Maritime Times

Tasmania

No 79 – Winter 2022

$3.50

Maritime Constructions

Bascule Bridge

Burnie Breakwaters

Teredo in Tasmania

Jetty at Trial Harbour

Mariners' Church

The Rajah Quilt

Artificial Reefs

Museum News

President's message

Our new logo

+ our regular features

and TasPorts' news

Maritime Museum Tasmania

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Acknowledgements

Acknowledgement of Country

The Maritime Museum Tasmania acknowledges the Tasmanian Aboriginal peoples as the traditional owners and custodians of the waters and islands of Tasmania that inform our work. We acknowledge and pay our respects to their Elders, past and present, and those emerging.

Our Patron

The Maritime Museum Tasmania is pleased to acknowledge the support of its Patron: The Governor of Tasmania, Her Excellency the Honourable Barbara Baker AC.

Our Supporters

The Maritime Museum Tasmania gratefully acknowledges the support of the City of Hobart, Murdoch Clarke lawyers, TasPorts and Arts Tasmania.

Maritime Times Tasmania

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Front Cover Image: Bascule (Tilt) Bridge at Hobart over entrance to Constitution Dock with steam crane in the background Photo December 2021: Barry Champion. Story p. 8

Maritime Times Tasmania welcomes original historical or newsworthy articles for publication

Contributions, reflecting the Museum's mission to promote research into and the interpretation of, Tasmania's maritime heritage, can be short notes, or articles with text about 700–1200 words, accompanied by images if possible. Text will be edited to comply with the magazine's style and publication is at the discretion of the editor.

Ideally, your contributions will be in a Word document, with embedded images or, preferably, with separate 300 dpi JPEG or TIFF files. We can accept legible handwritten articles, with loose photographs, which we will copy.

Images must have a caption, be credited to the photographer or to the source, and have written permission to publish.

Please post your contributions to The Editor, 'Maritime Times Tasmania', GPO Box 1118, Hobart, TAS 7001, or email with attachments to admin@maritimetas.org

Alternatively, you can leave your contribution at the front desk of the Museum at the street address above. Include your contact details. Please add to your calendar:

Deadline for the Spring (Sept. 2022) issue is **Wednesday 17 August**.

from the president's log

by Chris Tassell

The mention of maritime heritage immediately conjures up images of ships under sail for many. Far fewer think of our built heritage as being an important part of Tasmania's maritime heritage. This issue of *Maritime Times* explores some aspects of our island's rich built maritime heritage from very obvious breakwaters and jetties to the less so, such as a church now quite removed from the sea. It also makes great use of the Museum's rich photographic collection which itself extends far beyond ships at sea.

This issue also launches the Maritime Museum's new logo. This logo is based on the house flag of prominent nineteenth-century Hobart shipowner and merchant Alexander McGregor. That this blue and white flag lends itself to being a contemporary and dynamic logo more than 150 years after first flying on McGregor's ships says much about its inherent design qualities. To mark the introduction of the new logo the Museum has placed on display an original McGregor house flag together with a portrait of one of McGregor's vessels, *Hally Bayley*, flying this house flag when entering the River Derwent about 1870.

Both the McGregor flag and the portrait of *Hally Bayley* were early donations to the Museum. Since the Museum's establishment the community has continued to generously support the development of the Museum's collections through a wide range of donations. Some of the more recent donations are described in this issue of *Maritime Times* and include the most important Bob Warneke Library with its strong focus on early voyages of discovery to Australia and the exploration of Antarctica and the sub-Antarctic islands including Tasmania's Macquarie Island. The generous donation of the Warneke Library not only enhances the Museum's library as a research resource but also our exhibition program.

In May the Museum welcomed Camille Reynes, our recently appointed Curator. Camille has a professional background in cultural heritage management and worked in Europe and the Middle East before settling in Tasmania. Since then she has been a volunteer at the Maritime Museum while also continuing her studies in Tasmanian history and tourism.

The development of the Museum's exhibition program has been a major focus of staff and committee activity in recent months. In April the exhibition 'Tainted Cargo', the work of Gabrielle Falconer and Jenny Dean, opened. The exhibition explores aspects of nineteenth-century migration to Tasmania. In particular Gabrielle and Jenny explored the experiences of the free women who arrived in Hobart on the ship *Princess Royal* in 1832 and those of surgeon Dr James Scott who had arrived earlier in 1820. This exhibition will continue until July to be followed by an exhibition which explores Hobart's history as a gateway to the Antarctic.

Enclosed with this issue of *Maritime Times* is the annual membership subscription form together with an appeal for financial support. Your support will help enable the Museum acquire a powerful original photograph of Captain Robert Scott's *Terra Nova* in ice in the Antarctic in December 1910, taken by Herbert Ponting one of the great early photographers of the Antarctic. The photograph from Scott's ill-fated British expedition, when he failed to return from the South Pole, would be a most important addition to the Museum's significant Antarctic collection. It would also compliment the Museum's holdings of material related to Roald Amundsen's successful expedition on *Fram* at the same time. Amundsen was the first to journey to the South Pole where he raised the Norwegian flag. He announced his achievement to the world from the Hobart Post Office.

I would encourage you to support the Maritime Museum by renewing your membership of the Museum and supporting the appeal to acquire this most important work for the Museum and the benefit of the Tasmanian community. □

MMT

MARITIME MUSEUM TASMANIA'S NEW LOGO

An occasional refresh of an organisation's identity and image is vital to maintain relevance in a fast-changing world. After much deliberation the Museum has adopted a new logo which will gradually be introduced but appears first here in *Maritime Times Tasmania*.

Our previous logo used a depiction of one of Alexander McGregor's whalers, *Harriet McGregor.* It was based on a line drawing by Louis Rodway in 1974, long before his connection with the Museum, where he started as a volunteer in 2009. Our new logo, based on the McGregor house flag, maintains this connection. An original house flag was an early part of the Museum's collection and is currently on temporary display above the entrance to the Carnegie Gallery (right), along with a portrait of *Hally Bayley,* another McGregor ship, which shows the flag flying proudly from the mainmast.

While principally depicting the McGregor flag, elements of the logo also reference the movement of waves and the sea, giving a pleasingly dynamic feel to the image, while McGregor's choice of blue for his flag (his brother-in-law James Bayley's flag was of a similar design, but in red and white) is, of course, a natural choice for a Maritime Museum.

The new logo (above) for the Maritime Museum Tasmania, inspired by the McGregor house flag, was designed by Kelly Eijdenberg.

McGregor House Flag MMT Collection A_1990-032
Photo: 2022 Barry Champion

www.maritimetas.org

Maritime Museum Members

We welcome new members:

Professor Mike Coffin
Maurice Williams
Carol Horne

Not already a member?

You can join online, or download an application form at:
www.maritimetas.org/support-us/become-member

Membership Fees

Categories of membership and the annual fees, effective each year 1 July to 30 June, (incl. GST) are:

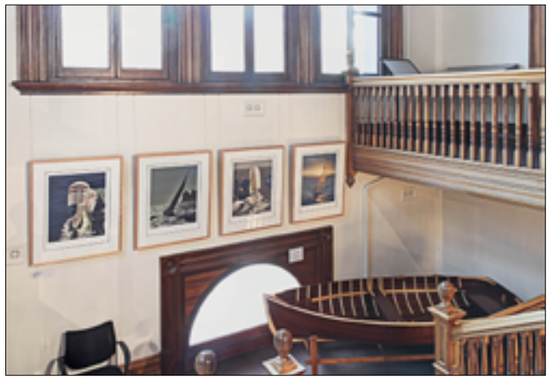
Individual	$35
Family	$45
Concessions	$25
Interstate	$25
Overseas	$25
Perennial	$1000 (once only)

Hally Bayley entering the River Derwent ca 1870
Richard Ball Spencer (1812 – 1897, active 1840 – 1874)
MMT Collection P_1984-467 Photo: Barry Champion

Hally Bayley was built in Hobart in 1869 at the Domain Shipyard by John GIbson McGregor, younger brother of Alexander.
https://adb.anu.edu.au/biography/mcgregor-john-gibson-4433
This portrait of the two-masted topsail schooner was painted by Richard Spencer, a leading British marine artist. It shows the vessel entering the River Derwent flying the blue and white McGregor house flag.

The Maritime Museum recently received a request from the archivist of the Cruising Yacht Club of Australia (CYCA). They are looking to complete their collection of Sydney to Hobart Yacht Race programs.

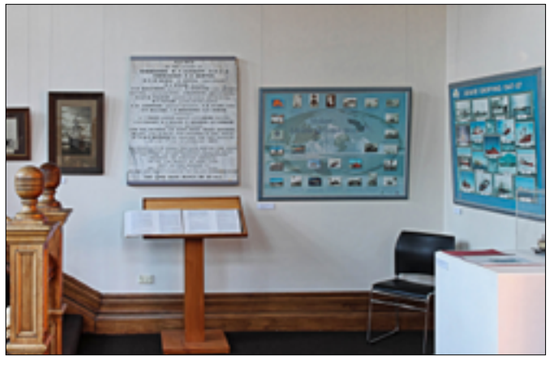
The CYCA are missing copies of programs from the 1950s and would very much appreciate donations of original copies or scans to complete their collection. Similarly, our Museum has an incomplete set of programs, so if any member would like to donate an original program, or loan copies for scanning, then please do contact the office and we can check if it is one of the missing ones.



Photos: 2022 Barry Champion

PART OF THE MUSEUM REDEVELOPMENT has included activating some of the corners and spaces that sometimes get overlooked. Many visitors comment on the fine staircase and a further attraction has been added to the space by the inclusion of a number of Richard Bennett Sydney to Hobart portraits (above). Richard donated a number of his iconic portraits of Sydney to Hobart competitors to the Museum in 2020 and the staircase provides an appropriate spot to display a selection. With seven spots available, the display can change fairly frequently putting a range of subjects on view.

AT THE TOP OF THE STAIRCASE, the landing provides another space that can be used for rotating smaller displays. Currently in place is a small selection of Antarctic material, including the call sign from *Aurora Australis,* the model of *Wyatt Earp* and photographs from *Fram,* including one signed by Roald Amundsen, and a photograph of *Aurora* signed by Douglas Mawson and Captain John King Davis. □



recent acquisitions

THE ACQUISITIONS COMMITTEE can report that the Maritime Museum continues to receive many interesting donations to add to our maritime artefacts. Here we note a few of the recent acquisitions.

Photo: Barry Champion

MELVIN VANIMAN SULLIVANS COVE PRINT

Recently the Museum had a call from Ian Brownlie in Adelaide wanting to donate a rare panoramic print of Sullivans Cove by well-known American photographer Melvin Vaniman.

Chester Melvin Vaniman (1866–1912), an American aviator and photographer, specialised in panoramic images. He shot images from gas balloons, ships masts, tall buildings and even a home-made 30-metre pole. The Sullivans Cove image was taken from the mast of a sailing ship at the outer end of Princes Wharf during Vaniman's short visit to Hobart in 1903.

BRITISH SEAGULL LONG SHAFT 6HP OUTBOARD MOTOR

A West Hobart donor gave the Museum a 6HP long shaft British Seagull outboard motor that had not been started for 30 years. This once popular outboard model complements our American ELTO outboard manufactured in 1927.

Our British Seagull was made at Poole in Dorset prior to 1982. The very first motor was built 1931 before the company moved to Poole in 1938 where they proclaimed their motor as, 'The Best Outboard Motor for the World'. From 1938, the design of this small outboard remained largely unchanged until production ended in 1996.

Photo: John Wadsley

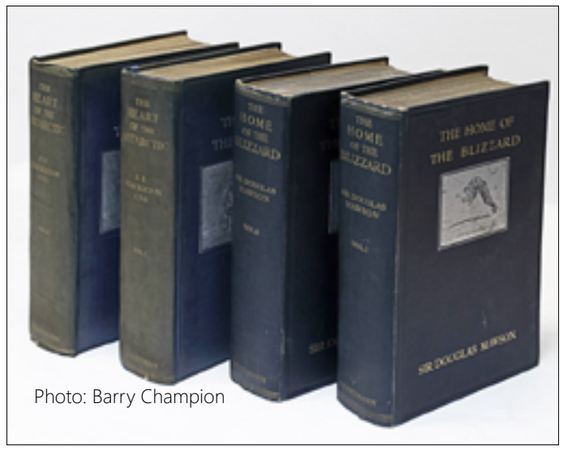


Photo: Barry Champion

BOB WARNEKE LIBRARY

The Museum has accepted nearly 300 books, including many rare Antarctic publications, allowing us to create an exceptional polar research collection. Exploration publications include an atlas, Voyage de Decouvertes Aux Terres Australes, by Francois Péron, Louis-Claude de Sulces de Freycinet, and Charles Alexandre Lesueur from Baudin's 1800 French expedition that was published in Paris 1816. The atlas and two volumes of Péron's journals include Charles Lesueur's exquisite natural history plates illustrating Australian fauna as well as ethnographic portraits of aborigines with examples of their material culture. There are charts, coastal profiles, and views in these original publications.

Photo: Barry Champion

FISH WIDOW SSB TRANSLATOR

Chris Campbell, a retired crayfisherman, donated a Fish Widow SSB Translator. Vessels once reported in using double sideband transmissions which could be received using normal short-wave radio. When more reliable single sideband (SSB) marine radios were introduced in the 1970s, normal radios could only receive garbled messages.

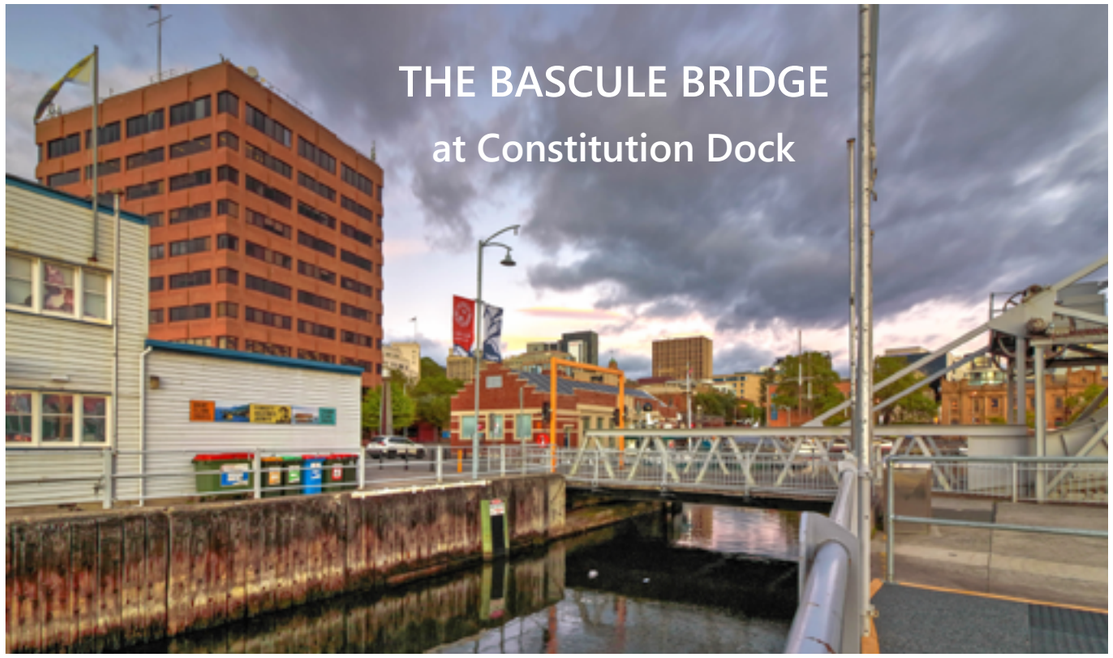
Recognising a problem for families, Dilmond Instruments of Bellerive developed a radio translator to allow conventional radios to receive SSB marine transmissions. Note: we are unable to identify Dilmond Instruments. Can anybody help?

Here is donor Chris's story:
'The device is called a Fish Widow. A young man (we were all young then) presented it at one of our annual Fishing Association conferences. I believed this man had just come back from a trip down to Antarctica; he worked in electronics. He made the device so fishermen's wives who would be left without any contact with their husband for up to three weeks at a time may have an idea where they were and that they were safe (giving peace of mind). Fishermen back then would go around the west coast for up to three weeks. The only contact they had with the outside world was via single side band radio. They would call at certain times during the day to report their position. This would either be to the local fish factory or Hobart Radio during the week or on Sundays it would be Melbourne Radio. The wives would have no way of knowing if their husbands were safe or where they were unless they called the radio station. Before single side band came in we used to use dual band radios and if one had a short-wave radio they could listen in at home to the sched. That came to an end when they replaced dual band with single side band radios. The problem with this for wives at home with their short-wave radios was that the signal came through garbled, not understandable. The young man I mentioned came up with the invention of the Fish Widow (aptly named). His invention converted the garbled message into understandable English so the listener could hear what was being said. This would give immense peace of mind to the family back home. It is to be noted that to have a single sideband radio at home was highly illegal, so this device was a godsend. The device consists of a simple loaf tin and a front plate to hold the electronics. Inside it has five frequency crystals and a number of tuning dials on the front so one could listen to different channels. All one had to do was connect a wire from the Fish Widow to the aerial of the short band receiver and the garbled sound coming out of the radio would become intelligible.'

THE BOX FOR THE RANSDORP MODEL

Since 2010 the Museum has had a model of MV *Ransdorp*, the ship that carried sulphuric acid from Hobart to Adelaide. The model was built by the late Tom Murdoch for his nephew Tony Dunn who lived in Wagga Wagga. Tom was a busy Museum volunteer and his calligraphy can still be found on some of the old object labels in the Museum.

Tony Dunn, who donated the model, still had the original delivery box in his possession. Recently he donated it to the Museum saying that the real feature of the box is the bottom where the mailing details were meticulously painted by Tom with delivery address and advice for care in delivery. □



THE BASCULE BRIDGE
at Constitution Dock

PRIOR TO THE CONSTRUCTION of the bascule bridge, the Marine Board of Hobart installed a narrow movable-span footbridge across the seaway access to Constitution Dock, and this bridge was operational by the middle of 1858.[1] This footbridge could be swung away manually when necessary.

The bascule bridge, with tracks in its deck, connected the railway to the Elizabeth Street Pier, and thereby facilitated direct transfers from rail to ship (and ship to rail).

The Board's engineer. HR Hutchison, recommended that a tender of £4770 for the construction of the bridge be accepted. He reported that he had recommended certain mechanical modifications with regard to the electrical equipment.[2]

The bridge, wrote an optimistic reporter in 1936, would be a decided asset to the port of Hobart and, in addition, its rather unusual construction would make it something of a landmark.[3]

Construction by Hobart builders Saunders & Ward began in 1935 but the bridge's braking mechanism and motor required 18 months of adjustment. Alterations undertaken during this period of further work also included the pouring of a second concrete counter-weight.[4] The series of supply delays, operational failures, readjustments and calls to abandon the project were eventually overcome, though not before it had been labelled 'The Bridge of Sighs'.

At the time of its completion in 1937, it was the first electrically-operated bascule bridge in Australia. When the bridge was marked for replacement by a new two-lane structure in the late 1980s, urban conservationists argued that it should be retained. In May 1990 the deteriorating bridge could no longer properly operate, and the Marine Board undertook repair and restoration work. The steel fabrication was done in the Marine Board's workshops and the site work completed by Marine Board staff. The railway lines in the bridge deck were retained, and a second side-mounted pedestrian walkway added.[5]

above: The bascule bridge across the entrance to Constitution Dock, looking toward the Maritime Museum.
Photo: 2021 Barry Champion

below: Constitution Dock looking toward the River Derwent ca 1910. The swing bridge walkway across the entrance to Constitution Dock was replaced by the bascule bridge in the 1930s. MMT O'May Collection P_OM_E_31f

THE BRIDGE IS UP! Friday 17 September 1937

'Lifting itself in the air for all to see, the movable section of the bascule bridge across Constitution Dock operated when the button was pressed. It was a sight that wardens of the Hobart Marine Board have long wanted to see, and their vision of an electrically-operated bridge across the dock entrance, has become a reality.

It is something like two years since the bascule bridge thrust itself on the Board, but patience has had its reward. Unforeseen difficulties were encountered. When an adjustment to the motor was required, and the motor had to be sent to Sydney, who could have foreseen, for example, that *Zealandia* on that particular trip would be carrying more than a normal quantity of zinc, necessitating the leaving behind of other cargo, which included the motor?

The bridge has triumphed over all the obstacles. Ships that have been imprisoned in the dock can now be removed. Wardens said the bridge would go up some day, and it did — yesterday.'

'Day by Day' *Mercury* 18 September 1937 p.10 > > >

above: *Harpy* enters Constitution Dock
Photo: John Craike, nd. MMT Collection P_CR_59058

below: *Westward* exits Constitution Dock. Photo A Lucas 2019

The roadway across the bascule bridge at Constitution Dock coming from Hunter Street, with remnants of the railway lines still visible. Photo: 2021 Barry Champion

Map ca 1950, showing railway lines crossing the bascule bridge (circled) at Constitution Dock and proceeding to Elizabeth St Pier (opened in June 1934). Also shown is the present location of the Maritime Museum. R Cox Collection

Hobart's waterfront railway

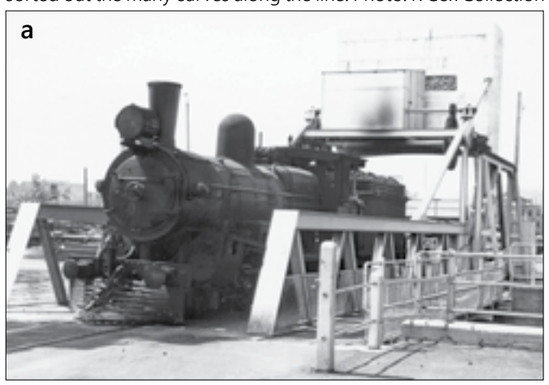
Following the success of rail connections to Ocean Pier (1914) and Kings Pier (1921), the bascule bridge provided a line extension to the new Elizabeth St Pier. Clearance for large locomotives was reportedly assured by adopting the dimensions of the Rhyndaston Tunnel on the main line railway between Hobart and Launceston. Trains accessing the waterfront ran to and from the goods yard at Macquarie Point, from where cargo could be distributed throughout the state by rail.

An ambitious 1883 plan for a railway line from Macquarie Point to New Wharf (later Princes Wharf), with a terminus station opposite Salamanca Place, was never pursued. New Wharf was at that time the principal berth for overseas ships in Hobart.

Shunters were required to walk ahead of a train when negotiating the wharf lines (below). A red flag in front warned oncoming vehicles and pedestrians, and a green flag behind assured the driver that all was well and to keep going steadily.

below (a): Steam engine hauling wagons across the bascule bridge, heading toward a ship at Elizabeth St Pier in the early 1950s. Photo: John Craike

(b): Train heading for Kings Pier with a load of hay after the Feb. 1967 bushfires. Shunters walked ahead of the train with a red flag, ensuring tracks were clear. Relaying signals with other shunters sorted out the many curves along the line. Photo: R Cox Collection



The Cranes

Situated on Franklin Wharf to the immediate east of the bascule bridge and alongside Constitution Dock, is the decommissioned former travelling steam-driven crane (right) now supported on large timber blocks beneath each of its four bogies.

In 1897, the Marine Board placed an order for a travelling steam-powered crane weighing 85 tons and with a lifting capacity of 25 tons. Manufactured in England by Jessop & Appleby, the steam crane arrived in Hobart in May 1899. It operated at a number of locations on the Sullivans Cove finger piers, for example on the Dunn Street Pier, which had to be strengthened to carry it.[6] When Kings Pier replaced Dunn Street Pier in 1910, the crane was able to travel along the full extent of that new pier's south side, although it appears to have mostly been parked at the city end and used periodically for repair work. In July 1969, when the cargo vessel *Warwickshire*, berthed stern in at South Kings Pier, had problems with its lifting gear the crane was called in to assist. It ceased operation shortly after.

Another smaller decommissioned crane nearby was a hand-operated crane. Its rotating gears and lifting sheave have been padlocked to prevent their operation. The hand-operated crane is mounted on a grey-painted concrete base, which stands about 2.8m above the paving level at the edge of the dock. It was initially used at New Wharf from at least 1875 before being moved to Franklin Wharf. In 1890 the crane was repositioned again, this time to the north-east side of Constitution Dock where it is still located.[7]

Constitution Dock is home to *Westward* and *May Queen,* two historic vessels maintained by volunteers from the Maritime Museum and can usually offer a berth, space permitting, to yachts in the annual Sydney-Hobart race. It is also a focal point at Australian Wooden Boat Festivals.

The bascule bridge can often be seen in operation allowing entrance to and exit from Constitution Dock. It is now managed by TasPorts. □

Our thanks to everyone who contributed to this article with information, explanations and photographs.

The larger crane near the bascule bridge
Photo 2021 Barry Champion

Endnotes

[1] Hudspeth A and L Scripps (2000). *Capital Port: A history of the Marine Board of Hobart 1858–1997*. p.43
[2] 'Tenders for Dock bridge.' *Mercury* 21 Aug 1935 p.3
[3] 'Bascule Bridge' *Mercury* 16 May 1936 p.13
[4] Hudspeth & Scripps (2000), p.206
[5] Ibid p.351
[6] *Mercury* 20 January 1900, p.2
[7] Tasmanian Heritage Data Sheet September 2021
Tasmanian Heritage Council, Hobart
This is a 16-page account of the history of the area around the bascule bridge and includes a map.
https://heritage.tas.gov.au/Documents/Datasheet%20Tasmanian%20Heritage%20Register_12022.pdf

Image supplied by TasPorts

Breakwaters at Burnie

by Mark Hosking

This article draws heavily on *Gateway to Progress, Centenary History of the Marine Board of Burnie,* by Peter Mercer (Hobart, 1969).

THE NEED FOR A STRUCTURE TO PROTECT moored shipping from wind and waves has been recognised for as long as people have put to sea in ships. It's generally believed that the first structures that we would recognise today as breakwaters were built by the seagoing peoples of the eastern Mediterranean. The oldest structures still above water date from over 2500 years ago and many more lie submerged.

Breakwaters can take many forms. One of the most distinctive breakwaters in the world is the island breakwater at Plymouth, in south-west England. Constructed in the nineteenth century, over two hundred years after it was first proposed, the breakwater protects the important port of Plymouth and naval base of Devonport from the fierce southerly gales that blow in from the Bay of Biscay. Excursionists can visit the breakwater and it is famed for its fort, lighthouse and East beacon, atop which sits a metal cage in which shipwrecked sailors could wait, above the waves, for rescue.

Tasmania, too, has an unusual island breakwater. The port of Burnie was essentially established by the Head Surveyor of the Van Diemen's Land Company, Henry Hellyer, in 1827 as the location provided direct access to the company's land holdings inland at Surrey Hills. The location was far from ideal, with little shelter available from easterlies and few available safe locations available to land. Over the years Burnie has evolved to become an important port on Tasmania's northwest coast, connecting the island to the mainland of Australia for both general trade and for the export of Tasmanian primary products and manufactured goods. As ships have increased in size, so the port has grown with additional wharfage being constructed. Protecting shipping in harbour from easterlies has been a constant challenge through the years since the first 700 feet (213m) breakwater was proposed in 1882. Construction commenced in 1885 and it was completed in 1890 at 565 feet (172.25m). A second, concrete block breakwater extending 1250 feet (381m) into the bay was commenced in 1912 and completed in 1918. In 1937 plans for another breakwater, which would've allowed for a major expansion of the port, were prepared but construction was cancelled on the outbreak of WW2.

By the mid 1950s, trade through the port had doubled on the volume handled in 1937 and the plans for the new breakwater needed to be radically updated. Additionally, changing cargo handling practices with the advent of containers and Roll-on Roll-off services required larger specialised facilities. After lengthy discussions and engineering surveys and experiments the Board decided, in late 1959, that the best way forward for the sustainable growth of the port was for the construction of a massive 1600 foot (488m) island breakwater. The estimate for construction on which the decision was made was £3,172,230.

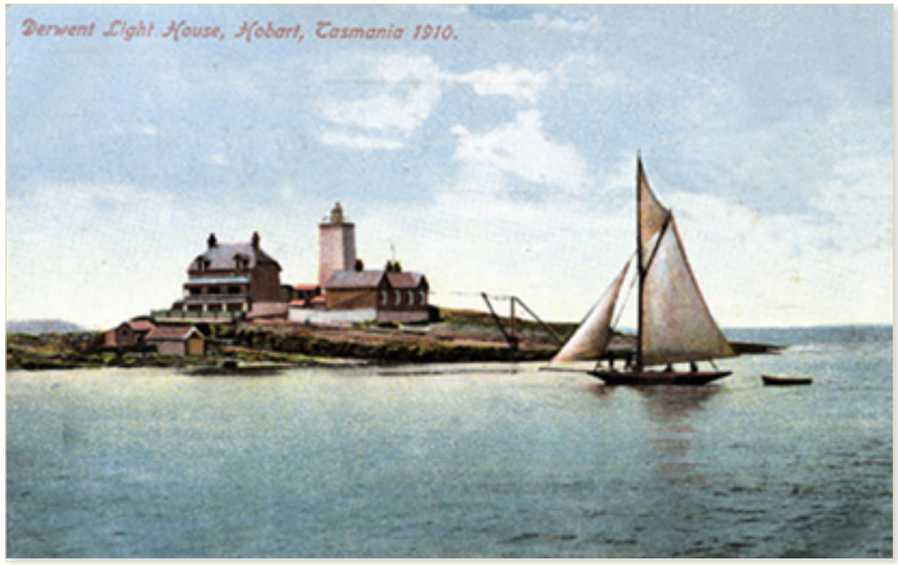
Construction of the breakwater was a complex engineering project. Rock was to be sourced from a quarry behind the Wivenhoe industrial estate and a new road was constructed to access the site. A works yard was established within the port, which required the reclamation of an area of land; a slipway for launching the concrete caissons used in the construction of the breakwater was built, and the waterside approaches dredged.

Construction had to take into account and was delayed by the damaging easterlies, with some of the early reclamation work being lost just a few days after construction work commenced in July 1961. Dredging work was often interrupted with the dredge having to take shelter alongside Jones Pier, often at short notice. A temporary 500ft (152.4m) breakwater of sand-filled steel tanks was designed and installed to protect the dredge and worksite and, by early November 1962, construction commenced onshore of the first of sixteen concrete caissons, using 640 cubic yards of concrete each. Once installed each caisson would reach a full height of 55 feet (16.76m) with a displacement of 4000 tons. A foundation of rubble was laid on the breakwater site and the first caisson was sunk into place on 3 February 1964. It took nearly a year and a half to get the rest of the caissons into place and the final work of concreting the deck and wave wall of the breakwater wasn't completed until September 1965, almost exactly two years later than the original contract had stipulated. Final cost was £6,063,260, almost double the 1959 estimate. Ironically, the cost and time overruns were attributed primarily to adverse weather conditions, the reason for the construction of the breakwater in the first place. □


Tenders were called in November 1898 for repairs to the parapet of the first breakwater completed in 1890.
above: the Burnie breakwater, 23 December 1898.
MMT Collection P_D2-080

below: Burnie Breakwater (left) and Jones Pier ca 1900–1906. Rail tracks in foreground connect Emu Bay Railway to Mt Bischoff and Zeehan.
Image: ES Waldis, MMT Collection P_D1-8


The Port of Burnie, 27 May 2019, with the island breakwater.
Photo: Rex Cox



Derwent Light postcard from the MMT Collection P_OM_E_60a

postcard from 1910

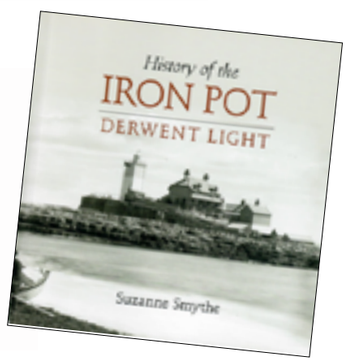
After the wreck of *Hope* in 1827 between Betsey and Iron Pot islands, the Iron Pot or Derwent Light, Tasmania's first lighthouse, was constructed in 1832. It has had a turbulent history and today is a landmark in the final run for Sydney-Hobart yacht race contestants.
Further reading:
Stoddart, M. 'The Derwent Light' *Maritime Times Tasmania* Summer 2016, pp. 21–22

in our shop

HISTORY OF THE
IRON POT
Derwent Light

by Suzanne Smythe

114 pages; illustrated



The Mariners' Church at Franklin Wharf

by Mark Hosking

The Mariners' Church (architect Henry Hunter) viewed from Constitution Dock MMT Collection

THE FOUNDATION STONE WAS LAID for the Mariners' Church 160 years ago on 17 June 1862 by His Excellency the Governor, Colonel Sir Thomas Gore Browne. The ceremony was well attended by merchants, ship owners, masters and seamen and included a 17-gun salute from the barque *Isabella Brown*. 'A bottle, hermetically sealed, had been previously deposited in the cavity of the foundation, containing several British coins, copies of the *Mercury* and *Advertiser* of the day, and a Parchment Scroll, on which was engrossed [*sic*] an Account of the Ceremony.'[1]

The need for a mariners' church in Hobart had been acknowledged for decades. What was possibly the first effort to minister to seamen in the port of Hobart was recorded in a report by a correspondent named 'Cephas' to *The Hobart Town Courier* in December 1827. A request was made to Captain Plunkett, Master of the ship *Persian*, for permission to 'celebrate divine service' onboard. Captain Plunkett responded 'in the most handsome manner' assuring the petitioners that 'every accommodation in his power should be made for the purpose'.

Accordingly, a flag of the Bethel Union* was procured, and at 2pm on Sunday 16 December 1827 the 'flag was hoisted for the first time in Van Diemen's Land' and a sermon was preached to a 'numerous and attentive audience'. The service attracted attention around the port and, at the request of Captain Lusk, a sermon was preached aboard his ship *Lang* the following Sunday. On Christmas Day the flag was again hoisted aboard *Lang* and, 'notwithstanding the inclemency of the weather', a sermon was preached to a crowd of about 80 officers and men assembled from a number of ships in port. Cephas concluded his report by questioning why it had taken so long to form 'so important an institution' as a Bethel Union Society, but that this early success should encourage 'the friends of religion to come forward boldly to promote so important an object'.[2] The formal establishment of a Bethel Union Society in Hobart was promoted early in the following year, with a public meeting on Tuesday 29 January 1828. A committee was established with the object of organising 'preaching aboard ships and at other convenient places' as well as the distribution of religious tracts and copies of the Holy Scriptures to seamen visiting the colony. It was intended that a library would be established and there was a call for donations of religious books.

It seems that little progress was made at this time, perhaps because the Secretary of the Van Diemen's Land Seamen's Friend Society and Bethel Union, George Augustus Robinson, accepted a position offered by Lieutenant Governor, George Arthur, to set about a mission to the islands' aboriginal peoples, and so left Hobart shortly after that.

In October 1835 newspapers carried announcements declaring a further attempt to establish a Bethel Union Society, and again in June of 1836. By April 1838, these attempts had borne fruit with the establishment of a Seaman's Chapel on New Wharf. The chapel was housed in a building owned by the government and previously used by workmen engaged in the construction of the wharf. Regular Sunday services were held, led by a roster of the ministers of the various protestant denominations of Hobart. In 1855 a correspondent to the *Colonial Times* questioned the efficacy of the chapel's ministry to seafarers, claiming that very few seamen ever attended. He suggested that larger numbers of visiting seamen would be encouraged to visit the chapel if there was a dedicated Minister available for them as if it were a normal parish church.[3]

In 1861 the New Wharf building was described as 'dilapidated' and serious moves were made to replace it with a purpose-built Mariners' Church. Yet another committee was formed, under the chairmanship of Henry Hopkins, and the Government was persuaded to grant land at the corner of Elizabeth Street and Franklin Wharf. Hopkins offered £500 towards

left: Henry Hopkins (1787-1870), chair of the building committee for the Mariners' Church - MMT Lantern slide P_GSL200
centre: William Fisher (1822–1882), shipping agent and co-founder of the Mariners' Church - MMT Lantern slide P_GSL139
right: Henry Hunter (1832–1892), architect of the Mariners' Church Photo, ca 1870 - Tasmanian Archives PH30-1-1050

construction of the church if subscriptions could raise an equal amount inside 12 months, and later another £250 with the same conditions. One of the co-founders was William Fisher, of Facy and Fisher's shipping agency. A suggestion that a Seamen's Home could be combined with the church was not acted on.

Plans for the church were prepared by noted Hobart architect Henry Hunter, many of whose buildings, including the Town Hall, contribute to Hobart's current charm.[4] The church was in the Gothic style, with stone steps to the lobby from Franklin Wharf and a bell turret over the front gable, and could accommodate 200 people. Land granted by the government was 41 feet 11 inches on the Franklin Wharf frontage, and 61 feet, 3 inches on the Morrison Street boundary, the Elizabeth Street line was 84 feet 8 inches, and on the western boundary on Crown Land, 92 feet 4 inches. The area of the interior was 52 feet by 29 feet with an ample retiring room, or vestry, at the northern end of the building.

Ten tenders for the erection of the church were subsequently received by the committee, of which that of Robert Priest was accepted, at £1450, being considerably in excess of the original estimate.[5] The Reverend Dr Nicholson opened the Mariners' Church on 3 June 1863 and regular Sunday services commenced thereafter.

In 1864, the memorial (right) to those lost on HMS *Orpheus* was erected behind the pulpit of the Mariners' Church. Currently on display in the Maritime Museum, it is part of the Tasmanian Museum and Art Gallery's collection.[6]

By the 1880s Tasmania's dire economic slump reduced the amount of shipping in the port while, perhaps more significantly, the change from sail to steam power gave ship owners more control over sailing schedules. Their preference was to avoid having ships in port on a Sunday, a day when no work on the wharf was possible, with the result that there were few seamen around to participate in the church's Sunday services.

In 1884 William Lake arrived in Hobart to take up the post of City Missionary and set about reviving

missionary activity on the wharf, as well as among the poor of the city. At a public meeting called in September to establish a City and Seamen's Mission, Lake stated that over the past seven months, in addition to his land based work, he had made 181 visits to ships and crafts, held six services aboard vessels and 63 services in the church as well as distributing bags of books to visiting vessels. However, funds for the Mission were increasingly hard to come by, with even the Mission's boat being sold to raise money. By April 1886 the Minister's Association, from whose ranks the weekly preachers at the church were drawn, had given up and, as there was no organisation taking responsibility for the church, it was effectively abandoned. Lake continued valiantly to maintain occasional services for seamen through 1887 but with little success, describing the attendance of bona fide seamen at his services as nil. With no seamen attending and no clergymen preaching, the building gradually fell into disrepair.

The building was purchased by the Marine Board in 1916, who hoped to use the land for more profitable pursuits. But there were other ideas afoot. Rector of St George's church, Battery Point, the Reverend Donald Baker submitted a proposal to dismantle the Mariners' Church and rebuild it in the rapidly expanding suburb of Sandy Bay. The wealthy merchant, Edward Pearce, who owned Narryna in Battery Point, then paid £50 to acquire the old church in late 1917 and donated it to the district. Pearce also wanted the new church to become a memorial to his son, Clyde, a brilliant golfer and winner of the Australian Open Golf title, who was killed in the Great War. Public subscriptions funded the dismantling of the stonework and re-erection as a new church, St Peter's, in Lord Street, which was dedicated in July 1918. □

Endnotes

* Beth-El (Hebrew for House of God) also denotes a non-denominational chapel.

[1] 'The intended new mariners' church, Hobart Town.' *Mercury* 18 June 1862, p. 1
[2] 'To the Editor.' *The Hobart Town Courier*, 29 December 1827, p. 3
[3] *Colonial Times* 4 August 1855, p. 3
[4] Australian Dictionary of Biography 'Henry Hunter' https://adb.anu.edu.au/biography/hunter-henry-3825
[5] *Mercury* 18 June 1862, p. 1
[6] Longhurst, D (2013). 'HMS Orpheus.' *Maritime Times Tasmania* No 42, p. 11

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Hudspeth, A, Scripps, L & Hobart Ports Corporation (2000). *Capital port : a history of the Marine Board of Hobart 1858-1997*. Hobart Ports Corporation

The Material of the Nave of this Building
Erected in 1918 originally formed Part of the
MARINERS CHURCH
which stood on the Hobart Wharf
being acquired by
EDWARD H. and EMMELINE PEARCE
It was presented to St Peters
In Memory of their Son Clyde
Second Lieutenant 52nd Battalion AIF
who after serving at Gallipoli and in Egypt
Fell in Battle at Messines June 10th 1917. Aged 29.

Facing page: The memorial plaque for HMS *Orpheus* once situated in the Mariners' Church (and now at MMT)

left: The memorial plaque for Lt Clyde Pearce in St Peters Church Photos John Wadsley

below: The former Mariners' Church, now St Peter's in Sandy Bay Photo: 2022 Mark Hosking

ship spotter

by Rex Cox

ILEKTRA

HAVE YOU NOTICED HOW MUCH LARGER SHIPS ARE these days? While enormous cruise vessels receive most of the publicity, the growth factor also applies to humble cargo carriers visiting Tasmanian ports. Port Latta sees plenty of big bulkers taking iron ore, and the woodchippers loading at Long Reach and Burnie are no shrinking violets, size wise. As an example, *Fujian Express* (54 529/2015) was 215.4m long overall and 70 381 tonnes deadweight.*

Down south, vessels bringing zinc concentrates to Risdon or handling cargoes at Macquarie Wharf can sometimes also qualify for the big league. Take *Ilektra* (35 842/2017) for instance, unloading fertiliser from Saudi Arabia in mid-April. Though not as large as some container vessels that have called at Hobart, its length of 200m and 63 476 deadweight tonnage made it notable.

This all comes home to me if I do a comparison with the ships that I was photographing 50–60 years ago. When Hobart's Tasman Bridge was being built in the early 1960s the average size of overseas vessels transiting to and from Risdon and Selfs Point oil terminal was around 8000 to 11 000 gross tons, with a length of 140–170m. Deadweight tonnages would rarely exceed 20 000 and coastal traders were somewhat smaller.

*Getting technical: Deadweight tonnage is a measurement of a ship's carrying capacity including cargo, fuel, crew, passengers, food, and water (aside from boiler water), but not including the empty weight of the ship. It is expressed in tonnes/metric tons (1 = 1000 kg) and is distinct from gross/net tonnage which is a measurement of volume and determined by dividing by 100 the contents, in cubic feet, of the vessel's closed-in spaces. A vessel ton is 100 cubic feet. Displacement tonnage, used for naval vessels, is a measurement of the weight of water displaced in either light or loaded condition and includes the weight of the ship itself. □

top: *Ilektra* anchored off Tranmere 12 April 2022
Photo: Walter Pless

left: *Fujian Express* berthing at Burnie 20 June 2018
Photo: Dale E Crisp

With thanks to Sara Schwarz at TasPorts and to Capt. Mike Triplett.

Images supplied by Hive Museum

Walking stick collection of the late John Kippax in the Hive Museum

'*Yolla* at Trial Harbour' by Haughton Forrest (1826–1925). Oil on canvas with backing board. This magnificent painting is on display with a more ornate frame in the Museum's Carnegie Gallery. It's not dated but was painted prior to the construction of the jetty in 1883. Risby Collection, MMT P_2015-490. Photo: Barry Champion

The jetty at Trial Harbour

TRIAL HARBOUR was established as a major port on the West Coast of Tasmania after the discovery of tin in the Mt Heemskirk area.

Inspired by the discovery of Mt Bischoff by James Philosopher Smith, pioneer prospectors began searching the West Coast for ore. They eventually found it in 1876 with the successful CP Sprent's overland expedition from Waratah to Mt Heemskirk. In the summer of 1877 Owen and George Meredith pegged out a claim which came to be known as the St Dizier. This started a small mining boom and soon St Dizier was rivalled by the mines of TB Moore and many other prospectors. Multiple mining operations soon began in the area, including the Montague, Cumberland, Orient, West Cumberland, Empress, Victoria, Cornwall, Peripatetic, Wakefield, Carn Brae, Sweeney's, Kelvin, and Prince George mines. At the height of the mining boom, Mt Heemskirk was being worked by 150 men. Building and mining equipment, and almost all essentials had to be shipped into port.

There was no easy access to Trial Harbour until the discovery of silver-lead in Zeehan ca 1890. This port also served as the major contributor in the building and upkeep of Zeehan.

The harbour was named after the cutter, *Trial*. Owners Gustav Weber and the Karlsen Brothers, Allen, Steve and Charley, had sailed from Launceston to the Pieman in January 1881 laden with provisions, which they intended for their own use. On their arrival they found that food was so scarce among the gold-seekers that they disposed of half their shipment at a handsome profit. Alex Ingleton, newly-appointed manager of the Montague mine, persuaded them to try and find an inlet and landing closer to that mine.

In early March 1881, they observed a passage between the jagged reefs at an inlet, dropped anchor and prepared to land, but during the night a strong NW gale sprung up and, after negotiating the narrows (possibly the first to do so), *Trial* ran up onto the beach. Next day the crew took the remaining cargo from the boat and stored it in a tent pitched among the salt bush.[1] When Mr George and Mr Rex of the *Mercury* newspaper arrived, they asked the name of the vessel, later refloated, on the beach, then proposed the toast 'Here's to the health of Trial Harbour'. So, the spot was named on 10 March 1881.

The Karlsens had shown that it was possible, though hazardous, to land supplies at Trial Harbour, 21 miles from the township of Zeehan, and their success triggered a series of developmental events.

Government surveyor, CP Sprent had strongly recommended the laying down of anchors and cables at Trial Harbour to form secure moorings for small craft to ride out gales. Captain Reid, of the steamer *Amy*, was to deliver the equipment and to lay them down in their proper position.[2] When the unprotected moorings were 'carried away', the Colonial Secretary was petitioned to appoint a local resident, Captain John Murray, as harbour master.[3]

In August 1882, a Select Committee considered proposals for a tramway from Heemskirk to Macquarie Harbour, as well as recommending urgent but temporary improvements to Trial Harbour.[4]
JP Roberts' tender for the construction of the jetty at Trial Harbour was accepted by the Minister of Lands and Works in December 1882, and the work was expected to be completed in sixteen weeks from date of tender, under heavy penalty for any delay in completion. The amount of the tender was £625, and the total cost, including extra works contemplated in extending the jetty tramway about 100 yards from the end of the timber work of the jetty, was estimated at £800. A crane was to be placed on the jetty, to allow all the machinery and goods required by the mines nearby 'to be landed without much difficulty in moderate weather'.[5]

In January 1883, harbour master Murray reported that 'everything here is going on very satisfactorily. The buoys and moorings are all right. ... the chief-engineer, Mr Fincham, has requested me to superintend the construction of the jetty here ... the road up the hill will soon be finished ...'[6] *Amy* left Hobart in May 1883 to deliver the crane for the jetty.[7]

Murray's report in July noted that the weather had been very bad, the worst he had seen there. Steamers could not get in, lighters were damaged and buried in the sand. 'The jetty is completed, but the crane is not finished yet, and that must be up to lift the lighters out of the water altogether ... the jetty stands well. There is no fear of its giving way ... and the heavy seas break over it.'[8] Early vessels visiting had been sailing ships (approx. 20 tons), but these were replaced by small steamers in the early 1880s. Regardless of the vessel, Trial Harbour was a dangerous port. The jetty, built in 1883 of stone and concrete as well as being equipped with a crane and crab winch meant steamers could be moored out in the harbour and their cargoes transferred to the jetty by barges.

Remine, the name of the township that sprung up at Trial Harbour, was named after the aboriginal name for *Blandfordia nobilis*, also known as Christmas Bells, a type of flower which grows in abundance on the hillsides surrounding the town.

At times the town boomed depending on works at Mt Heemskirk. In 1891 its population was at 214. All buildings within Remine were constructed of wood and iron, with brick chimneys, many of the bricks being convict made. The small town was home to two hotels, a general store, restaurant, blacksmith's shop, post and telegraph office, and police headquarters. On 26 February 1887, bushfires swept through Trial Harbour and burnt almost every

The jetty and crane (circled) are partly obscured by buildings. Photo: 'Remine, Trial Harbour' by JW Beattie (1859–1930), ca 1889

A steamer at Trial Harbour in 1889 with lighters standing by to take supplies in to the jetty where the crane is visible.
Images supplied by West Coast Heritage Centre, Zeehan

building to the ground. Most were rebuilt, proving the dedication and hardiness of those that lived in Remine. Transport from Trial Harbour to Zeehan was by packhorses along 21miles of very rough roads.

Trial was wrecked in the harbour that bears its name in 1887, while carrying a cargo of rails for the Zeehan mines. Railway innovations around the state as well as the Macquarie Harbour port at Strahan made the Trial Harbour port virtually obsolete because it is significantly more exposed and dangerous. The 'port' was described to the Select Committee in 1882 as a 'roadstead' or simply an opening between the reefs.

The jetty served the area for several years after 1892, when the railway opened, for supply of rails for the Federation Mine. By 1890, the ore had almost run out. Prospectors then turned their eyes to the Mount Zeehan region, triggering a silver-lead mining boom that left a lasting legacy on Tasmanian history.

What remained of the town after the Mt Heemskirk mining boom was again ravished by fires and remained uninhabited until the early 1900's. Today, over 100 years later, there are fewer than 50 dwellings, which are mainly used as holiday homes, with few permanent residents. It is now a popular spot on the West Coast for recreational activities in the Summer: camping, fishing, 4WDing, swimming, as well as scuba and free diving for abalone and crayfish or simply enjoying the gorgeous underwater scenery.

The stumps of a few pilings (below) are all that is left now of the old jetty.

*****

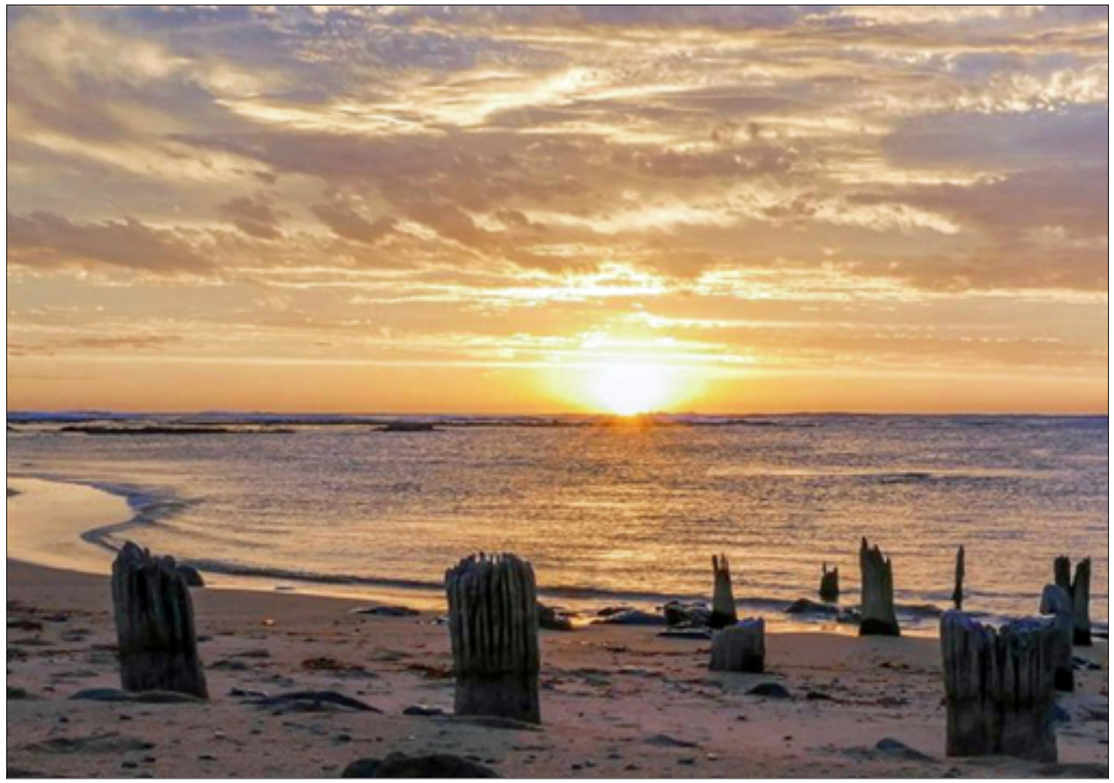
Notes on the area

Prior to colonisation by Europeans, the area now known as Trial Harbour was a hub of activity on the West Coast. Remnants of First Nations society are still visible today, notably a petroglyph named 'the ringing rock', a large boulder that is host to their carvings. One can drag a smooth rock along the circular indentations and cause a soothing ringing sound. When hit with a rock, the boulder sounds as if it is made of metal due to the unique composition it holds. It is unknown whether the petroglyphs were created with any particular meaning. Indigenous Tasmanians would smack, roll, and rub smaller stones against larger ones in a circular manner to create tools, such as a stone hammer.

Jorgensen (1827), quoted by JF Jones, makes frequent mention of the superior quality of the huts of the aboriginal peoples along the West Coast. In one entry he says: 'The huts, as well as baskets and other things produced by the Western natives, evince great ingenuity, and the nature of the country compels them to build compact dwellings to shelter them against the bleak winds blowing over a large tract of open country, not well supplied with fuel and of a piercing chilliness'. Jones found 'numerous evidence that the aborigines in this district had permanent dwellings, or, at any rate, occupied the same camps for considerable periods. Several sites of their camps, showing the positions of two to six or eight huts, are still to be seen, though the movements of hundreds of head of cattle, which are turned out each year to graze over the area, are producing sand-blows and causing the destruction of many of the sites.'

Unfortunately, Jones was correct; his warning was unheeded and only the petroglyph or 'ringing rock' remains today. □

Sunset over the ruins of the old jetty at Trial Harbour
Photo: © 2018 Paul Nilon



Endnotes

[1] *Zeehan and Dundas Herald,* 21 November 1896 p.1

[2] *Launceston Examiner* 20 September 1881 p.2

[3] *Mercury* 2 June 1882 , p.3

[4] 'Strahan to Heemskirk Tramway.' Select Committee report 1882, House of Assembly, Tasmania

[5] *Mercury*, 7 December 1882, p.2

[6] *Mercury* , 6 February 1883 , p.2

[7] *Mercury,* 8 May 1883, p.2

[8] *Mercury* , 7 July 1883, p. 2

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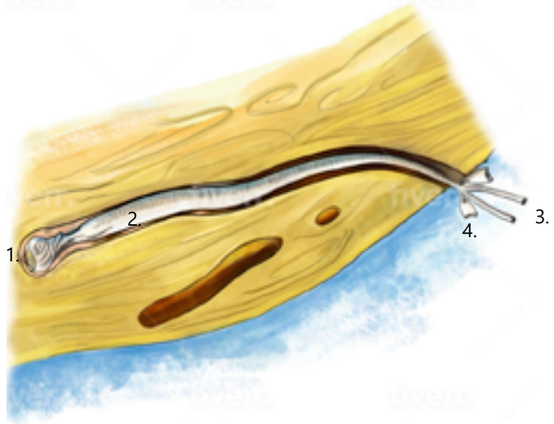
Maritime Times Tasmania thanks West Coast Heritage Centre at Zeehan for their significant contribution to this article with information and images from their collection.

Teredo in Tasmania

Shipworms (*Teredo navalis*) are capable of destroying wooden vessels and other timber constructions in marine environments.
Small animal, big impact.



Features of the mollusc *Teredo navalis*:
1. Two shells around head are used to rasp and bore into wood; its mouth and 'foot' are also at this end.
2. Gut is full of sawdust. Eggs are also located in this area.
3. Two siphons filter salt water in and expel larvae, etc.
4. A calcarious pair of organs form the pallet which can close off the burrow after the siphons are retracted, e.g. when low salinity is detected.

Timber fragment of sheoak, riddled with *Teredo*, showing the holes bored into the wood. From the wreck of *Cato* on Porpoise Cay, Barrier Reef. MMT Collection A_1990-111

Section of the false keel ex *Clara*, a 19th-century Tasmanian yacht. During the restoration process, it was removed and found to be infestered with *Teredo*. MMT Collection A_2015-065

THEY MIGHT LOOK LIKE WORMS, BUT THEY'RE NOT. Commonly referred to as shipworms, these bivalves are molluscs from the same family as clams, oysters, scallops, mussels, etc., and their natural habitat is saltwater. There are many species of *Teredo* but this article will focus on one: *Teredo navalis,* the one that bores into the hulls of wooden ships.

Molluscs have been around for more than 100 million years, long before humans. When people constructed wooden vessels to venture across the water, these little molluscs were busy cleaning up the oceans, using the two small shells on their head to carve out a narrow confined home for their long thin 20–60cm body in partly submerged driftwood and other fallen timber. They digest the cellulose in the wood, convert it to sugars, and filter feed on microorganisms they siphon from the saltwater. As detritus feeders they filled, and still fill, an ecological niche but have not been recognised for their efforts. They were, of course, unable to distinguish between driftwood and the wood of ships introduced into their marine world. *Teredo* 'attack' all wood submerged in saltwater or brackish water: boat hulls, bridge supports and the pilings of jetties and piers. Once inside their shelter, they politely follow their own route, never crossing into neighbouring tunnels nor exiting the wood but expanding the tunnel as they grow. Their presence can be undetected as they gnaw away at a plank or other wooden structure from the inside until there are significant leaks and the wood crumbles. Their distribution is now global, except the coldest of polar seas. Minimal temperature required for reproduction is about 12°C.[1]

Ancient mariners had to contend with the damaging effects of *Teredo* and similar wood-borers, which were mentioned in the records of Egyptian seafarers, Phoenicians, Greeks and Romans (all BCE). Christopher Columbus 14th–15th C. was stranded in Jamaica for months because of *Teredo* damage to his ships; Sir Francis Drake's 16th C. *Golden Hind*, was another target; damage to sheathing on Captain James Cook's 18th C. *Endeavour* allowed *Teredo* to infest the hull, the anchor stocks and the longboat, causing delays in Tahiti and Batavia for repairs; 18th C. coastal officials in the Netherlands replaced timber dikes, which had collapsed because of *Teredo* damage and caused flooding to the low-lying countryside, with stone constructions; and Tasmanian boat hulls, wharf pilings, bridge supports, and historical shipwrecks have, from the 19th C., been affected by the activity of this little mollusc.

Hobart

In 1850, WT Denison presented a paper to the Royal Society of Tasmania describing the effect of *Teredo navalis* on Stringy Bark pilings used for a wharf in Hobart Harbour (publ. 1852). The pilings had been submerged for about eight years and were removed to facilitate the construction of the entrance to the new Constitution Dock. There were no *Teredo* found where the piling had been driven beneath the mud but, in the section where the timber was immersed in the saltwater, the *Teredo* had been active. This premature removal of the wharf pilings might have prevented a tragedy.[2]

Riddled with *Teredo*, the weakened bridge across the Mersey River at Devonport collapsed in 1924.
Image kindly supplied by Bass Strait Maritime Centre, Devonport

Scamander

A bridge, constructed with local timber, spanned the wide river in 1865 but collapsed under the weight of a herd of cattle driven across it. It was replaced by a bridge with pilings of ironbark and blue gum and stood until the flood of November 1889.

Scamander witnessed a series of collapsed bridges. The next bridge was washed away in the floods of 1911. *Teredo* might have been partially responsible for weakening those wooden bridges and was identified as the culprit when the bridge collapsed in 1913, but the weight of timber washed down as flood debris and crashing into the supports was also considered a recurring factor in the collapses.

When another timber bridge collapsed in 1929 it was replaced with a truss bridge of steel and concrete, which opened in 1936 and was expected to last 80 years.[3] It did, but that is now the Old Bridge, superceded in 1999 by a new concrete bridge. A concise history of the Scamander bridges is presented in the 6-minute video 'Tasmania Rediscovered: Scamander Bridge' (2019) at: https://www.youtube.com/watch?v=4pCCCy6tp3A

Devonport

Designed to facilitate communication between East and West Devonport, the bridge across the Mersey River, with a total length of 800ft was constructed primarily of wood with stone embankments. At the eastern end, an iron swing, was provided to allow ships to pass. It was opened in May 1902.[4]

It collapsed 22 years later. Riddled with *Teredo* the timbers of the bridge gave way while a 'steam waggon and a three-horse waggon' were crossing. Drivers and horses made it ashore.[5]

Ulverstone

The 1924 collapse of the Devonport bridge caused anxiety in other communities and authorities in Ulverstone, aware of *Teredo* damage to several timber pilings, made temporary repairs to the sagging Leven River Bridge in 1925 and prohibited heavy traffic from it.[6]

A replacement bridge constructed of steel and concrete was opened by the Tasmanian Governor, Sir Edward Clark, in November 1934. This was replaced in 2011 by a new bridge.

Burnie

The Marine Board of Burnie had favoured turpentine pilings for its wharf ca 1901. A few pilings of stringybark were also driven but these had soon shown signs of *Teredo* damage, while the turpentine timber pilings, imported from New South Wales, proved resistant. The possibility of growing the timber in Tasmania was discussed. Turpentine pilings were again used when rebuilding a Burnie wharf in 1929.[7]

The Turpentine tree, *Syncarpia laurifolia / S. glomulifera* (Myrtaceae) — named for its resinous exudates, not for its smell or associated properties — grows in NSW and southern Queensland and was once considered 'the best wood for railway sleepers but ... its chief recommendation is its durability, resisting decay in the ground, whether from white ant or other causes, while it is one of the best timbers we have for resisting marine borers, especially if the bark be intact. It is very difficult to burn, a great recommendation to its use in buildings.'[8]

Fragment of rudder from *Sydney Cove,* showing *Teredo* damage, despite the indication that the rudder was sheathed.
Image and information kindly supplied by Queen Victoria Museum and Art Gallery, Launceston. QVM:1997:SC:1254

Protection for Teredo-damaged shipwrecks

In Bass Strait, *Sydney Cove*, en route from India to its namesake, was caught in a severe storm and, leaking badly, was run aground in 1797 on Preservation Island (near Cape Barren Island) to avoid loss of life and cargo. After excavation work in the 1990s, by Tasmanian Parks and Wildlife, sand was pumped back over the exposed wreck and a layer of sandbags added for stabilisation. Naturally occurring marine growth and sediment then helped to seal the site (pers. comm. Parks).

Though there is evidence of *Teredo* activity in the rudder on display at QVMAG in Launceston (above), the hull was copper-sheathed. The design of the ship, with a shallow draught and widely spaced frames adequate for the Indian coastal trade but not for ocean voyages, and the deluge encountered in Bass Strait, are factors more likely to be responsible for *Sydney Cove's* foundering than the minor invasion of *Teredo* in its planks (pers. comm. QVMAG).

The use of geotextile wraps has proved to be effective against invasive *Teredo* and this practice was employed in the conservation of the schooner *Clarence* which traded between Launceston and the mainland and was wrecked on a voyage to Hobart in 1850. It is now buried in Port Phillip Bay, Victoria. It was constructed from *Eucalyptus sp*. wood and showed evidence of *Teredo* activity. By employing geotextiles to protect previously exposed timber, and by then overlaying the wreck with sand, conservationists hope that *Clarence* will be better protected from *Teredo*.[9]

Teredo-resistant woods and waters in Tasmania

Huon pine, so well known as a boatbuilding timber, but now in limited supply, has great resistance to *Teredo*. For example, the Wooden Boat Centre at Franklin has Huon pine boats that are more than 100 years old and have spent most of their time in the water but show no evidence of *Teredo*. Their collection of Huon pine dinghies likewise have no *Teredo* damage. In contrast, a wharf at Franklin, which was made from immature bluegum, collapsed after a few years, and the culprit was believed to be *Teredo*.

Timber in the tannin-stained, acidic waters of southwest Tasmania is naturally preserved as it is in a peat bog. There is no evidence of *Teredo* in the rivers. There is a sharply defined halocline. The saltwater layer is more dense and sinks to the bottom, while the less dense fresh layer sits on top. With the high rainfall, tannins in the soil stain the fresh water as it percolates through the peat and drains into the river.

The hulls of boats moored in Melaleuca Inlet become coated with a brown stain, similar to the inside of a teacup, but no evidence of marine growth or *Teredo* occurs. This acidic, nutrient poor fresh wate might limit the invasion of *Teredo* up the rivers (pers. comm. J Fenton). See also 'Port Davey Marine Reserve Visitors Guide' (2008), Tasmanian Parks and Wildlife Service.

Thank you to all contributors who shared their knowledge of *Teredo* in Tasmania. □

Endnotes

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[8] Maiden, JH (1999). 'The Forest Flora of New South Wales.' https://adc.library.usyd.edu.au/data-2/p00108v1.pdf
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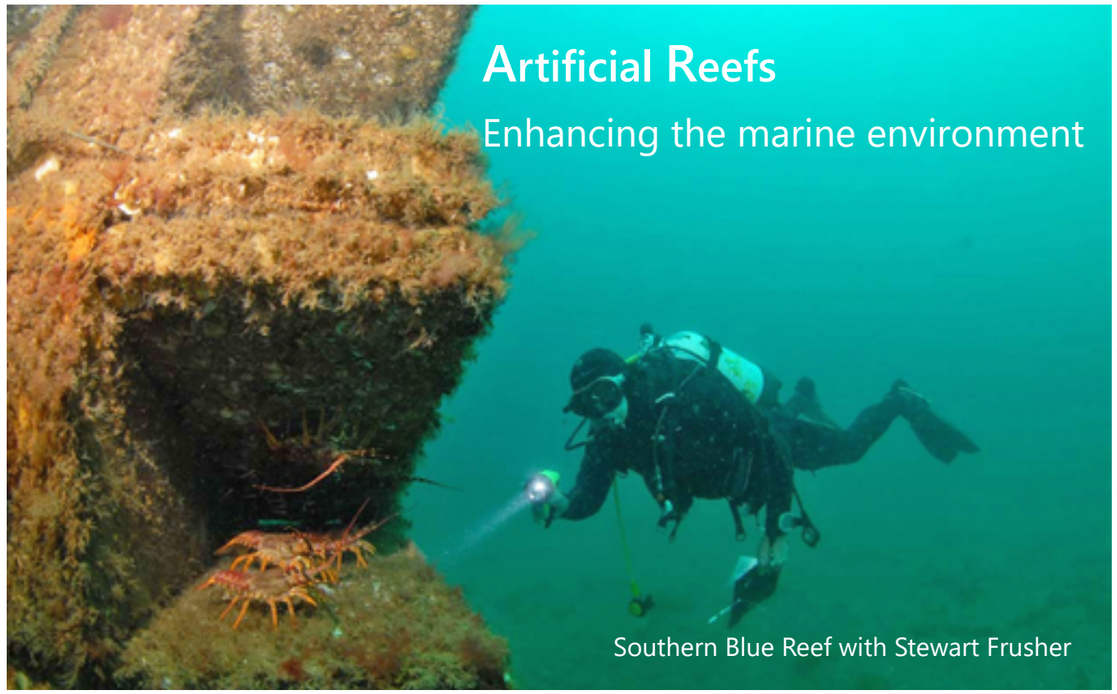


Photo: © Simon Talbot - IMAS (UTAS)

AFTER DECADES OF FREE DIVING and witnessing the demise of sea life and habitat, Greg Page felt that it was time to put something back into our marine ecosystems rather than continue with extraction only industries. Greg believed that increasing the diverse and productive reef systems was one way to support both marine biodiversity and to increase production.

Although artificial reefs have been around for a considerable time, historically they had been used for recreational activity such as diving and fishing or conservation. Initially many structures were formed simply by dumping tyres and concrete blocks, or by sinking vessels. More recently, purpose-built reefs, primarily for attracting marine species for recreational fishing, have been designed.

With increasing interest nationally and internationally for more marine food production, Greg saw the potential for artificial reefs to add to the mix of these systems. His company, Southern Blue Reef, has a vision to develop artificial systems that can mimic some of the ecosystem services that natural systems provide while also providing food and marine products for commercial trade. For example, most reef systems support an ecosystem that recycles waste products. Thus, by creating a habitat that supports the myriad of small and minute plants and animals that break down waste, reef systems can become close to their own circular economies.

> > >

The submerged reefs colonised by marine life and (below) the reefs ready to be transported.
Image supplied by Southern Blue Reef
www.sbreef.com.au

By adding animals which feed lower down the food chain such as herbivores (plant eaters) and omnivores (plant and animal eaters), each reef can support more individuals than systems based on more carnivorous species that feed higher up the food chain. Fortunately, Australia has a number of high-value species that are reef based such as lobsters, abalone and urchins, as well as emerging species such as seaweeds for food, pharmaceutical and nutraceutical production. The commercial harvesting of juvenile animals and plants added to the artificial reef and on-grown, can be harvested without impacting the environment. Multiple other non-commercial plants and animals associated with the reef add to the biodiversity of the system.

Greg applied his agricultural engineering background to create a uniquely designed artificial reef system. His vision and design prototype had to ensure a durable and non-toxic habitat for sea life and, critically, had to be a design that was simple to reproduce for users who have limited access to technology. His design is based on concrete sheets placed into layered shelves.

The reef's shelving system was inspired by the naturally occurring coal seams located off-shore near the Bass Coast township of Wonthaggi, where Greg grew up. This was one of Australia's earliest and largest collieries that supplied coal for Victoria's steam-powered railway network. Rather than being hollow, the closed back ends of Greg's artificial reef mimic these coal seams and provide the protection sought by rock lobsters, abalone, urchins and other marine species in their natural environment. Greg also sought advice from divers who had a long history of recreationally diving for lobsters and abalone to determine his final design. The reef height (number of shelves) is variable, but the original designs were made to fit easily into a shipping container so that if onsite production was not feasible, reefs could be easily transported from other locations. Using 8 shelves, the surface area is increased 16-fold. It roughly provides a surface area of over 150 square metres from a footprint of only 7.2 square metres. Each reef provides a three-dimensional surface for seaweeds and other organisms to colonise, grow and develop into a reef-based ecosystem.

Partnering with Professor Stewart Frusher from the Centre for Marine Socioecology at the University of Tasmania (UTAS), in December 2015 his company placed two reefs adjacent to natural reefs known to support a thriving lobster population in the River Derwent's Crayfish Point Research Reserve off Taroona. That trial would determine whether the artificial reef would support lobsters and be an attractive habitat for other marine life. The marine grade concrete reefs were made at a Melbourne-based concrete manufacturer. From there they were shipped to Hobart on a semi-trailer and stored until appropriate applications were sought and approved. With site selection agreed upon, the Bruny Island backup ferry barge was used in conjunction with a mobile crane to deploy the two reefs. UTAS divers positioned the reefs on the sea floor and undertook follow-up dive surveys.

After the reefs had conditioned for ten months to enable colonisation of marine animals, especially a covering of seaweed and baby invertebrates including oysters, snails, crabs and other small marine life, 126 juvenile rock lobsters were tagged and released onto the two reefs and monitored on four occasions between May 2016 and January 2017 to determine if they would stay on the reefs, and if so, which areas of the reefs they preferred. Being less than 15 metres from a natural reef system that supported a thriving population of rock lobsters, lobsters released on the artificial reefs would have an option to vacate the artificial reefs for the natural reefs if they wished. Over the 13 months of the study, some of the tagged lobsters remained on the reefs, some lobsters migrated from the natural reef (lobsters without tags) to the artificial reefs and recruitment of small juvenile lobsters (smaller than the original lobsters added) was also observed. Octopus, red cod and many other marine species also started to call the artificial reef home.

Observations from monitoring of the artificial reefs confirmed that Greg's design had merit and Southern Blue Reef became an inaugural partner of the Blue Economy Cooperative Research Centre (BECRC). https://blueeconomycrc.com.au/

The interest in the role that artificial reef structures could help in sustainable development of Australian seafood and marine industries has seen several new projects develop as part of the BECRC. The first project, led by UTAS's Jeff Wright was a Kelp Aquaculture Scoping Study (2020) https://blueeconomycrc.com.au/projects/kelp-aquaculture-scoping-study/

This study assessed the opportunities and potential for seaweed aquaculture in the BECRC. The project identified three priority species including the bull kelp which is commercially gathered in north-western Tasmania by King Island Kelp Industries. Harvesting of bull kelp from the ocean is illegal and only beach cast bull kelp (kelp washed onto the beach) can be collected with the appropriate permit. However, the amount and the condition of the kelp varies depending on the number of storms to break it free from the seabed and the amount of time it has been at sea after breaking away from its substrate before coming ashore. Once ashore the kelp deteriorates as it is exposed to wind and sun before being collected. The ability to grow cultivated bull kelp would supply a more predictable product in terms of quality and quantity.

Greg is particularly excited about the prospects for using his reefs for growing bull kelp. This species is seen commonly around southern Australia along our rocky shores. It develops a large holdfast that attaches to the rocky substrate to support its long and large blades — the long and leathery pieces of seaweed often seen on surf beaches after rough storms. Greg is hoping that the top of his artificial reefs will provide an ideal substrate for the bull kelp to grow. Placing a series of reefs to create a forest of bull kelp would provide a commercial product, and there is the potential that the forest would act as a buffer zone to other offshore structures that are positioned in the lee of the forest. There is also increasing interest in the use of seaweeds such as bull kelp as potential carbon sequestration sources. With the decline in the amount of kelp being washed ashore (considered to be an impact of a changing climate), tensions can arise between collectors and conservationists who want a residual amount of kelp left to support shore birds and migratory species.

To explore this opportunity, a project that evolved from this study is looking into the aquaculture of this species including propagation and grow out conditions and the role that artificial reefs can play in their cultivation.

A second scoping project is looking at the feasibility of floating artificial reefs just below the surface layers of the oceans (e.g. 5-40m) so that they can take advantage of the sunlight's penetration similar to natural coastal reefs which are some of the most productive ecosystems on the planet. These floating reefs could then be located away from the coastal zone in offshore food and energy systems as proposed by the BECRC. Although research into both the feasibility and the ecological and economic consequences of establishing offshore artificial reef systems is still required, this 'blue skies' concept has the opportunity to farm high-value, low-trophic level reef associated species in an environment that closely mimics their natural habitat and has minimal impact on natural reef ecosystems. Importantly, by balancing the ecosystem components of the artificial reefs, it might be possible to develop an aquaculture system that has minimal to no impact on the broader environment and may also have the potential to help remove nutrient loads from other aquaculture systems.

While many of these concepts are in their infancy, Greg believes the time has come for more innovative thinking around aquaculture systems that can be both commercially productive as well as environmentally sound. He is proud to be a partner of the BECRC and is really thrilled to continue his involvement with such a forward-thinking group of industry partners. He hopes that his pioneering and innovative spirit can become part of the mix for a more sustainable and environmentally positive way to increase marine food from our oceans. □

The authors acknowledge the financial support of the Blue Economy CRC, established and supported under the Australian Government's CRC Program, grant number CRC-20180101. The CRC Program supports industry-led collaborations between industry, researchers and the community.

The Rajah Quilt
an inspirational construction

THE RAJAH QUILT
Created by unidentified women of the convict ship *Rajah*, in 1841.
Design attributed to supervisor Kezia Hayter (b. 1818 UK— d. Adelaide, South Australia).
Pieced medallion style, unlined coverlet, cotton sheeting and chintz applique, silk thread embroidery.
325.0 (H) x 337.2 (W) cm.
National Gallery of Australia, Canberra, Gift of Les Holllings and the Australian Textile Fund (1989).

A VISITOR TO THE MARITIME MUSEUM was one of a group of women inspired by the pattern and the story of the Rajah Quilt, which was constructed en route to Hobart Town.

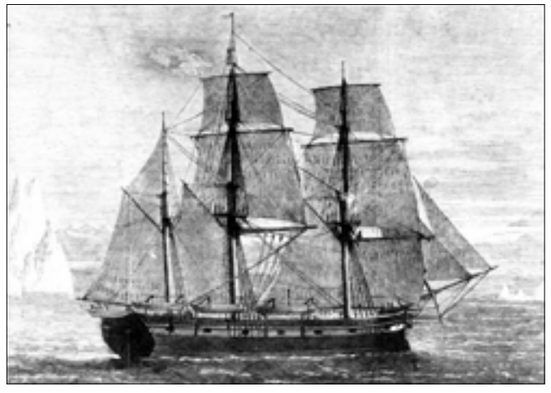
'I joined the WA Quilters Association in 2016 after decades of hobby dressmaking. The Rajah Quilt pattern was the first commercial piecing pattern I attempted and I very much wanted to include a maritime design theme. Nine members of my extended family have worked at sea, including myself. I contacted the Maritime Museum Tasmania seeking a drawing or photo of the barque *Rajah* which transported 180 convict women from England to Van Diemen's Land in 1841. During the voyage, the women hand-sewed the original Rajah Quilt which is now a prized exhibit in the National Gallery in Canberra. I was delighted when a sketch of an 1840's barque was received. That sketch became the centrepiece of my quilt.

While sewing my Rajah Quilt, I became curious about female convicts. I was sewing comfortably at home with an electric sewing machine. The women on the convict ship *Rajah* would have endured months at sea in cramped and anxious conditions. With no family convict connections and very little knowledge of convict voyages, I began researching the topic. This led to buying many history books and booking holidays to Norfolk Island and Tasmania in 2021. Norfolk Island travel has been postponed to mid-2022 due to Covid-19 but I was lucky to spend a few weeks in Tasmania in October-November 2021 visiting the Craft Fairs in Deloraine, Latrobe and Don as well as interesting convict buildings and landmarks. I never imagined that choosing to sew the Rajah Quilt would open opportunities for personal travel and convict research. I am grateful to the Maritime Museum Tasmania for helping me achieve a nautical theme in my finished Rajah Quilt. My family love it!'

—Helen Dalgleish

The quilt created by Helen Dalgleish was inspired by the original Rajah Quilt. She used a smaller pattern designed by Lessa Siegele of Australia, available at: https://www.etsy.com/au/market/lessa_siegele
The modified centrepiece is based on an image supplied by MMT (below) of a three-masted wooden barque.

Sketch of a barque, MMT O'May Collection P_OM_M_3a



The story of the Rajah Quilt

When shipyards using teak and English oak for their ships, were beginning to feel the rise of steel for ship building, but yet to see the era of steamships, *Rajah* was built in 1835 in Whitby, UK. It was possibly owned (and built) by John Langborne. After Langborne's death in 1836 it was sold to J Smith of Leith, the port of Edinburgh.

Smith appointed a new master, Charles Ferguson, a 25-year-old local Leith man. Under Ferguson's command, the ship sailed from Leith in April 1838 with 19 passengers and cargo for Hobart and Sydney. Its young captain might have gained some valuable experience on the voyage. After its return, *Rajah* stayed in Leith for most of 1839 for repairs. It made another voyage to Sydney and then returned to London where it was fitted out for the transportation of convicts.

Rajah sailed from Woolwich, UK, on 5 April 1841, bound for Hobart, with 180 female convicts on board. During the voyage, some of the convicts

produced the only surviving patchwork quilt made on a convict ship. Accompanying the convicts were Surgeon-Superintendent Dr James Donovan, Rev. R Davis, WH Herrick, Esq., and Miss Kezia Hayter, the 23-year-old 'matron', who had been selected by the Quaker reformer, Elizabeth Fry, and her British Ladies' Society for Promoting the Reformation of Female Prisoners to supervise the women and to report on conditions onboard.

The Ladies Committee supplied about a kilogram of patchwork pieces to each woman transported as well as needles and threads. The women might have made quilts for their own use, or for sale, but one group decided to work together under Kezia's supervision to produce a quilt for a special purpose. This became the Rajah Quilt with an embroidered inscription which read:

TO THE LADIES
of the Convict Ship Committee
This quilt worked by the Convicts of the ship Rajah during their voyage to Van Diemen's Land is presented as a testimony of the gratitude with which they remember their exertions for their welfare while in England and during their passage and also as a proof that they have not neglected the Ladies' kind admonitions of being industrious.

The ship arrived in Hobart on 19 July 1841 and was visited by Governor Sir John Franklin and his wife. Lady Jane Franklin noted in her diary that Sir John congratulated the convict women when shown the quilt.

During the voyage, Kezia Hayter had become engaged to Captain Ferguson, but she remained in Hobart when he sailed. When he returned in 1843, still in command of *Rajah*, they were married, They returned to London aboard *Rajah* in 1848 and Kezia stayed in Edinburgh with their son, George, until Charles returned and took them back to Australia where they settled. He was appointed harbour master at Williamstown, Victoria.

In 1935, E. Winifred Ure of Edinburgh, wrote to the *Sunday Times* London, for information about a patchwork quilt which had been in her friend's family for many years. The family did not know when it had come into their possession because they were too young to remember, but the inscription quoted in her letter was the same as that on the Rajah Quilt. A great-niece of Elizabeth Fry responded, explaining the patchwork projects for prisoners, and suggested it might have belonged to 'one of the splendid women who worked so finely to help these poor ill-treated women'.

There is a popular belief that Lady Jane Franklin presented the quilt to Elizabeth Fry but there is no mention of that in her great-niece's letter nor in Jane Franklin's diary. It is possible that Kezia took the quilt to Edinburgh and left it with family or gave it to friends there, before she returned to Australia. It was 'rediscovered' in Edinburgh in 1989 and purchased by Les Holllings and the Australian Textiles Fund, then donated to the National Gallery Australia. □

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Botham, J. 'The good old *Rajah*.' *Latrobeana:* Journal of the CJ La Trobe Society Inc. Vol. 14, No 2, July 2015, pp.31–42
This is a comprehensive account of the ship and its passengers.
https://www.latrobesociety.org.au/LaTrobeana/LaTrobeanaV14n2.pdf
It includes two colour miniatures of Captain Charles Ferguson (1813–1868) and Kezia Ferguson (1818–1885), painted ca 1844 by Kezia's uncle Sir George Hayter and other images which enhance the story.

Correspondents Ure E. and Gurney, B. 'Convicts' Gift.' *The Australasian* 9 Feb 1935, p.4

Video (2 mins) https://nga.gov.au/on-demand/british-makers-on-board-the-rajah-en-route-to-hobart-the-rajah-quilt/

West Australian Quilters' Association Inc. 'Rajah Revisited Project 2018–2020' Booklet with several variations of the Rajah Quilt created by WAQA members.

TAINTED CARGO, on show in the Exhibition Gallery, explores the very different experiences of early free migrants to Van Diemen's Land in an exhibition of hung works and pottery.

Jenny Dean's starting point is a portrait of an unknown subject brought to Van Diemen's Land by her ancestor, Dr James Scott, in 1820. The family legend had it that the portrait was by Rembrandt, since disproved. But the story led Jenny to explore Dr Scott's life as a privileged settler, and commissioner of the natural history works of convict William Buelow, who was assigned to Scott, wondering if the portrait were a symbol of his privilege and status. Jenny's work reflects on the imposition on Van Diemen's Land by wealthy settlers such as Scott of laws and history brought from Europe.

Gabrielle Falconer's work starts in a very different place, the ship *Princess Royal,* which brought the first free female emigrants to Van Diemen's Land from England in 1832. The passengers' introduction to Van Diemen's Land was not a happy one as, during a violent storm, the ship foundered at Seven Mile Beach where they were rescued by the ferryman Ralph Dodge. Gabrielle has researched the lives of the individual migrants aboard the ship, described in a contemporary newspaper report as the 'little damsels', and used the diary of the voyage kept by a clergyman's wife, to inform her prints and pots. Gabrielle also draws inspiration from 19th century scrimshaw, tattoos and love tokens, reflecting that, for many of the women, drawn from poverty and disadvantage in England, a new life in Van Diemen's Land gave them possibilities of freedom not available back home. □

PROGRAM

12 August – Exhibition of photographs
by Patsy Adam-Smith

13–14 August – Symposium days
Keynote Speaker: Dr Robyn Greaves
other speakers include
historian, Thomas Gunn
boatbuilder, Kerry Mansell
mariner, Jim Everett
and more.

13 August – Symposium Dinner (optional)
14 August – Community Barbeque

Registration $150
Lunch, morning and afternoon teas provided.
All registrants will receive monthly newsletters and symposium updates.

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email FMHSymposium@gmail.com
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high and dry

Looking at the finer details

by John Wadsley

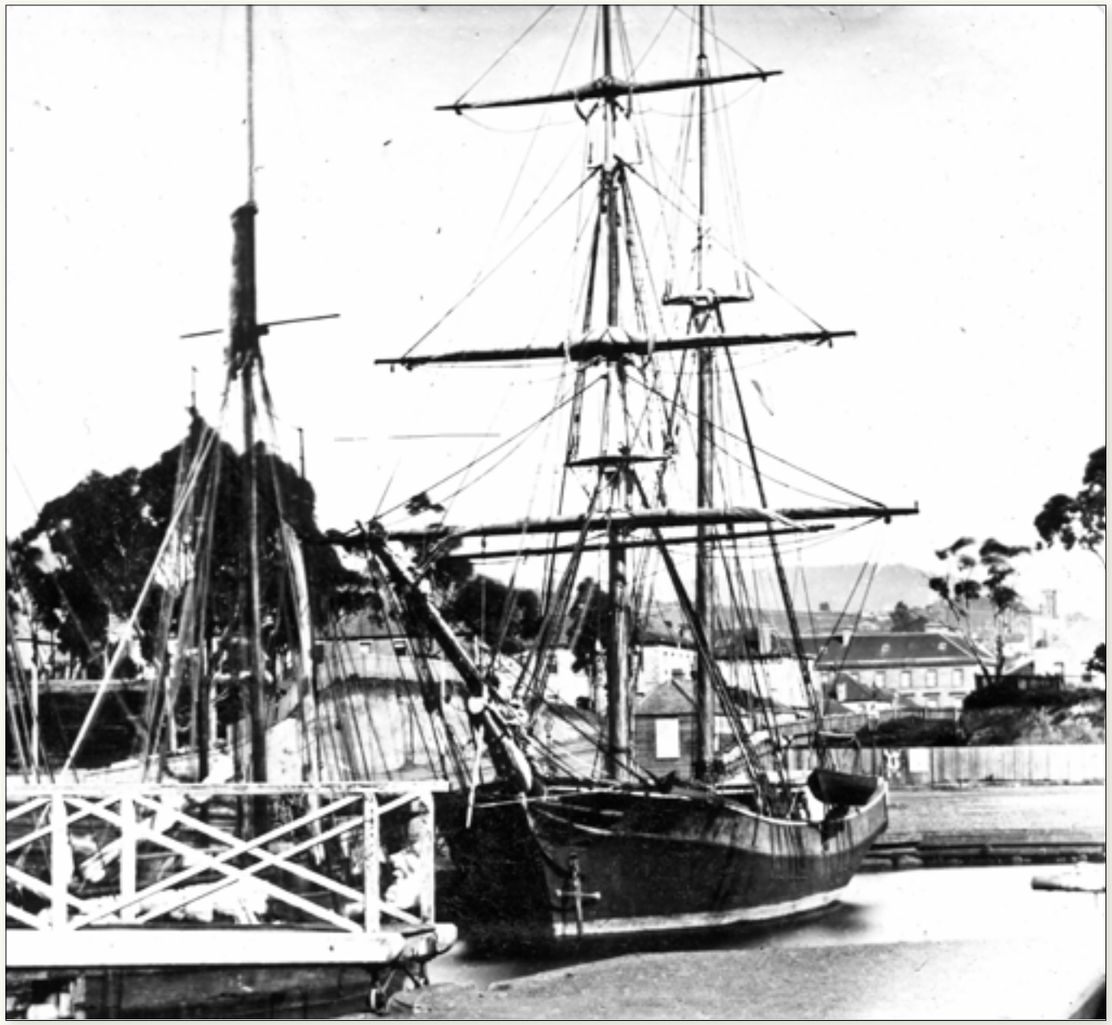
This issue, I want to focus on one of the oldest images in our collection, dating from the early 1860s. It shows a brigantine lying in Constitution Dock, with Argyle Street beyond. The details in this image, not only the vessel, offer tantalising connections to our maritime history.

Let's set the scene: Hobart in the 1860s. Population around 25–30 000. Capital of the newly named colony, Tasmania. Several fine buildings now grace the skyline, notably Government House on the Domain. The end of convict transportation in 1853. Self-government had arrived in 1856. Though an economic depression had set in with the loss of convict labour, Hobart had already grown wealthy through whaling, shipbuilding and trading—especially wool and farm exports.

So, to this photograph: We see Constitution Dock (completed in 1850), named by Lt-Governor William Denison for the Australian Constitutions Act 1850 passed by the British Parliament, an Act important for the colony of Van Diemen's Land as it established an elected Parliament. Denison, a former army engineer, was a keen promoter of improving Hobart's waterfront infrastructure, through reclamation and wharf construction. Sadly, the vessel is unidentified. If you have an idea, let me know.

In the foreground, a footbridge lies across the dock's entrance. This structure would remain, in various forms, until the bascule bridge in 1935. Seen above the footbridge railing is a cutting which, from the 1830s, extended Argyle Street to the wharves. Above the cutting is vacant land. The lower section would remain vacant until the construction of our fair Carnegie building in 1904. There is no evidence of the Town Hall; its construction started in 1864. Opposite the cutting is the low cliff that once extended around much of Sullivans Cove. The former Colonial Secretary's house on top of the cliff (now part of TMAG) is just out of shot. The first museum on the Macquarie Street corner was not built until 1863, so this image is even earlier.

On the other side of Macquarie Street, we can see Ingle Hall, one of Hobart's earliest residences, and to its left, a building that might have been the residence of Charles and Phyllis Seal, the whaling family of note featured in our new whaling display.



Brigantine in Constution Dock ca 1860 MMT Collection P_OM-F-16a

Further up Argyle Street, we can see Swedish House, named by Olaf Hedberg. Olaf was a Swedish immigrant who arrived in 1844. He initially worked for Charles Seal, but soon owned his own whaling ships and became a wealthy merchant in his own right, also partnering with Charles. In his spare time, he was superintendent of the Hobart Fire Brigade for 25 years. Olaf's christening spoon is on display at the Museum. Finally, in the distance we can see Holy Trinity church above North Hobart.

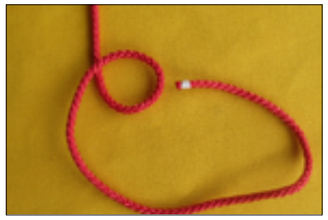
This and other early photographs are remarkable for their clarity. Through this early image, we have been able to discern several links to our maritime past and to items in the MMT collection. We know nothing of the ship. But the hunt goes on!! □

knot so hard

a series by Frank Charles Brown

No 62 The Secured Bowline

A Mariner's Method



1. One way of starting to tie the Secured Bowline knot.

The Bowline has long been venerated as a secure loop, but there apparently have been occasions when it failed. I suspect that failure would have been due in the pre-synthetic fibre rope era to poor tying, possibly not passing enough of the working end into the loop and not dressing down sufficiently. Some modern plastic ropes are stiff and slippery which are undesirable properties for tying secure knots. When I was instructing tying the knot I would advise the pupils to pass sufficient length of the working end through to tie a Thumb Knot around the loop rope, and then tie it! We had to work with a variety of ropes, natural and synthetic, and we never had a failure.

I encountered a form of the Bowline which had been developed to make it more secure by a mariner who claimed to have often witnessed Bowline failures. This is his method.

2. The formed knot before dressing down.

3. This shows the loose knot turned over as it is easier to demonstrate the next step.

4. The working end is then taken under the loop and passed as shown above.

5. The working end is through the knot, and

6. dressed down.

This is the final knot in the current series. 'knot so hard' will appear in future issues as an occasional feature. We thank the author for all the interesting variations on knot tying.

Preliminary design concept

TasPorts | Building ports for future generations

Port of Devonport. Images supplied by TasPorts

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for the future.

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QuayLink pays homage to the long-term history of port operations in Devonport, established on the banks of the Mersey in the late 1800s in the town of Torquay. The project name reflects the critical future role that the port will play as a key linkage point between Tasmania and mainland Australia.

Growing tourism and trade for Tasmania.

Delivery of Project QuayLink is timed to cater for a new fleet of larger Bass Strait ships set to enter service in the next few years. To support future growth opportunities, two state-of-the-art roll-on-roll-off (RORO) berths and terminals will be developed alongside as a multi-user berth to serve customer requirements within the Port of Devonport.

Project QuayLink

Project QuayLink is a $240 million investment within the Port of Devonport to upgrade critical port infrastructure and to future-proof Devonport as Tasmania's tourism and trade gateway for the next 50 years.

As the state's busiest port, accounting for more than 50% of trade and tourism, this investment supports the growth expectations of our customers through the provision of state-of-the-art infrastructure and facilities.

TasPorts will deliver a port that is smarter, faster and cleaner. This means adopting a range of environmental measures including provision of electric vehicle charging stations, LNG ship refuelling and renewable energy shore power. Equally, Project QuayLink is a great opportunity to enhance the visual amenity and function of the port in East Devonport.

With new vessels being commissioned to arrive by the end of 2023 and in 2024, the Port of Devonport's freight capacity is expected to increase by 40%, and an additional 160 000 passengers are expected to visit Devonport every year. □

Find out more: Our website is the best place to visit to keep updated on all the latest news and information, to ask us a question or send us an email. Details at www.tasports.com.au/quaylink

TasPorts

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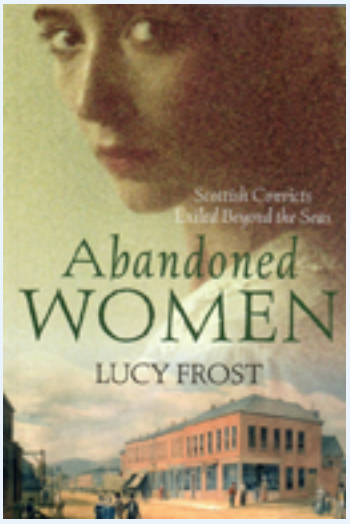
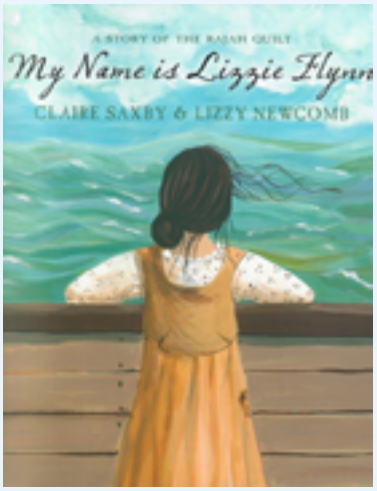
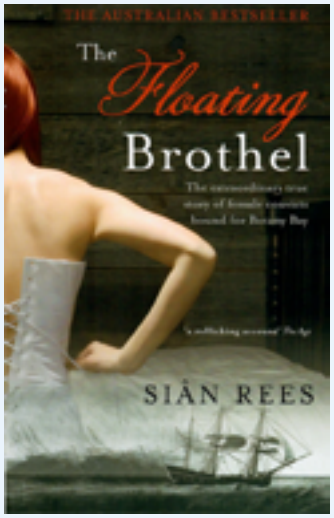




MY NAME IS LIZZIE FLYNN
A story of the Rajah Quilt

Picture Book with text
by Claire Saxby
& Lizzy Newcomb

See page 30
'The Rajah Quilt:
an inspirational construction'



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