Roddick 1996: 3; Noble 1979:48; Rasion 2002:27).

The fourth lifeboat was a Watson class motor driven boat built in Adelaide in 1926 to specification of the Royal National Lifeboat Institute of England, which had been applied for in 1919, but could not be delivered due to the war (Boyd and Roddick 1996: 3; QS 26/4/1919). This vessel, the *Queenscliffe*, was fitted with buoyancy tanks, two large fuel tanks, a centre plate and was diagonally planked for improved hull rigidity. It was shifted to the New Pier after the Cut caused sand accretion around the Fishermen's Pier, and was moved to deep water in 1949 ([JB]; Raison 2002:28). It was decommissioned in 1979, and is now housed in the Queenscliff Maritime Centre (Noble 1979:49; Boyd and Roddick 1996: 3).

Figure F-2.3: Pt Lonsdale Pier and lifeboat davit (on right), c. 1940-1950 (Photo: SLV Collection).

Figure F-2.4: Pt Lonsdale Lifeboat on Pier c. 1950s (Photo: SLV Collection).

Figure F-2.5: Queenscliff and Pt Lonsdale lifeboats c. 1920 (Photo PH 496, QHM Collection).

Figure F-2.6: Lifeboat Shed, New Pier c. 1910 (Photo: PH 276, QHM Collection).

From the mid 1900s onwards, a search and rescue service was established to coordinate searches for smaller vessels such as pleasure craft. Depending on the weather, range of the search, emergency response time and the size of the crew required, either the lifeboat or other smaller launches would be used to search for distressed vessels. The lifeboat was used for large offshore search areas, at night or in very bad weather, whereas the launches *Flinders, Corsair, Ranger, Hydra, Bass, Colins* or *Swan* were employed where speed was required and dependent on the search area range. All these vessels were moored in Queenscliff Creek. The pilot vessel *Hawk* was also used on occasions (Boyd and Roddick 1996: 4). The search and rescue service was disbanded in 1979. Launches were usually used for search and rescue, and other minor events such as towing, stranding on sandbars, small boats swept out to sea (Boyd and Roddick 1996: 12).

Lifeboat practice often was centred around the Heads at Queenscliff, Pt Lonsdale and Point Nepean, occasionally up to 3 miles out to sea, or as far as Barwon Heads or Cape Schank. However, in 1932, the lifeboat was called on to rescue crew from the *Casino*, which had gone ashore at Apollo Bay, but they were recalled before they had gotten past Barwon Heads as the journey would have taken 6 hours (Boyd and Roddick 1996:13, 14). The lifeboat also serviced inside the Bay, up the West and South Channels and around the Mud Islands (GA 18/4/1867:3).

Figure F-2.7: Lifeboat shed ramp Fishermen's Pier, c. 1930-40s (Photo: PH3188 QHM Collection).

Figure F-2.8: Lifeboat ramp, New Pier, c. 1950 (PH 4573, QHM Collection).

Location	Lifeboat and facilities	Date Start	Date Retired	Type	Comments
Queenscliff	**Shortland's Bluff Lifeboat #1**	1850's (early)		whaleboat /yawl	Based on land near Doctors Jetty (now Pilots Pier)
	Shortland's Bluff Ships Lifeboat #2	1856	1859?	ships lifeboat	Ordinary ships lifeboat with no flotation tanks
	Fishermen's Pier Lifeboat *Queenscliff* (moved to Pt Lonsdale 1893)	1859	1893	lifeboat	Relocated to Pt Lonsdale in 1890 to be closer to wrecks. Briefly relocated again to Queenscliff in 1891, then permanently replaced Pt Lonsdale Lifeboat #3 in 1893
	Steamer Pier Lifeboat (ex Pt Lonsdale Lifeboat#3)	1890 1893	1891 1926	purpose built sail rigged lifeboat	Specifically constructed for use at purpose built Pt Lonsdale Pier. Briefly used at Queenscliff in 1890, before moved to Pt Lonsdale in 1891. Shifted to Queenscliff in 1893 after proved too heavy for purpose built Pt Lonsdale Pier. Sold as fishing boat in 1926.
	***"Queenscliffe"* Lifeboat**	1926	1979	purpose built motorized lifeboat	Watson Class motor driven lifeboat designed in UK. Decommissioned 1979.
	High Speed Launches/ Helicopters	1979+		small motor launches	12-40ft motor launches. Moored Queenscliff Harbour. Operated by Ports and Harbours and Pilots
Pt Lonsdale	**Pt Lonsdale Lifeboat #1**	1859	1890	lifeboat	Small vessel
	Pt Lonsdale Lifeboat #2 (later Steamer Pier Lifeboat)	1891	1893	purpose built sail rigged lifeboat	Purpose built for specially constructed pier at Pt Lonsdale. Initially replaced *Queenscliff* at Queenscliff (during former's repairs), before moved to Pt Lonsdale. After proved too heavy for pier, was shifted to Steamer Pier 1893.
	Pt Lonsdale Lifeboat #3 *(ex Fishermen's Pier Lifeboat Queenscliff)*	1893	1930s	lifeboat	Vessel moved here after Pt Lonsdale #2 Lifeboat proved too heavy for davits. Relocated to Queenscliff in the 1930s. Withdrawn from service mid 1940's
	Pt Lonsdale Lifeboat #4	1940		davit mounted boat	Small boat mounted on pier/davits

Table F-2.1: Summary Chronology of Lifeboats Stationed at Port Phillip Heads.

2) Queenscliff Lifeboat Service: Chronological
A) Pilots Lifesaving

From the 1840s onwards pilots were expected to assist all distressed vessels, which became a formal requirement from 1852 -1856, until a ships lifeboat manned by the Health Officer's, Customs' or Pilots' Boat Crews was moored at the Customs Station was established near the current Pilots Jetty (McGrath n.d.:1; Raison 2002:26).

B) Shortlands Bluff Lifeboat #1

Lifeboats have been stationed at Shortlands Bluff since at least the early 1850s, when the Port Phillip Harbour Master instructed that the lifeboats be launched once a month and be kept ready at all times (Noble 1979: 48). Around this time the Pilots, Customs and Health boats were also used for lifesaving at times of shipwreck (McGrath n.d.:1). When the *Sacramento* wrecked at Point Lonsdale in 1853, both pilot boats were used to assist, and the pilot later proceeded to an incoming vessel immediately after the wreck (Draper 1900:10).

C) Shortlands Bluff Lifeboat #2 – Ships Lifeboat

An ordinary ship's lifeboat within floatation tanks and emptying capacity was put into service at Shortlands Bluff in 1856 as the first dedicated lifeboat, and as there was no shed or jetty, it was moored off the Customs Quarters. It was crewed by members of the Customs, Health and Pilots Boats, and the first superintendent was James Burgess (Fanning 1892b; McGrath n.d.:1; Noble 1979:48; Boyd 1996:3).

D) Fisherman's Pier Lifeboat #1 (Queenscliff)/ Point Lonsdale Lifeboat #3

Another more suitably designed lifeboat was built in 1858 at Williamstown, and was housed in a shed on the Queenscliff Pier (built 1860), from which she was manned for 30 years, and as she was lowered from falls on the pier a buoy was supplied offshore from which to haul her off in bad weather (Loney 1989a: 4) The oared vessel was rowed by 10 men, and had a Coxswain, Bowman and Superintendent (who was the Head Lightkeeper), and was first used to attempt (an unsuccessful rescue) of the barque *Asa Packer* in 1861. The crew of the Lifeboat, who were mostly fishermen, but were supplemented with crews from the Health, Customs and Pilots service were awarded £5 each in recognition of their bravery (Fanning 1892b; McGrath n.d.:1; Allom Lovell 1985:161). Fishermen formed most of the crew after the Customs and Health Boats crews were withdrawn from Queenscliff. A lifeboat shed was built on the northern arm of the jetty in 1860 (Raison 2002:26).

The lifeboat crew were next called in the 1863 gales that lasted 3 days, when the schooner *Northern Light*, Pilot cutter *Corsair* and Government Steamer *Victoria* were driven ashore after their anchors parted. The *Northern Light* was washed ashore at Swan Island, where the lifeboat rescued her crew. A Telegram was also received from Cape Schank detailing that the French ship *Iquique* was ashore there. The lifeboat was involved in 13 rescues from 1861 of the following vessels:
- *Light of the Age*
- *Conway Castle*
- *Seabird*
- *Essie Black Pride* (brig)
- *Suxxes* (barque at Point Nepean)
- *Yarrow* (brig)

- *Don* (Schooner)
- *George Thompson* and *Veritas* (ships)
- *George Roper*
- *Black Buoy*
- *Holyhead*
- The *Yarrow* crew were rescued from Point Lonsdale reef in the early 1870s, where the vessel had sprung a leak and almost immediately sank. The crew were rescued from the rigging of the foreyard minutes before the mast collapsed and the wreck pounded to pieces (Fanning 1892b).

The boat was commissioned as the "Official Queenscliff Lifeboat" in 1865. The boat was housed in a special shed built on the Queenscliff Steamer (New) Pier in 1888-89 (VPRS 2143: 89-0-133), but was moved to Pt Lonsdale lifeboat shed sometime before 1893 where a pier, life boat shed and rocket shed had been built in 1890-91 to reduce travelling time to wrecks at The Heads. However, it proved to be unsuitable as it was too heavy to remove from the water to the pier. The vessel remained at this location until the 1930s, until it was withdrawn from service in the 1940s. Its crew were transported from Queenscliff and although it was used for practice, it was never used in any rescue (Noble 1979:48; Boyd 1996:3; Rasion 2002:27).

E) Queenscliff Steamer Pier Lifeboat / Point Lonsdale Lifeboat #2

The wreck of the *Gange* in 1887 brought need for the lifeboat into the public arena, and the necessity of a boat stationed at Point Lonsdale became apparent. A self -righting lifeboat was purpose built by the government at Williamstown, along with a special pier and boathouse, but similar problems were experienced in extracting the vessel from the water. The 14 metre vessel was exchanged with the old *Queenscliff* boat sometime before 1893, where it remained on the Steamer Pier until it was sold in 1926. The boat had had two masts and three sails, a crew of nineteen and could carry two and a half tons of seawater ballast when required (Noble 1979: 48; Boyd 1996: 3). The boat was manned by: "a crew of hardy and experienced fishermen who know the eddies, currents and dangers of The Rip as well as they know Hesse St" (Fanning 1892b).

F) Queenscliffe Lifeboat (Fisherman's Pier/ New Pier)

The fourth lifeboat was a Watson class motor driven boat built in Adelaide in 1926 to specification of the Royal National Lifeboat Institute of England, which had been applied for in 1919, but could not be delivered due to the war (Boyd and Roddick 1996:3; QS 26/4/1919). This vessel, the *Queenscliffe*, was fitted with buoyancy tanks, two large fuel tanks, a centre plate and was diagonally planked for improved hull rigidity. It was shifted to the New Pier after the Cut caused sand accretion around the Fishermans Pier, and was moved to deep water in 1949 ([JB]; Raison 2002:28). It was decommissioned in 1979, and is now housed in the Queenscliff Maritime Centre (Noble 1979:49; Boyd and Roddick 1996:3).

G) Pt Lonsdale Lifeboat #1

Noble (1979:48) reported that a smaller vessel was also used at Pt Lonsdale around 1859-1890, but this was probably a small ships boat or yawl, rather than a purpose built lifeboat. A Pier was built at Pt Lonsdale in 1890 (VPRS 2143).

Figure F-2.9: Pt Lonsdale Lifeboat Pier, 2003.

3) Hierarchy of the Service

The Lighthouse Keeper was officially appointed by the state government as the Superintendent of the Lifeboat, and was responsible for the all administration, reporting, and safety of the vessel and crew, with the Coxswain in charge when at sea. The lifeboat could not be launched without the Superintendent and Coxswain present, and the crew ranged in number from eight to eighteen, dependent on who was available at the time. Permission to launch the lifeboat was required from the harbour master, and this often delayed the launch, sometimes by hours, during which lives were periodically lost (Boyd and Roddick 1996:3, 6).

The Signal Station on Shortlands Bluff appears to have been the watchdog for the Rip area around the 1870s, as the Queenscliff postmaster (Boyd and Roddick, 1996: 12) or the signal station staff were often the first to report a wrecking incident via an alarm bell that had been installed in the signal station in 1877 (Dod 1931:13, 21, 39).

By 1893, there were two lifeboat crews for the one lifeboat. By 1895, a balloting system had been introduced to allocate the coxswains position, which was for a term of two years, and five coxswains had been elected (Boyd and Roddick 1996:11).

4) Lifeboat and Rocket Practice

Lifeboat practice was usually undertaken on the first day of the month, and consisted of either rocket or lifeboat drills that lasted half a day. In the early days lifeboat practice took place outside the heads, with later exercises held at St Leonards, Sorrento or outside the Rip, with rocket practice at Point Lonsdale or Queenscliff (Boyd and Roddick 1996:3-4; Kerr 1985:73). During this time, the crews would inspect and maintain the contents of the lifeboats, and the Rocket Sheds at Pt Nepean and Pt Lonsdale, and conduct rocket firing practice. The shed at Pt Nepean had been built by 1877 (VPRS 2143).

After the wreck of the *Craigburn*, the lifeboat crews (of which there were two – No.s 1 and 2), petitioned the government for an increase in their pay rate for lifeboat drills (six a year) from 12s to 20s for each drill, after the adequacy of remuneration was questioned during the wreck inquiry. The Secretary of the Customs Dept stated that the men were "liberally rewarded, not only by the government but also by the insurance companies and others concerned". He further stated that increasing their pay would affect the service statewide, and that if they proceeded with their demands, then others would be employed in their place (QS 4/7/1891).

Lifesaving gear was stored in a shed at Point Lonsdale and at the boathouse and rocket shed at Queenscliff in 1893 (Boyd and Roddick 1996:11; Raison 2002:27).

5) Extent of Lifeboat Range

Lifeboat practice often was centred around the Heads at Queenscliff, Pt Lonsdale and Point Nepean, and sometimes up to 3 miles out to sea, or as far as Barwon Heads. However, in 1932, the lifeboat was called on to rescue crew from the Casino, which had gone ashore at Apollo Bay, but they were recalled before they had gotten past Barwon Heads – the journey would have taken 6 hours (Boyd and Roddick 1996: 13-4).

The barque *Jessie Black* was ashore at Mud Island. The lifeboat was launched and manned by the health officer and custom crew and the tide surveyor (14 crew in all). The vessel got off on her own by the time the lifeboat reached her, and it took the lifeboat crew about 6 hours to get back again as a gale was blowing (GA 18/4/1867:3).

Appendix F-3: Smuggling, Looting, and the Establishment of Customs Services in Victoria

This appendix provides a brief overview of the Customs Service in Victoria, especially in regards to officers based at Queenscliff. This summary has been extracted predominantly from Day (1992), which provides a succinct outline of these services in Australia, and it is clear that further consideration of this service is warranted, but was not attempted during this study.

An examination of shipwreck looting would be inadequate without also examining smuggling, as these practices were often inextricably linked. In 1836, the NSW government was finally forced to recognise the settlement of Melbourne after private commercial concerns had established a colony there to graze cattle, and the Crown assumed all legal rights for land ownership. When the Colonial Government recognised that smuggling of stock, spirits and tobacco into the new colony was endemic from Van Diemen's Land, a contingent of troops, police and two customs officers were sent to establish order. The Colony's original customs facility was stationed at a tent at Sandridge in that year and later a permanent store was built there in preference to Geelong (Lewis 1983:16; Hoddle 1842 plan; Day 1992:260-4). After many delays, Geelong was made an open port, which meant that all incoming goods were no longer required to clear Customs in Melbourne, a consideration that may have previously led to high prices and smuggling practices (Day 1992:264-8).

Smuggling activities were reported early in Port Phillip Bay when the first offence was charged in relation to a barrel of whisky landed without customs clearance in 1836. When the men were gaoled for failure to pay the imposed fine, there was such a public outcry that the men were released after only two months. This reflected badly on the chief customs controller, who later tended to be more lenient in charging customs violators who were unlikely to be able to pay the fine, and he tended afterwards to confiscate the goods only (Day 1992:269). This could have had great implications in the Queenscliff study area, where many customs offences were perpetrated by fishermen whose financial circumstances meant they were incapable of paying any fines.

Corruption within the government services was also recognised at many levels, when a police constable was caught with illicit gin when coming ashore on a waterman's boat at Williamstown. Although the Landing Waiter proceeded with the prosecution, political pressure was brought to bear and the case was dropped. Smuggled goods provided large economic resources for the local economies, and extensive smuggling operations were active at unguarded smaller ports where customs facilities were not in place. One case was recorded in Port Fairy (a major fishing port) where a substantial quantity of spirits and tobacco bound for the grazing and whaling community were seized in 1841. In 1842 it was reported that spirits and tobacco exported from Melbourne and Hobart bond stores for foreign ports was being landed at Port Albert and redistributed via an extensive smuggling system. Although Customs officials were encouraged to perform their duties efficiently through the allocation of a percentage of the fines imposed or the value of the contraband when sold (Day 1992:269-70), this may have encouraged complacency especially where the perpetrators were too poor to pay the fine. When consideration is given to the fact that customs officials had to live within the community they policed, these officers may have been more lenient in their attitude towards more minor crimes.

The British Colonial Government's enforcement of the *Navigation Act* from 1815-1849, which effectively placed a trade embargo on foreign non-British shipping visiting Australia (Bach 1982:48, 55, 58) probably provided further impetus for the smuggling trade, as it limited the importation of goods into the colony, and hence led to exorbitant prices for luxury goods such as alcohol. Smuggling provided an alternative and/or supplementary income for many in the early days of the colony, and was a constant problem for authorities. The shores of Port Phillip Bay from Geelong to The Heads and along the eastern shores from Pt Nepean to Brighton were

notorious haunts of bushrangers and deserting seamen, who often preyed upon shipwrecked vessels, and were involved in smuggling and illicit sly grog distilling and distribution (Day 1992:292).

The new found wealth of the 1850s gold rush period attracted many smugglers to the area, and also led to changes in types of smuggled goods, which included more luxurious goods such as French champagne and obscene literature. Smugglers of illicitly imported goods were known to have buried 41 bottles of contraband whisky in the foothills near the quarantine station in November 1854. Burying booty also was reported to have occurred at St Kilda where four men were caught in 1852 interring barrels of brandy and gunpowder (Day 1992:284-5). The illicit alcohol trade was a huge business during the gold rush era, and special customs officers were assigned to police these offences. Fishermen were also known to enter the Quarantine Station grounds to supply illegal alcohol and other goods to internees (NHS 1966). During a special Customs enforcement voyage to the Mornington Peninsula, numerous grog tents, stills and drunken men were found, leading the officers to conclude that many people in the area were employed in the sly grog and smuggling trade, especially given the absence of an adequate police force in the area (Day 1992:293).

In 1852, all customs duties, taxes and charges were abolished except on spirits, wine, tobacco, tea and coffee, and wharfage and other fees (except for pilotage duties) were also abolished (Day, 1992:283). This encouraged many foreign (predominantly French) vessels to begin importation of luxury goods to meet the demand of the newly wealthy gold miners and pastoralists. Goods from wrecks of these vessels presented attractive targets for looting, particularly in frontier communities such as Queenscliff where even basic household goods were often scarce. As the cargo of these foreign shipwrecks had not cleared customs, many of those involved in opportunistic plundering from shipwrecks were regarded in the strictest terms of the law as smugglers.

The looting of vessels on the foreshore presented a twofold loss to the fledgling colony. Not only were owners deprived of their cargoes which were badly needed by the settlement, but the government was denied essential income generated through importation and customs duties on the international cargoes. The pillaging led to the establishment of a Customs Service to police not only looting, but also to try to control smuggling of illicit goods into the colony. A token customs force was stationed at Shortland's Bluff in 1853, but given the large expanse of coastline and hundreds of vessels entering The Heads each year, the complement of a junior Customs officer and boat crew proved ineffectual. A request was made in 1854 for an experienced customs officer and two policemen be stationed at Shortland's Bluff (Day 1992:292).

In 1852 the Customs Service began an active enforcement campaign of quarantine and passenger regulations to ensure that overcrowded passenger vessel conditions did not threaten onboard health, or eventually lead to the introduction of epidemics into the colony. Armed Officers also enforced the exclusion of ex-convicts from the Victorian colony in the 1850s (Day 1992:285-6, 292).

The Customs boat stationed at Queenscliff was making raids in search of smuggled spirits as far as Portarlington, but raised the ire of the local population in 1863 when the raid was carried out on the Sabbath (GA 8/1/1863:2, 9/3/1863:3). By 1867, the Queenscliff Customs Station was removed, despite the continued activity of sly grog merchants (GA 24/6/1867), prompting concern that the former smuggling trade that existed there would be renewed. In past time "uncustomed brandy and Geneva were regularly planted (buried) on the beach…and now that there is a fleet of fishing boats in this sub-port, the prevention of smuggling will be almost…an impossibility" (GA 18/4/1867:3).

In later periods drug smuggling became popular, and in the 1920s local fisherman discovered a potato sack full of tins of opium (Ferrier 1989:20). Upon arrival at the pier, one of the tins was opened to reveal the contents, and many were souvenired by locals until police were contacted and called for their recall. This trade has continued until comparatively recently when one former resident reported that he had been approached to smuggle ashore goods dumped outside The Heads [name withheld] and as late as 2004, drugs were dumped offshore for collection by smugglers. The lawlessness described in this section sets the scene for subsequent shipwreck looting which was widespread in the study area.

Appendix F-4: Landscapes of Navigation of Port Phillip Bay

1) Lighthouses/ Signal Stations

A) Pt Nepean

I) Pt Nepean Lighthouse: Choice of Location for the New Heads Lighthouse

The first lighthouse for the Heads was proposed by Capt Hobson, of HMS Rattlesnake in 1836, during his survey of Port Phillip Bay. He proposed it be located at Pt Nepean, and Governor Bourke selected a site there in 1837. However, several ships masters recommended the light should be placed on Middle Bluff Head (Shortland's Bluff), which would aid navigation through the Rip. No further action was taken until 1941, when the new Governor (La Trobe) recommended a lighthouse be built at Shortland's Bluff (Noble 1979:42; Raison, 1997:1-2).

Prior to 1844, there was a clear need for a lighthouse to be constructed at the Heads to stem the occurrence of shipwrecks there (*Thetis* and *Princess Royal*). Only 750 square miles had been surveyed in Port Phillip Bay at that time, and the dangers of the Rip were recognized as the effects of the tidal and geological features. The advantages of a lighthouse at Shortland's Bluff were touted over the Points Lonsdale and Nepean, as ships could sail along a bearing of clear water to the former, but had to estimate offshore clearance positions of at the latter option (MMH 6/3/1844:4).

II) Nepean Rock Beacon

Red cone shaped beacon on Nepean Rock (dry) used as a thwart mark to clear Corsair Rock in1858 (NTM VGG 22/6/1858:1135).

III)   Point Nepean Beacon

This marker was located just above the high tide mark at Pt Nepean. It was a white cone shaped beacon 20ft high, which bore east and west with Nepean Rock Beacon when in line, and low lighthouse with Shortland's Bluff flagstaff marks position of Corsair Rock (NTM VGG 22/6/1858:1135).

IV)Eagles Nest Point Lighthouse

This white concrete tower was 83ft high, 218 ft above high water, and had a fixed light, which could be seen 18 nM to seaward, with a red light visible from Cape Patton to Cape Addis approx 3nM offshore and an auxiliary white cautionary light which was only visible inshore of that distance to warn of too close proximity to the coast (Yule 1897: 427). The light was built between 1884 – 1897.

B) Shortland's Bluff Lighthouses and Beacons

I) Shortland's Bluff Lighthouse (First High Lighthouse)

Figure F-4. 1: Original Lighthouse at Shortland's Bluff in 1857. Note the Shortland's Bluff Low Light Timber Tower to the right, and the Point Lonsdale Beacon in the distance (Photo PH1, Queenscliff Historical Society Collection).

The danger of navigating the Heads was recognized by local mariners from at least 1841, when pilots at Shortland's Bluff requested that a disused flagstaff at Melbourne be installed at Shortland's Bluff to act as a signal staff for broadcasting tidal movements and communication with incoming vessels (LTGL 41/667: Lewis 1839). By 1841, a lighthouse had been proposed for Shortland's Bluff and Cape Schank (GA 24/4/1841:2; LTGL 41/908- Cole and Brown 1841), at the direction of Governor Gipps, and these were later instituted by Gov La Trobe (Boys 1841; LTGL 42/401: Thomson 1842). There was great competition for the anticipated appointment as the first light and signal keepers (LTGL 39/86: Scard 1839; LTGL 42/17: Simson 1842; LTGL 42/478, Hilland 1842; LTGL 42/1530: Newby 1842; LTGL 42/516: James, 1842; LTGL 42/2041: Gleeson 1842), and many suggestions as to where the light should be located (predominantly at Shortland's Bluff, and for the construction of lead lights to guide vessels through the West and South Channels (LTGL 40/319: Sutton 1840; LTGL 41/532:Lewis 1841).

Construction of the first lighthouse began in 1842, when the tender was awarded to Mr Beaver to build a lighthouse, storeroom and residence (LTGL 42/404: Thomson 1842). Sandstone was quarried from the base of Shortland's Bluff (Cuzens 1912:1), and used to construct a 60 ft high tower (109ft above sea level), with 18 x 17ft accommodation quarters (for the light keeper and his assistant) (Stokes 1843 [chart]) which were constructed by 1849 and formed the lower story of the structure (Argus 9/2/1849). The tower was 8ft in diameter at the base and 6ft 6 inches at the top (Raison 1997:2). The lamp which was constructed in Sydney (Argus 9/2/1849) lantern was delivered in 1843, and the light was first lit on March 29th (PPG 29/3/1843:2). The continuous light stood 152ft above sea level (NTM 29/4/1843:2) and as it was visible for only 14 nM was not well considered. The lower lightkeepers cottage pointed to the end of the shoal off Pt Nepean and formed a leading mark with the light. Stanley commented in 1849 that the light was only visible

outside the heads between the bearings south half west and south west half west, and that Pt Lonsdale was a more suitable lighthouse location (Argus 9/2/1849)

The use of sandstone as a building material proved to be a poor choice for the area, as it crumbled in the damp environment leaving the light structurally unsound. Although interim repairs were undertaken to whitewash and plaster the building, an internal red gum supporting frame had to be built inside the light 1(LTGL 43/2037: Bunbury 1843; LTGL 43/2087: McCann 1843; Cuzens 1912:1; Raison 1997:2). It was advocated that the light was underpowered, and its elevation was too short to be seen by vessels outside the Rip close in to shore (MMH 6/3/1844:4; LTGL 43/2027: Bunbury 1843) and by February 1844 the lamp had been moved to the edge of the cliff, presumably to address this problem (PWONTM 20/2/1844). By 1847, a new lantern was ordered from England (Raison 1997:4). The lantern mechanism from the light was removed from the lighthouse and placed on a temporary stand in late April 1849 (GA 17/5/1849:2), until the modifications to the lighthouse tower had been completed in 1850 (Raison 1997:4). It was during this time that the *Princess Royal* went ashore at Pt Lonsdale, and her Captain blamed the obscuring of the light, which had been placed on a platform above the pilots houses, for the wreck of the ship (GA 1/3/1849:2; Noble 1979:43).

Furthermore, it was suggested that a second light, possibly a lightship moored near (the as yet unnamed) Corsair Rock, could provide the necessary warning and lead marks required to enter the Bay (MMH 6/3/1844:4), which was supported by a number of other newspapers (GA 10/6/1848:2). Although wrecks still occurred at the Heads, and the want of further lighthouses or misplacement of the current lighthouse inside the Heads rather than at Point Lonsdale (GA 1/3/1849:2) were blamed, some newspapers criticized the vessel masters themselves for recklessness and bad behaviour (GA 1/3/1849:2). Instances were also reported where the light had been unlit during the evening.

> Port Phillip Heads is becoming rather an interesting locality, from continuous arrival and departure of vessels, and it will of course become much more so, when the extra lighthouse is erected, the electric telegraph at work, to say nothing about the quarantine station. Of course, we shall have to erect two guardian fortresses, bristling with cannon, but no such item appears in the estimates (GA 12/11/1852:2).

The Ballarat gold rush led to a shortage of men in the area, and it was difficult to find men to work the lighthouses in 1853. In that year, Messr Simpkin (and his family) arrived at Shortland's Bluff to act as an assistant lightkeeper under the Superintendent Mr Foy. At this time the central tower was surrounded by a room on each side for the men. The light itself was composed of 26 oil lamps with large silvered reflectors and fitted with a circular frame and an all round light that used sperm oil. Capt Nicholson, master of the Govt Schooner Empire also assisted with lighthouse duties at this time, and also looked after the buoys in the channels. The oil barrels were unloaded over the side of the vessel and towed ashore, where they were transferred to the lighthouse by a dray (Simpkin n.d.:2). Waste oil from the lamps (drip oil) was often given to the local indigenous population who used it as a form of sunscreen (Simpkin n.d.:4).

By 1860, the original lighthouse was being replaced as it was too close to the cliff edge (GA 6/11/1860) and stood on the site of a planned battery (Raison and Beavis 1998:10). The light was still operating in 1861, when it was described as a painted white circular stone tower, 108 ft high (ASL) visible from the south to SW sectors up to 16 nM (VGG 15/1/1861:77). When it was finally dismantled, the stone from the lighthouse was used in the construction of the residence Doongarra in Hesse St, and in the back portion of the house located on the Bank of Victoria site (Cuzens 1912:1).

The site of the lighthouse is now occupied by gun emplacements, but evidence of its former existence is visible at the northern side of Shortland's Bluff, where the quarry used to provide stone for its construction can still be seen.

Figure F-4. 2: Quarry used to construct the 1842 lighthouse, Shortland's Bluff.

II) Shortland's Bluff Low Light (Timber) Lighthouse Tower
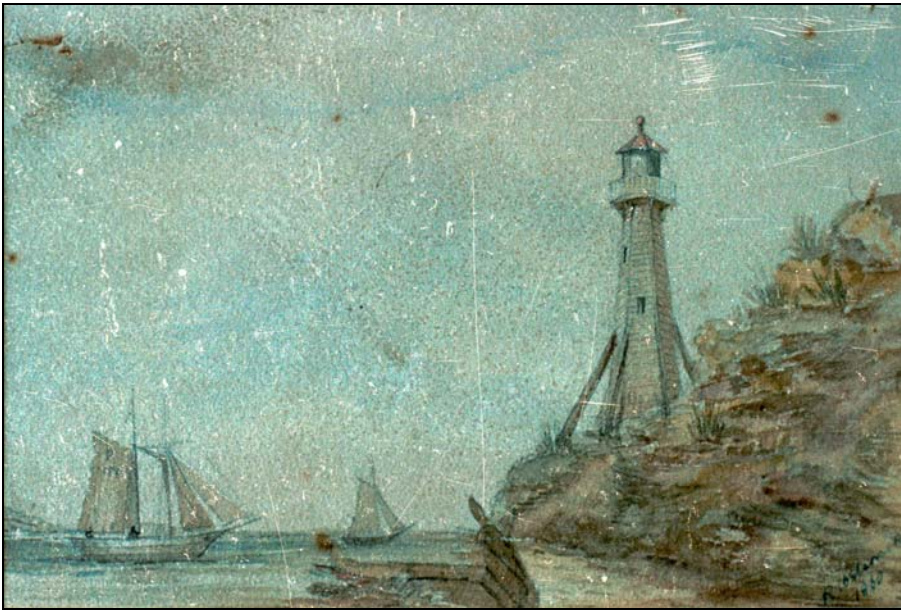
Figure F-4. 3: Shortland's Bluff Timber Lighthouse Tower 1860 (Watercolour by R. Cossamore. Photo: WD55, QHM Collection).

While improvements were made to the original lighthouse, La Trobe discussed the possible installation of a second leading lighthouse with ships masters and pilots, who recommend a second light to lead vessels through the Heads. The Harbour Master at the time objected to the installation of a second light, on the grounds that it was likely to cause further loss of life and property when vessels tried to enter the harbour at night. However, the gold rush led to increased vessel traffic at

the Heads, and after separation from NSW in 1851 La Trobe ordered that another light be built for this purpose. A contract was let to a Mr Moody in 1852 for a prefabricated timber structure to be delivered to Queenscliff, for installation on piles driven into sand atop the dunes at the back beach. The lantern was manufactured in Melbourne (GA 12/11/1852:2; Raison 1997:4).

When constructed in 1854 (Raison 1997:5) the new light was painted white and stood 80 ft above sea level, displayed a fixed red light, and was known as the Low Lighthouse, and the original Shortland's Bluff light was the High Lighthouse. A cone shaped iron beacon on Swan Point and the Shortland's Bluff Flagstaff were both used as open lead indicators on this lighthouse to clear the obstacles on either side of the channel (Burdwood 1855:121).

The light was still in operation until at least 1861, when it was described as painted white timber structure with a fixed red light standing 80 ft (ASL) and visible for 12nM in the SW to SW1/4 W sector (NTM VGG 15/1/1861:77). The structure was replaced in 1863 by the new Low Lighthouse (GA 1/1/1863:2), and was re-erected at Pt Lonsdale.

III) Shortland's Bluff Flagstaff/ Signal Mast

This flagstaff constructed around the same time as the Low Light Tower (1854), and in addition to being used to communicate with shipping, it was operated in conjunction with the Low Light Tower as a western open lead to clear Pt Nepean and Corsair Rock (Burdwood 1855: 121; Raison 1997:5). The fortress signal staff was used in conjunction with the old lower light as a lead mark through to clear Corsair Rock, and had to be replaced when the signal station was demolished to make way for the new telegraph station in 1863. This was replaced with a stone obelisk on the site of the wooden light, and the eastern wall of the telegraph station became the rear mark (Raison, 1997: 11).

IV) Queenscliff Signal Station/ Lookout House

Figure F-4. 4: Shortland's Bluff High Light, Signal Station and Mast c.1878. Note Wreck Bell in right hand side of Signal Station (Photo PH23, QHM Collection).

In 1842, a Signal Station was established by the Telegraph Department inside the current grounds of the Queenscliff Fort. The current wooden tower is 41 ft high and set on a concrete base. The top of the tower has an elevation of 103ft ASL, with the truck of the Mast. The signal station recorded vessels entering and leaving the port, and also kept watch over events in the Bay. Vessels were required by law when entering or leaving the port to display flags indicating their number of house

flag, along with the number of their destined port identity until they were signaled by the station (Jarrat 1865:48). The signal station was demolished to make way for the new telegraph station in 1863 (Raison 1997: 11), and appears to have been moved again sometime between 1863 and post 1882 (McWilliams 1865 plan; QHS Photo PH19).
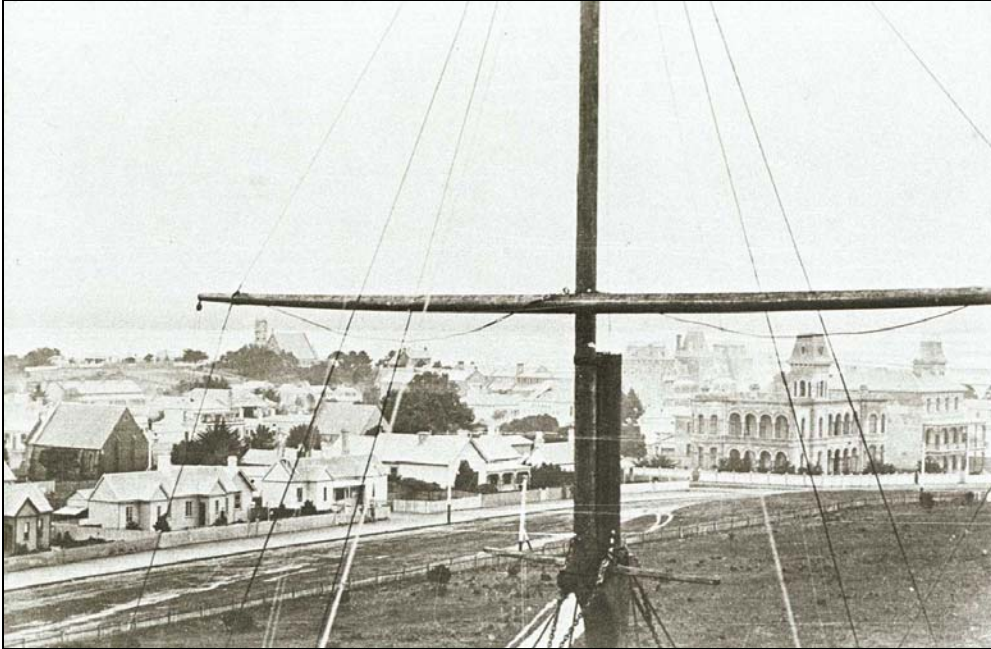

Figure F-4. 5: Signal Station Mast, c.1882 from High Lighthouse (PhotoPH19, QHS Collection).

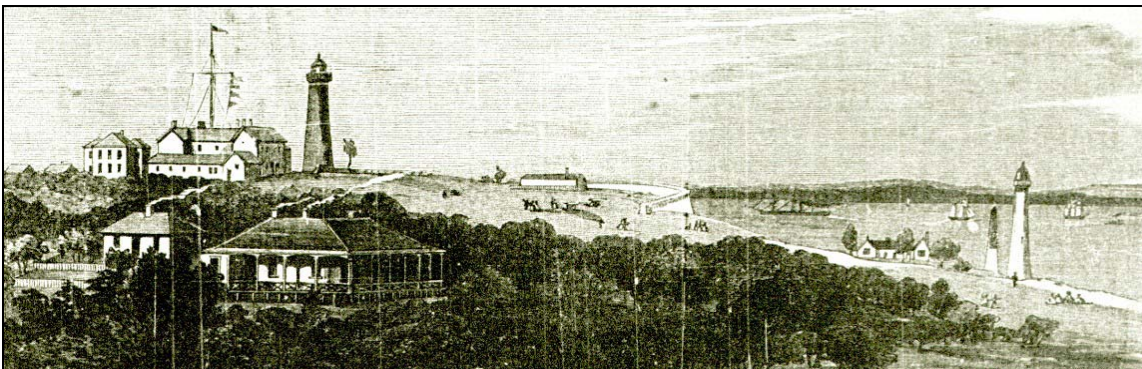## 2) Shortland's Bluff High and Low Lighthouses/ Accommodation

Figure F-4. 6: Shortland's Bluff Lighthouses 1864 (After ISN, 16/12/1864. Photo WD69, QHM Collection).

Figure F-4. 7: Shortland's Bluff Lighthouses and Accommodation From West, c 1870. Note Flagpole at Left of Lower Lighthouse (After: Photo WD50, QHM Collection).

By 1856, the threat of shipwrecks in Bass Strait had become so acute that a Joint Commission of the Colonial Governments of Victoria, Tasmania, NSW and South Australia was formed to deliberate the adequacy of existing lights and the possible installation of further facilities. The Commission recommended construction of new lights along the Victorian coast (including Cape Schank, Gellibrand Point lightship, and Shortland's Bluff leading lights), and that Commissioners report to their own states on the condition of existing lights (Bach 1982:131; Raison 1997:5; Noble 1979:47). Although suggestions had been made for raising the height of the Shortland's Bluff High Lighthouse, the Victoria Commissioner did not consider it as a matter of urgency. It was also agreed that there was no need for a lighthouse at Point Lonsdale (Raison 1997:5).

By 1859, there was increased pressure for a battery to be staged at the heads to protect the colony from potential raids against its gold supply and transport ships. The Shortland's Bluff (Original High) Lighthouse was already inconveniently placed on the site of the proposed battery, but in 1860 a proposal was adopted to proceed with the fortifications. In 1861, tenders were called for the erection of two new lighthouses on Shortland's Bluff, and contracts were let to two local Melbourne builders, Alfred Pooley and Co and C.S. Baillie to build the upper and lower lighthouses (respectively). Pooley later drowned when he fell over the reef near Bell Rock (Simpkin n.d.:8). The lamps, lens and mechanisms were manufactured by Chances Brothers of Birmingham (England). The construction of the High light was delayed due to problems in finding a suitable foundation, but the work was completed by April 1862 (Raison 1997:6). Both lights were constructed of bluestone from the Yarra River Banks, which were shaped and numbered by the local stonemason for re-erection at Queenscliff. The bluestone blocks each weighing between 3-5 cwt, were delivered via barge from Melbourne and placed on a bed of concrete 12 ft thick. It was considered to be one of the strongest buildings in the colony (GA 28/4/1862:2; QS 11/5/1912).

By 1863, a notice had been issued concerning the alteration of lights at Shortland's Bluff (GA 1/1/1863:2). The new lights stood on a line 106 ft to the west of the old lights, and mariners needed assurance that the new leads presented the safest course for deep water vessels through the Rip. The lower lighthouse was painted white to distinguish it from the upper one, which retained its natural black bluestone colour. The new High Light was 360 ft to the NNE of the former sandstone light, and the new low light was 89 ft to the WNW of the former low light tower. The new low light now had red and white sectors,. When the continuous white light of the High Light was kept in line with the red sector of the Low Light, vessels knew they were safely within the confines of the narrow channel (Raison 1997:7). Both lighthouses were designed by Public Works Architects,

under the direction of the supervision of the inspector general of public works, William Wardell, but Raison (1997:8; Australian Dictionary of Biography Volume 5) suggests that they may have incorporated a feature common to English lighthouse built on rocks at sea level, where the doorways were set several metres above the ground.

Figure F-4. 8: Shortland's Bluff Lower Lighthouse, Accommodation and Flagpole 1869 (Thomas, Image b28671, SLV Collection).
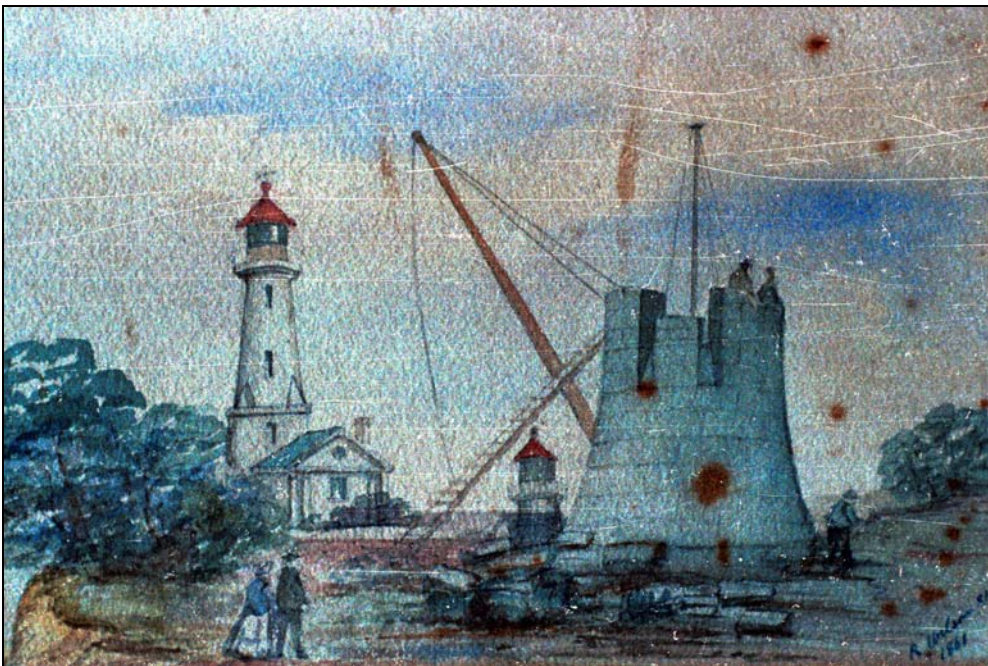
Figure F-4. 9: Shortland's Bluff lighthouses, 1861. From Left: Original Lighthouse (1842), Low Light Timber Lighthouse Tower, and High Lighthouse under construction (From Watercolour by R Wilson, Photo WD54, QHM Collection).

New accommodation was required for the lighthouse keepers, as the old sandstone structure had contained the accommodation and was demolished along with the lighthouse. In 1863, new quarters consisting of a terrace of five two story brick and stone houses were built for the upper

lighthouse keepers by James Stone at a cost of £3298. Timber houses were built for the lower lighthouse keepers by C.S. Baillie for £1297 (Raison 1997: 8-9).

I)   Telegraph Station

This telegraph station was built in 1863 (Raison 1997:11) and is shown in McWilliams 1865 plan and Map HWL6092 1877.
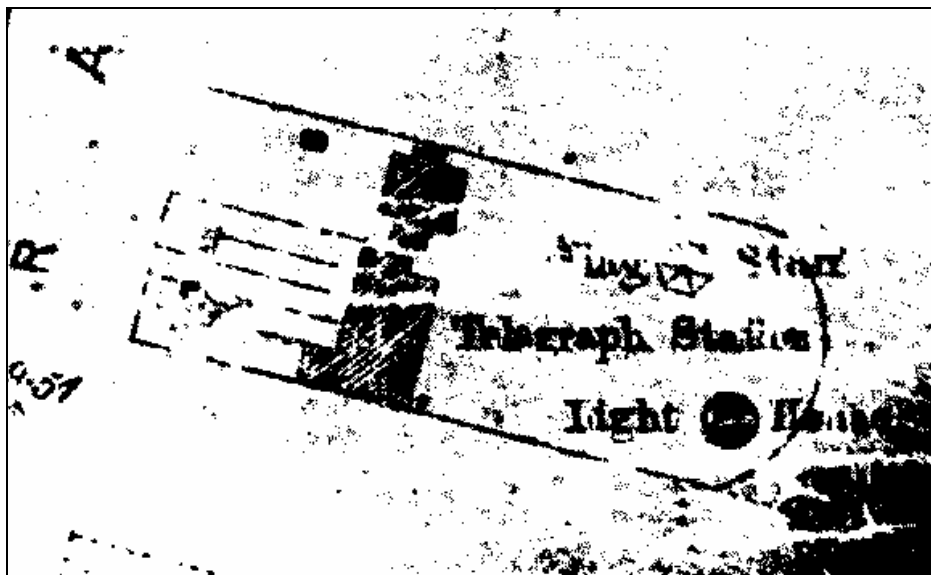
Figure F-4. 10: Telegraph Station 1865 (McWilliams 1865, QHM Collection).
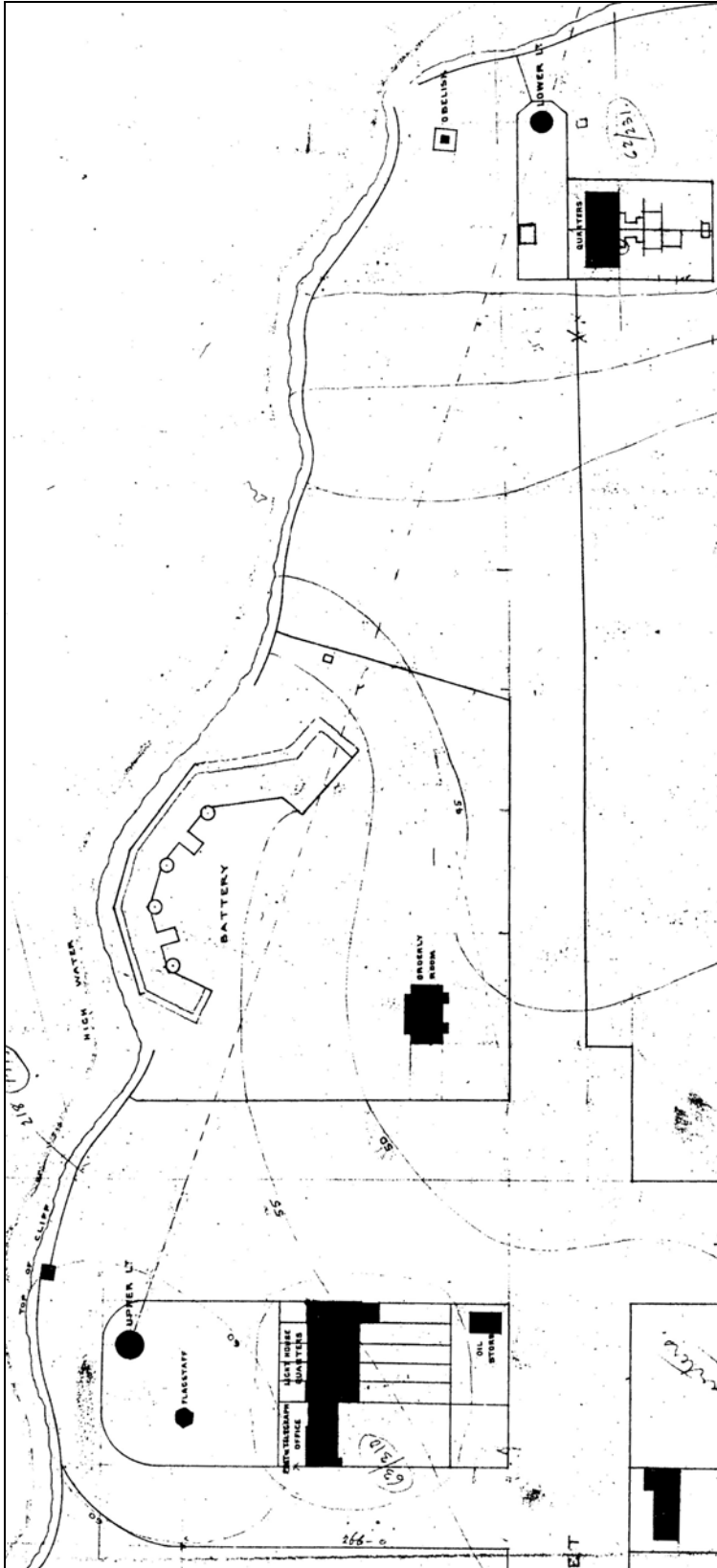
Figure F-4. 11: Shortland's Bluff Lighthouses 1877 (PWD c. 1877 [plan], QHM Collection).

II) Shortland's Bluff Obelisk

Figure F-4. 12: Obelisk and Low Lighthouse, Shortland's Bluff c. 1870. Note Duty Member of Health Officer Crew on Lookout for Incoming Vessels (Photo: PH55, QHM Collection).

Figure F-4. 13: Low Light and Obelisk (In: Hawthorne 1998).
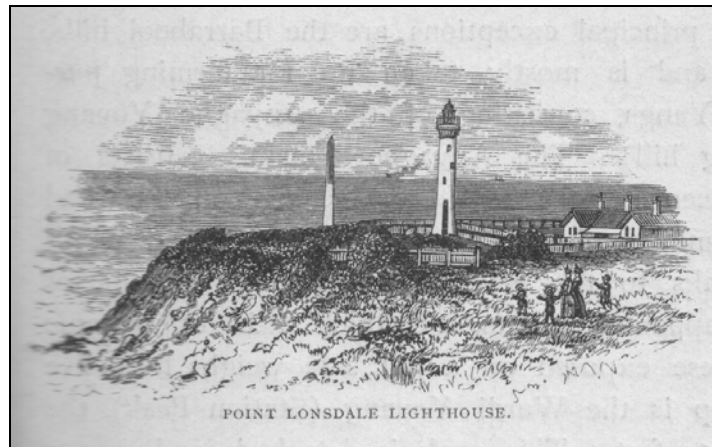
Figure F-4. 14: Shortland's Bluff Obelisk, Low Light and Lighthouse Keepers Quarters (Sutherland 1888b: 145).

When the new upper quarters were built in 1863, they were constructed in line with Telegraph Station, which necessitated the removal of the signal mast. A new lead mark for the clearance of the Corsair Rock was now required, and a stone Obelisk was constructed on the site of the former Low Light Tower, which was used in conjunction with the eastern wall of the Telegraph Station (Raison 1997:9). The obelisk was also used in conjunction with the east side of the High Lighthouse to clear Lonsdale Rock (Yule 1868:213).

By 1959, the obelisk was listed as a brick beacon was 50 ft high, painted white, 78 ft ASL with an occulting green light. This obelisk was used in conjunction with the High Light to mark the eastern limit of the Deep Water Channel (Ports and Harbours Branch 1959:188). It was demolished in 1976, and was replaced by the Murray Tower (Noble 1979:52).

III)   Channel Deepening

When a survey of the Rip was undertaken in 1903, it was suggested that explosives could be used to deepen the entrance channel to a depth of eleven metres by 610 metres wide. A Victorian Naval Gunboat, the *Albert*, was used by the Ports and Harbours Department for the blasting operations (Noble 1979:49). The work of channel deepening in the Rip had to date taken ten years and lowered the entrance by only 7ft. After the vessel *Cufic* struck the bottom in a large swell in 1910, it was recommended that the work proceed with great haste (QS 29/7/1911; Noble 1979:50). Special signals were used when the port entrance was closed due to blasting procedures (HOA 1913:31). Work proceeded slowly over the next few years, and by 1914 it was anticipated that a uniform depth of 40ft would be provided in the Heads Channel within three years (QS 28/2/1914). In order to speed up works, explosives for the operation, which had previously been stored at Altona (near Melbourne), were now transferred to the South Channel Fort, which had ceased operating in 1914. Naval Mines were successfully tested for blasting in 1930 (Topp 1930).

Another former gunboat, the *Paluma* was seconded to replace the *Albert*, was renamed the *Rip,* and was used for blasting until 1950 when she was replaced by the minesweeper *Whyalla* (also renamed the *Rip*) by the Ports and Harbours Department. By 1916, the entrance had been blasted to a navigable depth of 12m depth and 305m wide. By 1918, pilots agreed to take vessels over 8.5m draught outwards providing they were granted absolute right of way (Noble 1979: 50).

During WWI, the Port Phillip Sea Pilots were given authority as Lieutenants in the naval reserve to control all merchant shipping entering and leaving the port. After the war, it became necessary to introduce a system for closing the Port to incoming vessels at the signal station at Pt Lonsdale. By this time the Rip channel was 13metres deep and 305 metres wide. Blasting continued until 1978, when the three channels had been constructed with the largest 15.5 metres deep and 242 metres wide, and plans had also been made to deepen the approaches to Geelong and Melbourne. Around this time experiments were undertaken using the oil tanker *Philine,* which when ballasted to 13m depth made a series of runs across the Rip bank to record its scend and the sea and swell effects on the vessel, which were recorded by specially constructed equipment in a shed ashore at Pt Lonsdale (Noble 1979:50, [CSp; LID]).

- **Pre 1901:**
    - o Prior to blasting ships over 28ft depth were not permitted to through the Rip.
- **May 1901**:
    - o Deepening and widening of the navigation channel began.

- **Jan 1902**:
  - Original depth 30-40ft.
  - Rip Bank was surveyed.
  - Blasting was only undertaken in slack water and in fine weather, but not at night. An explosives charge of 205kg was fired after a diver had placed it in position and all ships had been cleared from the area. Sweeping gears would then check that no pinnacles were left standing. A sweep was done every 4 years.
- **1913**:
  - Deepened to 37ft.
- **1916**:
  - Deepened to 40ft.
- **1924:**
  - Deepened to 43ft.
- **1934**:
  - Deepened to 43 ft and 1450ft wide.
- **2001**:
  - Today the maximum depth of vessels to use the Rip is 11.9m (39ft).
  - Pilots bring vessels through on the maximum high tide (QMM Display).

(a) Effects of Channel Deepening

(i) New Lights Required

The deepening of the Channel led to the construction of several new lights and beacons at Shortland's Bluff, including the Hume Tower, The Obelisk, the Murray Tower and the white diamond beacon (Noble 1979:52).

(ii) Changes in Current Direction

However the channel deepening had adverse effects on the surrounding environment. Besides affecting the new lighthouse structure, lighthouse keeper Stevens (based at Pt Lonsdale) maintained that the blasting had a changed the direction of the current, which was now striking against Bay Beach in Lonsdale Bight. This had major consequence for the local topography, as rock shelves which had previously been permanently covered were now periodically exposed, and the currents had adverse effects on swimmers who were now subject to being trapped by the tide or swept away, as were bathing boxes which dotted the beach. As a result, the shoreline began to erode and the cliffs collapsed, and a half mile long seawall was installed around the 1950s to prevent further damage (Dunn 1949: 72-73; [AH]). The Rip blasting also affected shell fish stocks at Mud Island. [CS] recalled that before the Rip was blasted he used to be able to fill a fish box with cockles in half an hour, but that afterwards they all disappeared.

IV) King St Lighthouse Keepers Quarters

By 1885, the previously open fortress was enclosed, and the lighthouses keepers quarters were transferred outside the fort to King St between St Andrews and Gellibrand Streets (and have now

all been demolished). New quarters for the Lower light were also built by local builder Messr Golightly, and have been demolished too (Raison 1997: 10).

The light of the upper light was due to be replaced in 1907 (QS 31/8/1907). The old light was made by the Chance Brothers, and was due to be replaced by a 1000 candle power light (The Kitson), along with an acetylene gas plant for the auxiliary in the lower light.

V) Hume Tower

Figure F-4. 15: Shortland's Bluff Obelisk, Low Lighthouse and Hume Tower c. post 1924 (Image a02719, SLV Collection).

With the widening of the channel through blasting operations from 1924 onwards, new beacons were required to designate the new extremities of the channel. The Hume Tower was a 92 ft high painted (white) steel framework structure with an occulting red light at 110ft ASL that was built on 1st July 1924. In conjunction with the High Light, the tower marked the western limit of the 38 ft (11m) channel over the Rip Bank, which ensured safe clearance of Lonsdale Rock (Ports and Harbours Branch 1959: 188; Noble 1979:52).

VI) Park Beacon/ Mast

Situated in the park to the immediate north of the fort, was a white flagstaff mast with a red diamond top-mark. This mast was used in conjunction with the Low Lighthouse as a transit to mark the western extremity of the outer Corsair Rock. It was also used in transit with the Obelisk to mark the western edge of the Campbell wreck which covered at half tide (Ports and Harbours Branch 1959: 188).

VII) Shortland's Bluff White Beacon

This white prismoidal Back Beach Beacon stood 25ft high at a height of 37ft ASL, 298º 10' 283ft from the Low Lighthouse. In conjunction with the High Lighthouse, it delineated the edge of Lonsdale Reef, which dries at Low Water (Ports and Harbours Branch 1959:188).

VIII) Fort Beacon

A white conical beacon 16 ft high topped with a white spar was once located inside Queenscliff Fort, and was used in transit with the High Lighthouse for a channel that provided a minimum depth of 26 ft to clear Mushroom, Yellowtail and Lonsdale Rocks, as well as to skirt the kelp beds at Victory Shoal. This route was often used by local vessels to avoid the full force of the tide (Ports and Harbours Branch 1959:194).

IX) Fort Flagstaff
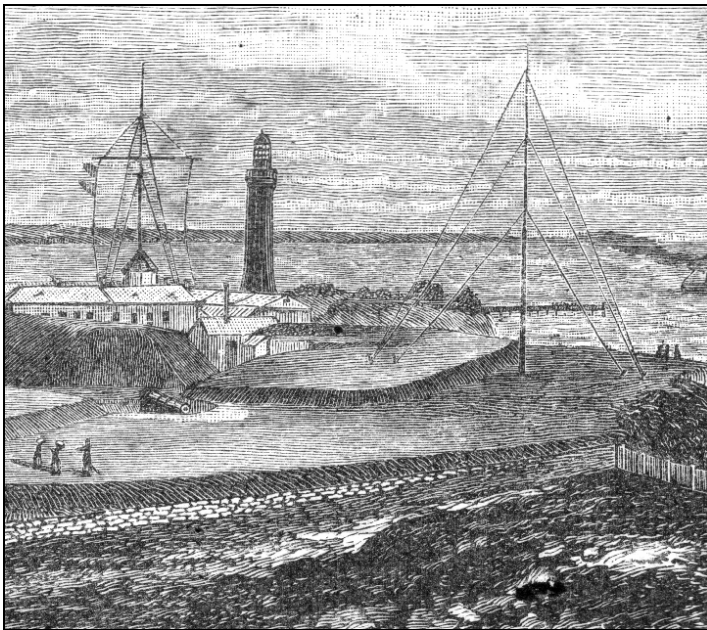
Figure F-4. 16: Fort Flagstaff (on right) from the south in 1888. Note High Lighthouse and Signal Station at left (Sutherland 1888:461).

A 53 ft flagstaff stood in Fort Queenscliff (near the NE corner of the range-finding Station), and appears in etchings of this area from 1888 (Sutherland 1888a:461). It was moved to a new position in 1952 to be used in transit with High Light when abreast of Lonsdale Rock to indicate a position west of leads, and when outside it signified a location on the western limit of 45ft Channel (Ports and Harbours Branch 1959:194).

X) Ball Beacon

Located on the SE extremity of a reef called Lighthouse Point, this 6ft high concrete beacon marked the edge of the deep water near Shortland's Bluff (Ports and Harbours Branch 1959:188).

XI) Murray Tower

This steel structure was constructed in 1974 to replace the obelisk, which was demolished shortly afterwards (Noble 1979:52; Raison 1997:12).

B) Swan Point

I) Swan Point High Beacon

A beacon was noted on Swan Island as early as 1843 (Stokes 1843 [chart]). The 50ft high iron cone shaped structure was used in conjunction with the Low Light Tower as an eastern open lead to clear Pt Lonsdale (Ferguson 1854:10; Burdwood 1855:121; Ross 1859 & 1860 [chart]). A replacement beacon had been installed by 1858 (NTM VGG 1858:1135), and was listed as white mast surmounted with a red top on the southeastern extremity of the island in 1868, and was used in conjunction with the Shortland's Bluff cliff face to clear Lonsdale Rock (GA 17/5/1875; Yule 1868:215, 1884:313). It was replaced in 1875 by an 80ft high conical tower made of redgum and oregon that was constructed in Williams town, and was taken to the site on the 11/5/1875 (GA 17/5/1875). By 1898, it had been extended to an 80ft high white beacon (probably to replace the Swan Spit Pile Light), surmounted with a red cone and ball, and was used in conjunction with the High Lighthouse on Shortland's Bluff to lead clear of Lonsdale Rock (Yule 1898:436). By 1907, the beacon was replaced with a 60ft high tubular steel structure 60ft high, painted white with a red top (HOA 1907:432). By 1913, the Swan Island Beacon had been replaced by a steel framework beacon with sloping sides, surmounted by a staff and globe, and retained its previous colours (HOA 1913:31). By 1955, a new 22m high steel framed beacon (with white slatted front and red disk top) was placed on the original site, with a triangular walled enclosure on the cope on which was a hut was built. It was used in conjunction with the inner lamp post on the New Pier and open from Shortland's Bluff to clear the shoalest portion of Londsale Rock area by 500ft (Ports and Harbours Branch 1959:201, 248).

II) Swan Point Low Beacons

Two beacons were located 300ft apart at the extremity of Swan Point in 1858. The northern beacon was red, and the southern black, both cone shaped with a ball over the top. These beacons were used as marks to clear the knoll in the West Channel, and beared from each other E by S and W by N (NTM VGG 22/6/1858:1134).
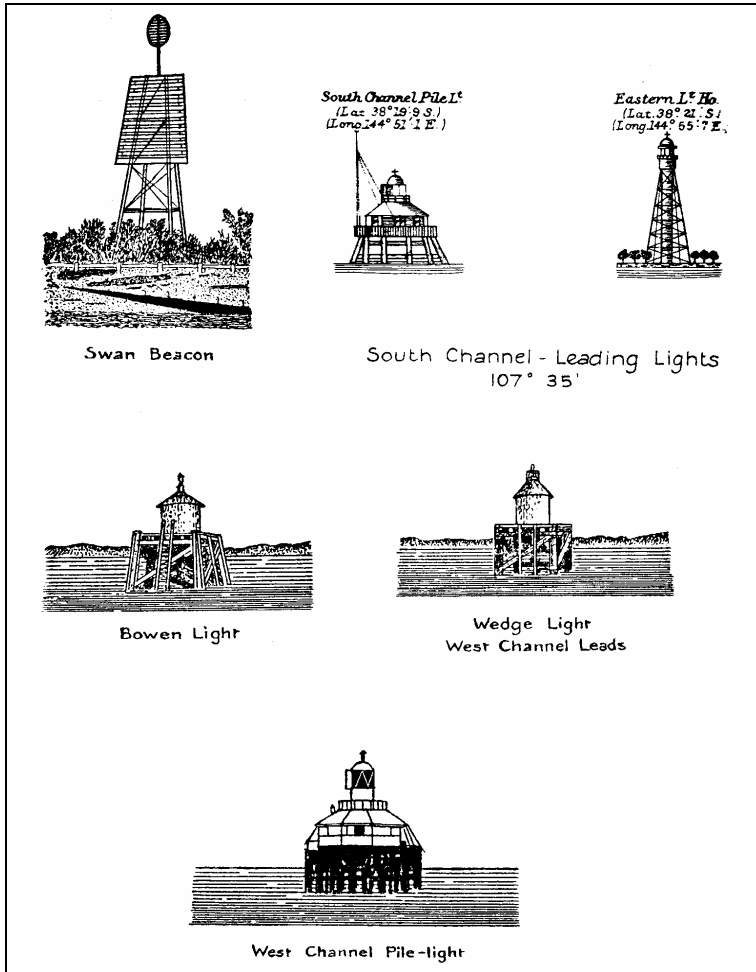
Figure F-4. 17: Channel Lights of Port Phillip in 1959 (Ports and Harbours Branch 1959:248).

C) Swan Spit Lights

I) Swan Spit Lightship #1

The Swan Spit light ship was installed sometime between 1855 and before 1860 (Burdwood 1855:124) to delineate the bank of the Swan Spit.

II) Swan Spit Lighthouse/ Pile Light

The Swan Spit Lightship was replaced by a pile lighthouse in 1860, which stood in four metres of water (Noble 1979:47). In 1860, one of two light keepers stationed at the lighthouse was lost after he failed to dock there and had to sail past on dusk (GA 14/11/1860:2). The timber lighthouse was built upon piles on the SW end of the Swan Spit in 15 feet of water, and exhibited a red fixed light that was visible from all directions. Vessels were warned not to approach closer than 180 ft of the beacon (VGG 15/1/1861:77). By 1868, the timber lighthouse exhibited both white and red sectors, with the latter indicating the entrance to the West Channel, and a fog gong was fitted (Yule 1868:216).

In 1864, the light keepers had apparently neglected the light by allowing it to go out, which delayed a number of pilots from entering the heads until daylight. The Chief Harbour Master (Capt Ferguson) and the Superintendent of lights (Mr Foy) investigated the case and forwarded their findings to the government for consideration after the light keepers admitted the negligence (GA 20/6/1864:2). The pile light was destroyed in 1881 by the vessel *Omeo*, which when drifting in calm weather completely demolished the structure (Yule 1884:313; Dod 1931:28; Noble 1979:47).
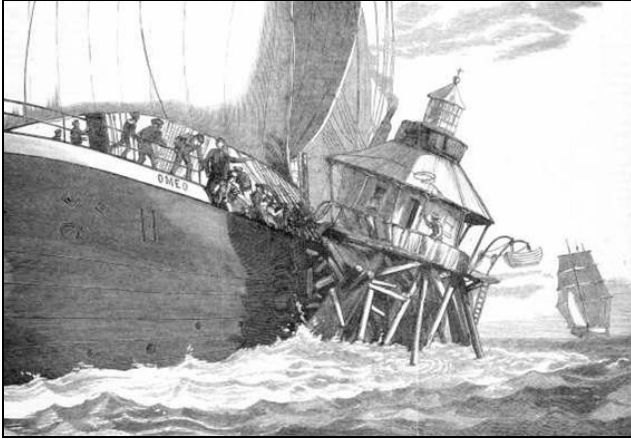
Figure F-4. 18: Vessel *Omeo* Collision with The Swan Spit Pile Light (Image: IAN, 5/10/1881, SLV Picture Collection).

Life aboard the lighthouse was often boring and sometimes perilous:

> The light keepers at the Swan Spit Light would often catch fish from the light to feed themselves. Two light keepers was almost murdered each other one night after a card fight on there. [PF]

III)   Swan Spit Lightship #2
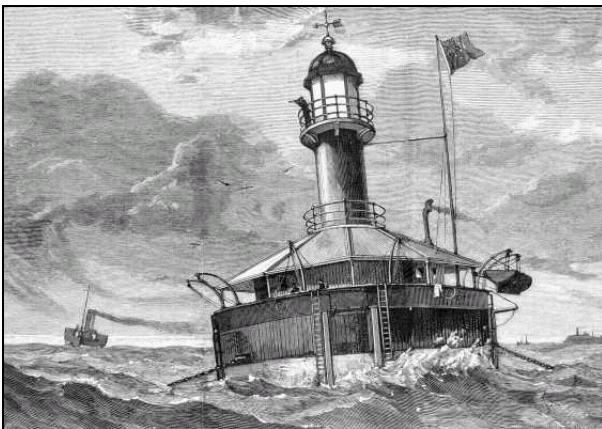
Figure F-4. 19: Swan Spit Floating Lighthouse #2 in 1886 (Engraving: S. Calvert, SLV Collection).

A new lightship replaced the former pile light by 1884, and was moored one cable ENE of the lighthouse site near the position of the black buoy. A fixed red light visible for 8M was exhibited and a gong was sounded every ten minutes in foggy weather (Yule 1884:314).

IV) Swan Spit Lightship #3
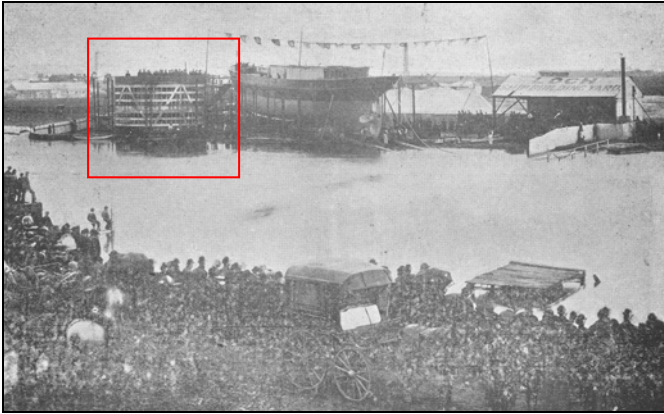
Figure F-4. 20: The launch of the Lady Loch at Lochs Shipbuilding Yard. Note the Swan Spit Lightship (#3) under construction on the left (In Michell 1909: n.p.)

Figure F-4. 21: Swan Spit Lightship #3 on location at Gellibrand's Point (In: Gibson 2000).

A new iron lightship was about to be constructed for the Swan Spit at a cost of £ 4000 in 1884 (QS 19/7/1884), and was built by Anderson, Campbell and Sloss in the Maribyrnong River near Melbourne between 1886 and 1887. The circular iron lightship was 36 ft in diameter, painted red and topped with a round iron tower topped with a red light 38ft above sea level, and was known as the "Dancing Bottle". It began duty on 12th September 1887, and continued at this site until 10th October 1894, when it was moved to take up station at Point Gellibrand near Melbourne (COPW 1888; Gibson 2000:8; Noble 1979:47). The lightship was commanded by Capt Liddell (Cuzens 1912:1). This vessel was later modified by removing the upper superstructure (accommodation quarters and tower lantern) and placed atop a pile structure to become the Gellibrand's Point Pile Light in 1906 (Gibson 2000:10). The structure was partially demolished when the vessel Melbourne Trader collided with it in fog in 1976. The structure was considered a

hazard to shipping, and the upper building was burned to the waterline by the Port of Melbourne Authority in the same year (Gibson 2000:14).

Figure F-4. 22: Gellibrand Pile Light (ex Swan Spit Lightship #3) being burnt to the waterline 1976 (After Photo: Laurie Dilks Collection / Bob Leak Collection. Dogwatch Issues No. 57: Cover).

V) Swan Spit Gas Buoy

By 1897, the lightship had been replaced by the Swan Spit Gas Buoy, which displayed a red occulting light (six to 8 times a minute), and was anchored in 18 ft water on the Swan Spit, bearing S 80°E nearly 9M from the Swan Island Beacon (Yule 1897:436).

D) Harbour Triangulation Beacons (Duck Island/ Pt Norgate/ Swan Bay)

White prismoidal beacons 16 ft high marked the harbour triangulation stations in 1959. They once stood on Pt Norgate at the north west end of Swan Island; the north end of Duck Island, and on the western shore of Swan Bay 2.5 cables north eastward from the root of MacDonald's Jetty (Ports and Harbours Branch 1959:241).

E) Point Lonsdale Signal Station/ Flagstaff/ Lighthouses/ Beacons

I) Tide Signal Station Flagstaff / Lookout House & Telegraph Station
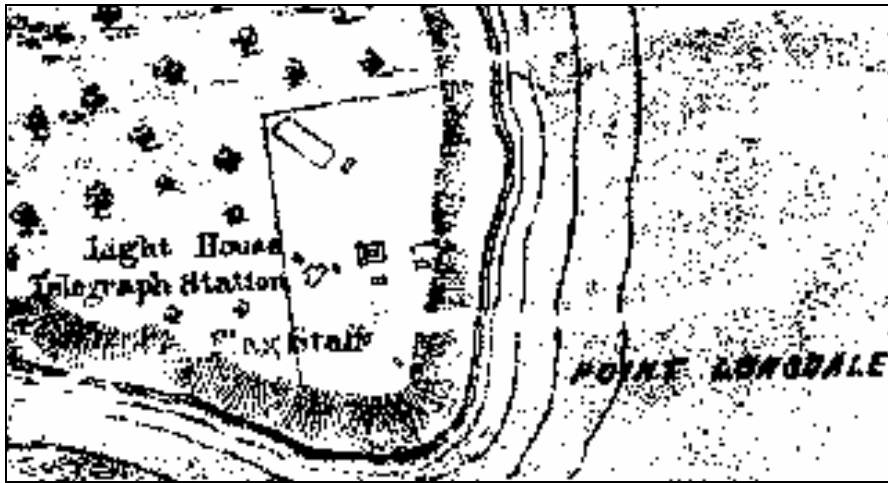
Figure F-4. 23: Pt Lonsdale Lighthouse Reserve Showing Locations of Timber Lighthouse, Telegraph Station and Flagstaff (McWilliams, c. 1863 plan, QHM Collection).

A flagstaff was in operation at Pt Lonsdale since at least 1843 (Stokes 1843 [chart]). A tidal signal station had been operating at Point Lonsdale since at least 1852, when Captain John Preston was appointed as the Signal Master (Dunn 1949: 28-9; Simpkin c.1900:2; Raison 1997:10). The operators were involved with the care of survivors from a shipwreck on many occasions (GA 2/5/1853:2). The conduct of the Mr and Mrs Potter at the Flagstaff, and Mr Foy (Superintendent of the Shortland's Bluff Lighthouse) displayed great promptitude in sending a dray to convey the emigrants from the wreck *Sacramento* to the heads, where Mrs Dod (at Government house) hospitably cared for them on this and on other occasions (GA 2/5/1853:2). The incidence of the wreck of the brig *Marmion* in 1853 was reported to the pilot and government vessels, via the flagstaff (GA 30/5/1853:2).

The flagstaff displayed colour coded pennants to signal the state of the tide. The station operated between sunrise and sunset (the only permitted hours for vessels to enter the port) and the signal keeper was also instructed to warn vessels approaching danger using the Marryatt's Signals (SVGG 2/6/1854:1306; Ferguson 1854:6). The tide signal station was operated by Capt Preston in 1858 before the lighthouse was later established there (Cuzens, In QS 27/7/1912).

Dunn (1949:29, 38) has advocated that a small colzol powered light which was hoisted up the flagstaff every night. However, Raison (1997:11-2) reported that this widely held belief amongst the community that the flagstaff operators (Preston and Fanning) operated a small light in the 1850s was false. This is reinforced by the lack of any mention of the light facility there in any of the contemporary sailing directions (Ferguson 1854; 1861; Burdwood 1855), and specific instructions that entering the port was not to be attempted at night (Supplement to the VGG 2/6/1854:1306). The tidal flagstaff also provided a tangible marker for the western Peninsula of the Bay, which consisted mainly of low sandy foothills (Ferguson 1861:6). It is however possible that if Preston did hoist a light each night, that it was intended as a locating beacon only to signal the entrance to the bay, but not for use in navigating through it.

Accommodation for the signal master was not constructed until 1857, when George Adman's was awarded a contract to construct a residence for Capt Preston, which meant the station staff may have lived in tents until that time (Raison 1997:10). However, Dunn (1949:29) states that Preston built accommodation in 1853-54 to avoid this situation, and also constructed underground water tanks (previously water was drawn form the soak in the flat area below the house), a sun dial (which is supposedly buried in the dunes) and planted several orchards. If this was the case, the earliest building may have been of timber construction.
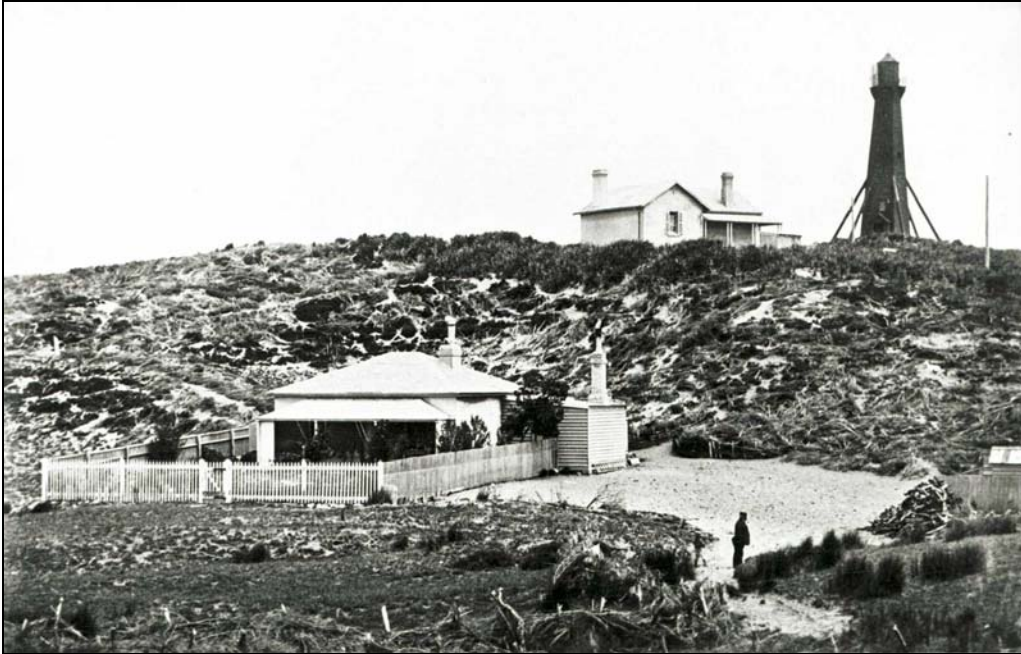
Figure F-4. 24: Pt Lonsdale Signalman's/ Lighthouse Keeper's Cottage, Telegraph Station and Timber Lighthouse c.1882 (Photo: PH 2800, QHM Collection).

A lookout station was established at Pt Lonsdale sometime around 1858, which was later operated by Capt Preston's niece, Fanny Green from 1861-1869 (Simpkin n.d.: 6; Dod 1931:51; Dunn 1949:32-4). The station house, known locally as "House on the Hill", was supposedly built by convicts around 1857 (Dunn 1949:29). This structure had two foot thick stone walls, and was demolished in 1946 (Photo PH5963, 1943 (QHS), Dunn 1949:35, 39). Pilots delivered mail to Capt Preston (Dunn 1949:30), and the structure acted as the Pt Lonsdale post office for many years, before a lower house was constructed sometime in the 1860s (Dunn 1949:39), which was very well received by locals who no longer had to wait for their mail in the cold wind on the hill [JP].

In 1861, a branch line telegraph station (to Queenscliff) was established at Pt Lonsdale at the lighthouse reserve. The Morse instrument was replaced by a Wheatstone Machine that was worked by the lighthouse staff in 1869 (when Ms Green left to become postmaster in Malmsbury). This was replaced by a telephone when it was invented in 1878. The Queenscliff to Pt Lonsdale telephone line was the first to be used for the general public in Victoria (Dod 1931: 51). The station was still operating in 1884 (Yule 1884:307), and was still extant in 1943 (see Figure F-4.24).

In 1886, a signal master was stationed at Pt Lonsdale to attend the flagstaff. This flagstaff was also used to signal shipping mishaps, and relayed signals when the boat from the pilot schooner

Rip was swamped in the Boatswain Channel (QS 27/3/1886). The signal station was operated by signal master Mr Frank Dunk in 1888 who also operated the fog horn (QS 22/9/1888, cited in Dunn 1949:60-1). The tidal flagstaff was again noted in 1897 (Yule 1897:429). With the advent of radio services, the tidal signals became less important, and the service was discontinued in the early 1990s.

Figure F-4. 25: Pt Lonsdale Signal Station, 1943. Note the prisoner of war internment camp to the right, and the telegraph station still extant in the distance (Photo: PH5963, QHM Collection).

II) Pt Lonsdale Beacon

By 1856, an 20ft high unlit red pillar beacon with a skeleton ball was established 200ft north west of the flagstaff, and was used as the thwart lead mark in conjunction with the flagstaff to clear the obstruction later known as Lonsdale Rock (VGG 1856:438; 1858:1185). In 1858, it was listed as a 20ft high red pillar with a skeleton ball (NTM VGG 1858:1135). The beacon was located approximately 100 metres to the northwest of west of the flagstaff (Ross 1859; 1860 [charts]), and was noted again in 1868 (Yule 1868:210).

III) Pt Lonsdale Telegraph Station/ Lookout House/ Rocket Shed

Rockets for the rescues were originally stored in a gabled weatherboard structure at Pt Lonsdale in 1860 (Syme 2001:27), but later additional rocket sheds were installed closer to the most common wreck locations at Pt Nepean (stored in the Customs Shed - QS 13/8/1887), Pt Lonsdale (a new brick structure) and Sorrento by 1876, 1890, and 1899 respectively (Noble 1979:48; O'Neill 1988: 42; Boyd and Roddick 1996: 3, 11, 13; Raison 2002:27) and was also stored at Queenscliff in 1893 (Boyd and Roddick 1996: 11; Raison 2002:27).

Figure F-4.26 & 27 in approx 1866 shows a timber shed in this area. Later, a brick rocket shed was built closer to the Pt Lonsdale lifeboat pier.
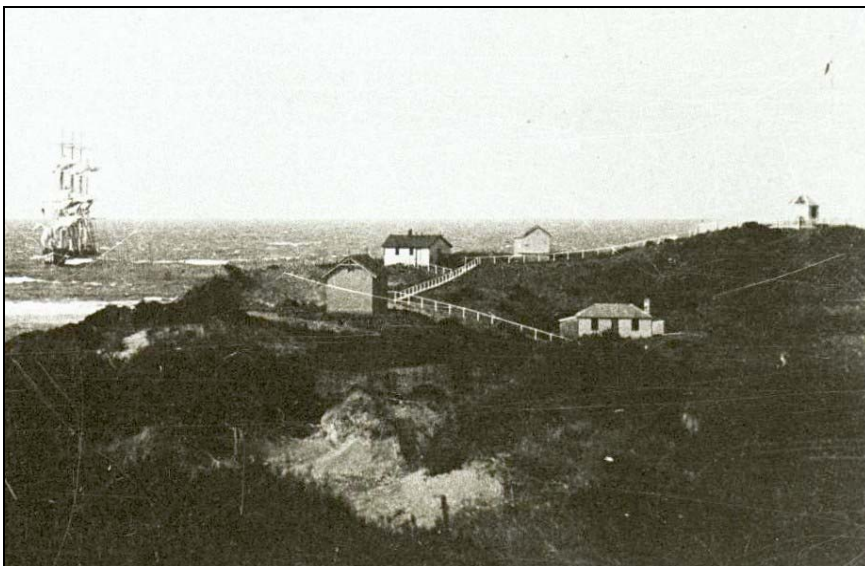
Figure F-4. 26: Pt Lonsdale Brick Rocket Shed, Fog Horn Shed, Former Rocket Shed, Accommodation Quarters (?) and Tidal Flagstaff c. 1889. Note Holyhead Shipwreck on Lonsdale Reef (Photo PH532, QHM Collection).

IV) Pt Lonsdale Temporary Lighthouse

Figure F-4. 27: Pt Lonsdale Navigational Equipment c. 1866. From Left: Timber (Later Lighthouse) Tower (1), Telegraph Station (2), Tidal Flagstaff (3), Rocket Shed ? (4), and Temporary Lighthouse? (5) (Photo: PH328 QHM Collection).
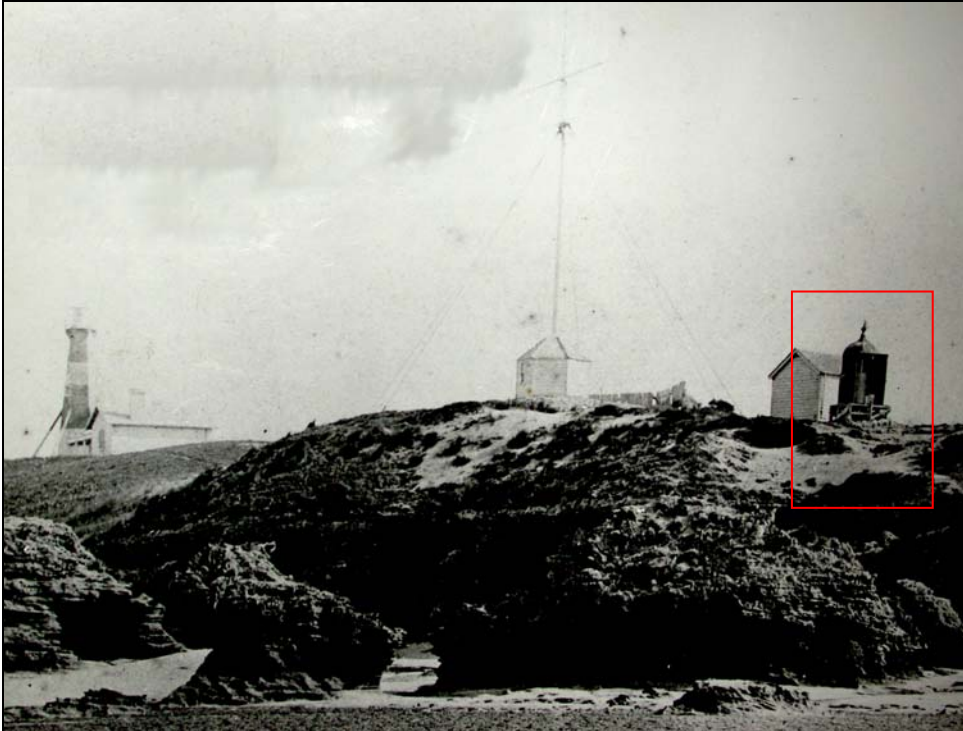
Figure F-4. 28: Pt Lonsdale Navigational Equipment c. 1866. Closer view of temporary lighthouse (Photo: PH328 QHM Collection).

After the ship *Lightening* struck an unchartered rock near Pt Lonsdale when leaving Port Phillip in 1862, subsequent surveys by Commander Henry Cox revealed two areas of submerged rocks 1400 yards SW of Pt Nepean. A temporary lighthouse was subsequently placed close to the site of the current Point Lonsdale lighthouse in February 1863. The very low structure was exhibited a narrow beam that was only visible to seaward for 7 nM (Raison 1997:11-2). The structure remained in use until 1867, when a light was placed on the old Low Light timber Tower from Queenscliff that was re-erected close to the Point Lonsdale Beacon to the west (Yule 1868:211, Raison 1997:11).

V) Pt Lonsdale (Timber) Light Tower (Ex Shortland's Bluff Low Light Timber Lighthouse)

When the Low Light (timber) Tower at Shortland's bluff was dismantled, the prefabricated structure was moved to Point Lonsdale, and re-erected close to the site of the Point Lonsdale Beacon in December 1863. The previous beacon was then removed, as the new tower performed the same daylight function. The replacement tower was painted red and black bands. However, a light was not placed on the tower until 25th February 1867, and the temporary light was then removed. The temporary light was superceded by green and red sector lights that could be used to differentiate a vessel's position outside or inside of Lonsdale and Lightening Rocks (Yule 1868:211; Dunn 1949:39; Raison 1997: 11). This lighthouse remained in service until the present Point Lonsdale Lighthouse was constructed in 1902 (Raison, 1997:12). The former tower remained on the site until 1912, when a Mr Robert Thompson used the demolished structure for firewood (The Hydrographic Office Admiralty 1913:30; Dunn 1949:69).

Figure F-4. 29: Pt Lonsdale Timber Light Tower c. 1867 (Photo PH4560, C. Nettleton, QHM Collection).
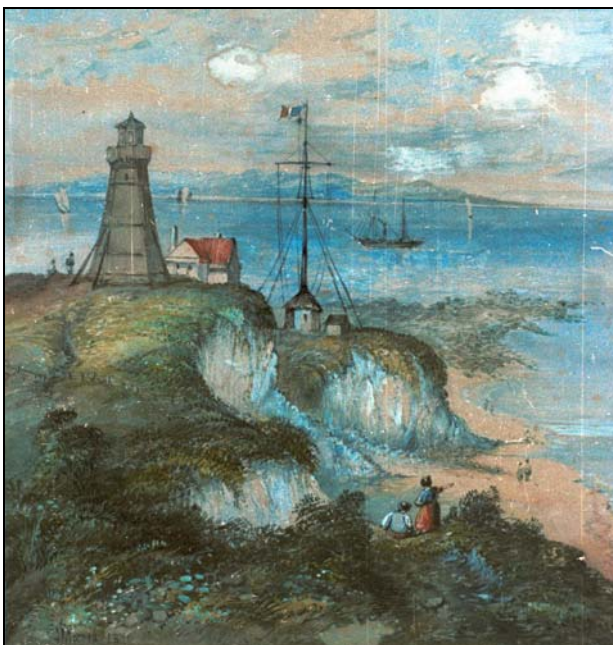
Figure F-4. 30: Pt Lonsdale Lighthouse, Telegraph Station/ Lookout Hut, Tidal Flagstaff and Possible Lookout Shed/Rocket Shed c1870 (Watercolour: J Morris, Photo: WD52, QHM Collection).
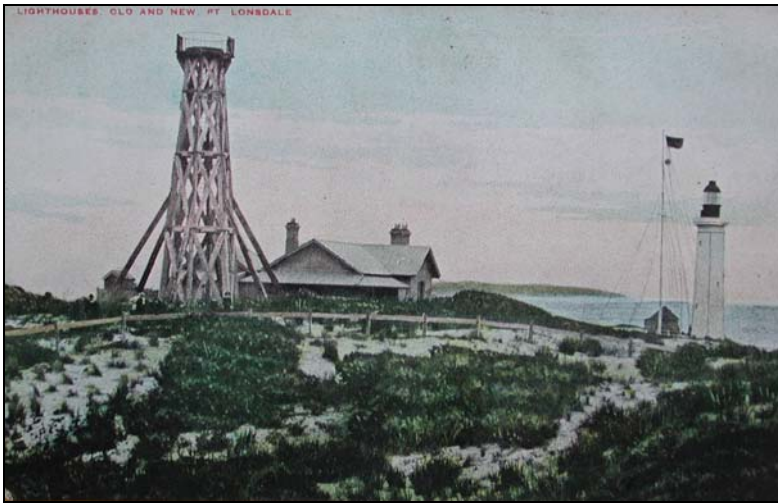
Figure F-4. 31: Pt Lonsdale timber lighthouse, Telegraph Station, Tidal Flagstaff and Concrete Lighthouse c.1909 (Peter Ferrier Collection).

VI) Pt Lonsdale Lookout House

A lookout house was noted at Pt Lonsdale in 1868 -1897 (Yule 1868:210; 1897: 430). The exact nature of the structure was not indicated, although it is presumed that it functioned as a shelter for those on watch for passing shipping and vessels in distress, and could refer to the telegraph station noted above.

VII) Fog Horn

In 1882, the ship George Roper went ashore at Lonsdale Reef after its tow the steam tug Despatch inadvertently strayed too close to shore in fog (Dunn 1949:56), leading to the total loss of the vessel. The tragedy highlighted the need for an acoustic warning in thick weather. A fog horn was delivered to the town by the steamer *Despatch* in August 1886, and was erected a week later at Pt Lonsdale. The horn was steam powered, and could be heard as far as Queenscliff and the Quarantine Station at Portsea (GA 13/8/1886; QS 21/8/1886; Dunn 1949: 60). Dunn (1949: 60- citing QS 22/9/1888) recorded that the horn was originally a hot air engine, which was replaced with a steam powered version in 1888, and that a sound rocket was fired every five minutes until enough steam was generated to sound the horn. The horn emanated a distinctive sound like "a sick cow" that often woke local residents from their sleep. The Fog Signal was noted again at Pt Lonsdale in 1897 (Yule 1897: 429). The steam driven fog horn was replaced by an electrical horn sometime around the late 1980s/ early 1990s, but has been recently renovated back to its original condition [LID].

VIII) Pt Lonsdale Lighthouse

In 1889, it was reported that the new lighthouse for Point Lonsdale would be similar to the one land on the south side of the South Channel (McCrae Lighthouse), and would be imported from England (QS 19/8/1899), but it never eventuated. A new concrete lighthouse was built by the Coates Brothers Builders and first lit on 20th March 1902 (Dunn 1949:68). It was 70ft high, painted white, 120ft ASL and its occulting light was visible for 17nM. It displayed two sector lights, white and red, to delineate the safes approaches to Port Phillip Bay and dangerous areas

contiguous to the coastline respectively. The light was also used for navigating the South Channel to the Heads (The Hydrographic Office, Admiralty, 1907:425, 488-9). The light was based on a traditional design, but was the first concrete (Portland Cement) building in Victoria. An octagonal structure was later built in 1950 at its base to house the Keepers Station and Observation Room, and is still used as a Port Control Tower today (Allom Lovell and Associates 1984:181, Raison 1997:12).

Figure F-4. 32: Pt Lonsdale Lighthouse and shed (Photo PH83, QHM Collection).

Figure F-4. 33: Pt Lonsdale Signal Station and Lighthouse c. 1925 (Photo PH5326 QHM Collection).

IX) Scend Shed

Figure F-4. 34: Pt Lonsdale Scend Shed (1), Fog Horn Shed (2), Lighthouse (3), and Tidal Signal Station (4) c. 1940 - pre 1950 (Photo: H32492-3873 SLV Picture Collection).

This shed was used to measure the pitch and plunge of vessels caused by waves entering the heads. The shed seems to have been constructed within the structural remains of a former searchlight emplacement.

F) *Lonsdale Bight Beacons*

Two new beacons had been installed in Lonsdale Bight by 1907, and led vessels through the rocky flat (1/2 mile outside the heads through which the new channel had been dredged) and Corsair Rock in 42ft deep water (HOA 1907: 428). By 1913, two lead beacons had been mounted in Lonsdale Bight. The front beacon was a white triangle with a white disk topmark, and the rear was an inverted black and white striped triangle (HOA 1913:31).

G) *Popes Eye Fort Beacon*

Changes to the character of the Popes Eye Fort Beacon from flashing to occulting were noted in 1913 (HOA 1913:32).

3) Channels

Many accounts recognized that recognized that vessels of different sizes used the West and South Channels differentially, and that small craft used the West Channel, whilst deeper drafted ships always used the South Channel (Jervois1879:4; QS, 22/5/1884).

A) *West Channel*

As early as 1841, plans were under way for buoys marking the West Channel, to be laid by the Customs revenue cutter *Ranger*. Two white buoys were installed on the east bank, and a red one on Popes Eye (GA 21/7/1841). Sir George Gipps, Governor, gave an undertaking to the Chamber of Commerce on 28/10/1841 (Boys 1841) that this channel would be kept well buoyed. The survey cutter, the *Loelia*, was stationed at the Heads under command of Capt Cox who supervised the laying of buoys, and took soundings of the channels (Cuzens 1912:1). By 1853, the channel was still unlit at night. Springhall (pers comms) maintained that channels were kept clear of silt by the action of propellers scouring the route

> In the 1960s and 70s we took vessels up the West Channel that had less than 17ft draught. The vessels' draught decided which channel was used. The Princess Tasmania that crossed Bass Strait used the West Channel.The propellers from the ships keep the channels clear when they are using them. The grass and sand pinnacles grow up if the channel is not being used and they get blocked. That's what happened to the smaller channels in the Bay. [CSp]

I) West Channel Lightship #1

By 1854 (Burdwood 1855:124; Register of the National Estate), a lightship had been placed in the northern eastern extremity of the West Channel, and replaced the North Fairway black buoy. The West Channel Lightship was moored in three- four fathoms of water at the northern end of the West Channel. The vessel had three masts, (two of which displayed balls – the symbol for a vessel at anchor) and these and the hull were painted red. The vessel displayed two white lights, which could be seen for 9nM in all directions (which was increased to 10nM by 1861). In the event of the vessel breaking loose, the balls would be removed, and two red lights displayed (one

over the davit, and the other over the stanchion near the ensign staff, and a bright flare shown every 15 minutes during the night (VGG 15/1/1861:77; Yule 1868: 225). The ship was run by Capt Fysh (Cuzens 1912:1) or Liddell (Noble 1979:8).

II) West Channel Pile Light #1

A Pile Lighthouse was erected in 1881 to replace the lightship (Noble 1979:48). The lantern and upper tower from the lightship were removed to the new pile light (Register of the National Estate listing). The lighthouse stood on piles in 15ft water, on the north east side of the West Sand, from which a fixed white light was exhibited between the bearings NE by E (through west), and S. E ¼ E., with a fixed red at all other directions. The light was elevated 31 ft above high water, and had a maximum range of 11nM (Yule 1884:325). The light retains its original Newel stair access, and was important for its role during foggy conditions (Register of the National Estate Listing).
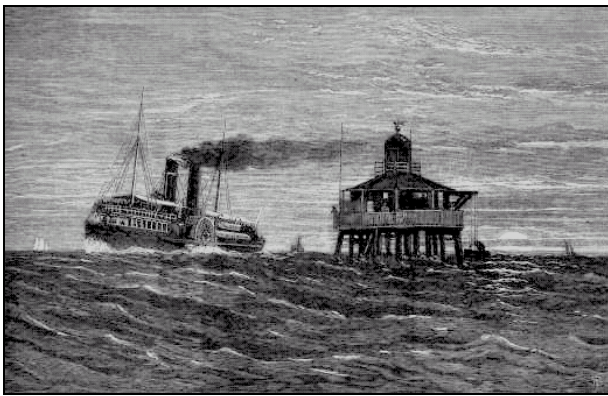
Figure F-4. 35: "Passing the West Channel (Pile) Light" in 1882 (AS 25/2/1882, SLV Collection).

III)   West Channel Lightship #2
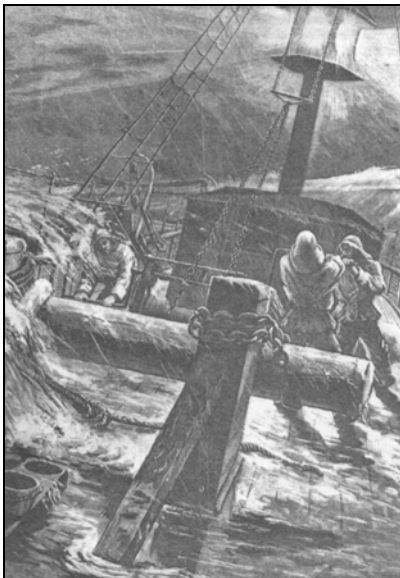
Figure F-4. 36: West Channel Lightship #2, when originally stationed off Gellibrand's Point, c. 1861-1895 (Calvert, IAN 5/8/1885, SLV Collection).

Gibson (2000:8) records that on the 4th March 1895, another lightship that was formerly known as Whites Lightship was removed from Gellibrand Point placed in the northern end of the West Channel, probably replacing the previous facility. This lightship had previously been used at Point Gellibrand since 1861, and had been built by Williamstown boatbuilders William and George White for about £3300 in 1860. It had one mast surmounted by a ball and a white flashing (every 30 seconds) revolving light. It is possible that this lightship was placed in this p osition during the construction of a second replacement pile light.

IV) West Channel Pile Light #2

The West Channel Lightship was replaced by a pile light by 1897, which stood on piles in 15ft water on the north east side of the West Sand. The sectored white light was visible between bearings S 14°E and N 34°E, and a red beam showed in all other directions, elevated 31ft above high water, and was visible for 11nM, and was equipped with fog gong and horn (Yule 1897:450).

V) West Channel Pile Light #3
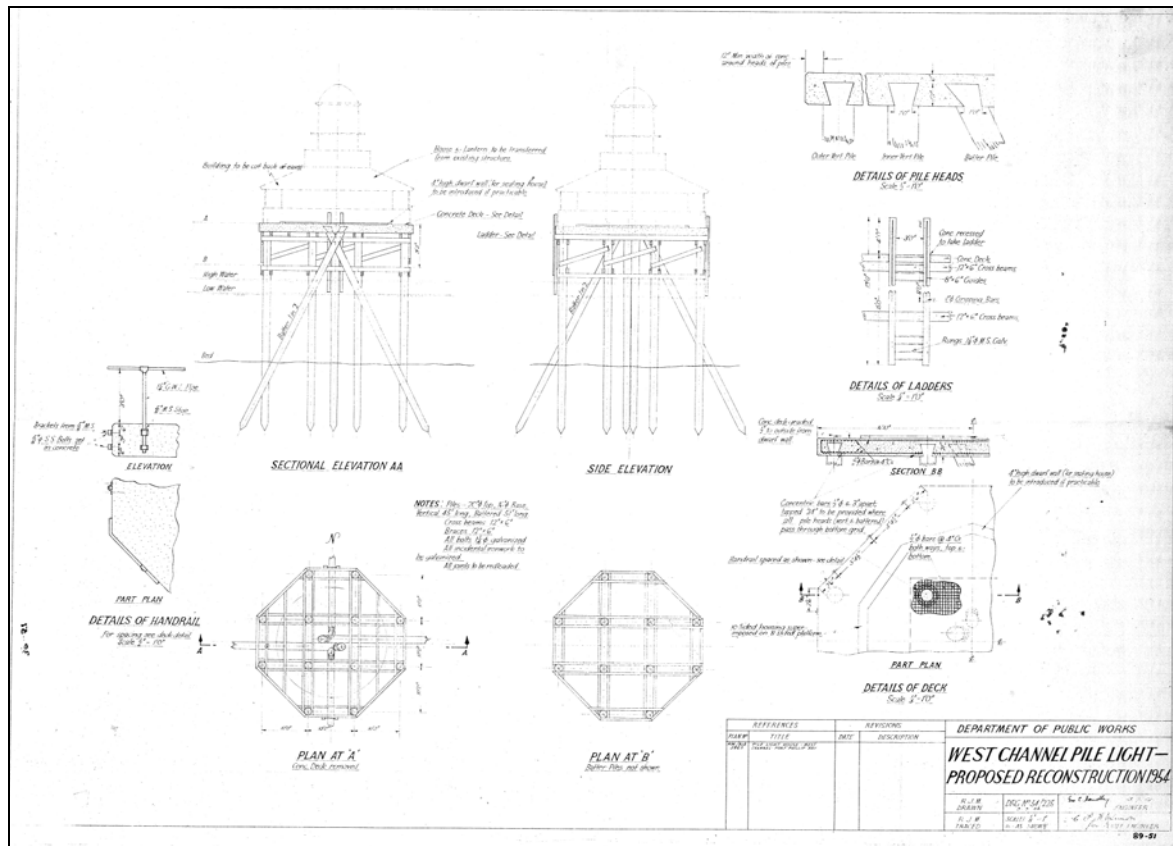
Figure F-4. 37: Plan of Reconstructed West Channel Pile Light (DPW 55/225:1954, QMM Collection).

In 1954, the DPW (55/225:1954) planned to rebuild the pile platform and move the original house and lantern from the old structure. However, the verandah was to be removed, and this coincided with a period of upgrade and construction of other pile lights in the same area (Grimes [DPW 55/37:1955]; Wedge [DPW 55/245:1955], and Woodriff [DPW 53/471:1953] Pile Lights).

VI) Monash Light, Wedge Beacon/ Grimes Pile Light, Woodriff

These two beacons were constructed in 1930 to lead vessels through the southern section of the West Channel. Monash Light is located at Pt Nepean on the hill behind the Quarantine Station. Wedge Beacon was named after the surveyor in John Batman's expedition, is located on Popes Eye Bank, and had a white hut located on four piles in about 2.5 metres of water (Noble 1979:47). Upgrades to these lights were proposed in the mid 1950s (DPW 55/245:1955), along with the construction of the Grimes and Woodriff Pile Light (DPW 55/37:1955; DPW 53/471:1953).
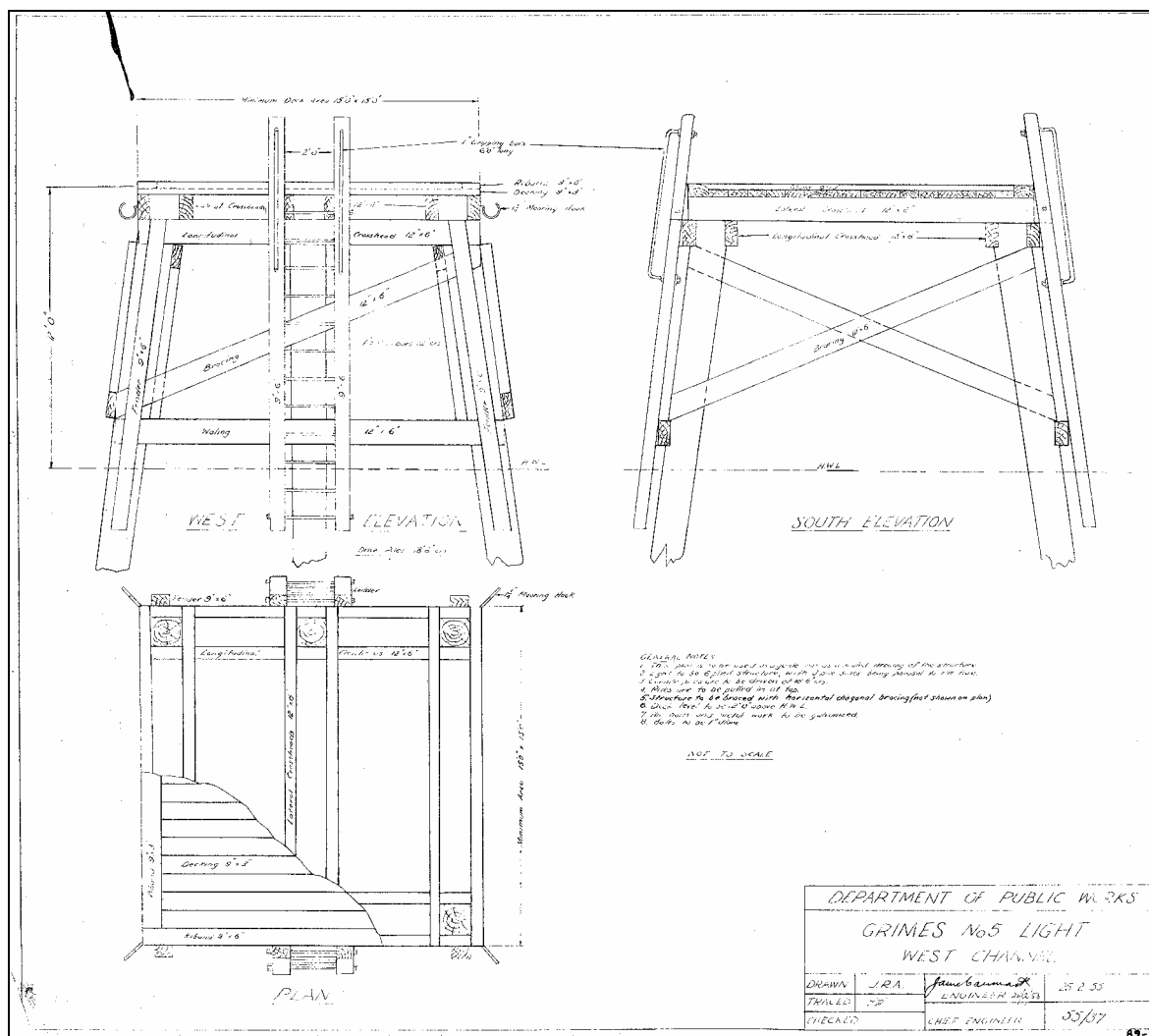
Figure F-4. 38: Plan of Grimes #5 West Channel Light (DPW 55/37:1955 plan, QMM Collection).
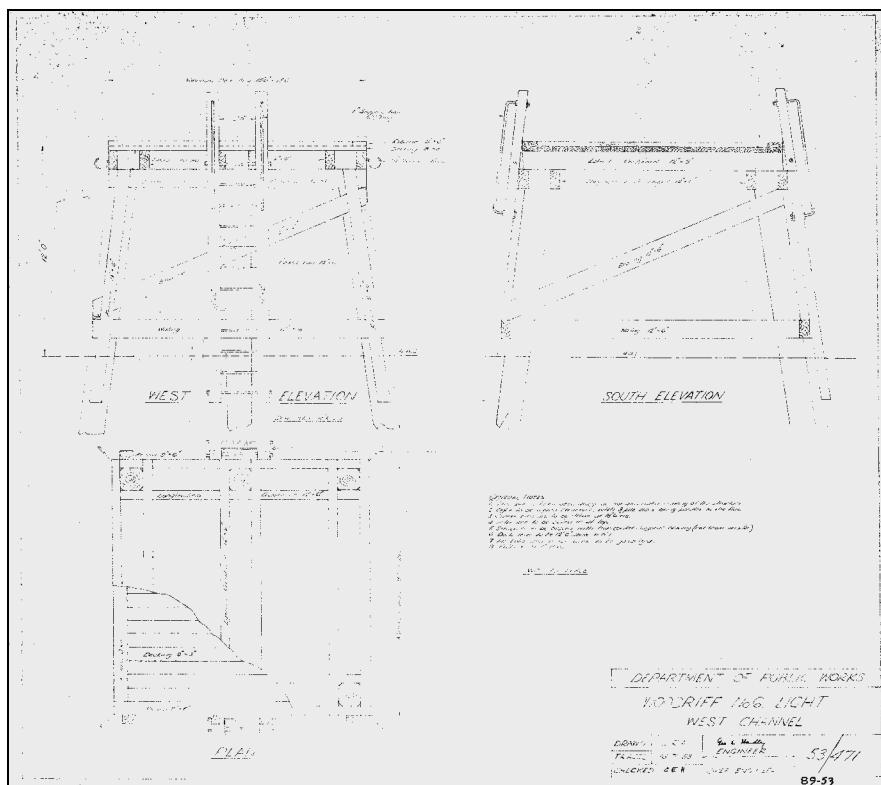
Figure F-4. 39: Plan of Woodriff #6 West Channel Light (DPW 53/471:1953, QMM Collection).
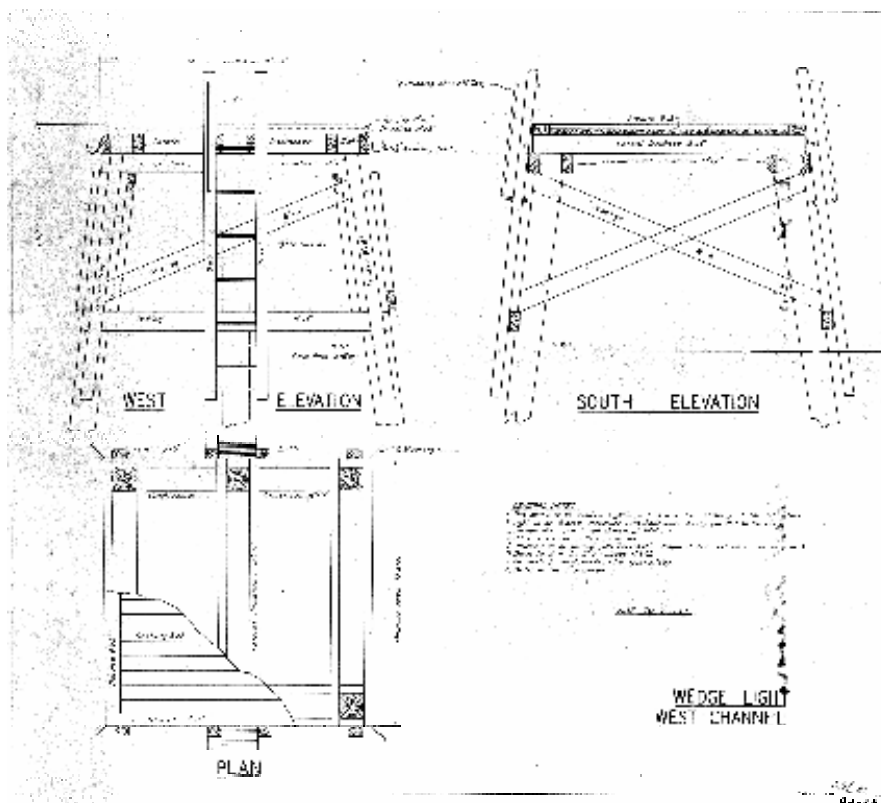
Figure F-4. 40: Plan of Wedge Light, Popes Eye, 1955 (DPW 55/245:1955, QMM Collection).

VII)   Coles Channel Marker (also known as White Lady)

Constructed in 1947, as a lead mark in conjunction with the Shortland's Bluff High Light for safe passage through the inner reach of the West Channel (Noble 1979:48).

B) South Channel

There were no lights in the South Channel in 1855 (Draper 1900:8). Around 1903, a dredge had been hired to deepen the eastern end of the South Channel (Noble 1979:50).

I)   Eastern or High Light

These leads were established in 1873, to guide vessels through the South Channel. The Eastern or High Light was a thirty metre high tower erected at the foreshore base of Arthur's Seat, which displayed a flashing white lead light to indicate the channel, and red sector lights for the sandbanks. The light is still known as the Eastern or McCrae light. (Noble 1979:49).

II) South Channel Pile Light

Built in 1874, this lighthouse was part of a network of leads to guide vessels through the South Channel. This pile light was stationed by two light keepers, who maintained constant watches, and operated tidal and fog signals until 1910, when the personnel were removed. The inside of the personnel quarters still display paintings of passing vessels done by the keepers (Noble 1979:49). The structure contained a spiral stairway access to the tower, a living room, bedroom, office and water closet. The Australian Sketcher (17/1/1880) illustrates how the lightkeepers would always meet passing vessels (eg the Williams) to obtain newspapers and magazines. The light became redundant in 1985, and the upper part of the structure was relocated in 1998 to the Rye Channel when it was threatened by passing shipping, although its piles still remain in situ on the original site. (Anderson 1997b:7). For many years the (William John) Ferrier family lived on the South Channel Lighthouse (around 1911). Adverse weather often prevented the re-supply of the lighthouse, and the family had to feed themselves on fresh fish and potatoes for up to six weeks at a time (Ferrier 1991:1). [LF] maintains that his father (William) was once stationed here, and that his family of eight children grew up here. William Ferrier painted many murals of passing vessels on the walls of the light, which were removed to the Polly Woodside Museum in 1979 (Austral Archaeology 1997:7).

The light was manned until 1925, when acetylene gas lights were introduced. The light operated until 1985, when it was it was decommissioned (Austral Archaeology 1997:7, 8).

III)   Dredge Cut

As blasting operations at the heads increased the size of the vessels entering the port, the restricted depth of water at the eastern end of the South Channel (8m) curtailed its use by larger ships. A dredged channel (later known as the Dredged Cut) was begun in 1909 to increase the water depth to 9.5m, 122 metres wide and 2.5 km long. This was increased over the years to its current depth of 13 metres deep, 229 metres wide, and 2043 metres long, which enabled any vessel capable of crossing the Rip to also navigate the South Channel (Noble 1979:52).

IV) Hovell Pile Beacon

This pile lighthouse beacon was constructed in 1924, and marks the eastern extremity of the Middle Ground Sand Bank, where shipping enters the South Channel (Noble 1979:52).

C) Straight Cut Channel

A proposal was raised in 1907 to dredge a straight cut channel directly from Hobsons Bay to the Heads, as a means of saving vessels steaming time. The proposition was apparently taken seriously, as a survey of the proposed route was begun in 1907 by the Engineer of Ports and Harbours, but was interrupted to undertake other works (QS 30/7/1910).

D) Boatswain Channel

[PF] maintains the inner (boat) channel through Pt Lonsdale was constructed using dynamite in the 1880s, as an alternative route for fishermen to avoid the worst of the weather and currents through the Rip, but this is disputed by other members of the community [JB; LID]. The boat of the pilot schooner Rip capsized in the *channel which divides the reef* in 1886 (QS 27/3/1886). This channel, along with the channel between Corsair Rock and the Campbell shipwreck was used by fishermen to avoid the worst weather in the Rip, and took advantage of the shelter it provided from boat winds and currents [HM].

E) South Channel/ West Channel – Vessels Routes

Vessels of heavy draught are brought up through the South Channel, the other steering a shorter course for the lay up the West Channel (Mark Three, In. QS 24/5/1884).

4) Anchorages

A) Observatory Point Anchorage

First shown on a chart in 1843 (Stokes 1843).

B) Popes Eye Anchorage

First shown on a chart in 1843 (Stokes 1843).

C) Queenscliff Anchorage

First shown on a chart in 1860 (Ross 1859-60). There were 4 English vessels with over 1200 passengers that were forced to anchor inside the heads awaiting pilots in 1853 (GA 27/4/1853:2).

D) Capel Sound Anchorage

First shown on a chart in 1862 (Symonds and Henry 1836 [updated 1862]). Draper (1900:12) reported that Capel Sound at the east of the South Channel was used as an anchorage in contrary winds.

E) Quarantine Ground Anchorage

First shown on a chart in 1860 (Ross 1859-60). There was an anchorage located to the north of the Quarantine ground where vessels were laid up for quarantine inspection (Draper 1900:13).

F) West Channel Anchorage (North of)

First shown on a chart in 1862 (Symonds and Henry 1836 [updated 1862]). Used by vessels about to proceed down the West Channel when encountering unfavourable winds, tide or weather.

G) Indented Head Anchorage

First shown on a chart in 1862 (Symonds and Henry 1836 [updated 1862]).

H) Stingaree Bay Anchorage

Used by fishermen to anchor fishing boats.

5) Archaeological Signatures of Navigational Features: Pile Lights, lightships and other buoyage facilities

A) Pile Lights and Buoys

Figure F-4. 41: Lyall Mills and the author at the modern West Channel Pile Light.

Figure F-4. 42: Archaeological remains of the old West Channel Pile Light.

Due to its unusual geology and bathymetry, Port Phillip Bay has one of the most complicated navigational networks in Australia [CSp], and large numbers of lead markers were installed in this area to navigate the many channels. Additionally, due to the size of the bay, many pile lights were installed as guides through the channels. Several navigational sites were visited in southern Port Philip, as well as Hobsons Bay (see also Duncan 2004a, 260-263). The archaeological signature of these sites are characterized by either square or octagonal arrangements of extant piles or stumps, along with structural timber beams and planks and iron fittings. Many of these lights were occupied by lightkeepers in the nineteenth century (Swan Spit, South Channel, West Channel and Gellibrand Pile Lights), and thus presented a marked contrast to their later unoccupied counterparts. Occupied sites were immediately identifiable by the presence of nineteenth century bottles, ceramics and other artefacts, and even sinkers, which were scattered across all the sites (except for the West Channel Pile Light, where bottles were not present), along with structural materials of the accommodation quarters (eg fireplace/chimney bricks, lead water tanks and downpipes, tidal signals, iron rails, and corrugated iron) in cases where the site had been demolished [DL; LM; PF]. In some cases (Swan Spit Pile Light) personal items such as dolls heads have been found in the immediate area indicating the presence of children on board, despite oral traditions from lightkeepers that regulations prevented access to staff only. This suggested that families may have been visiting fathers onboard the pile lights, and that children were playing on the verandahs outside whilst the parents caught up inside, an observation that is supported in local folklore. Although families did indeed later reside on pile light structures (eg Gellibrand and South Channel Pile Light), this pile was demolished well before that period, and occurred when concerns were expressed that lighthouse keepers about the vigilance of lightkeepers, and it was reported that two lightkeepers were on board when it was run down by the ship *Omeo*.

Old Light Remains

New Light

Landing Remains
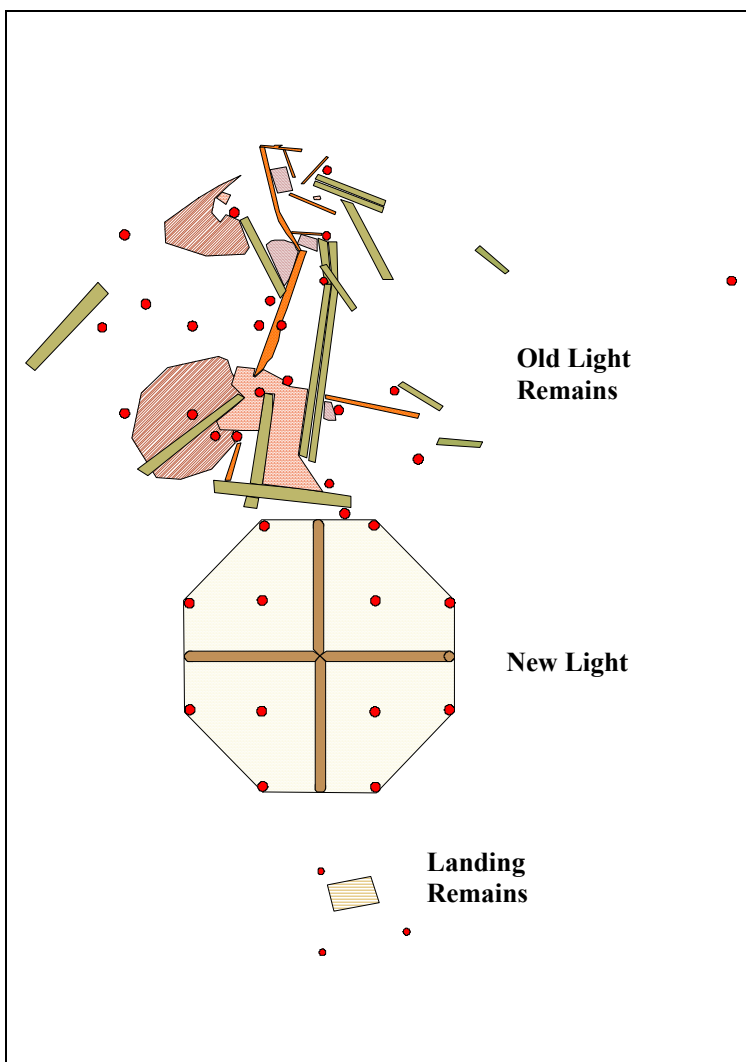
Figure F-4. 43: Underwater survey of old and new West Channel Pile Light.

Figure F-4. 44: South Channel Pile Light in 1994 (Photo: Brad Duncan).

Figure F-4. 45: Underwater survey of the South Channel Pile Light (Photo: Liz Kilpatrick, Heritage Victoria).

The sites signatures also varied by location, and three out of four were located on the edge of channels, except for the Gellibrand Light (Melbourne) which was located near a peninsula in shallow water close to Hobsons Bay entrance. Most lights were generally located in shallow depths (under 10m) on the edges of the banks which they delineated, except for the South Channel Light which by necessity stood in 60ft water to mark the dogleg turn of the South Channel. Several divers reported that artefacts scatters were limited to within 10m of manned lights, an observation that was reinforced during the author's inspection of the West Channel Pile Light. Of note the Swan Spit Pile Light lies in two separate locations, after it was struck by the vessel that demolished it carried the upper structure approximately 250m before it fell from the bow. These pile lights are much more robustly constructed than their unmanned equivalents.

Figure F-4. 47: Peter Ferrier and water downpipe from the Swan Spit Pile Light.

Figure F-4. 46: Peter Ferrier with the Swan Spit Pile Light Drain Pipe.

Figure F-4. 48: Dolls Head recovered from Swan Spit Pile Light, Peter Ferrier Collection

Figure F-4. 49: Fire brick recovered from Swan Spit Pile Light, Peter Ferrier Collection.

Figure F-4. 50: Swan Spit Pile Light Lead Roofing.
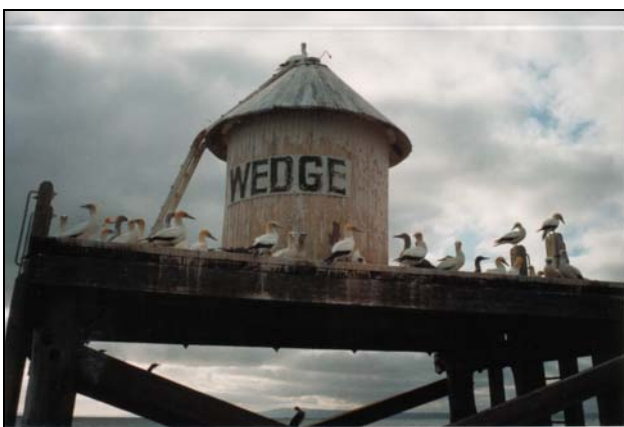
Figure F-4. 51: Wedge Beacon Hut in 1990.

Figure F-4. 52: Wedge Unmanned Pile Light shed structure before restoration, at the Queenscliff Maritime Museum.

Figure F-4. 53: Wedge Unmanned Pile Light shed structure before restoration, at the Queenscliff Maritime Museum.
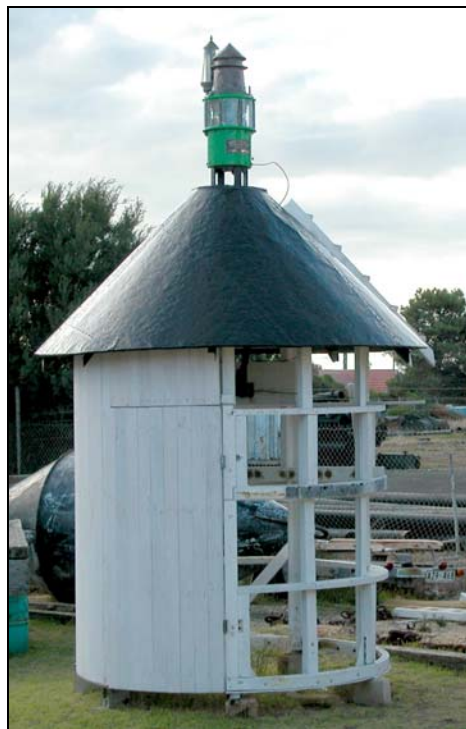
Figure F-4. 54: Wedge Unmanned Pile Light shed structure after restoration, at the Queenscliff Maritime Museum.

Figure F-4. 55: Grimes West Channel Marker Pile Hut #5, Queenscliff Maritime Museum.

Figure F-4. 56: Unmanned pile light - Coles Channel Pile Beacon.

Figure F-4. 57: Wedge Beacon Base (with Light Hut Removed) and Modern Wedge Beacon 2002.

Figure F-4. 58: Underwater Remains of Woodriff Pile Light (Photo: Malcolm Venturoni Collection).

Figure F-4. 59: Underwater Remains of Woodriff Pile Light (Photo: Malcolm Venturoni Collection).

Other unmanned features visited included the Coles Channel Pile Light, which apart from a gas bottle rack and spartan other fallen structural components were archaeologically sterile. The superstructure on these structures was more lightweight than manned piles, with much smaller huts built on top of a concrete base. Similar structures (Grimes and Woodrift Pile Lights) were simply pushed over into the water when replaced by singular pile beacons, and archaeological evidence of the former structures is still evident near #6 and #5 West Channel lights [GR; MV].

Two admiralty anchors and two clump or mushroom anchors (with 6ft long shaft and 4ft diameter bowl) arranged in a cross pattern and connected with chain were reported by a number of informants [DL; LM; PF; TA] at the northern end of the West Channel, which coincided with historical documentation for the West Channel Lightship. Goldsmith Carter (1945: xix) historical observation of lightship mooring configurations in England provided further verification that this was probably a lightship mooring. A similar setup associated with the Swan Island Lightship may also be located on Swan Spit, where a diver [PF] has located a large anchor and length of chain.

It appears from cartographic analysis and archaeological investigations that lightships were initially installed to delineate dangerous shoal areas, and there were later successions to pile lights, and then isolated singular pile beacons. This theory was tested at the location of the Geelong lightship, where isolated artefacts dating to the 1860s were found at the location of the former Geelong lightship site, but no anchors or chain were evident. However, a former beacon pile was discovered contiguous to this location in the anticipated area.

Furthermore, many circular lightships were used in Port Phillip in the nineteenth century, and at least one of these, the Gellibrand Lightship (nee Swan Spit Lightship #3) was converted to a pile light by removing their above water superstructure and placing it atop piles. This structure was visited for comparative analysis, and a substantial ballast mound (15m wide at the base and 5m wide at the top, and 6m high) was discovered within 2m of the surface, with scattered deposits of nineteenth century glass and ceramic artefacts, and remains of numerous timber piles, structural iron and iron wire strewn around the site (see Figure F-4.61-.62). According to Gibson (2000: 10), the ballast stone was installed in 1906, when the piles (which had been insufficiently driven into the seabed as they struck bedrock) began to move in the large swell and fetch generated in southerly winds. Further stone was installed in 1938. Remains of the upper tower structure of the pile light were removed prior to the torching of the light in 1976, and are now located at the Polly Woodside Museum in Melbourne.

Figure F-4. 61: The Point Gellibrand Pile Light c. early 20th century (State Library of Victoria Collection).

Figure F-4. 60: Gellibrand Pile Light Tower, Polly Woodside Museum, Melbourne.

Figure F-4. 62: The underwater remains of the Point Gellibrand Pile Light during the 2002 inspection.

Figure F-4. 63: Diver inspecting the Gellibrand Pile Light in 2002 .

Further navigational sites delineating channels were also located or identified.   Former navigational marker buoys were characterised by anchors and chains in the West and South Channels that ran contrary to the current direction (as opposed to lost ships anchors which would normally lie in the same direction as the current, or have large coils from their extended length), and appear to have been left behind when the buoys were removed or replaced [DL; PF].   A navigational mooring block and chain was also found near the *Clarence* shipwreck by the author, and more square concrete blocks and chain were reported by Allen on the north west side of the West Channel.   A number of remains of the actual beacon mooring buoys itself were evidenced by either intact barrel (Pt Lonsdale [TA]) or surviving hoops (South Channel [LM; MS]).   Iron mooring buoys and isolated finds of mooring chains were also reported outside the study area at Melbourne [PT].   Pile and beacon sites were often evidenced by broken lens glass (1cm thick clear, red or green), or remains of batteries [DL; PF], and were observed by the author at Pt Nepean pier and the West Channel Pile Light sites.

Figure F-4. 64: Barrel Buoy Navigation Marker, Queenscliff Maritime Museum.

Figure F-4. 65: Iron Navigation Buoy, Queenscliff Maritime Museum.

Numerous former extant singular beacon piles were evident in the West Channel [GR; MV], which were to have been blasted or sawn off when they were replaced. Several discrete rough cut bluestone mounds approximately 1.5m high above the seafloor, and 2m diameter were described on the West side of the West Channel [DL; PF], and it was suggested that these could be reinforcements cairns to stop scouring around isolated beacon piles.   This observation was reinforced by a former lighthouse keeper [GF] who observed similar behaviour in the 1950s to reinforce a leaning pile (#3) in the West Channel.

These archaeological signatures all provide potential information regarding former maritime routes through the landscape. Based on these observations it was suggested that the course of the West Channel had altered since it was first navigated (Ferrier, Love pers comms) as evidenced by the abundance of artefacts in shallow on the west bank of the West Channel, which was substantiated by comparing old and modern charts using the GIS geo-referencing process. Therefore, the identification of archaic navigational features has the ability to inform of former trading routes and channels, which has ramifications for the positioning and relocation of historically known shipwreck and other types of underwater archaeological sites.

B) Terrestrially Based Lighthouses

Figure F-4. 66: Shortland's Bluff High Lighthouse and Signal Station.

Figure F-4. 67: Shortland's Bluff Low Light and lighthouse keepers' cottage.

Several lighthouses were still extant at Shortland's Bluff and Pt Lonsdale, but several other lighthouses have been demolished. No direct archaeological evidence of these structures are visible, remains may exist under the dunes at Pt Lonsdale, and under gun emplacements in Fort Queenscliff. Indirect evidence survives for both structures. The earliest structure at Shortland's Bluff was made of sandstone, but was demolished when the stone began crumbling in the damp maritime environment. The site where the stone was quarried is still evident below the bluff. Two extant bluestone lighthouses are located at Queenscliff, along with the former timber signal station used for port control. Two accommodation blocks are associated with each lighthouse, the upper made of brick and stone, which also housed the telegraph station, and the lower of timber construction.

Figure F-4. 68: Shortland's Bluff Telegraph Station inside the grounds of Queenscliff Fort.

At Pt Lonsdale, the former lighthouse site is marked by the archaeological remains of the sandstone lighthouse keepers house foundations, a stone lined well, possible fence post remains, and exotic plants. A fog horn shed and original steam boilers still stand extant next to the current lighthouse, along with a scend shed, which was used to calculate the plunge or pitch of a wave in various swell conditions and its subsequent effects on vessel depth.

Figure F-4. 69: Pt Lonsdale Telegraph Station.

Figure F-4. 70: Foghorn Shed, Pt Lonsdale Lighthouse Reserve.

Figure F-4. 71: Pt Lonsdale Lighthouse and Signal Station, and tide flagstaff.

Figure F-4. 72: Pt Lonsdale Tidal signal station enclosure.

Figure F-4. 73: Pt Lonsdale Tidal Indicator Flagstaff Indicators at Queenscliff Maritime Museum.

Figure F-4. 74: Possible Former Tidal Signal Station Shed? Located at Kora-Weari Guest house, Pt Lonsdale.

Other terrestrial sites included the brick remains of the base and scattered rubble of the obelisk beacon at Shortland's bluff, which was demolished by pushing it over. This site consists of a 1m square brick base (level to the ground, with a scatter of brick rubble up to 20m away. The remains of the Park Mast are also visible as a half metre square concrete surrounds outside Fort Queenscliff's walls. A former beacon was observed in a state of collapse to the south east of the Swan Island fort, but could not be accessed due to military base restrictions. The concrete structure was approximately 3-5m high before collapse. The Pt Lonsdale Tidal signal station consists of a walled in concrete pad, with remains of iron flagstaff base and rope reel bases.

Figure F-4. 75: Obelisk remains, Shortland's Bluff.
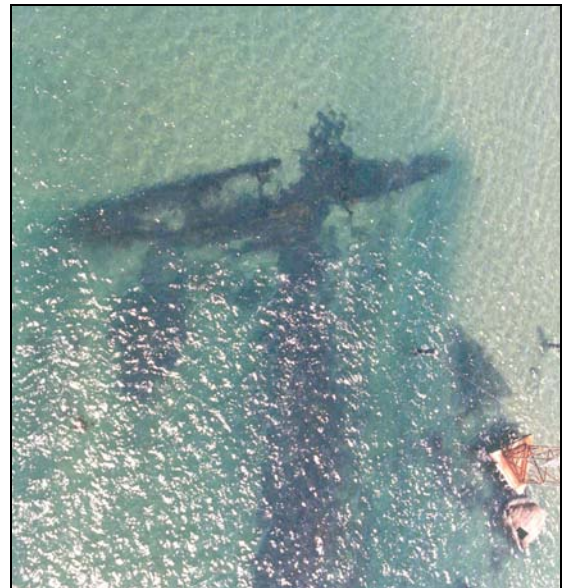
Figure F-4. 76: Swan Island Beacon remains (modern and relict) (Photo: Photo Mapping Services, DSE).

Figure F-4. 77: Shortland's Bluff directional beacon, Murray Tower, Hume Tower and Low Lighthouse White Lighthouse.

Figure F-4. 79: Hume Tower and Low Light, Shortland's Bluff.

Figure F-4. 78: Shortland's Bluff Directional Beacon.

Figure F-4. 80: Murray Tower, Shortland's Bluff.

Figure F-4. 81: Portarlington Beacon.

Figure F-4. 82: McCrae Lighthouse, Rye.

C) *Characterization of Lighthouse Sites*

Examination of a number of significant lighthouse structures within the study area suggest that lighthouse precincts are characterized by the presence of several structures, including lighthouses, telegraph station, tidal flagstaff, beacons, fog horns and associated sheds, rocket sheds, and accommodation quarters. The construction materials for these will vary dependent upon the available local construction materials.

These observations are consistent with observations made from historical documentation and archaeological surveys at other light stations around the state (see Duncan 2003a, 2004a; Sutherland 1888b:55)
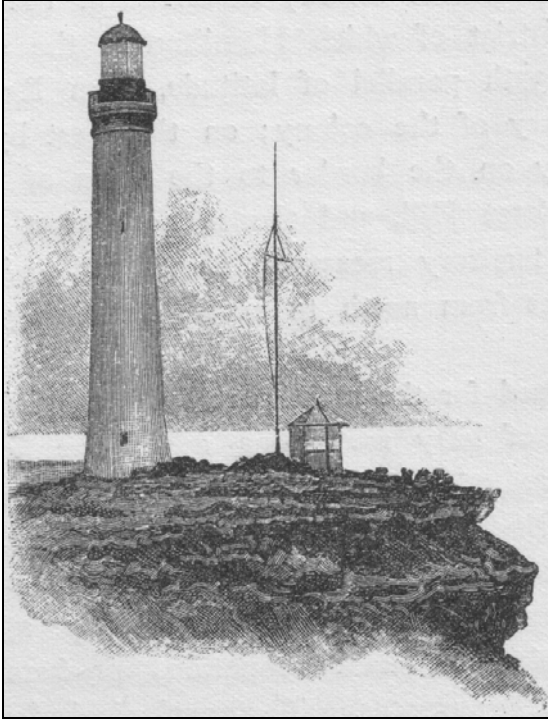
Figure F-4. 83: Cape Nelson Lighthouse Precinct showing Similar Infrastructure to the Heads Study Area (Sutherland, 1888b:55).

- **Pt Lonsdale Light**:
  - This is the landfall light for Port Phillip Bay
- **Shortland's Bluff Lights**:
  - The white light (low) and high black light viewed in line act as a main lead for ships through the great channel
  - **1842**: First lighthouse built
  - **1850**: Red gum octagonal tower built, which carried the low light.
  - **1853**: Signal master keeps oil light burning from Flagstaff
  - **1856**: The stone in the lighthouse was badly eroded and a decision was made to build new and better lights
  - **1862**: Black lighthouse completed 25m high
  - **1863**: White (low Light) completed 22m high
  - **1863**: Red Gum structure moved to Pt Lonsdale where the signal master had kept an oil light burning since 1853
  - **1880**: Foghorn Installed at Pt Lonsdale
  - **1902**: Octagonal Red and White Tower replaced by Pt Lonsdale Lighthouse (Vis 36.6M , whereas previous visibility range was 16km)
  - **1993**: Foghorn deactivated (QMM Display)

Table F-4.1 below outlines the potential and actual archaeological signatures of navigational landscapes.

Table F-4.1: Potential and Actual Archaeological Signatures of Navigational Landscapes

Feature	Artefact	Sorrento/ South Sand	Portsea	Triconderoga Bay	Pt Nepean	The Rip	Pt Lonsdale	Lonsdale Bight	Shortalnds Bluff/ Queenscliff	Queenscliff Bight	Popes Eye	Swan Bay	Swan Island/ Duck Island	Swan Spit	St Leonards to Portarlington	Coles Channel	West Channel	Loelia Channel	Symonds Channel	Mud Islands	Pinnace Channel	South Channel	Capel Sound/ Rye	Geelong	Hobsons Bay	Westernport Bay
Navigation																										
Channels																										
	Beacons/ Lead Lights							a	a	a			a	a								a				
	Channel Buoy							a																		
	Channel Pile									a							a					a		a	a	a
	Cognitive Leads																									
	Lighthouses			a			a			a													a		a	
	Lightships													a			h							h	h	
	Pile Lights											a		a			a					a		a	a	a
	Pier Lead Lights									h																
	Stakes											a													a	a
	Towers							a	a	a													a			
	Trees (as bearings/leads)								h																	a
Channel Vessel Use																										
Differentiation																										
West Channel	UK bottles and ceramics (early)																x									
	Later locally porduced merchandise																x									
South Channel	International/ state/colony																					x				
	bottles and ceramics																									
Navigational Features																										
Channel Pile Markers	Piles																x					x		x		
	Bluestone mounds																x									
	Batteries																									
Channel Marker Buoys	Mooring chains																x					x				
	Barrel Hoops																									
Pile Lights	Batteries																									
	Acetylene tank racks															x										

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Category	Item	Markings
Pile Lights - Occupied	Piles	x ... x
	Accomodation hut - extant	x
	Accomodation hut - archaeological	x ... x
	Chimney	x
	Bottles, ceramics and other personal discard	x ... x ... x ... x
	Toys	x
	Ballast mound	x
	Rainwater tank/ lead pipe and Roof	x
	Batteries	x
	Bricks	x ... x
	Glass lights lens	x
	Glass light surrounds	x
	Communications cable	x
Pile Light Accomodation Hut - Archaeological	Chimney	x
	Rainwater tank, pipes & fixtures	x
	Bricks/firebricks	x
	Corrugated iron	x
	Bullets/ cartridge cases	x
Pile Lights - Unoccupied	Structural discard only (no personal artefacts)	a
Lighthouse	Lighthouse - extant	a ... a ... a ... a
	Foghorn shed - extant	a
	Tidal signal station - extant	
	Tidal signal station - archaeological	a
	Flagstaff / telegraph - extant	
	Flagstaff / telegraph - archaeological	a
	Observation station - extant	a
	Quarry	a
	Lighthouse keepers quarters	a ... a
	Rocket shed	a
	Lifeboat Shed	a
	Pier -extant	a
	Pier - archaeological	a
	Fence/ fence posts	a
	Batteries	a
Lighthouse Keepers Quarters	House - extant	a
	Stone/ concrete house pad	a
	Garden - Exotic Plants	a
Tidal Signal Station - archaeological	Concrete pad & wall	a
	Iron post base	a
	Rope reels	a

Feature	Description																												
Flagstaff / Telegraph - Archaeological	Concrete base surrounds						a																						
Lightships	Clump & admiralty anchors, connecting chains															a													
	Bottles, ceramics and other personal discard																									a			
Beacons/ Lead Lights	Brick base/ scattered bricks						a																						
	Iron framed tower - extant						a							a															
	Iron framed tower - archaeological																												
Pier Lead Lights	Batteries			a			a																						
Cognitive Leads	4 fingers past						a																						
Towers																													
Trees (as Leads/ Compass Bearings)																													
Blasting	craters				a																								
	deepened channel				a																								

Appendix F-5: Potential and Actual Archaeological Signatures of Shipwrecks, Strandings and Salvage Landscapes

Feature	Artefact	Location																												
Wrecks and Looting		Sorrento/ South Sand	Portsea	Tritonderoga Bay	Pt Nepean	The Rip	Pt Lonsdale	Ocean Grove – Apollo Bay	Lonsdale Bight	Shortalnds Bluff/ Queenscliff	Queenscliff Bight	Popes Eye Shoal	Swan Bay	Swan Island	Swan Spit	Duck Island	St Leonards to Portarlington	Coles Channel	West Channel	Laelia Channel	Symonds Channel	Mud Islands	Pinnace Channel	South Channel	South Channel Fort/ Pile Light	Capel Sound/ Rye	Upper Port Phillip	Geelong	Melbourne	Westernport Bay
wrecks	graves in dunes			h					h	h																				
	memorials									eh																				
	morgue									ae																				
	undertakers									eh																				
	wreck	a	a	a	a	a	a	ah	ah		ah	a	a	a	a		a	a	a					a		a	a	a	a	
Stranding	bricks			a																										
	ceramics																													
	cinder jugs (from boiler)																		a											
	coal								a	a	a	h							a											
	deliberate stranding area			h	ah				ah			h		h	ah															
	glass/ bottles														a															
	iron pots								h																					
	keel - yacht (lead)														a														a	
	local environmental damage					h			a																					
	lost anchor			ah			ah					a			ah															
	mishap	h	h	h	h	h	h		ah	ah	h	h	h	h	ah		h	h	h		h	h		h		h		h	h	
	paralell ballast mounds																												a	
	pig iron ballast	a																												
	rudder			a										a		a			a											
	stone/ ballast mound								a																				a	
	timber/ wreckage								a																					

Lifeboat Service	flares			h		h																			
	haul off warp buoy/anchor									h															
	kedge anchor			h		h																			
	lifeboat							e																	
	lifeboat pier					eh																			
	lifeboat shed/ davit					h				h															
	lifeboat slipway								eh																
	lifeboat wreck						a																		
	lifesaving track			h																					
	rocket gear	e						e																	
	rocket projectile case								a			a													
	rocket Shed	eh		h		eh																			
	signal station					aeh		eh																	
	wreck bell	eh						eh																	
Flotsam Trap	barrel remnants				h	h	h	h			h	h	h					h		h					
	cargo cases										h	h													
	driftwood						a	a			a							h							
	dunnage						a																		
	general		h	h	h	h	h	h	h	h	h	h	h					h		h					
	kerosene tins										ah	ah													
	timber/ spars/wreckage			a	a		a	a										h							
Jetsam Trap	coal						a	a	a																
	new material culture - rakes						h																		
Official Salvage	cargo missing from wreck			ah		ah	ah																		
	cleared area of vegetation			a		a																			
	corrugated road into water					h																			
	donkey boiler/ engine or other machinery					a, h	h																			
	explosives evidence/ flattened wreck	ah		h																				ah	
	flying fox/mast buried in dune			h		h	h																		
	grappling hooks			h																					
	lagan/flotsam trap accumulations					h	h	h		h			h					h							
	lost anchors			h																					ah
	salvage flotation devices						h																		ah
	salvors camp					h																			
	ships tanks (for floating cargo)					h	h																		
	tramway					h																			
	wrecked salvage vessel					ah																			ah

Category	Signature	Markings
Shipbreaking	derrick stay supports (concrete filled drums/anchor points in rocks/	a
	derrick/crane	a
	dune blowout	a
	hard	a
	jetties - stone	a
	site on periphery of settlements	a a
	vessel remains - in shallow water	a ... a a
	vessel remains - explosives damage: small contorted pieces of iron	a
	vessel remains - onshore	a ... a a
	winch wire	a
Looting	arson/ fire damage (land)	h
	arson/ fire damage (ship)	h ... h
	arson/fire damge in foreshore foothills	
	barrel - buried in dunes/ goods hidden in	h h h h h ... h ... h
	blackmarket activities	h ... h
	coin hoards	ah ... ah
	flotsam traps - lack of material at known flotsam traps	h ... h h ... h ... h
	imported/ alcohol bottles & luxury goods close to fishing anchorages/ residences/ camps	h ... ah a a
	imported/ alcohol bottles & luxury goods close to wreck site	a a
	kerosene tins - buried/ goods hidden in	h
	lined trenches - corrugated iron or timber	h
	luxury goods hidden within houses	h

	luxury goods in household/ communal rubbish dumps						h			h																		
	raised doorways in lighthouses							eh																				
	ships constructional material used in houses/ structure/fences				h			h			h						h										
	various artefact types buried in sand dunes		h	h		h		h	h	h		h															
Hulks Adaptive Reuse	breakwater/ erosion Control	a							a		a	a																
	jetty/landing										ah	a												a				
	power supply										ah																	h

CODE	archaeological	a
	extant	e
	historical	h

App. F-5:4

Appendix F-6: International Examples of Traditional Practice/ Transported Landscapes Associated with Shipwrecks

The numerous incidences of shipwrecks in the study area have produced many reactions that have similarities in many other maritime communities worldwide.

1) Lifeboats and Salvage

Lifesaving on the east coast of the UK was largely undertaken by companies of beachmen and fishermen who would put out to sea in fast open yawls to save lives and rescue valuable cargo. These men supported themselves by salvaging cargo from vessels. This work was later taken over by the locally run Volunteer Lifeboats, and then later by the Shipwrecks Institutes and Royal National Lifeboat Institution (Malster 1974; Hedges 1989: 24-5).

There are obvious comparisons with the lifeboat service in Britain. Yawls were adopted for use in early rescues by the Queenscliff based government boat crews (see Figure - Photo Yawl above) since their applicability for these tasks had already been proven in similar situations throughout the UK (e.g. Malster, 1974:34), as were subsequent later overseas lifeboat designs. The practices of using distress and rocket flares for communications to the wreck and to alert the lifeboat; the integral relationship between lifesaving, the lifeboat crew and the Lighthouse service; and the use of wreck bells to summon the crew has been extensively observed in Britain (Treanor, 1904:83, 97, 121, 141; Malster 1974; Goldsmith Carter 1945:12;). Treanor (1904: 46, 49) described a typical launch at Deal:

> There is no harbour at Deal, and all boats are hauled up the steep shingly beach, 50 or 60 yards from the waters edge, by a capstan and capstan bars, which, when a lugger is hove up, are manned by 20 or 30 men. When hauled up thus to their position, the boats are held fast in position on the inclined plane by a stern chain rove through a hole in the keel called the "ruffles". This chain is fastened to a trigger, and when the lugger is to be launched great flat blocks of wood called "skids", which are always well greased, are laid down in front of her stem, her crew climb on board, the mizzen is set, and the trigger is let go. By her own impetus, the lugger rushes down the steep slope on the slippery skids into the sea. Even when a heavy sea is beating right on shore, the force acquired by the rush is sufficient to drive her safely into deep water. Lest too heavy a surf or any unforeseen accident should prevent this, a cable called a "haul-off warp" is made fast to an anchor moored out far, by which the lugger men, if need arise, haul their boat out beyond shallow water. The arrangements described are exactly those adopted by the lifeboats, which are also lugger rigged, and in their rig are singularly familiar to Deal men.

The rush to the lifeboat shed upon the sounding of the wreck bell bears close similarities to similar practices in Kent (Treanor 1904:65, 143), where fishermen, pilots and boatmen usually clambered to get a place on the lifeboat. This behaviour demonstrated that the lifeboat service similarly provided much needed supplementary income, (see Figure 8.48):

> The Coastguard of Deal Beach called the Coxswain of the lifeboat…[who] seeing the flash of the distant guns…rang the lifeboat bell. Men sprung out of their warm beds, and, half dressed, rushed to the lifeboat. Their wives or mothers followed with the remainder of their clothes, their sea boots, or jackets and mufflers. Then came a struggle to claim a place in the lifeboat.. Deal beach at such a time is full of boatmen, some in the lifeboat loosing sails and setting the mizzen, some easing her down to the top of the slope, some seeing to the haul off warp,…others laying down the well greased

skids for the lifeboat to run on, and others clearing away the shingle which the successive tides has gathered in front of her bows. (Treanor 1904: 120)

Figure 8. 1: Volunteer Rush to Get on the Lifeboat Crew in Response to the Wreck Bell in Kent (In: Treanor 1904).

Townsfolk were often eager to crew the community lifeboats, and that although crews only received a pound for night-time service and ten shillings for a day rescue to man the vessel, a hundred men came running to fill the dozen or so positions. Forty people were also engaged to help launch the lifeboat, and were collectively paid three pounds between them (Treanor 1904:84, 143). Given the dangerous nature of the work and meagre payment, other incentives must have been available, and Treanor (1904:55-6) further alluded this may have been in the possible salvage of the wrecks' cargo after the survivors were rescued:

> The very same men who work the galley punts…are the hovellers in the great luggers… and also the same men who...answer so nobly the summons of the lifeboat bell.

Further observations of the salvation/salvage behaviour described above at Queenscliff were also made in England. The mariners of Deal regularly exploited doomed vessels for a "hovel", the chance of salvage:

> The lugger…seeing the lifeboat..stood on into the surf of the Goodwins to aid in saving life, but also for a hovel, in the hope of saving the vessel. It was dangerous in the extreme for thee lugger, but as the men said, "They was that daring in them days, and they seed so much money a staring them in the face, in a manner o' speaking on board that there vessel, that they was set on it"'. (Treanor 1904:57)

> The schooner had a cargo of oats, and if she could be got off would be a very valuable prize for her salvors. But "if" – and we all know that 'there's much virtue in your "if"'. However when morning broke there… many of the Deal Boatmen, whose keen eyes saw a possibility of a "hovel" came in their powerful galley punts to see about this "if" and try if they could to convert it into reality. (Treanor, 1904:102)

The contrasting humanitarian and opportunistic attitudes of small communities in Massachusetts was also observed by Thoreau (1865:5, 29, 34) where although the community provided emergency shelters for shipwrecks survivors on the beach, and often housed them in their own homes after the event, they were often indifferent to the presence of victims bodies on the beach:

> This wreck had not produced a visible vibration in the fabric of the community...those bodies were but other weeds the tide had cast up, but were of no use to him…why waste time on awe and pity…(Thoreau 1865:4-5)

2) Smuggling and Looting

Looting of wrecks and smuggling were often complementary activities (Larn and Carter 1973), especially as items taken off wrecks were often deemed smuggled goods. Smuggling was a popular and integral part of many maritime communities around the world. The Rhode Island economy in was heavily reliant on smuggling during the eighteenth century when smuggled goods were openly offered for sale on the market. Despite the heavy British military presence in the region, tea, sugar and French goods were a popular contraband good, which were either hidden amongst cargo in chest or in hogsheads, or smuggled ashore and transported overland in wagons to the port of Newport. When men of war discouraged this practice, it was circumvented through the transferral of goods elsewhere further along the coast or directly into small boats at sea where goods were offloaded directly onto the beach (Schmidt and Mrowski 1988:36-39). Fishermen were extensively involved in the contraband trade, and these activities were further encouraged by a lack of sufficient Customs Officers to patrol the area. Imported French goods were considered luxury status items amongst the elite, and Schmidt and Mrowski (1988:39) suggested that evidence of smuggling may be evident in the cargoes of wrecked ships, or in rubbish dumps in the form of imported exotic alcohol and perfume bottles. This situation closely resembles the circumstances of early colonial Victoria.

The New England coast continued to harbour illegal smuggling activities including alcohol during prohibition and modern day drug trafficking, and smuggling in the Caribbean was widely accepted as a means of circumventing the economic system. With the arrival of colonial powers in Africa, the need for smuggling increased as it had in the American colonies, and a thriving trade developed in hashish, salt, ivory and tobacco, which was still operating in the early 19th century in Egypt (Schmidt and Mrowski 1988:40).

Many researchers have noted that smuggling was a major industry in many small ports of southern England (particularly around Cornwall, Devon, and Kent) in attempts to evade government taxes and duties (Vivian 1969; Schmidt and Mrowski 1988:41; White 1997:30). The whole community was involved in the trade, including the clergy and women, and local fishermen were often involved in the retrieval of submerged contraband moored to the sea floor in barrels. Smugglers resorted to lighter smaller craft and lug sails which enabled them to beach their boats in areas inaccessible to the larger craft and sail closer to the wind (Schmidt and Mrowski 1988:41; White 1997: 25-30, 36). These practices continued in the Cornwall area until at least the 1850s, by which time the customs service and their revenue cutters had significantly reduced the viability of smuggling (White, 1997: 16). During the 1820s, smugglers even resorted to constructing false compartments inside vessels to hide undeclared cargoes (Treanor 1904:41-2; Schmidt and Mrowski 1988:41).

The practice of burying smuggled or looted goods was reported in New Jersey in 1839 (Bradlee, 1923:182). Goods were found eroding from coastal sand dunes close the township of Barnegat, which was a known wrecking community (Bradlee 1923:183).

Bathurst (2006) also presents a very concise study of wrecking in the United Kingdom, which unfortunately was not available until the final stages of this thesis, but presents potential opportunities for further comparative studies of these communities with those of the study area.

There are many parallels here with these sorts of activities in Port Phillip, especially the well documented connection of fishermen with both smuggling and shipwreck looting. Given the examples above, of which many researchers document an almost universal distain for authorities in small maritime communities (Treanor 1904:69; Goldsmith Carter 1945:15;

Westerdahl 2003b:19), it is not surprising that this small maritime community would be involved in shipwreck exploitation.

3) Beachcombing/Flotsam/Jetsam Traps

Goldsmith Carter (1945:14-5) observed traditional practices associated with wreck salvage in Alderburgh around the turn of the century. Many local mariners used traditional weather signs such as cloud shape, colour and movement, and the sound of the wind through the reeds to predict that it would be "an ideal day for a wreck", and they henceforth gathered by the lookout tower and gazed out to sea. Furthermore, the local community knew that on days when the sea was eroding the foreshore, treasures in the form of coins, jewellery and amber would appear in the surf.

The economic importance of beachcombing has strong analogies in other contemporary societies (Thoreau 1865; Treanor 1904; Pipkin 2003:8), and was clearly a vital economic resource for this area. Thoreau (1865:27-8) recorded that beachcombers viewed the wreck debris and other flotsam as Godsend, as He (God) provided these resources where they were not available on the land. He also recorded informal etiquette systems, which entailed the use of stones or sticks to signal that flotsam piles had been collected and were claimed. This behaviour has parallels in England, where the collection of coal was also undertaken on the Goodwin Sands. Boatmen would sail out to the area known for its wrecked vessels, and collect coal at load tide (Treanor 1904:26), and Thoreau (1865) also observed similar behaviour in Massachusetts. Furthermore, the use of specialised contemporary material culture to collect coal, other debris and shellfish from the water was also noted in other communities, who also used "rakes" to collect shoreline resources (Thoreau 1865; Evans 1957:225).

4) Deliberate Wrecking

Wrecking was a common practice around the world during the early 19th century. Ships were lured ashore by creating false beacon lights that were confused with expected navigational facilities. Bradlee (1923: 12) detailed how a vessel cruising along the coast of Sandy Hook (New Jersey, USA) in 1820, saw a beam he took to be the main lighthouse and later spied two beacon lights as expected to lead vessels into the port. However, breakers were soon sighted ahead, and the vessel forced to stand off the coast. Just before dawn the lights were extinguished, and men were seen on the beach at daybreak. The captain was convinced that these men were involved in wrecking, as the lights had been located 18 miles from the actual port, and this was not the first instance of this activity, which had also been reported being undertaken along the New Jersey coast. This case bears remarkable resemblances to the *Sussex* shipwreck outlined above, where expected lead lights were confused for unexplained fires ashore. Similar cases were also reported at Barnegat in 1839, where the whole community would turn out to loot vessels that had been lured ashore with false lights and the community was regionally known as the *Barnegat Pirates*. Wreckers were also reported at Block Island in the 18th century (Bradlee 1923:183-4).

Wrecking activities were also undertaken in Florida around the Dry Tortugas region. Initial wrecking in this area was first undertaken by the local indigenous population, who took advantage of the first shipwreck incidents in the region. Later, the Bahamians combined turtle hunting with opportunistic salvage of wrecked vessels, and salvage rights claims were adjudicated in the West Indies Islands. Although some accounts existed in this area of "moon cussers" who lured vessels onto reefs with false lights, Souza (1998: 25-27) maintains that most of these activities from 1835 onwards were highly organised and often licensed wrecking (salvage) ventures, that took advantage of shipping tragedies to first save the passengers and then to exploit the vessel for economic gain. Wrecking was also undertaken in the Thunder Bay

Region, Lake Huron, USA, where many regulated wrecking and salvage firms were based in the early 20th century at the City of Alpena (US Dept of Commerce et al, 1999: 138).

Deliberate wrecking was a major problem in the UK, particularly in the first half of the nineteenth century. Bathurst (2000:28) demonstrated that how many small maritime communities around the British coastline relied heavily on shipwrecks to supplement their often meagre incomes. Many coastal populations regarded the shipwreck cargos as a perk of nautical life, and were their inalienable right to plunder. In some communities, such as the Hebrides, all basic necessities had to be imported due to a lack of suitable resources on the islands, and the islanders relied heavily on floatsam and wreckage for housing construction, heating and food cultivation/ supplementation (Bathurst, 2000: 29).

Certain areas of the British coast became known as notorious wreckers' haunts, including Cornwall and the West Country, The Scilly Isles, and The Hebrides where it was claimed that the communities ignored and often murdered shipwreck survivors to protect their own identities and activities. These practices were still being recorded in the 1840s, and Cornish wreckers, who were often tin miners or fishermen, were known to conceal their loot through burial close to the wreck site, or hidden in ponds or in the roofs and/or under flagstones in their houses (Larn and Carter, 1973:18, 19, 24, 148). Customs officials often turned a blind eye or were bribed to ignore these practices (Bathurst, 2000: 29). Wreckers often attempted to lure unwary ships onto rocks by lighting bonfires on dangerous coastlines, or where lanterns were tied to horse's tails to imitate the movement of a ship. When lighthouses were introduced, wreckers established substitute lights in the vicinity to confuse pilots into running onto a dangerous shore (Bathurst, 2000: 31). The highlanders and Islanders of Scotland were also enthusiastic wreckers, and the local minister of the Isle of Sandy was known to have prayed for wrecks to take place there. Robert Stevenson, one of the instigators of the British Lighthouse Service remarked that so many wrecks had taken place on this island that local fences were constructed of shipwreck timbers (instead of stone) and that property rents were higher on the sides of the island that experienced the most shipwrecks. The high number of wrecks on one side of the island led to increased affluence amongst the northern population, whereas the southerners were poor. On another island he noted that after a ship laden with wine had wrecked there, the villagers now took claret with their morning porridge instead of their usual drink (Bathurst, 2000: 31-32). When Thomas Smith and Robert Stevenson proposed the introduction of lighthouses along the British coast in the late eighteenth century, it was vigorously opposed by the wrecking communities, who saw their livelihood at stake (Bathurst, 2000:32).

Until 1852, when the official Receivers of Wreck were appointed under the Customs Consolidation Act, wreckers could to some extent stake a claim of salvage as a legal right as landowners could claim the 'privilege of right' to anything washed up on their foreshore. Tenants loosely interpreted this law to validate their looting, and also justified their activities as divine intervention, as the wreck was an act of God, which had been sent to ease their (the community's) hardship (Bathurst, 2000:3-4). Bathurst (2000: 30) claimed that the wrecking activities developed into part opportunism, part Queensberry Rules, and part amateur criminality.

Increased Customs and smuggling patrols during the early nineteenth century led opportunistic wreckers to stay within the guidelines of the law, by first assisting with the wrecked vessel's crew, after which they were entitled to salvage the vessel and its cargo (Bathurst, 2000:30). This practice was conclusively demonstrated by Treanor (1904), a Mission to Seaman Chaplin at Deal and the Downs on the south east coast of England. His 1904 work outlines the reliance of small maritime communities in this area on salvage work (locally called a "hovel") at the wreck trap known as the Goodwin Sands (sandbanks):

> In the day they were resting longshore fashion, unless, of course, their keen sailor sight saw anywhere – even on the distant horizon, a chance of a "hovel". Ever on the lookout in case of need, galleys, sharp as a shark, and luggers full of men, would rush down into the sea in

less time that it has taken to right this sentence. … Justly or unjustly,   in olden times, Deal boatmen were accused of rapacity…True indeed, they were accused of lending to vessels in distress a "predatory succour" more ruinous to them than the angry elements that assailed them   In those times and even recently, the Deal boatmen, including…Walmer and Kingdown… numbered over 1000 men, and as there were no lightships around the Goodwin Sands til the end of the eighteenth century, there were vessels lost on them almost daily, and there were daily salvage jobs or 'hovels' and rescues of despairing crews; and with the trade with the men-o-war, and the piloting and berthing of ships, there were abundant employment and much salvage for all the boatmen. (Treanor 1904: 41-2)

The Goodwin Sands is very similar to the situation at Port Phillip Bay Heads, where a confluence of shipping is directed through an area of unexpected tidal influences and currents, often thick and boisterous weather, whirlpools, and many uncharted submerged obstructions (Treanor, 1904: 22, 34). Additionally, after clearing the heads, masters were faced with shifting and often uncharted labyrinth of sand banks formed by the Yarra River Delta.

Nor was wrecking isolated to English speaking countries. Rönnby (1998) noted a strong maritime influence of wrecking described in oral traditions at Södertörn in Sweden.

Wrecking activities also became part of popular literature as a consequence of their prevalence (e.g. Gibson n.d.; du Maurier (1936). In the novel "The Shipping News", Proulx (1993: 172) used a family of former wreckers, the Quoyles, as central components of here story. In one passage, a character (Billy) recites the abundance of wrecking activities in Newfoundland:

Truth be told, there was many, many people here depended on shipwrecks to improve their lots. Save what lives they could and then strip the vessel bare. Seize the luxuries, butter, cheese, china plates, silver coffeepots and fine chest of drawers. There's many houses here still has treasures that come off wracked ships. And the pirates always come up from the Caribbean water to Newfoundland for their crews. A place of natural pirates and wrackers.

Appendix G: Selected Community Landscape Data

Appendix G-1: Sacred and Revered Landscapes

1) Sacred/ Revered Landscapes
A) Burials, Final Resting Places and Memorials

Ethnographic data also revealed several areas of special significance to the various maritime communities. These revered landscapes (for want of a better term) were associated with significant cultural events, which were often specific to subgroups within the maritime community. St George's Church holds special significance to Piloting families for a number of reasons. St George's banner bore similarities to the pilots signal flag [PF], which may have been a contributing factor for its popularity for pilots. The local church was also the first in the district, and was its establishment was probably influenced by the early presence of the pilots and their associated religious views. The church is also significant for its memorial commemorating the death of several pilots in recent times, and displays the pilots' running lights as both a gesture of memorial respect, and a mark of the church's similarity for guiding souls through troubled waters.

The first burials in the area took place near the front of the white lighthouse and/or near the Crows Nest Camp/ Football Ground where seamen were originally buried, but these bodies were later moved to Pt Lonsdale Cemetery (McWilliams 1865 [plan]; GA 20/11/1866, 29/11/1866) and these areas still hold significance in some sectors of the community as hallowed areas. However, other unexpected revered burial sites for key maritime groups included the Pilots Jetty [CSp], the Swan Spit Pile Light –'Qa' [PF], Mud Islands [IS], Pt Lonsdale Front Beach (in front of the Beach Guesthouse – [DS]) and the *Goorangi* shipwreck (for the Pilots, Lighthouse Keeper's/fishers, birdwatchers, guesthouse proprietor, and Military respectively). Queenscliff Bight was also recorded as a significant area where boatbuilder Peter Locke had his ashes scattered (QMM Display). Other areas, such as Swan Bay were mentioned as preferred burial areas, due to their significance associated with childhood playgrounds [GW], and the Pt Lonsdale Pier [DS].

> Mum and Dad are buried at Point Lonsdale. I want my ashes scattered overlooking the Rip where I pulled my pots. This is near Pt Lonsdale, but more towards Queenscliff. Dad was a fisherman, and that's the area he worked in too. Lewis [Ferrier] has scattered ashes of many of his people (family and congregation) in the West Channel. They were different people from his church, not just his family. [HM]

It became clear that individual burial preference varied markedly, and was often associated with areas derived from the informants' former trade, or childhood memories. Other unofficial and highly secretive burial areas were identified. One informant indicated that his grandmother buried still born children in the sand hills behind Pt Nepean, as the fishing family was too poor to be able to afford a proper funeral [nw].

Many memorials were scattered around the town, but many are concentrated along the coastal areas overlooking Lonsdale Bight. In particular, the area near the low lighthouse, (the Shortland's Bluff carpark) yielded a concentration of predominantly military memorials dedicated to events that are often unrelated to the area. The first memorial installed in this area was dedicated to the crew of the *HMAS Goorangi*, a small supply vessel that was run down during the blackouts of WWII. Other memorial to the pilots, lifeboat and merchant seamen's services also are located in this area.

The importance of Queenscliff memorials may lie in their provision of tangible connections to historic and ancestral events that may not be able to be seen offshore as they are covered with water (e.g. Goorangi shipwreck/ pilots deaths). It is suggested that these tangible physical remains are required as validations by descendents/ thematic communities as a material place at which to remember events that can no longer be seen, thus reinforcing their own cultural identity and belief systems. This observation has strong ties to Roe and Taki (1999:415) observations in Erromango regarding the necessity of physical remains as tangible evidence for supporting informal oral histories and place names.

I) The Rip

Significantly, a large number of informants spoke of the Rip in respectful tones, and several indicated the area was the equivalent of an initiation ground for indoctrination into manhood. Similarly, the fishermen's shed on the fishers wharf was a restricted area, and admittance to the shed as an equal signified manhood for adolescents.

Other places of special significance to community groups include the Fort Queenscliff parade ground which was only used during parade, and could not be walked on outside that time (Holdsworth, cited in Tate 1982: 160); The Avenue of Honour (on the Approach Rd to Queenscliff) which was installed as a memorial to soldiers lost in the war, and Shortland's Bluff memorials.

II) Religious landscapes

Religious landscapes have already been discussed in Chapter Seven in regards to fishing. Although the Queenscliff fishermen appear to have apathetic towards religion, it has clearly influenced their activities, especially in the observance a prohibition of fishing on Sundays. It has been noted above that soldiers were compelled to attend weekly sermons, and that Despite the apparent casual attitude towards religion, it was clear that it did effect the activities of a number of thematic groups, either by choice or by enforcement, and therefore religion may represent another authoritative landscape in the region. This aspect opens another raft of landscapes based on individual religious denomination and/or sect, along with yet another range of interactions between each group, which were not explored in this study.

2) Memorials:
A) Shortland's Bluff

Several researchers have recognised the importance of memorials in anchoring landscape attachment to tangible physical places (Auster 1997; Gough 2000; Gibbs 2005). Numerous memorials commemorating defence, pilot, lifeboat and other defence maritime tragedies are evident at Shortland's Bluff, where no fewer than ten memorials are symbolically located overlooking the Rip, where many of the memorial dedicatees were lost.

The first memorial at the bluff for the *HMAS Goorangi*, was subsequently followed by many other monuments by naval and maritime societies [RA], and the Shortland's Bluff car park vista has high social value within the community (e.g. Long 1996). The trend of demonstrating ancestral identity (and hence community belonging) was also adopted by other social groups who were seen (by some) as outsiders. Many of the memorials commemorate WWII naval and merchant navy personnel, and another memorial close by is dedicated to commandoes who were lost during exercise across the Rip in 1960 (Noble 1979:76). The abundance of military monuments is significant given the area's past association with the defence forces.

The geographical locality is perhaps of prime significance, as the memorials are used to physically embody and draw focus to the imbued meaning/message that is not easily associated with or attached to the seemingly featureless landscape of the sea. The memorials therefore represent a symbolic focus for sites that are hidden underwater, and may serve dual roles as both reinforcements of ancestral cultural identity of various specialist groups within the community, and as territorial markers to strangers that signify the community's ownership of place and their identification as a maritime society. The clustering of memorials in this area further demonstrates the contested nature of this landscape, where each maritime group is vying to demonstrate its own ancestral claims to this region. Furthermore, some of these monuments might be viewed as attempts by the so called external groups (e.g. defence) to establish their own ancestral relevance and ties to the township, through the memorialisation of members of their own "brotherhood".

Many other memorials dot the Queenscliff landscape, and attest to the bravery (and often loss) of members of their specific social group.

It is notable that although many shipwrecks have occurred in the study area, there are no real shipwreck memorials evident in the borough, except where they involved local people (e.g. *HMAS Goorangi*), as most vessels (especially those wrecked at Pt Lonsdale) were transient international and interstate vessels that were external to the community. This signifies that the memorials are for people (and <u>not</u> ships), and are testament to the dangerous nature of the sea as a source of the town's livelihood. An annual commemorative service held for the *Goorangai* at this location, further reiterates this observation and their importance to the community (QH Nov 2003:1). Queenscliff is replete with these types of memorials, and appears to be another mechanism for the reinforcement of ancestral cultural identity within the local community, which has always been strongly tied to the sea.

I) Submarine Miners Memorial

II) Cruisers of the RAN 1939-45 Memorial

III) Queenscliff Lifeboat Memorial

QUEENSCLIFF LIFEBOAT SERVICE
1856 - 1976

THIS MEMORIAL CAIRN IS DEDICATED TO THE CREWS
OF THE QUEENSCLIFF LIFEBOATS - THE FISHERMEN,
LIGHTHOUSE PERSONNEL AND OTHER MEN WHO RISKED
THEIR LIVES BY MANNING THE LIFEBOATS WHICH OPERATED
IN THESE DANGEROUS WATERS DURING RESCUES FROM
WRECKED, STRANDED OR OTHER VESSELS IN PERIL.

ERECTED BY QUEENSCLIFFE MARITIME MUSEUM

IV) HMAS Manoora Memorial

HMAS MANOORA

HMAS MANOORA WAS COMMISSIONED AS A LANDING
SHIP INFANTRY ON THE 2nd FEBRUARY 1943.
SHE WAS REFITTED TO CARRY 25 LANDING CRAFT,
A CREW OF 600 AND ACCOMMODATION FOR 1200 TROOPS
AND THEIR EQUIPMENT. DURING APRIL AND MAY 1943,
MANOORA BEGAN AMPHIBIOUS TRAINING IN
PORT PHILLIP BAY WITH THE AMERICAN
1st MARINES DIVISION, PARTICIPATING
IN DAWN LANDINGS ON SAFETY BEACH DROMANA.
MANOORA LATER BECAME PART OF THE AMERICAN
7TH AMPHIBIOUS TASK FORCE AND TOOK PART IN
EIGHT D'DAY ASSAULT LANDINGS IN THE
SOUTH WEST PACIFIC.

V) Port Phillip Sea Pilots Memorial

VI)WWII Merchant Navy Memorial
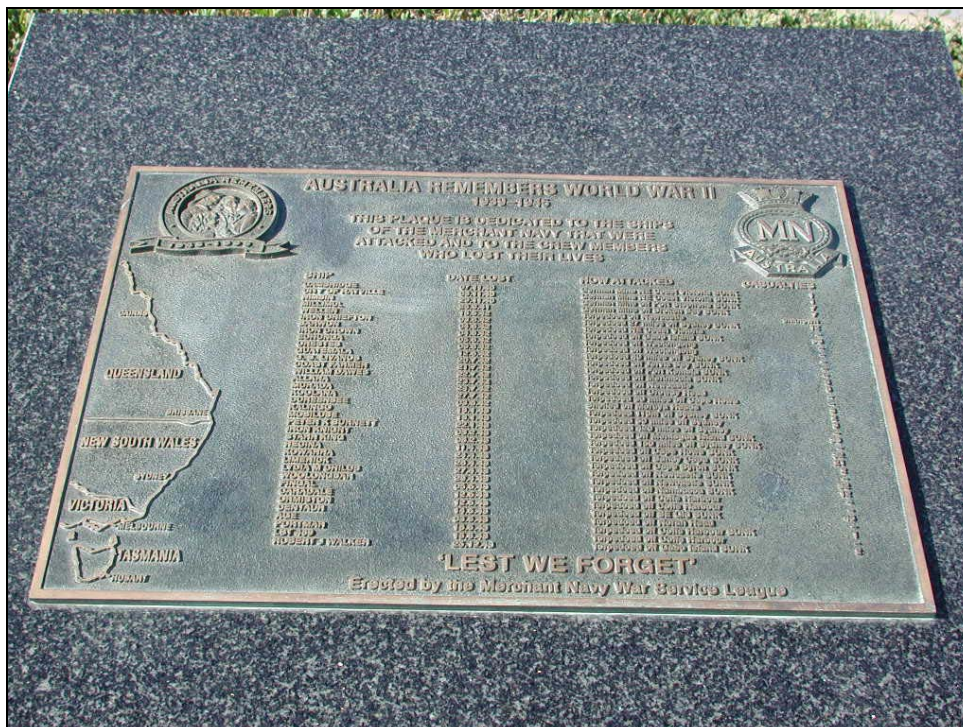
VII) WWII: Naval Vessels Memorial

VIII) Napier Crewmen Memorial
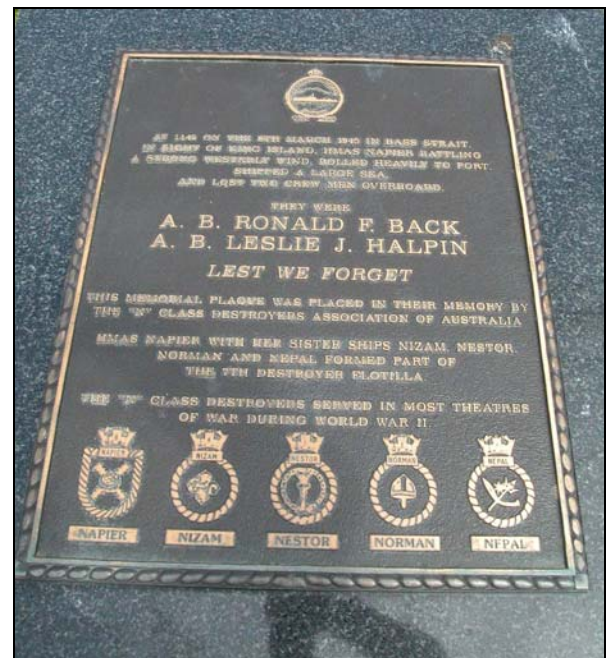
IX) HMAS Goorangi Memorial

X) Royal Australian Navy Corvette Association Memorial

XI)Commando Memorial (1960)

XII)   Lonsdale Bight Memorial (Near former Crows Nest Camp)

THIS SEAT IS DONATED BY
THE FAMILY OF CECILY IRWIN
WHO DIED 28-5-1996, AGED 24

IN MEMORY OF
HAPPY DAYS SPENT HERE

SHE LIVES ON IN THE MYSTERY AND
BEAUTY OF THIS SPECIAL PLACE

Memorial to Cecily Irwin

B) *Queenscliff Township*

I) St Georges Church

On a cognitive level, pilots provided guidance and direction to protect the physical (and indirectly mental) well being of the community as a whole. Pilots were often held in high esteem by the community, as they also acted as saviours during maritime mishaps. The importance of pilots to the community may be evident in more abstract ways. In Queenscliffe, at the entrance to Port Phillip Bay, the Anglican church grounds displays the navigational light system codes for a pilot, indicating they too provide guidance and salvation, but in a higher realm.

II) **Wharf St**

Illegible Memorial

Ozone Memorial

J Class Submarine Memorial,
Wharf St 2001 (Photo: M. Gibbs)

Figure 1: Port Phillip Sea Pilots Sign, Tobin Drive

Bonito Benito Sign 2001

Relict wreck bell (as a memorial)

Underwater Memorials – Shipwrecks

Figure 2: Avenue of Honour, Bellarine Highway

Appendix G-2: Differing Landscapes as Evidenced by Toponymic Evidence

It has been previously noted that toponymic sources in themselves are indicators of alternative landscapes. A number of examples were found within the study area where individual landscape features were allocated multiple names.

The military structure located on Popes Eye was officially known by the military as *Station M*, which was derived from its position in the <u>Middle</u> of a network of structures used to detect incoming shipping. However the feature also had several other names including *The Magic Eye*, *The Caisson*, and *Caisson M*, but was more commonly known as *The Chinaman's Hat*, due to its open side and sloping roof. The common use of the latter term may represent an attempt to subvert and/or parody the official defence landscape of the Bay, by replacing its official identity with one of a more comical nature, which may possibly have more relevance to the fishing community of whom the Chinese originally contributed large numbers.

Furthermore, many of the smaller islands around Swan Bay were still known locally by different names to the official charts and maps. In particular, Duck Island was known as Rabbit Island, as it had been a popular rabbiting location [CA; CS; HM; JB]; Dod 1931:29); and Rabbit Island (between Queenscliff and Swan Island) was known as Goat Island after its former use as a goat pen and slaughter yard [CA; CS; LID]; QS 5/9/1891), Langabeer's Island [CS] after a former occupant; or Camp Island for the former huts that once existed there (Thompson n.d.:2). The use of these names was distinctive to local residents, and can be traced back to the roots of the town (Dod 1931: 25-9, 89). The current official names of Duck and Rabbit Islands may reflect the official histories of those places, particularly Duck Island, which was first discovered by Bowan (under Capt. Murray, of the *Lady Nelson*) in 1802 (Sutherland 1888:39) who shot ducks and swans there. The island is named Duck Islands by 1836 (Symonds and Shortland 1836 [chart]). Similarly Swan Bay (originally named Swan Harbour) was named by Capt. Murray after the prolific bird species there (QS 28/2/1914).

It appears that many of the original features around the Bay were first named after members of the original survey crews (e.g. Shortland's Bluff, Symonds Channel, Popes Eye – crew members from *HMS Rattlesnake*). This tradition was continued with the naming of the many pile lights around the bay (Knopwood, Grimes, Tuckey, Wedge, Woodriff, etc), and is notable as it informs about who is officially naming these features (the hydrographers, who were the traditional working descendents of the surveyors). This custom may reflect the recording of traditional official names only for an area, a practice that has also been observed by O'Sullivan (2001:263) in Ireland. Furthermore, fisherman had adopted unofficial names for some navigational features (such as "Qa": Queenscliff approach) for unnamed pile beacons.

Many geographic names in the study area reflect a possessive aspect of toponymy, as they are named in honour of famous people or those involved in their discovery. These names reflect to some degree the patronage system that was extant in society at the time, where protégés named localities in honour of their mentors or peers. These areas have the capacity to identify significant figures in past society, in addition to the types of social constructs extant at the time of naming. Further, the names reflect a degree of territoriality, due to their reinforcement of ancestral cultural identity and heritage. There are a number of authoritarian landscape names that exist in this area. Port Phillip was previously known as Port King, named by Lt Murray after the then governor of NSW, who later renamed to honour the original governor (Anon. 1965:27). When the land sales were underway in 1852/3, the proposed new name for Shortland's Bluff (which was originally named Whale Head by Tuckey of *Calcutta* - Gardner 1996:13) as St Leonards, but a local judge proposed the name of Queenscliff in honour of the beloved and late Queen Victoria, after whom the state had been renamed from Port Phillip (QS 28/2/1914). Pt Lonsdale was named after the first resident Police Magistrate (Noble 1979:42),

and Pt Nepean after the Secretary to the Admiralty (Gardner 1996:24). This trend was also extended to naming military vessels (*HMVS Childers* – Commissioner of Trade; *HMVS Lonsdale, HMVS Countess of Hopetoun*). Of note is the naming of some seemingly useless places by innocuous names that have no symbolic or patronage value. This is shown by the Mud Islands, which although large and distinctive features in the Bay have only been known as the Swan Isles, Flat Islands or Mud Islands. This may suggest that toponymy associated to patronage is reserved for suitably striking monumental/monolithic features, and bland featureless places might not be appropriate choices.

Perhaps the most daunting authoritative name was reserved for the warship *HMVS Cerberus* (guardian of the gates of hell) which has dual connotations that may refer to the dangers of the Rip, or to the intense military concentration of fortresses which with the help of this ship would to an enemy vessel indeed seem like it had entered purgatory. Similarly, the supply vessel *Mars* was named after the Roman god of war.

Port Phillip Bay itself was also known by two different names, as the French also named the area Port de Debut during their explorations in 1801 (Gardner 1996:26).

Some names reflect the perspective from where the place was viewed. The name Shortland's Bluff reflects the initial discovery of the area from a seaward perspective, where original observations of the area were enunciated from a seaward perspective. Even the toponymy of the West and South Channels reflect the positioning of the seat of power base at that time (i.e. Melbourne). These subtle reminders of power encode the landscape with hidden meaning. The labelling of oceanic foreshores as "back beaches" also reflects the favoured location of swimming activities was on the sheltered "front beaches" inside the Bay (e.g. Pt Lonsdale, Portsea, Queenscliff, Sorrento).

It has already been noted above that there are several toponymic snapper fishing areas named after either their locations or lead marks (West Channel Patch, and Boarding House Patch), the local environmental/seabed conditions (North and South Roughup), local identities (Goat Patch) or local historical fishermen's events (Shear Blade Patch). These names and locations were not widely known within the township, and appear to have been predominantly restricted to the fishing community. The only other distinctive fishing name identified was Yellowtail Reef (Pt Lonsdale), which was named after the fish species caught there. Although some informants freely divulged the location of these names and areas when prompted, it was not offered independently, suggesting that these areas were part of a secretive landscape that was predominantly accessible to fishermen. This selective access to arcane knowledge may have been used as a power base, both against outsiders and uninitiated fishermen alike. Without doubt, further vernacular toponymic areas existed in this area, but the author had difficulty accessing them. The knowledge of these may be restricted to members of the local community, and used as a mechanism to demonstrate one's belonging to that community based on that restricted knowledge. This has similarities to indigenous societies, where specialised groups were highly secretive about expert knowledge, particularly fishermen and navigators (e.g. Johannes 1992)

The naming of various snapper patches by fishermen represents a very localised toponymy that is not recognised by many other residents of the town. As the functional utilisation of these areas was purely oriented towards exploitation of their commercial resources, these represent a toponymic landscape that is predominantly unique to within the fishing community. Similar circumstances have been noted by O'Sullivan (2001:263) in Ireland.

Few vernacular names were discovered for the township itself, but Little Hesse St was known as Jug Alley, for its association with the custom that beer was sold cheaper if it was drunk outside (and the customer provided his own jug), and also for its association with passed out sleeping drunks [GW].

Some areas reflected the recording of significant historical events in those areas, such as Triconderoga Bay which was named after a ship quarantined there with large loss of life. However changes in place names can provide further indications of changing social values of those same areas. This same cove was renamed Weeroona Bay around 1874, when it began to be extensively used by holiday makers (Welch 1969:33). Its new name was taken from the popular Bay paddle steamer, but the change reflects new attitudes to recreation, where escapism from reality was paramount. Similarly, the names of tourist vessels reflected this trend. The bay steamers *Hygeia* (goddess of Health) and *Ozone* (Fresh Air), *Weeroona* (Indigenous term for 'resting place' - Gardner 1996:25) reflected the new lust for sea air as a sanatorium for good health. Similarly Sorrento was named after a Mediterranean Italian seaside town, whose region was also promoted as a health resort (Rogers 1960:66).

Some names represent transported place names from ancestral homelands, such as Portsea, which was named by an early pioneer (James Sandle Ford) after a suburb in Portsmouth (Rogers 1960:61).

Rosebud was named after an early wreck of the same name at that location, and local looters would say "lets meet at the *Rosebud*" (Rogers 1960: 49). Similarly, submerged rocks were often named after ships that wrecked or stranded there (Lightning Rock, Corsair Rock, Victory Shoal).

Some localities were named to describe features or activities present in that region (e.g. Tip Island – rubbish dump; Burnt Point – where rubbish/ nightsoil was burnt; The Springs – water source Dod 1931:51). Others locations were titled from their nearby owners or residents (McDonald's Jetty; Black Billy Point (a peninsula finger of Edwards Pt, Swan Bay); Chinamen's Point (Queenscliff); Langabeers Island; Drapers Reef; or their creators (Dutchie's Island – an island created from spoil from dredging around the Creek entrance - named after the dredge operator) or discoverers (Cole's Channel – named after local entrepreneur George Cole) (Dod 1931:18; [CS; GW; LID; PF]).

The street names of the township (see Zada 2004) provide a further historical summary of prominent identities, either from and/or associated with this locality, and further afield. These include:

- **Significant local identities**: Dod St (first Queenscliff postmaster); Fellows Rd (prominent Judge and local resident); Fraser St (ex-mayor Queenscliff); Larkin Parade (Local Hydrographic Surveyor); Smith St (early local settler); Stevens St (1st pastoralist at Shortland's Bluff); Thwaites Walk (early fisher family); Tobin Drive (1st pilot in Queenscliff)
- **Significant Local Vessels**: Hygeia Drive (Local Bay Steamer – see above); Weeroona Parade (Local Bay Steamer – see above);
- **Local Features:** Bay St (Street runs along former edge of Port Phillip Bay); Bridge St (Swan Island Bridge at ed of Street- formerly called Fish St after Fishers Flat – McWilliams 1865 Plan); St Andrews St (Street led to rear of Church); Wharf Rd (Road to former Fishermen's Pier)
- **Significant State identities**: Bethune St (prominent Port Phillip pastiorlist); Gellibrand St (Solicitor and member of Port Phillip Assn which founded site of current Melbourne); Hesse St & Little Hesse St (Barrister and early settler); Learmonth St (Early settler in Ballarat); Mercer St (Early settler); Swanston St (member of Port Phillip Assn);
- **Significant National/ International identities**: Queen St (Queen Victoria); Raglan St (British Field Marshal in Crimean War);
- **Explorers and Surveyors**: Flinders St (Matthew Flinders – Explorer); Henry St (Surveyor *HMS Rattlesnake*); Hobsons St (Capt., *HMS Rattlesnake*); King St (Surgeon , *HMS Rattlesnake*); Richards St (1st Lt , *HMS Rattlesnake*); Stokes St (Capt., *HMS Beagle*); Symonds St (Lt., *HMS Rattlesnake*).

Appendix G-2: Differing Landscapes as Evidenced by Toponymic Evidence

Official Name	Associated Official Group	Reason	Vernacular Name	Vernacular Associated Group	Reason
Station M	Defence	Defence Plan Annotation - Middle Station (M) in defence network	Chinaman's Hat/ The Caison/ Caison M/ Magic Eye/	Local Residents/ Tourists	Resemblance to Chinese Headdress/ Caisson at base of structure/ Mechanism on structure
Rabbit Island	Explorers/ Hydrographers		Goat Island/ Langabeers Island/ Camp Island	Local Residents	Goats pen and slaughter yard/ Former occupant/ Camp sites on Island
Duck Island	Explorers/ Hydrographers	Ducks shot by Bowan (Explorer)	Rabbit Island	Local Residents	Popular rabbitting location
Swan Bay	Explorers/ Hydrographers	Prolific Swans (Named by Murray)			
Shortlands Bluff	Explorers/ Hydrographers	Crew Member HMS RattleSnake	Formerly Whale Head		Whaling?
Queenscliff	Explorers/ Hydrographers	After Queen Victoria	The Cliff		
Pt Lonsdale	Explorers/ Hydrographers	Victorian Police Chief			
Pt Nepean	Explorers/ Hydrographers	Secretary of Admiralty	Siberia	Defence	Used as punishment duty for errant soldiers - too far away from girls at Queenscliff
Port Phillip/ (ex Port King)/ (ex Port de Debut)	Explorers/ Hydrographers/ French Explorers	Governor Phillip/ (Governor King)/ (First public opening)			
	French Explorers				
Mud Islands		Low Muddy Appearance	Swan Isles Flat Islands		Bird life/ Appearance
Symmonds Channel	Explorers/ Hydrographers	Crew Member HMS RattleSnake			
Popes Eye	Explorers/ Hydrographers	Crew Member HMS RattleSnake			
Coles Channel		Local Businessman discovered route			
Pile Lights					
Knopwood	Explorers/ Hydrographers	Hydrographic Surveyor			
Grimes	Explorers/ Hydrographers	Explorer			
Tuckey	Explorers/ Hydrographers	Hydrographic Surveyor			
Wedge	Explorers/ Hydrographers	Hydrographic Surveyor			
Woodriff	Explorers/ Hydrographers	Hydrographic Surveyor			

Appendix G-2: Differing Landscapes as Evidenced by Toponymic Evidence

Military Vessels					
HMVS Childers	Defence	Victorian Commissioner of Trade			
HMVS Lonsdale	Defence	Victorian Police Chief			
HMVS Countess of Hopetoun	Defence				
HMVS Cerberus	Defence	Guardian of the gates of Hell			
Mars	Defence	God of War			
West Channel	Explorers/ Hydrographers	Relationship to Melbourne			
South Channel	Explorers/ Hydrographers	Relationship to Melbourne			
Loellia Channel	Explorers/ Hydrographers	Early survey vessel			
			Sorrento Back Beach	Locals/ Tourists	Rear of arrival location
			Sorrento Front Beach	Locals/ Tourists	Arrival location
			Portsea Back Beach	Locals/ Tourists	Rear of arrival location
			Portsea Front Beach	Locals/ Tourists	Arrival location
Lonsdale Bight			Queenscliff Back Beach	Locals/ Tourists	Rear of arrival location
Queenscliff Bight			Queenscliff Front Beach/ Governors Hole	Locals/ Tourists	Arrival location / Governor LaTrobes Swimming Hole
Pt Lonsdale Ocean Beach			Pt Lonsdale Back Beach	Locals/ Tourists	Rear of arrival location
Lonsdale Bight			Pt Lonsdale Front Beach	Locals/ Tourists	Arrival location
Tourist Landscapes					
Sorrento	Tourism	Mediteranean seaside town			
Portsea	Tourism	Town in Portsmouth UK			
Rosebud	Wrecks	Shipwreck where looters regularly met - later township site			
Tourist Vessels					
Hygeia	Tourism	Goddess of Health			
Weeroona	Tourism	Sea Breeze			
Ozone	Tourism	Fresh Air			

Appendix G-2: Differing Landscapes as Evidenced by Toponymic Evidence

Fishing Landscapes	Fishing		Shear Blade Patch		
	Fishing		West Channel Patch		
	Fishing		North Roughup Patch		
	Fishing		South Roughup Patch		
	Fishing		Boarding House Patch		
	Fishing		Goat Patch		
Yellowtail Rock	Fishing				
Mushroom Rock	Fishing				
Little Hesse St	Fishing		Jug Alley	Locals	Alley where cheap takeaway beer (purchased in ones own jug) is drunk outside
Lightning Rock	Stranding	Vessel that collided with uncharted rock			
Corsair Rock	Wrecks	Vessel that collided with uncharted rock			
Lonsdale Rock	Stranding	Associated with Pt Lonsdale			
Victory Shoal	Stranding	Stranded vessel			
Rhondella Reef	Stranding	Stranded vessel			
Drapers Reef	Pilots	Local Pilot			
Weeroona Bay (ex Ticonderoga Bay)	Tourism/ Quarantine	Renamed after ferry during tourism heyday/ Former Quarantined ship - great loss of life			
Burnt Point	Rubbish	Rubbish burnt here	Burnt Point	local residents	Rubbish Dump
The Springs	Farming		The Springs	local residents	Spring water outlet
Tip Island	Rubbish		Tip Island	local residents	Rubbish Dump
Swan Bay Jetty	Farming	Adjacent Bay	McDonalds Jetty	local residents	Previous name- named after local farmers
Sand Island	Hydrographic Surveyors	Sand dredge spoil dumped in this location	Dutchies Island	local residents	Dredge Operator
	Fishing		Chinamans Point	local residents	Chinese fishers
	Fishing		Fisherman's Flat	local residents	Fishing community accomodation area
Edwards Point	Farming	Suposedly named after local Grazier	Black Billy Point	local residents	Historic Indigenous leader

Appendix G-3: Palaeo-environmental Evidence of Community Coastal Landscapes

The evolution of the Queenscliff coastline is partly attributable to the various periods of pier, baths, harbour and channel construction, both locally and within the Rip. Beginning in 1855 with the construction of the first pier, current borne sediments were slowed causing sand accretion around the extremities of the piers and baths. As further extensions were added, along with two additional piers and two bathing complexes, current velocity in the area was reduced to the extent where all these structures verged on becoming unusable (QS 8/6/1876; 2/11/1907; 30/11/1907). The construction of the fort at Swan Island further contributed to silting in the area (QS, 10/4/1886). When dredging was undertaken around the extended piers to facilitate access for tourist, cargo and defence vessels (QS 21/11/1908; 17/9/1910; 25/5/1912), it further altered the dynamics of the region, allowing sea swells to approach closer to the shoreline, which caused local scouring at the rear of the Beach St Fishermen's Houses [JP]. Several unsuccessful attempts to alleviate the problem included the installation of timber groynes, stone seawalls, and a derelict hulk (*HMVS Lonsdale*) as erosion control measures [HM; MW].

The construction and deepening of navigation channels at the Rip appears to have significantly altered the coastal dynamics at Pt Lonsdale [HM; PF], where several erosion mitigation devices were installed to retain the tourist beach ([JP] Dunn 1949:72-74), but which in themselves further contributed to shoreline change [JG]. Further groynes and hulks were installed to protect defence facilities at Swan Island (Yule 1884:313; [LID]). Channel deepening at the Heads from 1909-1935, along with guano mining, the introduction of rabbits and firewood collection appear to have contributed to massive alterations of the Mud Island coastline (Yugovic 1998:99; [CS; IS; LJ]). Similarly, extensive extractive industries (sand, shell mining, firewood and bark cutting, farming), exotic animal introductions and artificial channels along the coast of Swan Bay also led to extensive silting and erosion [CA; JG].

 The installation of a permanent opening (The Cut) for the fishing boat harbour into Swan Bay and an associated breakwater training wall to direct water direction, led to further massive siltation in the Queenscliff Bight area, and erosion around the fishers residence in Bridge Street [JP]. Dredging to keep The Cut open significantly altered the shape of Swan Island and led to the creation of a new island north of the Cut. The silting affected the viability and location of several infrastructure sites in Queencliff Bight.

Communal landscapes were also evident in other more subtle archaeological aspects of landscape, and specifically in evidence of environmental landscape evolution. Modification of the maritime environment produced tangible archaeological signatures that became evident through use of historical, cartographic and folklore evidence.

The evolution of the Queenscliff coastline is partly attributable to the various periods of pier, baths, harbour and channel construction, both locally and within the Rip. Siltation had always been a problem on the Queenscliff foreshore, ever since the establishment of the piers at Queenscliff. Beginning in 1855 with the construction of the first pier, current borne sediments were slowed causing sand accretion around the extremities of the piers and baths. As further extensions were added, along with two additional piers and two bathing complexes, current velocity in the area was reduced to the extent where all these structures verged on becoming unusable (QS, 8/6/1876; 2/11/1907; 30/11/1907). The construction of the fort at Swan Island further contributed to silting in the area (QS, 10/4/1886). The removal of obsolete structural elements of the piers (QS, 30/11/1907) and the raising of the baths paddock fences in winter to

encourage scouring alleviated the symptoms to some extent, but problematic access to the pier was only solved by localised dredging around the piers after they had been extended to facilitate access for tourist, cargo and defence vessels (QS, 21/11/1908; 17/9/1910; 25/5/1912). This further altered the dynamics of the region, allowing sea swells to approach closer to the shoreline, which caused local scouring at the rear of the Beach St Fishermen's Houses [JP]. After several unsuccessful attempts to alleviate the problem with timber groynes and stone walls, a hulk (*HMVS Lonsdale*) was deposited in the area as an erosion control measure [HM; MW] – see Figures G3-2.2 to G3-2.5.
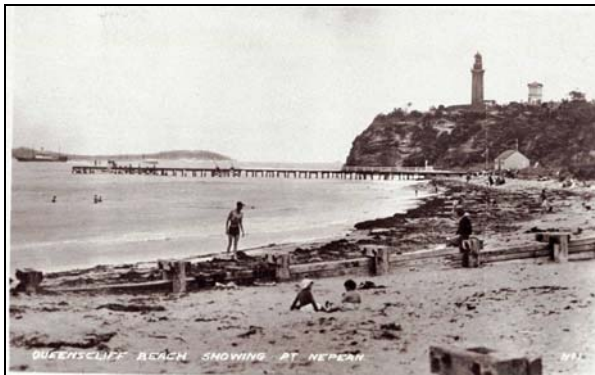

Figure G-3. 1: Queenscliff Bight groynes, c. 1930s (Photo: PH 5162 QHM).

Figure G-3. 2: Timber Groyne, Pilots Reserve, Queenscliff.

Figure G-3. 3: Timber groyne uncovered in former Queenscliff Bight area behind Beach St in 2006.

Figure G-3. 4: Excavated conning tower of the HMVS Lonsdale in 2005. Formerly used as a breakwater in Queenscliff Bight.

In the 1880s, a small channel, the boat channel, was constructed using dynamite through the rock Ledge at Pt Lonsdale in an attempt to give a safer passage through the Rip for fishermen in bad weather, but this encouraged scouring around the Pt Lonsdale Beach [HM; PF]. The blasting of the Rip which began around the turn of the twentieth century to deepen the main access channel further altered regional coastal dynamics. Several residents reported that the current directions changed dramatically during this period, and that the previous healthy Pt Lonsdale Front Beach was washed away to bare rock, which also began to undermine the cliff face and wash away the bathing box structures ([JP] Dunn, 1949:72-74). A series of timber sand groynes were constructed along the beach (and later a seawall at Pt Lonsdale when this failed to alleviate the problem), but they further contributed to coastal siltation [JG]. However, the seawall caused further problems as the reflected waves then scoured away the beach [AH]. Later the sand groynes were extended and raised (and replaced as necessary), and this appeared to solve the scouring problem. However, when these groynes were cut down in 1977 and the mid 1990s due to their perceived un-aesthetic appeal, the beach again disappeared, leading the renewed installation of two large groynes with another planned for this year [MW].

Problems were also experienced along the edge of Swan Island, where the shoreline began to erode and fill up Queenscliff Bight (Yule 1884:313) thus threatening the foundations of the fort and beacon, leading to the installation of two hulks to stop the erosion. Groynes were also later installed around the island, in particular at the Swan Island Beacon/ Fort and at the Swan Point, along with a submarine hulk at the latter, which was sunk on top of a barge to give it more height [LID]. Until this time, the water depth at Swan Point was such that large ships could moor in a gutter close to the point [PF].

The dredging and deepening of the South Channel from 1909 onwards probably contributed to the changing dynamics of the Mud Islands, which were dramatically altered by the Rip blasting around 1935 (Yugovic 1998:99; [LJ]), and this was recognised by fishermen when shellfish stocks in the area disappeared [CS]. Furthermore, the environment of the Islands had been dramatically altered by the introduction of rabbits by fishermen, guano mining and the use of the local foliage for firewood by inhabitants and visitors which decimated the large tree population [IS; LJ], all of which may have further contributed to coastline change.

In 1935, the Cut was constructed through the Queenscliff Bar to facilitate access for fishermen to the Swan Ponds. A permanent training wall was installed to keep the channel open, but silting remained a problem, and the mobile nature of the bar peninsula meant that a natural entrance was constantly being formed. A breakwater designed to permanently close the natural channel was later added across inside edge of the former peninsula to Swan Island. However, this caused an embayment in the interior of Swan Bay, which slowed waterway borne sediments to settle, and the bay gradually began to silt up, thus limiting the size of watercraft and available usable area in the inlet. The blocking of the former creek entrance also caused major problems on the Flat, as water from Swan Ponds could not escape fast enough through the Cut. This resulted in major flooding and scouring threatened to wash away the backyards and even houses on the northern end of the flat on Beach and Bridge Street, leading to the installation of stone walls and groynes to try to alleviate the problem [JP].

Furthermore, the entrance to The Cut required constant dredging to keep it open, and spoil was pumped into the area behind the new breakwater (thus creating the new Dutchie's Island – named after the dredge operator), and further changing the shoreline dynamics, as the area began to silt up with the sediments from Swan Ponds. It also led to the removal of the lifeboat shed from the Fishermen's Pier to the New Pier after the former began to silt up [JB]. The Cut entrance was extended over time, leading to the creation of new land behind the current maritime museum. A new harbour was later cut into this land, with training walls added, which again encouraged sand accretion around the channel entrance. When a new ferry terminal was added to the eastern extremity of the harbour, it acted as a sand groyne, further increasing the need for dredging.

A new seawall was built at the Queenscliff Front Beach in the 1950s [JP], along with another seawall in front of the Shortlands Bluff Cliffs below the fort in the 1960s [PF].

The intense exploitation of the Swan Bay foothills initially for firewood and bark, and later for farming has further contributed to silting of the Swan Bay as the streams silted up and hence reduced the flushing of the bay from fresh water sources [JG]. Furthermore, the installation of the railway and dumping of rubbish along the western edge of Queenscliff, the excavation of the southern western extremity (of Swan Bay) for shell grit mining, the introduction of agricultural animals to islets, and the installation of an access channel between Swan and Duck Island for the firewood trade all affected the coastal dynamics of Swan Bay, and led to the disappearance of several smaller islands [CA].

As can be seen from above, the installation of new underwater structures and channel dredging, along with other industrial activities had significant impacts on this coastline. It is therefore postulated that these impacts in themselves demonstrate tangible archaeological evidence of maritime industry and associated infrastructure which is no longer extant in the area. It is possible therefore to trace the development of Queenscliff Harbour and the Rip through the various environmental changes and erosion control devices which have been installed in the area. The blasting of the Rip and the Boat Channel, along with dredging of the Dredged Cut in the South Channel also represent tangible archaeological alteration of the environment.

These observations have relevance for the relocation of archaeological sites, as some former underwater sites are now located under prograded land, and these alterations in themselves represent potent archaeological signatures of past landscapes and landscape modification.

Figure G-3. 5: Beachline progradation at Queenscliff Front Beach. Note the seawall on the right.

Figure G-3. 6: Swan Ponds breakwater and causeway.

Figure G-3. 7: Shortland's Bluff Seawall from west.

Figure G-3. 8: Shortland's Bluff Seawall from east.

Figure G-3. 9: Shortland's Bluff Seawall, Searchlight Murray Tower, Low Light And Hume Tower.

Figure G-3. 10: Shoreline progradation around the Fishermen's Pier c. 1950s (Photo: John Patrick Collection).

Figure G-3. 11: Shoreline progradation in Swan Bay near Knights Rd in 2001, probably caused by silt runoff associated with agricultural farming.

Appendix G-4: Potential and Actual Archaeological Signatures of Community and Interactive Landscapes

Feature	Artefact	Location Capel Sound/ Rye	Sorrento/ South Sand	Portsea	Triconderoga Bay	Pt Nepean	The Rip	Pt Lonsdale	Lonsdale Bight	Shortalnds Bluff/	Queenscliff Bight	Popes Eye Shoal	Swan Bay	Swan Island	Duck Island	Swan Spit	St Leonards to	Coles Channel	West Channel	Mud Islands	South Channel	Geelong	Melbourne
Administ-rative/ Municipal Services	bathing facilities																						
	council offices									e													
	graveyard							e		ah													
	library									eh													
	lighting - gas									ae h													
	morgue/ undertaker									ae h													
	pier	ae h	ae h	ae h						ae h							ae h					ae h	ae h
	post office							e		e							e					e	e
	recreational halls, lodges									eh													
	road - plank road									h													
	road networks - submerged causeway												ah	ah	ah								
	road networks - terrestrial							e		e													
	rubbish dumps - general									a			a										
	rubish dump - nightsoil												a										
	sewerage/ stormwater pipelines							ah	ah				ah										
	sporting facilities - eg footbal, cricket ground, yachting racecourses									ae h										h			
	train station									ae h													

Appendix G-4: Potential and Actual Archaeological Signatures of Community and Interactive Landscapes

Category	Signature																			
Social Compet-ition & Marginal-isation	accomodation - differences in housing types, sizes and oppulance						ae h													
	accomodation - differences in tourist accomodation standards and types						ae h													
	differences in recreatiuonal areas: eg bathing, drinking, etc						ae h													
	displacement of one maritime theme's area with another, eg military take over park reserve				h	h	ae h													
	empty space as a territorial marker		h	h	h	h	h	h	h	h	h		h					h		
	empty space used as a health barrier		h				h												h	h
	empty space used as a social marginalisation tool				h		h			h			h				h		h	h
	empty space used as to create frontier boundaries to create places of unacceptable behaviour						h			h		h					h			
	exclusive social areas between thematic groups						h													
	exclusive social areas within thematic groups						h													
	memorials as markers of						ae h													
	pier - differences in pier types: working vs tourist piers						ae h												ae h	ae h
	social status demonstrated by elite in high areas, poor in lower areas	eh					ae h													
Social Interrelat-ionships	landscapes of reciprocity						h			h										
	wreck bell - links bewteen lifeboat crews	eh					eh													

Environ-mental change	breakwater - hulk									ah													
	breakwater - stone								ae h		ae h												
	changing location/ extensions of coastal landscape structures									ae h													
	sand groynes			ah		ae h		ah		ah		ae h											
	seawall - stone					ae h	ae h	ae h	ae h				ae h			ae h	ae h						
	seawall - timber						ah																

CODE	archaeological	a
	extant	e
	historical	h