

**The Maritime Archaeological Resource
at Arthur Head
A Report for the Arthur Head Conservation Plan**



Bathers Bay, Fremantle.
Julian Ashton
Fremantle Harbour and Jetty 1887
©Western Australian Museum

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Western Australian Maritime Museum
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ABSTRACT

Acting under a brief requiring them to identify and assess sites of maritime archaeological significance at Arthur Head, staff of the Western Australian Maritime Museum provide a synthesis of existing primary and secondary documentation pertaining to the maritime sites in the region and seek to describe maritime and historical archaeological remains as part of the Arthur Head Reserve Conservation Plan. In doing so they examine the relationship of the physical remains at Arthur head in light of the maritime significance of the area. The relative cultural heritage significance of each maritime archaeological site is assessed utilising the criteria adopted by the Heritage Council of Western Australia in 1996. This document also addresses present conservation issues, where relevant, and makes recommendations accordingly.

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EXECUTIVE SUMMARY

The Department of Maritime Archaeology at the Western Australian Maritime Museum has been involved in the examination, excavation and management of the maritime archaeological resources at Bathers Bay since the Fremantle 'Long Jetty' first came under threat in 1984. This was as an outcome of plans to develop a marina that would have resulted in the destruction of the remains of the jetty and the dredging of the impressive archaeological resource under the seabed. Since then protective legislation has been enacted and the Department has been involved in further work at the 'Long Jetty' and at the 'South Jetty' sites, in the search for the 'Old Whaler's Jetty' and in assisting terrestrial archaeologists in the examination of the remains of whaling and boat building facilities on the shore. In 1995 the Department supervised two studies, one on Port Related Structures and the other, on Lighthouses on the Coast of Western Australia.

The Arthur Head Reserve Conservation Plan, coordinated by Ms Naomi Lawrence, has presented an important opportunity for the Department of Maritime Archaeology to draw together these various threads into a coherent assessment of the maritime heritage remains at, and in the vicinity of, Arthur Head, Fremantle.

Ms Corioli Souter is currently employed as an Assistant Curator with the Australian National Centre of Excellence for Maritime Archaeology. She holds an undergraduate degree majoring in historical archaeology and a post-graduate diploma in maritime archaeology and with this background was selected to join with the Curator of Maritime Archaeology to collate and develop the Department's input into the Arthur Head Reserve Conservation Plan.

Arthur Head is today part of a Class A Reserve which extends from Arthur Head to Fishing Boat Harbour, incorporating Bathers Bay. It was one of the first landing places for the Swan River Colony and became the scene of many subsequent developments, including whaling facilities, jetties and other maritime infrastructure.

Developments in and around Arthur Head have ensured that the area and many of its significant features have undergone major physical alterations resulting from the different phases and types of occupation. The establishment of a Whaler's Station in 1836 (which utilised the stone from the promontory) combined with the construction of the Inner Harbour in 1892, for example, to reduce the height of the land mass which makes up Arthur Head. Construction undertaken by the Fremantle Whaling Company resulted in the original cliff being cut back approximately five metres and it has been approximated that 60% of the original headland has been removed. Further quarrying occurred throughout the nineteenth and twentieth centuries. As a result much of the original maritime heritage resource in the area has either been removed/destroyed or is buried under landfill. Some is still accessible under the waters of the bay.

Despite this, there are many other remains extant and the site has been viewed as an historic area for a considerable length of time. As a result there is a large quantity of documentary material supplementing the scarce archaeological resource. In these early accounts, site descriptions and in some cases, the location of important maritime sites appears.

This report endeavours to determine the location and extent of archaeological remains of 'maritime significance', a term applied to sites which, in this case, are directly connected with the sea. This incorporates maritime structures such as jetties, shipwrecks and remains of the maritime industries which Arthur Head supported. The report will assess and interpret the visible as well as the possible, archaeological remains. Where appropriate, a management strategy will be presented in relation to the criteria adopted by the Heritage Council of WA in 1996.

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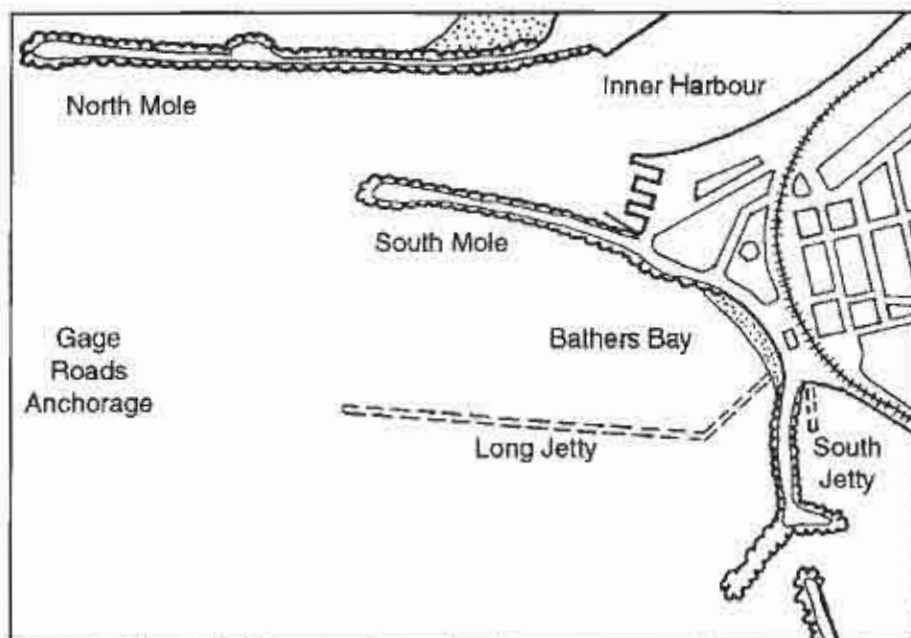


Figure 1 The Maritime study area

INTRODUCTION AND PRECIS OF MARITIME ARCHAEOLOGICAL SITES AT ARTHUR HEAD¹

The first port activities at Arthur Head were directed from the wreck of the *Marquis of Anglesea* (1815-1829) which provided a base for the Colony's first Harbour Master. The Harbour Master's office was then transferred to a building on Anglesea point, due north of the South Jetty which was constructed in c. 1851. The first major structure relating to Arthur Head was a jetty built in 1830 by the Harbour Master, Daniel Scott. At his own expense, Scott had erected a jetty for the use of lighters² and smaller coastal vessels. In 1835 this jetty was considered to be insufficient in length, providing only a landing point for boatmen plying between larger vessel's lying at anchor and the shore. It is believed that this jetty fell into disrepair when it was superseded by others. The first substantial maritime structure built was a stone pier built by Civil Engineer, Henry Reveley in South Bay.

With respect to larger port-related schemes, in 1837, Lieutenant Jones proposed the creation of an artificial harbour creating a breakwater over 900 metres long, south of Arthur Head. In 1839 the Surveyor General, J.S. Roe, proposed a similar scheme. Neither of these early schemes came to fruition, principally because of the lack of resources in the Colony. In 1849, a Fremantle Harbour Board was appointed, chaired by Roe. Soon after, work started on Trigg's Passage, a channel through the rock bar at the river's mouth. Local shipping agents raised objections to opening this passage, fearing that ships would sail straight to Perth, bypassing Fremantle. Work was abandoned; however, because of lack of suitable equipment. In 1851 navigation in the approaches to Fremantle was made safer by the completion of the first light house a little to the south west of the Round House.

Arthur Head then became an acknowledged centre for maritime industry over the nineteenth century beginning with whaling and the establishment of boat building facilities after December 1836 when Captain Stirling recommended the creation of a whaling industry in Fremantle. The Fremantle Whaling Company was established shortly afterwards only to fold in the following year. The industry continued until the 1850's with whale products being the Colony's major export. The gradual fall in the export price of whale products between 1844 and 1850 combined with the competition by American whalers operating along the WA coast contributed to the collapse of the locally-based industry by 1865.³ In contrast, the growth of the boat building industry in Arthur Head paralleled the economic growth of the economy. Introduced to service the whaling companies, boat building flourished when imports/exports increased and contracted with their decrease. The whaling industry supplemented the boat building industry

¹ From: Bavin, L. & Gibbs, M. 'Report on the historical archaeological potential of Arthur Head and directions for future management and research' (Fremantle City Council, Fremantle, 1988); Pearson, M. 'Report of an investigation into the historical archaeological resource within the Arthur Head area, Fremantle' (Fremantle City Council, Fremantle, Western Australia, 1984); McIlroy, J. & Meredith, D. 'Bathers Bay 1984: report for the Australian Heritage Commission' (Australian Heritage Commission, Perth, 1984) and Garratt D. & McCarthy, M. 'The Long Jetty Excavation Report', Western Australian Maritime Museum, No. 78, (Fremantle, 1994).

²Lighter: 'General name for a broad flat-bottomed boat used in transporting cargo between a vessel and the shore...' de Kerchove, R. *International Maritime Dictionary* (Van Nostrand, NY, 1947) p. 454.

³ Bavin, L. & Gibbs, M. 'Report on the historical archaeological potential of Arthur Head and directions for future management and research' (Fremantle City Council, Fremantle, 1988).

although since settlement Arthur Head had specialised in the building, maintenance and repair of vessels. Although there was an active boat building industry during this period there are few substantial archaeological remains of shipwrighting established at Bathers Bay.

Fremantle's status as a major port increased in the 1870's, reflecting a growing population and economy. The 'Ocean Jetty', extended to become the 'Long Jetty', was the first major public work commissioned by the new Representative Government. Mason Bird & Company built the Long Jetty 750 feet (229m) long into 12 feet (3.2 m) of water from Anglesea Point in 1872.⁴

In 1890 with the granting of responsible Government, the Colony gained the right to acquire loans for its own maritime works. In June 1891, Charles Yelverton O'Connor, an Irish engineer with extensive experience in New Zealand, arrived in Fremantle. These were essential factors in finally determining the location and the form of Western Australia's principal port. Construction works commenced on the Inner Harbour in 1892 resulting in much of Arthur Head being leveled. By 1897, much of the original promontory had been quarried with the level land utilised by the Railway Department for railway lines.⁵ The majority of the post 1880 structures erected on the shores at Arthur Head have not survived in the archaeological record as they were usually of flimsy (e.g. iron or timber) construction.⁶ Fortunately, elements of some maritime structures with substantial footings and building materials have been preserved under landfill, some of it recent. In some cases this is expected to be at least two metres deep.

The possibility of subsequent archaeological investigation in the region has been largely determined by changes which reflect the various occupations since first settlement. Even in the modern day, land reclamation and the construction of Challenger Harbour has covered any visible signs of the original South Bay shoreline and many earlier port related structures. It has been estimated that 87% of the original structures at Arthur Head were demolished within 25 years of the opening of the Inner Harbour.⁷ Earlier excavations (see following) reveal that archaeological evidence of the whaling site is confined to the northwest side of Bathers Bay and was the major focus of the period 1837-1850's. Middle to upper stratigraphic layers in the area contained deposits associated with a late nineteenth century railway/tram network. The stratigraphy of the site is characterised by successive layers of fill reflecting the changes in industry and modifications to the headland during the nineteenth century.

⁴ Garratt D. & McCarthy, M. 'The Long Jetty excavation report', Western Australian Maritime Museum, No. 78, (Western Australian Maritime Museum, Fremantle, 1994).

⁵ Pearson, M. 'Report of an investigation into the historical archaeological resource within the Arthur Head area, Fremantle' (Fremantle City Council, Fremantle, Western Australia, 1984) p. 6.

⁶ Bavin, L. & Gibbs, M. 'Report on the historical archaeological potential of Arthur Head and directions for future management and research' (Fremantle City Council, Fremantle, 1988) p. 32

⁷ Bavin, L. & Gibbs, M. 'Report on the historical archaeological potential of Arthur Head and directions for future management and research' (Fremantle City Council, Fremantle, 1988) p. 13

Maritime Archaeological Investigations to date:

1984 Bather's Bay: McIlroy and Meredith⁸

This investigation was centred on determining the extent of archaeological remains at Bather's Bay prior to beach restorations. It concentrated on the identification of remains of the whaling and boat building industries established in the area.

1984 Arthur Head Area: Pearson⁹

A surface survey to assess the state of historical archaeological remains in the Arthur Head reserve to identify areas of key interest in an archaeological zoning plan.

1984 Long Jetty: Garratt and McCarthy, et al¹⁰

Excavations of the Long Jetty were initiated as a result of the proposed development of the Anglesea Point area for the America's Cup Marina. This investigation also included other maritime archaeological features of the area including jetties and wrecks.

1986 Whaler's Jetty McIlroy and Kee¹¹

An excavation to locate and survey the remains of the Fremantle Whaling Company jetty prior to beach development.

1987 Whaler's Jetty Kee¹²

As part of an historical archaeological investigation, a line of limestone blocks extending seaward was uncovered. This along with other artefacts including whale bone suggested that it was part of the Whaler's jetty.

1988 Whaler's Tunnel Bavin & Gibbs¹³

An excavation in the Whaling Tunnel to locate the original floor, to determine changes in tunnel dimensions and stratigraphy relative to other areas of Bather's beach.

As indicated, because of the changes that have occurred, most information concerning Arthur Head will be obtained from documentary sources. The archaeological record supplements the historical but as a whole is made up of fragmented artefactual material, sub-surface structural remains and disturbed deposits. The landfill which accounts for much of the area's upper stratigraphic

⁸ McIlroy, J. & Meredith, D. 'Bathers Bay 1984: report for the Australian Heritage Commission' (Australian Heritage Commission, Perth, 1984).

⁹ Pearson, M. 'Report of an investigation into the historical archaeological resource within the Arthur Head area, Fremantle' (Fremantle City Council, Fremantle, Western Australia, 1984).

¹⁰ Garratt D. & McCarthy, M 'The Long Jetty excavation report', Western Australian Maritime Museum, No. 78 (Western Australian Maritime Museum, Fremantle, 1994).

¹¹ McIlroy, J & Kee, S. 'Bathers Bay Whaling Station excavation report'. Report to the Centre for Prehistory, University of Western Australia (Nedlands, 1986).

¹² Kee, S. 'An historical archaeological investigation of some parts of the Arthur Head area, Fremantle' (Report for the Fremantle City Council, Fremantle, 1987).

¹³ Bavin, L. & Gibbs, M. 'Report on the historical archaeological potential of Arthur Head and directions for future management and research' (Fremantle City Council, Fremantle, 1988).

layers in itself represents a series of separate historical events. According to the N.E.P. Stage II exploratory excavations, the research potential of Arthur head is related to inter-site comparative studies such as the relationships between surviving architectural structures and undisturbed stratigraphic sequences. For the next phase of investigation it has been suggested that research centres on what the site can contribute to Australian historical archaeology in it's wider context.

Non-disturbance recording and historical research has normally formed the basis of strategies used in the assessment of the underwater archaeological remains in the region with the exception of the seabed around the Long Jetty. Underwater archaeological excavations at Arthur Head have been initiated as salvage archaeology in the face of imminent development and the information obtained from excavation is designed to minimise the impact of developments in the vicinity. This work is supplemented by archival research, a physical, biological and chemical pre-disturbance assessment and post excavation analysis. When excavation has been undertaken, it was shown that the seabed around port-related structures is most likely a rich source of artefactual material reflecting the period in which the area was in use.

This report has been divided into three sections representing the types of sites with maritime significance. There are individual site assessments contained in each category.

Sites: Port Related structures

Long Jetty
South Jetty
Whalers Jetty

Sites: Maritime industry

Bathers Bay Whaling Station
Mews Boat Shed

Sites: Shipwrecks

Marquis of Anglesea
Priestman Dredge

The submerged deposits Arthur Head are protected under section 5.6 (3) of the *State Maritime Archaeology Act 1973*; stating that the sea-bed under and around jetties and port-related structures that were in use before 1900 is a protected maritime archaeological site. A date of 75 years before present is also the criterion for nomination of an historic site under Commonwealth historic shipwrecks legislation. The criterion remaining to be satisfied under that process is whether there is some structure extant at the site under consideration. The nomination of sites under the terms of the *1976 Commonwealth Historic Shipwrecks Act* are:

- (i) A site significant in the discovery, early exploration, settlement or early development of Australia
- (ii) A site relevant to the opening up of development of parts of Australia
- (iii) A site relevant to a particular person or event of historical importance
- (iv) A site, the possible source of relics of historical or cultural significance
- (v) A site representative of a particular maritime design or development

PORT RELATED STRUCTURES

Jetties, as 'port related structures', have the potential to provide valuable cultural material; however, some sites may present difficulties in relation to the interpretation of the artefactual data, if the stratigraphy is disturbed, as it often is even as a result of the effect of propeller-driven vessels maneuvering alongside.¹⁴ The jetty sites associated with Arthur Head are representative of this problem as they are located in areas of continuous occupation, where successive alterations, dredging and harbour works have occurred.

A jetty is an illustration of economic externalism – one among many such markers in the Australian economic record. It is a physical reminder of the paramount role of trade in the economy. Their scale and simplicity was a response to limited means. They are a more reliable guide to working Australian than high style architecture. Few structures speak so poignantly or with such forceful directness about the outwardness of Australian life.

Whilst the jetty is a manifestly utilitarian structure, it clearly signals the main orientation of Australia: the extent of Australia's dependence on outside contacts in the economic sphere; our role in supplying raw materials and a history of involvement in other people's wars. The jetty, railway, and the roads radiating north and south and inland were a diagram of intermeshing extractive activities, a convergence of economic forces and trade directed away from Australia. ¹⁵



Figure 2: Nineteenth century view of the South and Long Jetties

¹⁴ Garratt, D., McCarthy, M., Richards, V., and Wolfe, A. 'An assessment of the submerged archaeological remains at the Albany Town Jetty'. Report, Department of Maritime Archaeology, Western Australian Maritime Museum, No. 96 (Western Australian Maritime Museum, Fremantle, 1995).

¹⁵ Drew, P. *The Coast Dwellers: Australians living on the Edge*. (Penguin, Maryborough, Victoria, 1994) pp. 42-4.6

THE LONG JETTY¹⁶

Site location

The Long Jetty is located in Bathers Bay, Fremantle. The bay is now bounded by the South Mole to the north and the northern breakwater of Challenger Harbour.



Figure 3: The Long Jetty piles

Site description

Several submerged piles are all that remain of Fremantle's major shipping jetty, one that was in use from 1873 until the opening of the Harbour itself in 1897. After that time the structure was used as part of a swimming baths and as a promenade until it fell into disrepair. The visible remains of the jetty extend out to sea in a south-westerly direction from the shore on a bearing of 219° for 200 metres. Approximately 30 piles protrude from the water at low tide but on a high tide only one can be seen. Many submerged piles are discernible from the surface giving a clear indication of the width of the jetty and the direction to which it extends but its western extremity is obscured by deeper water. The water depth graduates from 0 to 5 metres along the length of the jetty. From these visible remains the jetty stretches into the bay towards the end of the south mole, its length marked by piles which today project only centimetres above the seabed.

Site history

The first jetty was built in 1830 in South Bay but it deteriorated steadily over the next six years. The Fremantle Whaling Company built a jetty below the Round House with access through a tunnel in 1837. The Convict Establishment

¹⁶ Garratt, D., 1990. 'The Long Jetty: a case study in salvage archaeology'. Report - Department of Maritime Archaeology, Western Australian Maritime Museum, No. 57 (Western Australian Maritime Museum, Fremantle, 1990).

under Captain Henderson and Lt. Wray built the South Jetty towards Owen Anchorage, and the North Jetty into the River Swan above the rock bar in 1853-4.

The Ocean Jetty was the first major public work commissioned by the new Representative Government. Mason Bird & Company built the Jetty 750 feet (229m) long into 12 feet (3.2m) of water from Anglesea Point in 1872. Completion in 1881, of the railway from Guildford to Fremantle provided incentive to extend the jetty. The Acting Commissioner of Railways proposed to the Colonial Secretary in 1882 that the railway be run out on to the jetty. Baillie Davis & Wishart extended it by 340 feet in a westerly direction in 1886. Ships drawing more than 3.2 m still had to anchor in Gage Roads and unload into lighters. Following a report by Sir John Coode in 1887, R. O. Law extended this jetty in 1888, and M. Price extended it further to berth eight vessels into 22 feet (7m) of water in 1891. The final extension was by 457 feet (139m) in 1896, taking it to a total length of 3,294 feet (1,004m). Following the completion of the inner harbour, the Long Jetty, as it became known, was converted for pleasure use, and a hall was built on this jetty in 1907. The structure, became, in effect a promenade until it fell into disrepair and was demolished by R. O. Law in 1921. The few remaining piles of the jetty were retained *in situ* after the breakwater for the new Challenger Harbour was re-sited to avoid them in 1984.

Archaeological investigations

The 1984 excavation was proof of the wealth of historical material to be found in an area that was once considered to be of little archaeological value. The artefacts recovered clearly reflect the various economic, social and cultural activities associated with the site over a period of ninety years.

Contemporary use of site

The remains of the jetty have been a favourite haunt for bottle collectors and souvenir hunters for over 25 years. When hookah and SCUBA diving equipment became readily available in the 1970s, divers regularly scoured the sea-bed in search of bottles and other items of value using excavation tools such as probes, water-dredges, air-lifts and water-jets.

Bathers beach is used for passive recreational activities such as swimming and snorkelling. The jetty became considered a potential danger to swimmers and waders in the surf zone and negotiations were undertaken between the Museum and the then Department of Marine and Harbours in order to alleviate the problem. This resulted in the installation of two marker piles and signage. Subsequently, potter, the late Joan Campbell, prevailed upon the city to present a beachfront impression of the jetty site together with ceramic interpretive materials based on the Department's research and excavation into the Long Jetty. These have since proved a very popular offering. Apart from the odd diver visiting the jetty area, the bay has few boating activities, given the enclosed waterways, especially in the vicinity of the jetty piles is marked as foul ground on Admiralty charts.

ASSESSMENT OF CULTURAL HERITAGE SIGNIFICANCE

Aesthetic value

The piles projecting proud of the sea contribute to the historic interpretation of Bather's Bay as a maritime precinct. (Criterion 1.3)

Historic value

The remains of Long Jetty represents the only visible evidence of early port structures in the vicinity of Fremantle. The jetty played a significant part in the economic development of the port and Fremantle. (Criterion 2.2)

Scientific value

Excavations and research conducted as a result of the perceived threats to the structure and to the archaeological remains on the seabed have proved a major catalyst in a comparative archaeological study of jetty or 'port-related sites' throughout the State and Australia in general, particularly with regard to deposition and distribution patterns along jetties. (Criterion 3.2)

Social value

It is now apparent that the remains of the Long Jetty and the surrounding area is a tangible link with the history of Fremantle, the port and the wider community. (Criterion 4.2) It has high educational value as an interpretive site in it's association with the history of Bather's Bay. It provides a recreational area for snorkellers and divers that is currently utilised by shore-based school groups in suitable conditions. (Criterion 4.1)

DEGREE OF SIGNIFICANCE

Rarity

The 'Long Jetty' is one of a small number of metropolitan jetty sites with original piles *in situ*. (Criterion 5.1)

Representativeness

The structure is representative of the style of jetty construction from the mid to late 1800's. (Criterion 6.1)

Condition

The condition of the piles are sound although they display general degradation to the wood, especially at the inter-tidal region. This is especially significant for the one remaining tall pile which in time is expected to break at the intertidal. There are no accepted *in situ* conservation measures for this type of degradation other than encasing that portion of the timbers in the inter-tidal in a concrete sleeve, or removing them from for treatment. Given the time taken for such remedial work and the distinct possibility that the timbers could not then be satisfactorily returned, the latter could destroy their contribution to the historical and aesthetic nature of Bathers Bay. While the former could prove aesthetically unsatisfactory, it could prove the only means of preserving the one remaining pile.

Integrity

The jetty and its associated debris field has been protected by the construction of groynes in its vicinity. The construction of the groyne for Success Harbour has also ensured that a small part of the cultural layers under the seabed are encapsulated under the groyne itself.

Authenticity

The piles in the bay illustrate a high level of authenticity as they are wholly original in fabric. There is a reconstruction on shore, which is clearly signposted as such.

MARITIME SIGNIFICANCE

The Long Jetty in Bathers Bay, Fremantle, was a focal point of maritime activities in Western Australia from the 1870s to the 1920s. Bathers Bay was also a major focus for both shipping and social activities (including promenading, drinking and fishing) is a substantial repository for cultural artefacts from Western Australia's colonial past. The remains of the Long Jetty are of considerable historic importance as the only visible evidence of early port structures in the vicinity of Fremantle.

Historical interpretation

The excerpts from contemporary letters by Captain D.B. Shaw whose ship was affixed to the jetty in 1898 due to storms, drunkenness and other misfortune,¹⁷ help to explain the reasons for such a rich variety of artefactual material found at the site and gives an insight into the Port of Fremantle and its problems at that time. The jetty is recorded in numerous plans and documents outlining the contemporary function of the structure as part of the early port. Its extensions are also understood through documentary sources to reflect the growing economy and requirements for better port facilities.

Archaeological interpretation

The Long Jetty represented (until recently with the formalisation of the study of 'port-related' structures)¹⁸ an atypical underwater archaeological site. Rather than being an homogeneous 'capsule' of cultural material as represented by the shipwreck, the cultural materials on and under the seabed at the Long Jetty were lost over a 90 year time span, are randomly located over a vast area, originated from many different countries, including the home port itself. Therefore, this site could not be considered in the same manner as an individual shipwreck and this consideration was a major factor in the late manifestation and validation of jetty studies. Indeed such sites were once considered the equivalent of the suburban rubbish dump! The stratigraphy usually associated with an archaeological excavation (even at a rubbish dump) is less evident on this site and in some areas has been dramatically altered, due to environmental effects.

¹⁷ Letters, from Captain D. B. Shaw of the Barque *Saranack* to Messrs. Simpson & Shaw, 27 October, 1892. WA Maritime Museum File No. MA-124/84, Long Jetty.

¹⁸ Cumming, D., Garratt, D., McCarthy, M & Wolfe, A. 'Port-related structures on the coast of Western Australia', Report - Department of Maritime Archaeology, Western Australian Maritime Museum, No. 98 (Western Australian Maritime Museum, Fremantle, 1995).

The sea-bed has been continually 'tilled-over' by the action of storms, for example. As a testament to the mobile nature of the site, remains of one particular barrel containing solidified cement are known to have moved approximately 50 metres as a result of a winter storm surge.

Material has also been exposed and moved around by the turbulence created from the propellers of steamers and tugs (these can be very large and result in extensive scour pits).¹⁹ To add to the problem, in recent times, bottle collectors using gross excavation tools such as propeller washes air lifts and water dredges, effectively destroyed much of the stratigraphy that may have existed even after the effects of storms and large propeller-driven ships. This activity has now ceased.

In spite of this, a general pattern emerged showing greater concentrations of artefacts in the area 0–10 m either side of the jetty piles and again in the area 15–25 m either side of the jetty which indicated that the barren section corresponded with the alignment of vessels moored alongside the jetty. The type of artefacts found indicates that most of the material in the 0–10 m area was either dropped from the side of moored vessels or from the jetty itself whereas the artefacts found in the 15–25 m area tended to have a greater association with shipping and less with the jetty.

The vast majority of the material relates to ships, shipping and social activities. The prevalence of bottles that once contained medicines, alcoholic and softdrink beverages gives insight into the social and cultural life in the port city of Fremantle. In one particular analysis, the quantity of bottles under the seabed in the vicinity of the jetty led the researcher to question whether the area had not become the 'colonial beergarden' reflecting a set of social mores produced by the difficulties encountered by the Colony since its inception (see Figure 4 for example).²⁰ These were perceived to contrast with the situation at the Albany town jetty where far less drinking appears to have occurred.²¹

Personal belongings such as costume jewellery, watches, toys, fishing gear and coins reflect the social activities associated with the jetty at a time when the Sea Baths and the Promenade were in use. The spent rounds of ammunition suggests that the jetty has been used for target practice at some time, most probably during the war year, 1939-1941.

¹⁹ Garratt, D, McCarthy, M. and Wolfe, A., 'The Excavation of the Albany Town Jetty'. Report - Department of Maritime Archaeology Western Australian Maritime Museum, No. 96, (Western Australian Maritime Museum, Fremantle, 1995.)

²⁰ McCarthy, M. The Ocean Jetty, the Colonial Beer Garden. *Australian Archaeology*, June (ANU, Canberra, 1987)pp. 24:32-35.

²¹ Garratt, D, McCarthy, M. and Wolfe, A., 'The Excavation of the Albany Town Jetty'. Report - Department of Maritime Archaeology Western Australian Maritime Museum, No. 96, (Western Australian Maritime Museum, Fremantle, 1995)



Figure 4: Impression of life in the Swan Colony with the wreck of the *Marquis of Anglesea* in the background

MANAGEMENT, CONSERVATION AND PRESENTATION STRATEGIES

Legal protection

Even though the Long Jetty site was recognised as being of great cultural importance, it had not, until 1988, been considered for legislative protection. The results of the 1984 excavation demonstrated that the site was rich in cultural material and as such deserved full protection under the law. The Museum sought to have the site gazetted as an Historic Precinct under the *Maritime Archaeology Act, 1973*.

Course of events

- 20 September 1985
Marine and Harbours assumed control of a body of water which includes the jetty site in September 1985 (*Government Gazette*, 20 September 1985).
- 20 March 1986
Resolved that the Director be asked to check the (previous ambiguous) advice from Crown Law and look at the possibility of declaring the whole of Bathers Bay area including the jetty (as a part of the whole) historic.
- 1986
The Fremantle City Council proclaimed Arthur Head area as an 'A' Class Reserve. The Reserve starts at the high water mark from a point near the wall of the Northern Boat Harbour to Point Marquis and includes the land based remains of the Long Jetty.
- 28 November 1986
Crown Law Department - interpretation of the *Maritime Archaeology Act No. 66 of 1973*.

On 28 November 1986, Graham Delaney, Senior Assistant, Crown Solicitor in interpreting the *Maritime Archaeology Act, 1973* wrote that:

If there are known to be (or there are likely to be) objects* as referred to in 5.6(3) of the *Maritime Archaeology Act* in the vicinity of the Long Jetty, then that vicinity is a Maritime Archaeological site under the Act.

5.6(3) *"Any object which, in the opinion of the Director was abandoned in the State before the year 1900 and derives from or was associated with any ship, whether or not an historic ship..."²²

- 24 October 1988

The area encompassed by the first section of the jetty was finally declared an historic site under the *Maritime Archaeology Act, 1973*.

The sea-bed around the Jetty was declared a maritime archaeological site under the terms of the *Maritime Archaeology Act 1973* in October 1988, establishing a precedent for the declaration of the seabed around all pre-1900 jetties and port related structures in Western Australian waters. What remains of the jetty itself, was nominated as an historic port-related structure.

Site management

The structural and archaeological integrity of the site should be preserved and reserved for passive recreation only. No procedures should be undertaken that could cause unnecessary disturbance or damage to the fabric of the site. The site is periodically inspected by the WA Maritime Museum and surveillance is provided by the Fremantle Port Authority and the Department of Transport, Marine Division.

Site stabilisation

The construction of the northern breakwater of Challenger Harbour has physically sealed a significant quantity of mid to late nineteenth century and early twentieth century material for the future. The vast majority of the remains lie within open waters in the bay and are subject to seasonal storms and seas from both the south-west and north-west direction. These are expected to impinge on the sea-bed and on the remaining jetty tall jetty pile. While the effects on the sea-bed cannot be modified some consideration to the integrity of the piles could be considered.

Site presentation

The purpose of site interpretation is to enhance public awareness of the location and historic status of the Long Jetty and to emphasise the public's responsibility towards all protected sites. To this end, the Maritime Museum proposed to develop the Bathers Bay Heritage Trail for divers and non-divers which will include the site of the historic shipwreck *Marquis of Anglesea* (1829), the Lighter Jetty (1831), the Whaling Jetty and tunnel (1837), South Jetty (1853), the Sea Baths (1906) and the Long Jetty.

²² WA Maritime Museum File No. MA-124/84, Long Jetty.

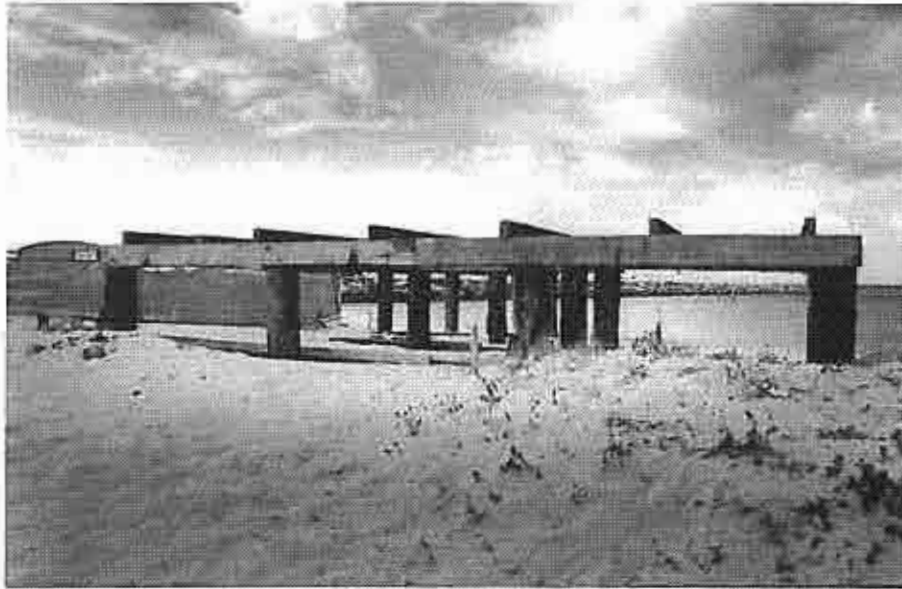


Figure 5: An Impression of the Long Jetty by the late Joan Campbell

A facsimile of a section of the jetty has been erected by the potter Joan Campbell with assistance from the Museum (provision of historical data.) This appears on the foreshore at Bathers Beach, using piles removed from the Como and Coode Street jetties in the Swan River.

In October 1984, the WA Maritime Museum opened a display of material recovered from the Long Jetty. This permitted the general public to gain an historical insight into the economic and social development of the area, which in turn, heightened public awareness of the significance of the jetty and the surrounding area. The display and other pressures combined to force the realignment of the harbour works so that only a small section would be affected.

Two hundred and eighty three (283) artefacts from the Long Jetty were on exhibition at the WA Maritime Museum, and sixty-eight (68) items were on temporary display at the Albany Residency Museum as indications of the resources expected at its 'Town Jetty'. Though popular and earmarked for re-development and re-presentation in the museum's exhibition galleries, the 'Long Jetty' and early port exhibits are yet to be reinstated. There are plans; however, to have an exhibit in the new Maritime Museum on the Fremantle Wharf.

A mooring anchor raised from the adjacent area in December 1987 has been conserved and is on permanent loan to the Fremantle Sailing Club for exhibition at the Club premises in Success Harbour, close to its original location on the seabed.

Today a number of piles are visible above low water and many project up to three metres above the seafloor, making an interesting and attractive dive.

FUTURE RESEARCH SUGGESTIONS

Historical

The Australian Heritage Commission funded the Jetties and Port Related Structures Project with the view to documenting the history and archaeological record of all the historic maritime structures around the Australian coast-line.²³ These studies are continuing. The Long Jetty was included in this survey of maritime cultural heritage.

Archaeological

The general southerly movement of material associated with Long Jetty may indicate the potential for a re-deposition of artefacts at the base of the northern side of Challenger Harbour groyne. This hypothesis may be tested at some future date after studying the long term effects of the groyne on the inshore currents and the movement and/or stabilisation of the sandy sea-bed.

There are many studies based on artefact analysis and interpretation that could be initiated. One for example, is a catalogue of bottle capsules recovered from the jetty. A study of similar capsule sealed bottles from colonial wreck sites in Western Australia and other States has been commenced. Shipwrecks with capsule sealed bottles in their cargo, e.g. *Sepia* (1898), *Carlisle Castle* (1899), may help define the period of use for bottles recovered from the Long Jetty.

Private collectors with extensive bottle collections should be encouraged to become involved in the cataloguing, analysis and interpretation of their collections.

Scientific

Most of the shoe leather recovered from the site is currently being used for experiments to establish improved conservation treatment methods by the W A Maritime Museum, Department of Materials Conservation. Other materials from the jetty are being utilised for materials conservation research. This includes wood degradation and corrosion studies. As the understanding of the processes develop, the jetty has also been earmarked for further studies into microbiological activity under the sea-bed and for further examination of the possibility of stratigraphic analyses at such sites. A beginning on these was made at the excavation of the Albany town Jetty in 1994.

²³ Cumming, D., Garratt, D., McCarthy, M & Wolfe, A. 'Port-related structures on the coast of Western Australia', Report - Department of Maritime Archaeology, Western Australian Maritime Museum, No. 98 (Western Australian Maritime Museum, Fremantle, 1995).

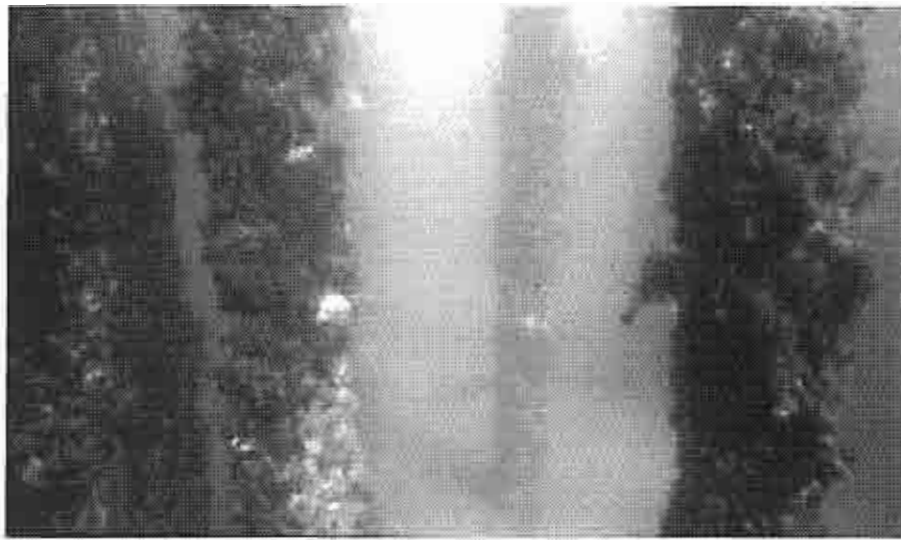


Figure 6: Long Jetty Piles underwater

Comparative studies

Comparative studies of the archaeological record with similar excavations such as the Albany Town Jetty and the Albany Deepwater Jetty in Western Australia and the Holdfast Bay Jetty and the Morgan Wharf in South Australia are being considered.

Research relating to the Long Jetty should be published and disseminated. Popular articles have been prepared and should be published for the general interest of the wider community.²⁴

SOUTH JETTY²⁵

Site location

From contemporary illustrations and accounts the 'South Jetty' was once located on the shore and the waters at the head of South Bay opposite the present Cicerello's fish market. Its original context is indicated by Figure 7.

Site description

The original jetty was apparently demolished, leaving piles at or near the level of the old seabed. If consistent with other known jetty sites (e.g. the Long Jetty and the Albany Town Jetty) and if dredging did not occur before 1985 as described below, these piles are expected to have remained upright in their original position and to have clearly delineated the jetty site. Equally, the seabed alongside and under the jetty is expected to have become a locus for a vast amount of lost or abandoned cultural materials from the time of inception, until the jetty fell into disuse. Again this is a pattern consistent with the situation at other jetty sites.

With the dredging of the area to a depth of c. 30 cm and landfill of the inshore areas in June 1985 a large quantity of material and fifteen jetty piles were

²⁴ Garratt, D. 'The Long Jetty: a case study in salvage archaeology'. Report - Department of Maritime Archaeology, Western Australian Maritime Museum, No. 57 (Western Australian Maritime Museum, Fremantle, 1990).

²⁵ From Cramer, D 'The Arthur Head Compendium' City of Fremantle, (1988) and Department of Maritime Archaeology, WA Maritime Museum, 9/85.

removed. Materials included coal, rails, five small anchors, ceramic, ballast and modern detritus. It is probable that there is an artefact debris field in the land fill surrounding Cicerello's and possibly within the confines of Fishing Boat Harbour itself.

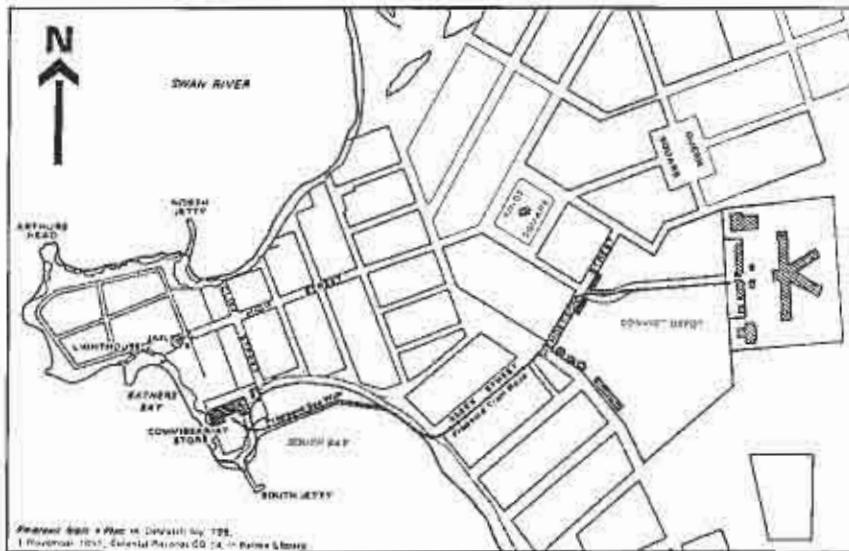


Figure 7: Plan showing the location of the South Jetty in South Bay

Site history: incorporating phases of occupation/use

In 1847/8 Major F. C. Irwin announced plans to erect a stone jetty in South Bay to enable larger boats to anchor alongside. This was also to be connected to Cliff St. The first record of a South Bay jetty is dated to 1851. The jetty was constructed sometime during this period. The South jetty was built on the site of Reveley's stone pier in South Bay utilising prison labour. The length of the jetty south from Anglesea Point was 484 feet at a depth of 9 feet. The jetty itself was still comparatively small and served for loading and unloading lighters only, from Gage Roads. The jetty was also known as the 'Fremantle Jetty'. The 'South Jetty' was the primary berthing facility until the Ocean Jetty was constructed in 1873.

In 1865 a committee chaired by J.S. Roe, the Surveyor General, recommended extending the South Jetty. The public Works Loan Act for 1872 provided £6000 for the jetty extension. These extensions were never initiated and the jetty eventually fell into disrepair, being declared unsafe for traffic by 1900. It was used as a fisherman's jetty with a fish market constructed at it's end, as shown in a 1908 plan. This fish market was demolished with the jetty in 1929.

Archaeological investigations

The area was excavated by dredgers in 1985 and, believing that it had no jurisdiction in the area, the WA Maritime Museum undertook no underwater investigation. This contrasts with the situation at the nearby Long Jetty, where there had been considerable public opposition to the work being undertaken and in understanding that the visible structures were at risk of demolition, the Museum was able to seek the necessary funds and act accordingly. As a result of the pressure exerted by public interests and by the Museum, the development

plans were altered and subsequently the site was afforded protection as discussed above.

Contemporary use of site

The site is part of Cicerello's Fish Market and restaurant development.



Figure 8: South Jetty piles after excavation

ASSESSMENT OF CULTURAL HERITAGE SIGNIFICANCE

Historic value

The South Jetty was regarded as Fremantle's primary jetty prior to the construction of the Long Jetty. (Criterion 2.1 and 2.2) The Maritime Museum are in possession of the fifteen piles and some of the artefactual materials removed during construction of the Cicerello's facility and public boardwalk between it and Kailis' fishmarket and the Fisherman's Co-operative. The site had several uses during it's life including it's function as a fish market. The area today, still continues this function.

Scientific value

The acquisition of the jetty piles by the W.A. Maritime Museum allows them to be available for future exhibition and study purposes.(Criterion 3.1)

Social value

Although the site is not visible, the jetty's contribution to the development of Fremantle rates it of high social value. (Criterion 4.2)

DEGREE OF SIGNIFICANCE

Rarity

The remains of the site are in danger of being lost should there be further dredging in the region. (Criterion 5.2) From an analysis of other buried remains and with a view to the long-term preservation of such sites, their covering in landfill presents none other than access problems unless buildings requiring substantial footings are established on-site.

Representativeness

The site is representative of the style of jetty construction in the mid nineteenth century. (Criterion 6.2)

Condition

The condition of the site is unclear. Many jetty piles and some artefactual materials were removed during harbour construction works and there are clearly archaeological remains buried in the seabed. It is postulated that as these remains are buried, in a possible anaerobic environment, the likelihood of their stable condition, is good.

Integrity

The position of the jetty would be better understood by archaeological excavation and the jetty piles could be re-stumped as part of a restoration of the original jetty if applicable and within the context of present usage.

Authenticity

There are apparently jetty pile stumps under the sand which are representative of the original position of the jetty, should they be archaeologically investigated.

MARITIME SIGNIFICANCE INTERPRETATION

The South Jetty was the primary port related structure prior to the completion of the Long Jetty. It was the focal point for maritime activities for the colony up until 1873. It had several uses over the span of it's life, functioning in various capacities which relate it to maritime events and industry as well as the primary purpose of berthing ships for which it was originally intended.

Historical interpretation

The jetty and it's location are understood from documentary sources, including plans to be a substantial part of the early development of the Port.

Archaeological interpretation

The remains have intrinsic importance for the reasons stated above and, though heavily disturbed they provide an important, as yet untapped resource reflecting maritime activities in the early Port of Fremantle. Given that the area was frequented more by sailing ships than steamships, propeller disturbance to the seabed in those areas not dredged or otherwise affected is expected to be minimal. In these conditions and with a substrate conducive to excavation, an identification of cultural layers as shown possible in the sediments at the Albany Town Jetty may become evident.

MANAGEMENT, CONSERVATION AND PRESENTATION STRATEGIES

Legal protection

Contrary to beliefs held in 1984 at the Long Jetty and in 1985 at the South Jetty with the developments that occurred in those areas, it is now known that the seabed and the materials within and around jetties that were in existence before 1900, can be protected under the terms of the 1973 *Maritime Archaeology Act*. This act is administered by the WA Museum. The jetty structures themselves

cannot be protected under that Act and will need be protected under the 1990 *Heritage Act* in order to ensure their safety.

Site management

What remains of the original seabed site should remain undisturbed. Dredging for the purposes of harbour and other development in the region should be only undertaken after suitable consultation with the body responsible for the site (the WA Maritime Museum).

Site presentation

The site should be brought to the attention of the various stakeholders and the public by means of interpretive material presented in a manner that will both inform and protect the resource.

FUTURE RESEARCH SUGGESTIONS

The site has been noted as a possible repository of materials of archaeological and technological significance to studies of both port-related structures in general and to cultural and economic activities at the port of Fremantle specifically.

WHALERS JETTY

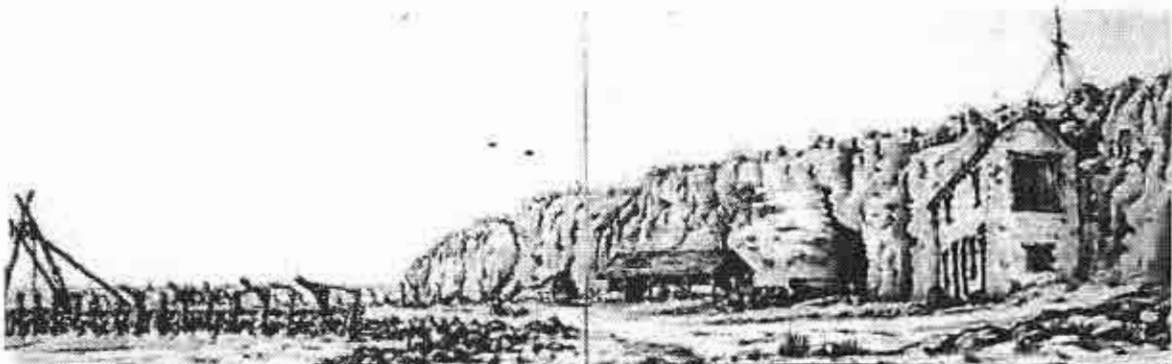


Figure 9: Whaler's Jetty by Horace Sampson, 1838.

Site location, description and history

The Fremantle Whaling Company required landing facilities and in April 1837 began erecting a limestone jetty immediately west of the Whaler's Tunnel. The work was undertaken by prison labour and supervised by the Round House Gaoler. The breakwater jetty was constructed to provide sheltered anchorage so that ships up to 150 tons (c.150 tonnes) could safely discharge their cargo.²⁶

²⁶ A ton is 1016 kg. A tonne is 1000 kg or 0.984 tons.

The dimensions of the jetty were recorded in the *Perth Gazette* on 4 May 1837 nearing it's completion;

...already projected into the sea about two thirds of the intended length...twenty five yards; besides a considerable extent of esplanade or wharf, completed on the beach at its base...the breadth of the jetty at the extremity seaward is about twenty-feet, and is sufficiently elevated above high water mark. At the extremity of the work already completed, a stout beam or post is inserted into the body of the jetty, to which is to be attached the tackle for hauling, turning, and securing the carcass.

Pictorial sources portray the jetty as a substantial limestone structure between 8 feet (2.44 m) and 20 feet (6.10m) wide and extending 112 feet (34.29m) into the sea. By 1838, the jetty had been extended seaward to obtain a depth of ten feet. It was a pile construction with limestone filling.

There was the possibility that the jetty was shared by other vessels. The whaling companies also excavated a tunnel under Arthur Head to provide more direct access to the town and to the river jetty at the north end of Cliff St. The Fremantle Whaling Company was finished by 1838 and the whaling jetty and site leased by the Harbour Master. Anthony Curtis formed a new Fremantle Whaling Company which was dissolved in 1850.

The Whaling Jetty is indicated on plans from the 1850's. Continued in-filling of Bathers Bay and the removal of wooden piles by 1871 ensured that little was visible after that time. The timber when removed, was noted to be in good condition and had not been subjected to marine borer attack. It is conceivable that it was reused in other buildings around Fremantle.²⁷

Archaeological Investigations

Unsuccessful attempts to locate the jetty were made in 1984, 1986, 1987 and 1988. As part of Stage II of the N.E.P. Archaeological Programme exploratory excavations were undertaken at the Whaler's Jetty site. The aim of these excavations were to:

- (i) to clarify apparent contradictions concerning the jetty's size and location
- (ii) to map it's extent, width and depth.

In 1988, it was the desire of the Council to place the jetty in context with surrounding historical structures while exposing the jetty, in part, for public display. Four trenches, with their positions determined by pictorial sources and previous excavations, were excavated to bedrock.

The southern edge of a line of limestone blocks was unearthed on Bather's Beach in 1987. Using contemporary surveys and the limestone blocks uncovered in 1987, trenches were opened on the northern side of Bathers Bay to delineate the dimensions and course of the jetty. A trench was also excavated to assess an apparent inconsistency concerned with the type of material used in the jetty's construction.

²⁷ McIlroy, J. & Meredith, D. 'Bathers Bay 1984: Report for the Australian Heritage Commission' (Australian Heritage Commission, Perth, 1984) p. 11.

The area excavated represents a maximum of c.18% of the site area. Nine stratigraphic areas were identified from the excavation. The limestone of the jetty was located at a mean depth of c.1.2 metres below the datum. The stratigraphy demonstrated continuity in layers one to three with one layer extending laterally over a distance of nearly 35 metres. A road surface was also detected associated with the rail network dating to the nineteenth century.

An inconsistency was; however, revealed in the jetty's construction. Rocks exposed in the most western trench were considerably smaller than those found elsewhere. This may be explained by jetty alterations, in particular an extension in August 1837. There was a smaller jetty built in 1836 which was later enlarged at least at the eastern end, by the Fremantle Whaling Company. The western portion of the jetty did not appear to be permanent structure. The level of the jetty in Trench 3 also was considerably lower than that in the other trenches. Its level more closely resembled the tryworks. Further excavation is required to understand the relationship between the jetty and the tryworks at this point.

With the Southern boundary of the jetty located in Trench 1, it was apparent that the land had been more severely undercut than indicated on Council maps. As a result, much of the jetty at the seaward end has been destroyed.

The majority of the stratigraphy was fill and consequently the deposition of the artefacts contained within them cannot be accurately dated. Fifty six artefacts were recovered from the site including assorted fragments of ceramic and glass, nails, miscellaneous pieces of metal and seven railway sleeper bolts. Sixteen red machine bricks from the Swan Brickworks were found and their similarity to remains of the powerhouse dates them post the demolition of the Powerhouse in 1961. Artefacts associated with the whaling industry included oil barrel straps.

28

The sequences post dating the limestone structure interpreted as the jetty reveal a high number of activities which have taken place since 1837 in Bathers Bay.



Figure 10: Divers searching for the Whaler's Jetty site.

28 McIlroy, J. & Meredith, D. 'Bathers Bay 1984: Report for the Australian Heritage Commission' (Australian Heritage Commission, Perth, 1984).

Contemporary use of site

The landward end of the site is currently under rocks and roadway. There are no structural remains in the bay itself.

ASSESSMENT OF CULTURAL HERITAGE SIGNIFICANCE

Aesthetic value

The buried remains of the jetty contribute to the whaling precinct at Bathers Bay. (Criterion 1.4)

Historic value

In the construction process, rock was quarried from the headland. This represents the first major alterations to Arthur Head. (Criterion 2.2) The jetty is a significant feature reflecting the economic and industrial development of the Swan River Colony. (Criterion 2.1)

Scientific value

The site presents us with an opportunity for comparative studies with other jetty sites by excavation. (Criterion 3.1)

Social value

The construction of the jetty allowed the establishment and effective functioning of bay whaling. The consumer products from whaling profited the colony by contributing to the economy as well as providing products used in every day life. (Criterion 4.1)

DEGREE OF SIGNIFICANCE

Rarity

As a whaler's jetty, serving the industry at Bather's Bay and being the only known specific-purpose bay whaling jetty in the region, the remains are of considerable importance. Its integrity is not known.

MARITIME SIGNIFICANCE

The Whaler's Jetty was an integral part of whaling operations in Fremantle. The jetty in conjunction with the tunnel presented the Colony with a means of accessing goods brought by ship and commuting them to the High St.

INTERPRETATION

Historical interpretation

The jetty's recorded extensions and repairs reflect the successful whaling seasons. It is documented that following a successful season in 1843, a tender was called for further piling and repair. Through such documentary sources it is possible to monitor the progress of the whaling industry.

Archaeological interpretation

The jetty appears to be a substantial structure extending a distance of 34.8 metres seawards, though areas further west have been severely undercut by the seas and swell. The width of the jetty is estimated at 15 and 22 metres, as

indicated by the remains in Trench 2 and its absence in adjacent trenches for the post 1830's cliff site. Underwater surveys of the area have revealed whale bones protruding from the seabed and a whalers' killing lance. It is therefore possible that more artefacts lie underneath the sand. ²⁹

MANAGEMENT, CONSERVATION AND PRESENTATION STRATEGIES

Legal protection

See discussion on the protection of the Long Jetty and the South Jetty above. These analyses indicate that even unfound or with minimal indications of structure that sites such as the whaler's jetty are protected in the *1973 Maritime Archaeology Act*.

Site management

Stage II of the N. E. P. Archaeological Programme recommended that the site be not be uncovered as this would lead to its premature destruction by natural and human elements. This recommendation is strongly supported on the basis of experience at other sites lying on an exposed shore. Other N. E. P. recommendations include:

- (i) Council works in Bathers Bay proceed with only one metre of deposits should be removed from the Whaler's Jetty site
- (ii) The jetty should not be exposed until more complete recommendations have been presented. Particular attention must be paid to the conservation of this structure.
- (iii) If more precise mapping is required for this structure, excavation should not take place until one metre of the surface deposits have been removed.

Site stabilisation

Excavation of this site is contraindicated by the considerations outlined above.

Site presentation

Provided that some means could be found to ensure that negative cultural and natural effects could be minimised in the future then consideration could be given to the excavation of a portion of the jetty for public and research purposes. In this instance the area would require to be stabilised for public display as part of the Arthur Head Heritage walk.

Even if maintained as is, the site could be enhanced with further interpretive materials.

FUTURE RESEARCH SUGGESTIONS

A comparison between this site as an example of specific-purpose whaling station jetty and the infrastructure developed at other Bay Whaling Stations would be an appropriate beginning for further research. Numerous research suggestions have been made in the discussions above with respect to jetties and

²⁹ McIlroy, J. & Meredith, D. 'Bathers Bay 1984: Report for the Australian Heritage Commission' (Australian Heritage Commission, Perth, 1984) p. 35.

the materials in and on the surrounding sea-bed generally. As an example of the possibilities, a bibliography on port-related structure studies appears below.

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Artefact catalogue

See WA Maritime Museum Artefact Database.

Photographic index

Photographs (Not held by the WA Maritime Museum)

1. Batty Library Reg. No. 3522B/1&2. A panoramic view of Fremantle taken from the Town Hall in the 1890s.

2. Fremantle City Library, Local History Collection. Print No. 927. Panorama of Fremantle looking to Anglesea Point, 1887.
3. Fremantle City Library, Local History Collection. Print No. 1611. View from lighthouse looking to Long Jetty, 1890s.
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WA Maritime Museum
B&W Photo Index.

Type	Description	Additional	Film 1	Film 2	Film 3
ART	Long Jetty-Misc	Ceramic	1084		
PLA	Bathers Bay	Excavation 1984	2520	2534	
PLA	Fremantle	Long Jetty	2528	2360	2367
PLA	Long Jetty-Fremantle	U/W	252		

Long Jetty Colour Slide Index

No. Drawer	Title	Description	File
286 #F4	Long Jetty-Fremantle		MA/LJF Slide No.
MA/LJ/A	U/W	August 1984	1-35
MA/LJ/B			1-21
MA/LJF/		Artefacts	0-60
MA/SJ/B	South Jetty	Removing piles	1-24

(See also Bathers Beach - Slide Nos. BB/166-176 & 235-242)

MA Department Files

Long Jetty: 124/84

South Jetty: 9/85

Port Related Structures: 2/93

MARITIME INDUSTRIES³⁰

In 1837, the Fremantle Whaling Company was established, and in needing a safe landing, they offered to build a breakwater at Bathers Bay. Though this did not eventuate, the whaling industry was responsible for the building of a jetty, tunnel, tryworks, boatshed and station house on the site over the period 1837-c.a. 1850.

A boat building industry was established at Arthur Head in 1853 by T. W. Mews and continued through to the 1970's. There were three sites and phases of occupation which illustrate this industry at this site. Firstly, the Mews Boatshed which continued until post WWII. A small galvanised iron boatshed and iron slipway photographed in the 1880's is situated north of the 'Kerosene Store'. There has been no archaeological research on this particular structure as it was demolished after being abandoned.

The Kerosene Store was also used as a shipwright's shed and store by the Harbour and Lights Department from 1919 to c.a. 1970. In 1926 a buoy yard was established in the Kerosene Store precinct and continued to be used as such until the 1960's. During the 1930's the building was used to store valuable lighthouse gear and became the main shipwright's shed for constructing launches and doing general repair work. Even during this period; however, the building was noted for it's general dilapidated appearance. The store was used for the construction of various vessels and underwent structural changes such as an alteration of the southern doorway and wall, to accommodate larger boats. The buoy yard was also used for launch construction. By the 1960's parts of the store fell into disrepair and it is not certain when the Harbour and Lights Department finished their lease. The three sites boat building sites are examples of Fremantle's earliest industries which continues to be of importance and relevance today.

³⁰ From : Bavin, L. & Gibbs, M. 'Report on the historical archaeological potential of Arthur Head and directions for future management and research' (Fremantle City Council, Fremantle, 1988); Pearson, M. 'Report of an investigation into the historical archaeological resource within the Arthur Head area, Fremantle' (Fremantle City Council, Fremantle, Western Australia, 1984); MacIlroy, J. & Meredith, D. 'Bathers Bay 1984: report for the Australian Heritage Commission' (Australian Heritage Commission, Perth, 1984); Gibbs, M. *The Historical Archaeology of Shore Based Whaling in Western Australia*. Unpublished Ph.D. Thesis, university of Western Australia, Nedlands, 1995; Cramer, D. *The Arthur Head Compendium*, City of Fremantle, (1988) Document Nos. 14, 6, 83.

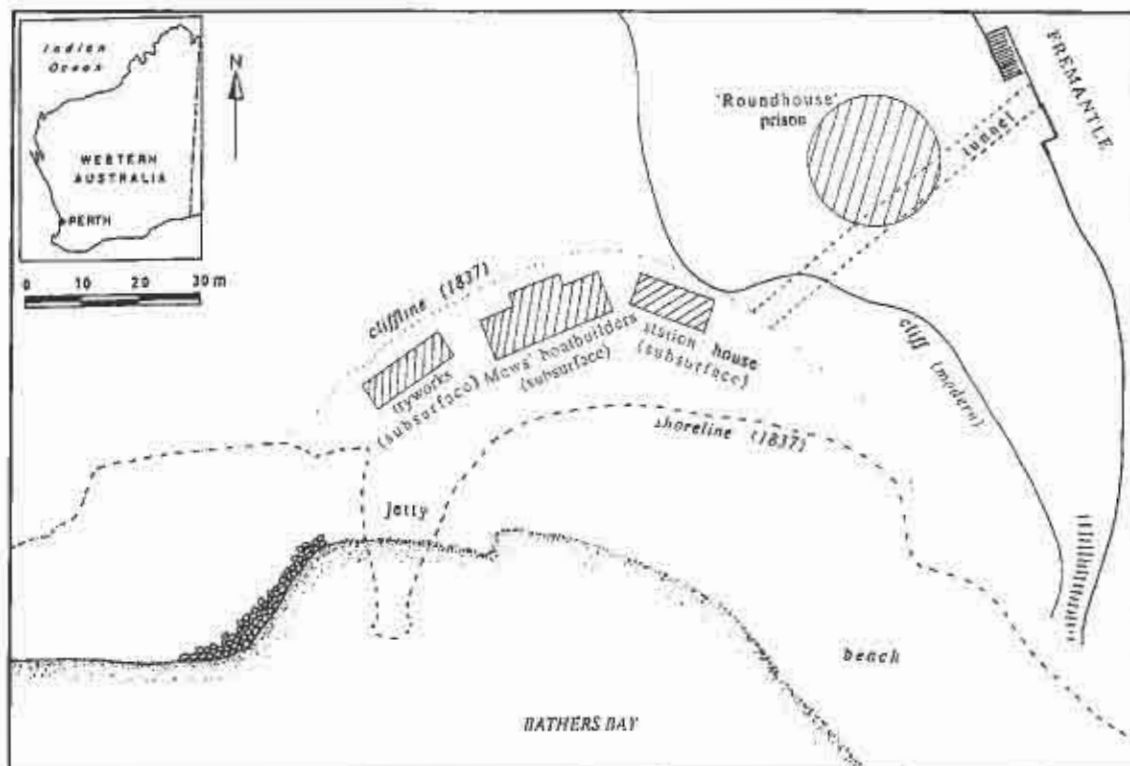


Figure 11: Plan of maritime industry related archaeological excavations

WHALING

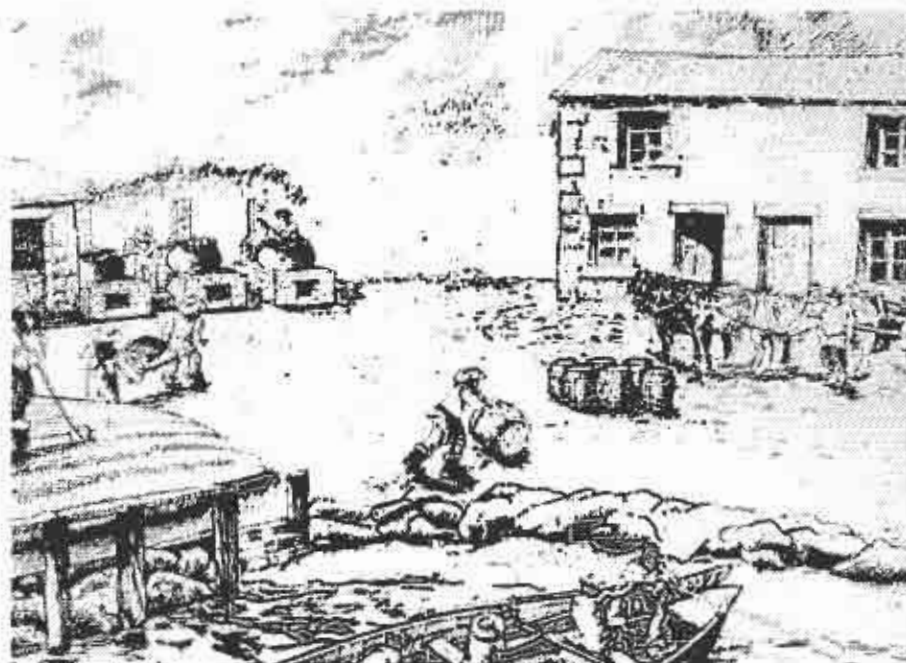


Figure 12: Bathers Bay Whaler's Station, 1838.

Site location

From previous excavations, it is evident that the remains of the whaling station are buried to a depth of c. two metres. There are no surface features.

Site description

The whaling station was excavated in 1984. Parts of the whaler's store, tryworks and subsequent buildings were located (see Figure 13 below). The Whaler's Tunnel has also been excavated. This runs from the Round House steps to the western side of the headland, south west of the Round House. The roof was sprayed with a concrete render as part of major restoration works in 1975, though there are still traces of the original brickwork. The Maritime Museum provided artefacts for exhibition within the tunnel alcoves under part of its 'Outreach' program. These were lighted and had security grilles. Wrought iron gates, originally fitted in 1937 at either end, are still extant although both entrances are now boarded up. The floor of the tunnel is of sand. The tryworks were re-buried following the 1984 excavation along with remains of the former station buildings.

Site history

In 1836/37 The Fremantle Whaling Company was established in Bathers Bay, Arthur Head. The export value of whale products fluctuated between 1844 and 1850 and along with increasing wool exports, lead to the demise of whale product exports and consequently industry operations. The Company was dissolved in 1850 and the site being Crown land, was resumed by the Government.

Whaler's tunnel

The construction of the Whaler's Tunnel was initially recommended by Henry Reveley in 1837, to facilitate a direct passage between the wharf and jetty. This provided a route for the transfer of whale products from the jetty to the High St, the commercial centre of Fremantle. The Fremantle Whaling Company financed it's construction in return for a five year lease. The tunnel was completed in January 1838, utilising prison labour from the Round House. A detachment of miners and sappers (soldiers) stationed at Fremantle at the time may have also assisted in the construction.

The size of the tunnel has been influenced by quarrying activities over the period it was used. The original length was given as 80 yards (c. 73m); however as a result of quarrying at the western end the length was reduced to 46m. The floor level has also altered over time.

The tunnel was completed in January 1838. During construction, the roof and the walls of the tunnel were lined with hand made bricks brought from England as 'paying' or reusable ships' ballast. In 1838 the tunnel was extended three metres at the eastern end when new steps leading to the Round House were constructed.

The tunnel was also used as a service corridor for electricity cables from the power station to the Tramways Barn from 1905 until 1919 when the Station was closed down. The Whaling Tunnel has also been used until recent times as a pedestrian thoroughfare between the time the whaling station closed until it was eventually blocked up in the 1930's.



Figure 13: Bathers bay Excavation 1984. Trench at mouth of Whaler's Tunnel

Station House

In February 1838, tenders were called for the building of a Station House. Contemporary pictorial sources indicate that it was a two story rectangular building located close to the headland and at the western extremity of the Whaler's Tunnel. A hoist-beam visible in one source suggests that the building was a storage area for casks of oil, hoisted from the ground into the upper story. The building is shown in a photograph c. 1870 to be in a dilapidated state and is last shown in plans of 1887 and a photograph c. 1891.³¹

³¹ Bavin, L. & Gibbs, M. 'Report on the historical archaeological potential of Arthur Head and directions for future management and research' (Fremantle City Council, Fremantle, 1988) p.44.

Tryworks

Tryworks were located in the north west corner of Bathers Bay near the headland. The structure consisted of wooden shed open on two sides and the tryworks themselves. These comprise a brick structure surrounding three hearths and a presumed central chimney.³² The stone tryworks probably survived until at least 1887.³³



Figure 14: Bathers Bay Excavation 1984. Trypot hearths

Whaler's Cave

A cave dug into the cliff face between the Station house and the Tryworks has been interpreted as having a number of uses. It was initially identified as an oven; however, it was also understood to be a store room. The cave was referred to in 1837 as an easily enlarged facility proving shelter for the workers at the beach. It was also listed as a cooperage in a 1938 survey plan by Hillman. Mews boat shed was later built in front of the cave.

Archaeological investigations

Most of the finds related to the whaling station discovered in the 1984 excavations were discarded as being undateable building material or industrial waste from landfilling. The pottery sherds retained were generally common nineteenth century types although too small to permit proper dating.³⁴

³² McIlroy, J. & Meredith, D. *Bathers Bay 1984: report for the Australian Heritage Commission*. (Australian Heritage Commission, Perth, 1984) p. 15.

³³ Bavin, L. & Gibbs, M. 'Report on the historical archaeological potential of Arthur Head and directions for future management and research' (Fremantle City Council, Fremantle, 1988) p. 44.

³⁴ MacIlroy, J. & Meredith, D. 'Bathers Bay 1984: report for the Australian Heritage Commission' (Australian Heritage Commission, Perth, 1984) p. 39.

Whaler's Tunnel

As part of the Stage II N.E.P. Archaeological Programme, exploratory excavations were undertaken in the Whaler's Station tunnel. The aim of this excavation was to locate the original floor level and to assess the research value of cultural deposits. Six trenches were excavated along the length of the Whaler's Tunnel to record any change in deposits over the area. Four trenches spanning the width of the tunnel were examined during the excavations. In addition, two trenches were excavated at the tunnels western end to locate the original entrance and two test pits were opened to examine deposits in the 1906 spur tunnel.

Approximately one third of the deposits had been disturbed throughout the tunnel as a result of a series of public work trenches opened during the early twentieth century. The tunnel was reinforced in 1979 by the Kalgoorlie School of Mines when they filled a thin trench under the north wall with concrete.

A brown earthenware sewer pipe was located 1.8m below the datum. Operation of this sewer is said to have begun in 1915 and from 1916 to 1919 the Whaler's tunnel was used as a service corridor for sewerage lines from the Fruit Shed to the trap at the western end of the tunnel. There was also archaeological evidence of the electricity cables laid through the tunnel between the Power Station and the Tramways Barn.

The excavation revealed nine stratigraphical units throughout the tunnel. The bulk of the cultural material was deposited in unit two amongst brown grey sand, underlying sterile yellow sand. Layers three to six were defined as a composite unit forming a hard rock floor. The floor was composed of granite and dolerite rocks bonded by laterite gravel and a compact, greasy black/brown sediment. This composite layer was interpreted as the level of a tramway as the rocky material resembled ballast commonly used on railway lines along with the discovery of railway bolts on top of the surface. Tramways had been established at the western end of High St in 1905 but contrary to the interpretation of the archaeological evidence, there is no record of a tramline through the tunnel itself.

Limestone fill was found underneath these units sitting over a layer of powdered limestone and silt. Underneath this, cut bedrock was located. The limestone was interpreted as a covering for the bedrock to provide a solid and smooth tunnel floor.

A continuous layer contained in the deposits from the trenches outside the tunnel suggested that it perhaps once extended approximately 20m from the present west end. The cliff; however, was cut back from 60m to 57m between 1877 and 1897 and again in 1913, to it's present length. This would put the deposits outside the tunnel mouth and it is conceivable that the deposits were laid during the early twentieth century. A concrete slab was discovered in the other trench outside the tunnel on top of the continuous layer.

Ninety three artefacts were excavated from the Whaler's Tunnel mainly consisting of fairly recent bottle glass and miscellaneous metal pieces. The highest proportion of artefacts were located at both entrances to the tunnel, in the upper deposits. Very little material associated with the whaling industry was recovered.

Tryworks

The tryworks were excavated in 1984 by J. MacIlroy with assistance from the by the Western Australian Museum. The brick bases of the hearths used to boil up 'try' the whale blubber were uncovered along with wooden flooring and a combination of brick, limestone and mortar walls. The hearths were filled with a sooty residue which was evidently contemporary with their use. Two types of brick were identified in the excavation. The red brick was identified as local while the yellow brick could have originated from the Eastern States, the United Kingdom, South Africa or elsewhere.³⁵ Evidence of later structures overlay the tryshed remains. Another building in close proximity to the tryshed was revealed and interpreted as either a possible boatshed or kitchen extension.³⁶

Station House

The structure was partially excavated in 1984 with part of the east wall and a rammed limestone floor uncovered. No other artefactual material was found in context with the Station House.³⁷



Figure 15: *Bathers Bay Excavation 1984. Two views of the Whaler's Station building*

Whaler's Cave

As a result of quarry works conducted in 1966, the location of this cave was lost. There is a possibility that the outlines of the cave may be delineated.³⁸

³⁵ MacIlroy, J. & Meredith, D. 'Bathers Bay 1984: report for the Australian Heritage Commission' (Australian Heritage Commission, Perth, 1984)p. 15.

³⁶ Bavin, L. & Gibbs, M. 'Report on the historical archaeological potential of Arthur Head and directions for future management and research' (Fremantle City Council, Fremantle, 1988) p. 45.

³⁷ Bavin, L. & Gibbs, M. 'Report on the historical archaeological potential of Arthur Head and directions for future management and research' (Fremantle City Council, Fremantle, 1988) p. 44.

³⁸ Bavin, L. & Gibbs, M. 'Report on the historical archaeological potential of Arthur Head and directions for future management and research' (Fremantle City Council, Fremantle, 1988) p. 46.

Contemporary use of site

The site is currently under two metres of fill. The land itself is not being utilised. The tunnel has recently been closed pending reconstruction and restorative work.

ASSESSMENT OF CULTURAL HERITAGE SIGNIFICANCE

Aesthetic value

The Whaling Tunnel is an integral part of the view of the Round House and the Round House steps. It provides a view to the sea and its placement is rationale for the location of the steps. (Criterion 1.3 and 1.4)

Historic value

Whaling and sealing were Australia's first primary industries. Whaling stations were established nationally in the first decades of the nineteenth century with approximately fifteen stations operating on the Western Australian coast from the Recherche to the Dampier Archipelagoes. (Criterion 2.1) Whaling was dominated by the French who had established themselves by 1810 at King George Sound with the Americans quickly following setting up, further north at Point Cloates in the 1830's. Whale products were important products in this period utilised as an illuminant, soap, cosmetics etc. (Criterion 2.2). The tunnel was used as a service corridor for the supply of services to buildings on the east and west of the headland.

Scientific value

The whaling station has scientific value as both an archaeological and interpretive site. It has been that the site be again uncovered and then stabilised so that it is accessible to the public. (Criterion 3.1)

Social value

The whaling industry was a global phenomenon which enticed and utilised a variety of people including seamen and merchants. Whale oil products were essential to the economy and people used such products on a day to day basis.

The industry provided an environment where local Aboriginal and the colonists could associate in a non conflict situation. (Criterion 4.1)

DEGREE OF SIGNIFICANCE

Rarity

This is the only known example of a preserved tryworks, centrally located to Perth. The whaling station is an example of an important early industry no longer existing in Western Australia. (Criterion 5.1)

Representativeness

The site is preserved under landfill and is representative of an early nineteenth century bay whaling station. (Criterion 5.1)

Condition

Several excavations at the whaling station have revealed that substantial structural remains from the early whaling period survive at depth below the current surface level. The tryworks are best preserved along with the foundations for the station house and boatshed. The tunnel is in very good condition pending further restorative work.

Integrity

The site is preserved under sand and could conceivably be restored or simply revealed to fit into an interpretive display. The tunnel when reopened would also fit into this interpretation.

MARITIME SIGNIFICANCE

Bathers Beach is an atypical example of a whaling station in W.A. in that it is the only station on the doorstep of the main European settlement as well as being the best documented.

INTERPRETATION

Historical interpretation

The site has been adequately documented as an integral part of the area and as an industrial and social facility. Further historical interpretation may add to this material.

Archaeological interpretation

Continual use of Arthur Head since first settlement suggests that few artefacts and tools associated with whaling and boat building activities will be discovered on site. The seabed may continue to yield more artefacts; however. On the other hand, land excavation is more likely to reveal structural details of the whaling station and the early boat building industry. The analysis of the Whaler's Tunnel stratigraphy and artefacts indicate that the site is of limited research value despite its historical significance. Most of the cultural material uncovered has come from recent deposits and consists mainly of fragmented bottle glass and metal pieces. The stratigraphical potential of the site has been limited as a result of disturbance caused by the opening of service trenches in the early twentieth century.

MANAGEMENT, CONSERVATION AND PRESENTATION STRATEGIES

Legal protection

Under the terms of an analysis recently received, it is evident that while the site has an existing protected status, it could also be protected under the terms of the 1973 Maritime Archaeology Act. Equally the 1990 Heritage Act could apply.

Site management

Council works should be monitored by an archaeologist and additional stratigraphic and artefactual information should be recorded as it is exposed during the course of redevelopment works.

Site stabilisation

The site is stable under sand.

Site preservation

As part of a Bathers Bay interpretation, the tryworks could be uncovered and preserved *in situ* for public and research purposes provided that it be adequately stabilised and secured.

FUTURE RESEARCH SUGGESTIONS

Historical

Further archival research should be correlated with results from excavations at the whaling station site to date. Historical research should be undertaken to relate the excavated station with later buildings.

Archaeological

Future works should include detailed records of the land fill stratigraphy noting the content, bulk and texture in an attempt to determine the relationship between different areas of the site.

Continued excavation of the tryworks and station to relate them to later boat building developments such as Mews Boat Shed could be undertaken.

Excavations to locate prehistoric and post contact Aboriginal material to better understand this transition period during the settlement period should be given priority if further investigations are proposed.

Underwater searches and possible excavation to locate artefacts related to the whaling period, which may be revealed seasonally, by changing sea conditions, should also be undertaken.

Comparative studies

A archaeological programme to understand the relationship and/or development of the whaling Station and the boat building industry, i.e. Mews Boat Shed.

MEWS BOATSHED

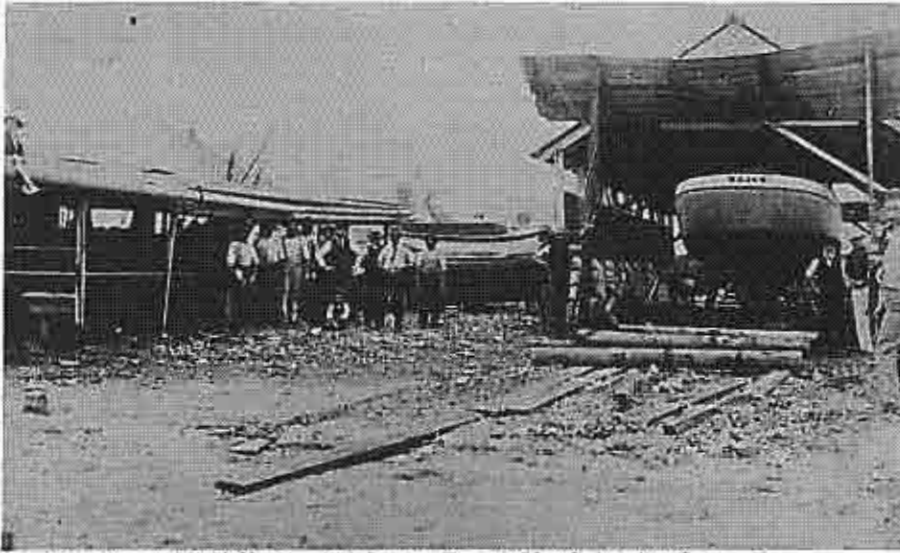


Figure 16: Boat building at Mews Boat Shed in Bathers Bay

Site location

Mews boatshed was located in front of the cliff face at Bather's Bay, west of the Whaling Company Station house, and east of the try pots.

Site description

The boat shed remains are buried to a depth of two metres. There are no surface structural features. The shed is now located at the Mews Boat Shed.

Site history

After the disbandment of the Fremantle Whaling Company, Bathers Bay changed its industrial focus and became a boat building centre.

There is debate over when the boatshed was built but it is estimated to have been either in the 1850's or 1860's. It was first shown pictorially in a sketch of Fremantle from Gage Roads by Dr R. W. Clarke, dated to 1859. It was a two storey rectangular building constructed with a hip roof, dressed limestone walls and rammed limestone floors. A 1909 Metropolitan Sewerage Plan shows the addition of a verandah running the length of the building.³⁹ Between 1856 and 1895, pictorial sources depict other structures flanking the boatshed. It is postulated that these buildings related to the whaling station. From 1896 onwards only the boatshed is drawn; however, 1897 plans revert to showing the other whaling station buildings.⁴⁰

The boat shed was believed to have been demolished shortly after WWII in the period 1945-50. This is evidenced by its absence in a 1945 photograph.⁴¹

It is not known for how long the building functioned as a boatshed under the Mews family, with plans and photograph c.a. 1891 suggesting that the

³⁹ Cramer, D. *The Arthur Head Compendium*, City of Fremantle, (1988) Document Nos. 14, 6, 83, 82.

⁴⁰ Cramer, D. *The Arthur Head Compendium*, City of Fremantle, (1988) Document Nos. 82.

⁴¹ Cramer, D. *The Arthur Head Compendium*, City of Fremantle, (1988) Document Nos. 82.

shed was used for domestic as opposed to commercial/maritime activities.

⁴²

A photograph c.1890 shows the sign T.W. Mews Ship & Boat builder suggesting that Mews' son took over the business at this period, dissolving the partnership between Mews and Cox.

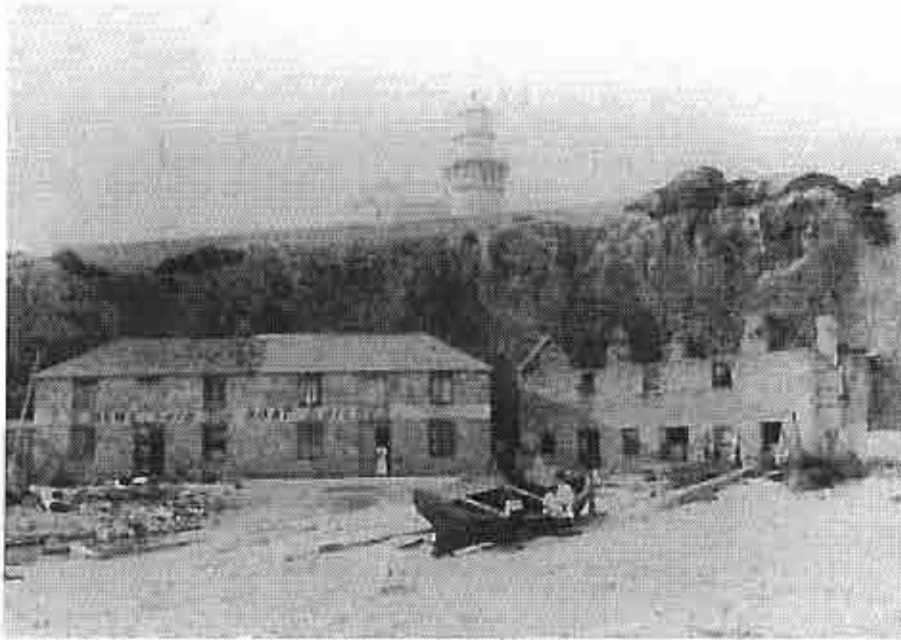


Figure 17: T. W. Mews Boat Shed 1890

Archaeological investigations

An excavation by MacIlroy in 1984 revealed the foundations of what is interpreted as the former boat shed.

Contemporary use of site

J shed, owned by the Fremantle Port Authority, is now on the site of the former Mews Boatshed.

ASSESSMENT OF CULTURAL HERITAGE SIGNIFICANCE

Historic value

Mews Boatshed was representative of one of Fremantle's early local industries; boat building. This is still a major local and State industry today (Criterion 2.2). Mews & Cox built four whale boats c.a. 1837 as well as the first Fremantle steamship, *Speculator*, trialled in 1854. Although the first vessel of this type, it was not considered a success and quoted as having an engine 'better suited for a flour mill than a boat'.⁴³ T.W. Mews Jr. also built the schooners *Star* and *Comet*. Both vessels came to grief on the Western

⁴² Cramer, D. The Arthur Head Compendium, City of Fremantle, (1988) Document Nos. 82.

⁴³ Cramer, D. The Arthur Head Compendium, City of Fremantle, (1988) Document Nos. 82.

Australian coast. In the 1870's the Mews' built lighters for pearling luggers and their first lugger, *Dove* was completed in 1888 (Criterion 2.3). The construction of lighters, barges, coastal traders and from the 1870's, pearling luggers were all important to the economic and industrial development of Western Australia.

Social value

The descendants of T.W. Mews have maintained an active involvement in the boat building industry in Fremantle. Thomas William Mews arriving in Fremantle in 1830 formed the partnership Mews and Cox- Boat builders and Shipwrights with Samuel Cox. They were the pioneer shipbuilders of the colony. The Mews family were also boat operators conducting ferries across the narrows at point Belches; from Fremantle to Perth and in the Upper Swan. They also owned a cargo boat *The Great Western* which made a daily round trip to Guildford in the late 1840's. J. C. Mews (son of T. W. Mews Sr.) also operated the whaleboat *The Rose* which took passengers and cargo to Fremantle (Criterion 4.1).⁴⁴



Figure 18: Warren Mews' boat shed at Bathers Bay, 1986.

Comparative studies

An archaeological programme to understand the relationship and/or development of the whaling Station and the boat building industry, i.e. Mews Boat Shed could be commenced. A start on this has been undertaken with the publication of R. Dickson's analysis of boat builders and boat building in Western Australia from 1829.⁴⁵ A bibliography of use in that study is presented below.

⁴⁴ Cramer, D. *The Arthur Head Compendium*, City of Fremantle, (1988) Document Nos. 82)

⁴⁵ Dickson, R. *They Kept this State Afloat: Shipbuilders, boat builders and shipwrights of WA, 1829-1929* (Hesperian Press, Perth, 1998).

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Photographic index

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		MH	2525
		MH	2593

SHIPWRECKS

Wrecks in Bathers Bay

MARQUIS OF ANGLESEA⁴⁶

On 23 August, 1829, the 352 ton *Marquis of Anglesea* was driven ashore just south of Bathers Bay at a point of land that was to eventually bear the vessel's name. Even though the vessel was fourteen years old when beached and bilged, her timbers were still sound and her hull received only minor damage and the hulk was put to various uses as indicated below. From the day it was wrecked, the *Marquis of Anglesea* became a focal point in the affairs of the settlement at Fremantle and is remembered in the names of the two promontories at each end of Bathers Bay, Point Marquis and Anglesea Point.⁴⁷

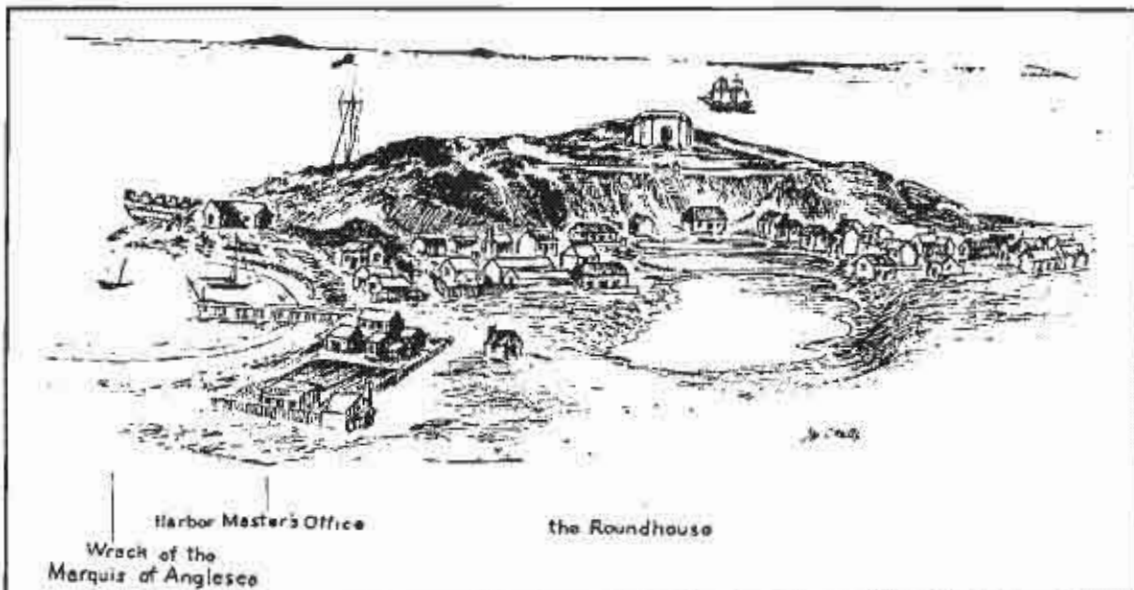


Figure 19: View of Fremantle in 1832 showing wreck of *Marquis of Anglesea*.

Site location

The wreck has not been located in modern times and any remains extant are expected to lie under the extensions to the Fremantle Fisherman's Harbour.

Site description

The remains have not been discovered.

⁴⁶Halls, C. *Marquis of Anglesea: Store Hulk and Government Residence*. Port of Fremantle Quarterly. Summer, (Fremantle, 1982) pp 14-17; Henderson, G. *Unfinished voyages: Western Australian Shipwrecks 1622-1850*, (University of WA Press, Nedlands, 1980) pp 83-86.

⁴⁷Garratt D. & McCarthy, M 'The Long Jetty excavation report', Western Australian Maritime Museum, No. 78 (Western Australian Maritime Museum, Fremantle, 1994).

Site history

Cockburn Sound was reported by Capt. James Stirling to be an excellent harbour, though during 1829 three ships, H.M.S. *Challenger*, the chartered transport *Parmelia* and H.M.S. *Success*, all struck rocks while entering Cockburn Sound. Consequently from the very beginning of settlement at Fremantle, masters of visiting merchantmen tended to avoid the Sound and anchor in Gage Roads further north. This also had the advantage of being six or seven Nautical Miles closer to entrance to the Swan River.

Gage Roads was equally a problem, being an exposed and therefore extremely hazardous at certain times of the year. The wrecking of the *Marquis of Anglesea* illustrating the dangers associated with the Gage Road anchorage.

From the journal of Dr. A. Collie, a new settler, we have the following account:

September 7, 1829: During a gale from the westward on the night of September 3, the ship the *Marquis of Anglesea* [250 tons] which had lately arrived [on August 23 under the command of Capt. W. Stewart] with 130 settlers on board and anchored in Gage Roads close to the mouth of the Swan River, drove on shore, bilged and filled with water; all hands were saved with part of the cargo that remained unloaded. This, with the previous driving of the *Calista*, shows that Gage Roads, at this season is not safe and may occasion the establishment of another sea-port in Cockburn Sound.⁴⁸

The Lloyds Shipping Register of 1830 lists the *Marquis of Anglesea* as a second class ship of 352 tons. Owned by B. Barrick & Co., it was used in the emigrant trade. Built in Sunderland in 1815 the vessel was fourteen years old when cast on these shores. The hull, minus masts and top hamper, remained intact for a further three years and it was during this period that the vessel achieved a lasting fame through it's continued use for Government business and habitation. It was first used in October 1829 when Capt. Mark J. Currie R. N. set up his office on board as Fremantle's first Harbour Master (unpaid). Currie was succeeded by Capt. Daniel Scott who used the ship-board office intermittently until 1832 when a harbour master's cottage/office was erected on shore at Anglesea Point.

The hulk was sold to Mr George Leake for £300 in early 1830, who then leased it for £10 per annum, to Capt. Stirling, the Lieutenant Governor. He converted part of the vessel into a Government store while another part was fitted up for his Fremantle residence. A third section was equipped to serve as a prison and another portion was furnished as Government offices including that of the Harbour Master.

The *Marquis of Anglesea* was also inhabited by some twenty seven prisoners, twelve of whom had been convicted for breaking there labour

⁴⁸ Halls, C. *Marquis of Anglesea: Store Hulk and Government Residence. Port of Fremantle Quarterly*. Summer, (Fremantle, 1982) pp 14-17

indentures. In the latter months of 1832, at least one mental patient, Nicholas Langley, was incarcerated in one of the small cabins aft.

The vessel being a merchantman, had no gun-deck and consequently no gun-ports which could be used for ventilation. It is possible that a doorway and windows were cut into the hull below the waterline to provide access and ventilation to the heeled ship.

The *Marquis of Anglesea* spent it's last days as a grain store. It served colonists in that capacity until eventually being broken open by heavy seas. By this time Leake had begun breaking up the deck for removal.

The ship does not appear on a watercolour sketch of the area in August 1832.

Archaeological investigations

The exact location of the *Marquis of Anglesea* site is not known. As a result there has been no archaeological investigation at the site. Examination of illustrations of Fremantle during the period suggest that the vessel was beached slightly south of the future Long Jetty, at the northern part of what is presently the Fisherman's Boat Harbour. As was normal throughout any colony or settlement where dressed timber, rope, fastenings and other fittings and fixtures were rare, it is probable that that majority of the fittings and timbers would have been salvaged and redistributed for reuse before the sea destroyed the vessel entirely. Even in these circumstances, little, if anything was wasted and timbers were torn apart or burnt in order to extract the last of the fastenings. As a result little of the wreck is expected to remain, unless the bottom sank deep into the shore and proved impossible to salvage. Even then only a small section of the bilge of the vessel is expected to remain.

Contemporary use of site

The site is understood to be at the north end of the Fisherman's Boat Harbour and in not being located has not been utilised in any form.

ASSESSMENT OF CULTURAL HERITAGE SIGNIFICANCE

Even unfound, site is of considerable historic and social significance to the State and to the former Colony. Its integrity and the scientific and archaeological potential cannot be judged until it is found and adequately assessed.

PRIESTMAN DREDGE⁴⁹

On 11 May 1893, a 'grab dredge' known as the Priestman Dredge, capsized in Bathers Bay while engaged in removing sand from the Fremantle Harbour works. Many of the working parts such as the driving pump and boiler were salvaged. The crane section and mooring chains were also recovered.

The name *Priestman* refers to a piece of equipment called a 'grab' which is a steel structure fitted with one or more grab cranes. This is attached to a dredge or barge and may also be called a grapple dredge. The grab itself is made in two parts, each of curved steel plates, which utilising a suitable mechanism incorporating a hoisting and closing chain and controlled by the driver, can be open or shut. The grab when open is allowed to fall heavily and bury itself into the seabed. The grab is then closed, raised and discharged into a barge or hopper. Thus the wreck at South Mole was known as the *Priestman Dredge*, named after the equipment it carried.⁵⁰

Site location

The remains of the dredge are located 100m south of the South Mole at Fremantle Harbour at Latitude 32° 03' 32" S., Longitude 115° 44' 08" E.

Site description

Little remains of the *Priestman* dredge. The wreckage mound is composed of stones (some weighing up to c. 20 kilograms) interspersed with corroded iron fittings and some underlying hull timbers. Parts of the vessel that have been exposed include, a lead scupper, lead pipe, the stone mound, with some machinery, planking, and knees. At the western end of the wreckage a hawsepipe was located, with a stud link chain running out and away northward. More chain was found scattered nearby. This chain may have been associated with the grab dredge assembly. The cog axle links found may also be part of the pump machinery of the vessel. A section of keel runs approximately north to south with frames lying flat and partly buried in the sand. The timbers exhibit biodeterioration and evidence of damage caused by teredo worm infestation. The wreckage lies under 6 metres of water on a sand bottom. Due to a moderate covering of weed, the wreckage is not easily distinguishable from the surrounding sea-bed.

Site history

The Priestman Dredge was a 'clam-shell' bucket grab type, used in the construction of the South Mole which was completed in August 1897. In his submissions to the Government C.Y. O'Connor sought funds to realise his promised programme of bringing Royal Mail Steamers into Fremantle. This included the 'secured funding' necessary to allow for the advance purchase, design and construction of Priestman dredges from Europe.

⁴⁹ From. Priestman Dredge, File Department of Maritime Archaeology, WA Maritime Museum, No 191/79.

⁵⁰ De Kerchove

When funded, the *Priestman* dredge was imported in parts and assembled in the Colony. The dredge's primary task was to remove rock which had been blasted from inside the bar across the mouth of the Swan River. The bar consisted of a long rolling ridge of rock, principally coralline limestone and sandstone, which just across the river mouth showed a broad crest rising to low water level. About 75% of the rock was drilled and blasted before being moved by bucket grab dredges. Approximately 30% of the sand and silt was also excavated by bucket grab dredges and the balance by suction dredges. As a further inducement to secure funding, O'Connor advised that his plan called for utilisation of the rock from the bar for breakwaters. The dredging out and removal of the bar at the mouth of the Swan River allowed shipping to call safely at Fremantle for the first time. By July 1900 dredging had progressed sufficiently to induce the English mail steamers to call at Fremantle rather than Albany, making Fremantle the unrivalled principal port of Western Australia.

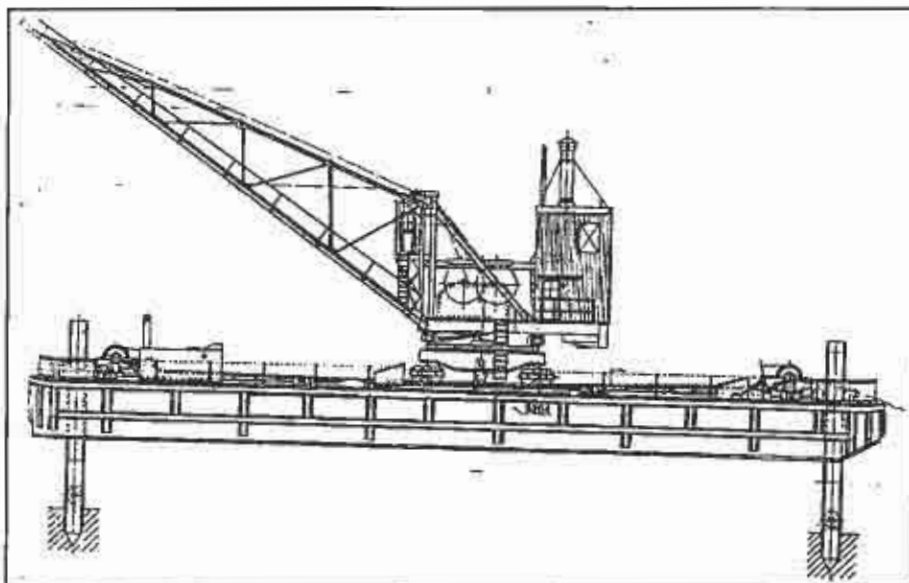


Figure 20: *Priestman Dredge*

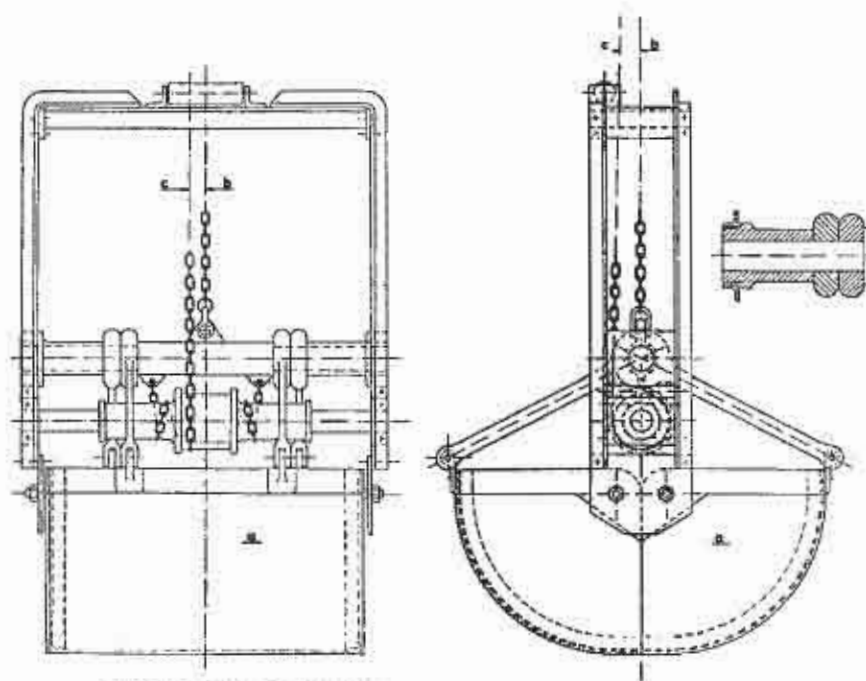
Fremantle Harbour Construction

O'Connors' plan to open the Swan River bar and construct a harbour was approved by Parliament in early 1892. The resident engineer was Mr J. A. MacDonald and the chronology of these events and the utilization of dredges generally is of some significance.

Chronology

- | | |
|----------|---|
| Nov 1892 | Work on North Mole commenced utilising stone from Rocky Bay Quarry. |
| May 1893 | <i>Priestman</i> Dredge sank in South Bay. |

- July 1894 Drilling and blasting of sandstone/limestone river bar commenced.
- Aug 1894 Work on South Mole commenced in stone from the "levelling down" of Arthur Head.
- Sept 1895 A 200 feet wide and 12 feet deep channel cut into bar and the *Fremantle* passed into the river. The suction dredge *Premier* followed in January 1896, along with a second bucket and second suction dredger. All these vessels were designed by Messrs. Coode & Son & Matthews.
- Nov 1895 Main section of North Mole completed.
- May 1897 S. S. *Sultan*, an Australian coaster, made first passage over the bar. The North Mole slipway could now take any of the four dredges which otherwise could not have slipped any closer than Melbourne.
- Oct 1897 S. S. *Cornwall*, an open sea vessel 420 ' long and of 5,480 tons burden, berthed in the river.
- July 1899 The German mail boats successfully use the harbour, swinging in a basin then only 650 feet in width.
- July 1890 The dredging was sufficiently advanced for the mail steamers of the English line to be induced to call regularly.



Priestman grab. Original type

Figure 21: Priestman 'Grab'

The *Priestman* had mainly been at work removing sand from the inner basin and it excavated channels connecting river, in one direction to the channel through the rock bar to the old jetty on the South Bank in the other. These channels were of great service to the small steamers and other craft plying between Fremantle and Perth.

The *Priestman* Dredge foundered on the 11 May 1893 when moored on the south side of the Fremantle Jetty. The vessel was engaged in setting mooring buoys at the time and was regarded as top heavy from the deck load of associated equipment. It was found floating upside down following a stormy night. It is believed that the dredge heeled in the strong sea. There was also the possibility that a steamer fouled the dredge in getting away from the jetty, but marks which could indicate a collision were found. The vessel sank the following day with two screw moorings, machinery, mooring chains and cable on board.

Records show that the salvage in the two weeks recovered a diving pump and boiler, mooring anchors and a mass of chain. An unsuccessful attempt to raise the dredge and its pumps was made by passing a chain underneath the hull. The chain snapped under the strain and the vessel sank to where it lies today.

As a vessel called the *Priestman* was mentioned in 1896 as having excavated channels in the Swan River it is probable that the *Priestman* grab crane was recovered and then mounted onto another floating platform and therefore there were two vessels in succession known as the *Priestman* dredge after the original had been wrecked.

Archaeological investigations

The wreck site was discovered in October 1978 and subsequently inspected by the WA Maritime Museum. The site has been recorded, photographed and monitored through out the Museum's program of wreck inspections. Material raised include a double sheave pulley block, coal samples, a sample of hull planking with felt layer and a copper plank fastening spike.⁵¹

Contemporary use of site

The site is periodically uncovered by scouring in severe storms though very little of the wreck is normally visible on the sea-bed. The site is within Bathers Bay.

⁵¹ Sledge, S., 1979, *Priestman Dredge*, Unpublished Wreck Inspection Report, Department of Maritime Archaeology, Western Australian Maritime Museum, No. 39

ASSESSMENT OF CULTURAL HERITAGE SIGNIFICANCE

Historic value

The vessel has historical associations with the opening of the river bar and is an example of the 'grab dredge' type.

MANAGEMENT, CONSERVATION AND PRESENTATION STRATEGIES

Legal protection

The dredges' association with the Fremantle harbour works and its year of loss (1893) resulted in the remains being declared protected by the *Historic Shipwrecks Act 1976*, on 14 January 1983.

Site management

The strictures of the *Historic Shipwrecks Act 1976*, and the infrequent diver visitation due to the fact that little remains above the seabed and there is little to attract snorkeller or scuba divers to the site, provide the basis of the site's management strategy.

OTHER SITES

There are two other shipwreck sites, which while lying outside the study area, are worthy of mention. These are the *SS Lygnern* and the former sailing ship the *Samuel Plimsoll*.

SS Lygnern

In the face of a strike on the wharf, the then Fremantle Harbour Trust decided to move a Swedish ship the 4896 tonne *SS Lygnern* from 'A' Shed at Victoria Quay to Gage Roads for the duration. On 18 September 1928 the harbour pilot guided the vessel to what he believed was a safe anchorage, but the ship struck heavily onto Beagle Rocks, sustaining severe damage below the waterline. All attempts to refloat the ship failed and the task of unloading the cargo proved difficult. One month later the ship was officially abandoned and the vessel was put up for auction. Over the years it was stripped and in December 1970 was used by the Defence forces as a demolition exercise. The site is some considerable distance west of Bathers Bay, approximately 650 m from the end of South Mole⁵²

Samuel Plimsoll

The *Samuel Plimsoll*, an iron hulled full-rigged ship of 1,524 tonnes, was built in 1873 for the White Star Line of Aberdeen and named after the British politician who had been the instigator of legislation for ship's safety regulations. After a long and very successful career as an ocean carrier, in 1902 it was converted to a coal hulk (or storage ship). In this manner the vessel served for another twenty-three years until, on 18 June 1945, it sank

⁵²(Harbour and Lights, File 847/37, State Library of Western Australia; *The West Australian*, 28 November 1970:12; Halls, 1975:18-21).

in Fremantle Harbour.⁵³ Salvage of the hulk was impractical and as a result, it was blown into pieces with explosives and the remains dumped on the wreck of the *Lygnern*.⁵⁴

A bibliography is provided to assist with further studies.

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MA Department Files

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MA 9/80

⁵³*West Australian*, 29 May, 1907:2, McKenna, R., Notes on coal Hulks of Fremantle and Albany. File, Department of Maritime Archaeology, WA Maritime Museum. No 193/79 & 194/79.

⁵⁴ McKenna, R., Notes on coal Hulks of Fremantle and Albany. File, Department of Maritime Archaeology, WA Maritime Museum. No 193/79 & 194/79.

ARTHUR HEAD SITE CONCLUSIONS AND RECOMMENDATIONS

The recommendations outlined in the 1988 investigations were that:

- (i) No significant archaeological remains should be threatened by Council redevelopment works in the Arthur Head Reserve.
- (ii) The investigation of sites which are prioritised due to their being under threat by immediate development works, should take precedence over other archaeological research projects
- (iii) Detailed research designs should be prepared for all proposed archaeological projects at the site. These must be assessed on the basis of relevance of the questions asked, the appropriateness of the attempts to answer them and the relevance of new questions.
- (iv) Research should be carried out by qualified archaeologists such that it meets both academic and conservation requirements.
- (v) An archaeologist should be consulted before further Council works are contemplated, as to the need for that work to be monitored by a archaeologist, or for more detailed archaeological work to be carried out.

The maritime significance of Arthur Head reflects the physical and economic growth of Fremantle from first settlement. The overall significance is derived from the collective contribution of individual sites to the maritime landscape and characterised by the different development periods of maritime industry in Western Australia.

With respect to the maritime elements of those recommendations, the consultants agree with the previous findings.