



**HERITAGE
COUNCIL**
OF WESTERN AUSTRALIA

REGISTER OF HERITAGE PLACES – ASSESSMENT DOCUMENTATION

11. ASSESSMENT OF CULTURAL HERITAGE SIGNIFICANCE

The criteria adopted by the Heritage Council in November 1996 have been used to determine the cultural heritage significance of the place.

PRINCIPAL AUSTRALIAN HISTORIC THEME(S)

- 3.8.1 Shipping to and from Australian ports
- 3.8.3 Developing harbour facilities
- 2.5 Promoting settlement
- 8.3 Going on holiday

HERITAGE COUNCIL OF WESTERN AUSTRALIA THEME(S)

- 201 River and sea transport
- 304 Timber industry
- 506 Tourism
- 405 Sport, recreation and entertainment

11. 1. AESTHETIC VALUE

Busselton Jetty is aesthetically significant due to its considerable size, scale and the repetitions in its form. When viewed from the eastern and western shorelines, the regularly spaced timber piers of the jetty create a repetitive rhythm that is consistent in its structural form and complements the expanse of seascape into which it extends. (Criterion 1.1)

Busselton Jetty has landmark qualities due to its considerable scale and length, its strong presence in the seascape and its visibility when viewed from the shore. The impressive view of the jetty on the horizon is an aesthetically pleasing and unusual sight. The clear visibility of the jetty when viewed from the air highlights its prominence in Geographe Bay. (Criterion 1.3)

From its original alignment with Queen Street, *Busselton Jetty* has historic and visual links with the commercial centre of the town through to the sea, and is therefore part of a cultural environment that includes the courthouse and the bond store at the junction of Queen Street and Marine Terrace. (Criterion 1.4)

11. 2. HISTORIC VALUE

Busselton Jetty was important in the commercial and agricultural development of the Busselton region from the 1860s to the 1970s, as well as in the development of the timber industry of the State. Constructed in nine stages from 1865 to 1960, the jetty was in use for more than a century. Its role was particularly significant before rail transport arrived in the region. (Criterion 2.1)

The place contributes to an understanding of the development of sea transport in the region as well as the history of European occupation in the area as the jetty was central to the development of the Vasse district. (Criterion 2.2)

Busselton Jetty is significant in the development of the tourism industry of the Busselton locality, as it has served as a tourist attraction for the town since the late 19th century. (Criterion 2.2)

11. 3. SCIENTIFIC VALUE

Busselton Jetty has the potential to be used as a research and teaching site by virtue of the underwater reef and the Under Water Observatory at the sea end of the jetty. This unique marine environment has potential to contribute to the study of the natural history of Geographe Bay. (Criterion 3.1).

11. 4. SOCIAL VALUE

Busselton Jetty is highly valued by the local community for its association with the economic growth and the development of local industries, providing the opportunity for export to national and international markets. It also provided a good source of employment through commercial operations and maintenance of jetty and associated port as well as through tourism. (Criterion 4.1)

Busselton Jetty is highly valued by the local community as evidenced by community efforts to prevent demolition since its closure in 1972 as a shipping facility, and following cyclone damage and lack of maintenance. An extensive clean-up and rebuilding program was organised, along with the formation of a group concerned with ongoing care for the jetty. (Criterion 4.1)

Busselton Jetty is highly valued by the local community as a place of social and recreational activities and interaction since the early 1900s, especially the social activity of promenading along the jetty, popular in the late 19th early 20th century. (Criterion 4.1)

Busselton Jetty is the site of memorial plaques commemorating local residents. Many of the plaques note that ashes were cast from the jetty to the water, according to the wishes of the deceased. (Criterion 4.1)

Busselton Jetty contributes to the community's sense of place as a landmark structure and a local icon. (Criterion 4.2)

12. DEGREE OF SIGNIFICANCE

12. 1. RARITY

Busselton Jetty is a rare example of a substantially intact timber jetty on the coast of Western Australia. Of the 80 such structures built, modified, extended or replaced in Western Australia between 1832 and 1942 for the purposes of shipping activities, *Busselton Jetty* is one of only four predominantly timber jetty structures that remains completely or substantially intact. (Criterion 5.1)

Busselton Jetty is rare as the longest timber jetty known to be constructed in the Southern Hemisphere. (Criterion 5.1)

Busselton Jetty is significant in demonstrating the former importance of the commercial shipping industry to the locality, and the way it functioned. (Criterion 5.2)

12.2 REPRESENTATIVENESS

Busselton Jetty is a good representative example of a maritime timber jetty used to facilitate the transportation of cargo and passengers from sea vessels to the land. (Criterion 6.1)

12.3 CONDITION

The condition of *Busselton Jetty* varies considerably. Ongoing deterioration of the structural timber due to age and lack of maintenance has contributed significantly to the current condition of the structure, and significant general maintenance to the timber elements is required. The older sections of the jetty are generally in poor condition and require substantial pile replacements or maintenance. Apart from the most northern (sea) end, the superstructures are generally in reasonable condition and repairable.¹

The 1911 Viaduct (or Skeleton Jetty) is extant and joins the earlier section of the jetty at Pier 144 to form the current jetty structure. This section is in poor condition and no longer structurally sound. The timber decking has rotted through under the train tracks for most of its length, making the cantilevered portion of the decking on both sides unstable. The stability of the decking currently relies on the concrete overlay spreading the load.²

After the junction formed by the Viaduct and the main jetty (Piers 144/145), the condition of the structure deteriorates with the decking becoming increasingly worn, although it is still considered safe for public access.

The north (sea) end of the jetty is in poor condition owing to fire damage and public access is prohibited.

Overall, the condition of *Busselton Jetty* is fair.

12.4 INTEGRITY

Although the Jetty no longer serves its original primary function as a facility for the transportation of cargo and passengers, it still serves its original secondary functions of providing a place for recreational activities such as fishing, strolling and summertime water play, and as a tourist attraction. The railway is in continued use, albeit for tourists instead of cargo. Hence, unlike *Bunbury Timber Jetty*, which is closed to the public, *Busselton Jetty* maintains elements of its original use and thus its integrity is moderate to high.

12.5 AUTHENTICITY

As *Busselton Jetty* was in use for shipping for more than one hundred years from 1865 to 1972, most of the fabric of the jetty has been replaced at least once since its construction. Extensive sections of the Jetty's top beams have been covered with concrete slabs. The railway lines and some gauges on the Jetty appear to be original. Overall, the authenticity of the place is low to moderate.

¹ BG & E Consulting Engineers, 'Busselton Jetty Structural Assessment Report', prepared for Shire of Busselton, March 2005, pp. 8-9.

² BG & E Consulting Engineers, 'Busselton Jetty Structural Assessment Report', prepared for Shire of Busselton, March 2005, p. 8.

13. SUPPORTING EVIDENCE

The documentary and physical evidence have been compiled by Kerry Blair, Nyree Edgecombe, Shannon Keane, Amy Nancarrow, Julia Roberts and Liz Walker – students of the Research Institute for Cultural Heritage at Curtin University with supervision from Heritage Council Assessment Unit. Amendments and/or additions by HCWA staff and the Register Committee.

13.1 DOCUMENTARY EVIDENCE

Busselton Jetty, a predominantly timber structure with a total length of approximately 1840m, located at the eastern end of Geographe Bay, was constructed in 1865 for the Port of Vasse as its first cargo handling facility. The jetty was constructed in nine stages from 1865 to 1960. During the lifetime of *Busselton Jetty*, various repairs, strengthening and reconstruction of complete sections have seen the incorporation of both steel and concrete elements, together with new replacement timber elements.³ In 2003, an Under Water Observatory was constructed towards the northern end of the jetty. Adjacent to *Busselton Jetty*, on its landward side, is a series of parklands, including a small theme park, park esplanade, public oval and tennis courts.

The township of Busselton, which was known as 'Vasse' from early European settlement until 1907, was first taken up by John Bussell in 1832. Bussell was granted 3573 acres of land at Vasse on 13 July 1832 after having spent a brief period of time at Augusta. He described the Vasse area as, 'the most beautiful grant of land in the whole colony'.⁴ His land was about two miles inland from Geographe Bay on the Vasse River and the homestead he built came to be known as 'Cattle Chosen'.⁵ In April 1834, the rest of the Bussell family arrived at Vasse aboard the *Ellen*.⁶ Captain John Molloy, who had also settled at Augusta, soon followed John Bussell to Vasse and claimed the allotment of land that was adjacent to the Bussells. Molloy's farm was known as 'Fairlawn' and in 1839 he became the first Resident Magistrate for the district that spanned from Augusta to Vasse.⁷

During the early years of European settlement, all supplies to the district arrived by ship at Vasse in Geographe Bay. Until the growth of rail transport in the late 19th century, the Port of Vasse was the settlers' main outlet to the world, both for the necessities of life and communication.⁸ On 24 April 1839, Governor Hutt officially appointed the location in Geographe Bay that was to become the legal place for the loading and unloading of goods for the Vasse Settlement.⁹ That year, a 'Tub', an early form of warning light, was erected on top of a pole at Geographe Bay to serve as a beacon for visiting ships. The cutter *Black Swan* sailed regularly with produce between Fremantle, Bunbury and Geographe Bay from 1843 to 1851.¹⁰ The supplies that were brought in by ship were stored in a

3 BG & E Consulting Engineers, 'Busselton Jetty Structural Assessment Report', prepared for Shire of Busselton, March 2005, p. 4.

4 Shann, E.O.G., *Cattle Chosen*, UWA Press, Perth, 1978, p. 55.

5 *ibid.*

6 Shann, *op. cit.*, p. 59.

7 Carroll, J. 'The Development of Busselton 1832 to 1872', Thesis, Claremont Teachers College, c. 1975, p.3.

8 Royal Western Australia Historical Society, 'Historic Busselton', 1965, p.11.

9 Busselton Historical Society, 'The Busselton Jetty', souvenir pamphlet.

10 Cummings, D.A. et al, *Port Related Structures on the Coast of Western Australia*, WA Maritime Museum, Fremantle, 1995, p.21.

hut about ten yards from the shore, until such time as they could be collected by the settlers of the area. The early settlers managed for several years without any proper roads and in the absence of roads, they used the Vasse River to travel to the beach to collect their supplies.¹¹

American whalers regularly used the area that was to become the Port of Vasse from pre-European settlement of the region through the 19th century. The area was used as both a base for whaling activities and as a point where goods could be traded with the new settlers. In January 1841, seventeen whaling vessels called at the Port of Vasse and the Shipping Report in the 'Perth Gazette' of 5 December 1849 showed that Vasse Port turned over 20 tuns of whale oil, second only in the region to Cheynes (27 tuns).¹²

During the early years of European settlement, agriculture was the main activity undertaken in the Vasse district. Wheat, barley, oats, rye and green crops were all attempted. Wheat was the most successful with the number of acres devoted to it increasing from 25 acres in 1838 to 82 acres in 1841. Sheep, goats, cattle, pigs and horses were also raised in the area and stock numbers increased from 144 in 1838 to 1275 in 1842.¹³ Some of the agricultural produce was exported from the area with shipping records in 1858 showing cargoes of potatoes, onions, beef and turnips.¹⁴

Early attempts to develop a timber export trade began in the district in the 1830s and 1840s. These attempts were unsuccessful owing to a lack of capital and experience and the difficulties of transporting large jarrah trees.¹⁵ By the 1850s timber export was again of interest and timber licences were granted in 1850 to Bridges, Chapman, Ker and Bussell.¹⁶ Large timber concessions and special timber licences were provided by the Government to attract timber companies with enough capital to establish operations independent of the existing limited infrastructure. In 1858, prominent local timber entrepreneur Henry Yelverton built the State's first large permanent steam timber mill at Molloy's Ditch, Quindalup. This was linked by tramway to the Quindalup jetty.¹⁷

After a period of some thirty years of settlement at Vasse, the people of the district began to lobby the Government for a jetty to be constructed at Geographe Bay. The need for a jetty at the Port was becoming increasingly evident as numerous vessels were regularly stopping in Geographe Bay and their boats would row back and forth to the shore to offload cargo.¹⁸ Loss of Government revenue due to the smuggling of goods was another significant factor that highlighted the need for a jetty. During the 1850s, smuggling became a source of concern for the district, due to the fact that ships could approach the shore of Geographe Bay over a vast area. The presence of a jetty would require ships' captains to off load at a central point, thereby making the administration of customs duty more effective.¹⁹

11 Carroll, op cit, p.4.

12 Jennings, R.J., *Busselton: A Place to Remember 1850-1914*, Success Print, WA, 1999, p.17. N.B.: 20 tuns is approximately 19,000 litres.

13 CSO Records Supp 1, 1838; CSO 1841; CSO, 1842.

14 State Records Office (SRO) Resident Magistrate's Book, Accession No.126.

15 Hartley R.G., *Industry and Infrastructure in Western Australia 1850-1914*, Success Print, Western Australian Division of the Institute of Engineers, Perth, 1995, p.3.

16 Jennings 1999, op. cit., p.23.

17 Hartley, op. cit., p.15.

18 Jennings, R., *Outstation on the Vasse: 1830-50*, Shire of Busselton, WA, 1983, p.154.

19 Jennings 1999, op. cit., p.43.

In 1860, a courthouse and a bond store were established at the junction of Queen Street and Marine Terrace at a cost of £370.²⁰ The bond store was a warehouse where traded goods were stored for tax assessment purposes.²¹ That same year, 17 ships were recorded to have passed through the Port of Vasse.²² In terms of the economy of the region, the strongest requirement for a jetty at Vasse stemmed from the transport needs of the growing timber industry. An article in *The Inquirer and Commercial News* on 18 January 1860, reported that, 'the 'Sultana' left...with a full cargo of excellent timber for the Ceylon market'.²³ On 8 August 1860, *The Inquirer and Commercial News* wrote that, 'At the Vasse... there is an immense supply of timber... there can be no doubt that the Sussex District is in every respect fitted for becoming the centre of a large timber trade'.²⁴ By 1864, the yearly export value of jarrah and karri had risen to £15,693.²⁵ If this rapid expansion in the timber industry was to continue, a jetty of substantial length and solid structure was needed to service the operators in the Vasse region.

The request for a jetty at Geographe Bay was formally moved by Henry Yelverton in 1861, who proclaimed that 'the Vasse Port, the first on the coast, needs a jetty'.²⁶ On 22 November 1862, the Resident Magistrate of the district, Joseph S. Harris, recommended the appointment of an assistant tidewaiter because, 'the trade of this port is rapidly increasing'.²⁷ In 1864, tenders were called for the supply of timber for a jetty. Yelverton was awarded the contract at a cost of £25 and he was also awarded £100 for the construction of the jetty that same year.²⁸ Later in 1864, he was paid £80 for further additions to the jetty.²⁹ The jetty, originally known as the Vasse Jetty, was completed in 1865. It was a straight jetty measuring approximately 176m in length and constructed entirely of timber.³⁰ It was built to service the loading of ships carrying timber and livestock and, until the railway was provided, goods were transported along the length of the jetty using horse-drawn wagons.³¹ According to a 1911 written account, the high water mark of the jetty in 1865 was close to the site of 'the present lighthouse'.³² This lighthouse is no longer extant, however, it was situated near the junction of Marine Terrace and Queen Street in Busselton today.³³

Construction of the jetty at the Port of Vasse played a significant role particularly in the growth of the timber industry in the region. In February 1866, three ships departed from the Port with cargoes of timber. They were the *Lady Alicia*, carrying 163 loads of timber valued at £600, the *Europa* with 141 loads of timber valued at £510 and the *Midas*, who carried various timber loads to the value of £690.³⁴ The timber industry was also boosted by the development of

20 Carroll, op. cit., p.10.

21 Bomell R, 23 March 2002, interview with RICH students.

22 SRO Shipping Records, Accession No.114.

23 *The Inquirer and Commercial News*, 4 January 1860.

24 *The Inquirer and Commercial News*, 8 August 1860.

25 Zafer, P., 'History of the Timber Industry of Western Australia', Handwritten Thesis, 1957, p.10.

26 Memo to Gov, 4 June 1861: cited in Jennings 1999, op. cit., p.75.

27 CSR 503/369 R.M. to C.S., 22 November 1862.

28 Carroll, op. cit., p.20.

29 *WA Government Gazette*, 13 September 1864.

30 PWD Plan Number PO8271-1-2, 1911; PWD Plan Number PO8271-1-1, 1962.

31 Shire of Busselton, 'Busselton Jetty – Structural Assessment, Request for Tender', October 2004, p. 8.

32 PWD Plan Number PO8271-1-2, 1911; PWD Plan Number PO8271-1-1, 1962.

33 Bomell R, 23 March 2002, interview with RICH students.

34 SRO Shipping Records, Accession No.114.

infrastructure in Western Australia in the period 1850 to 1890. During this time, the Government granted several large timber concessions to attract capital from the eastern states and Britain.³⁵ The timber industry was further helped by the arrival of convicts to Western Australia. The expanded public works programs increased the demand for timber as well as improving the transport infrastructure.³⁶ During the 1860s, new jetties were also constructed at Albany and Bunbury to cater for the exports of timber, wool and sandalwood.³⁷

By the 1870s, facilities at the Port of Vasse were still inadequate. There was concern over the irregularity of communications with Fremantle and the beaching of boats, which was partly due to lack of moorings³⁸, and partly due to the increasing size of commercial ships which found it difficult to berth in the relatively shallow waters of Geographe Bay. Timber loading facilities were now widely dispersed with jetties at Vasse, Quindalup and Wonnerup. There was a steady increase in timber exports until the early 1880s, after which a slump was experienced due to high production costs mainly related to transport costs.³⁹ In the 1870s, steamships were introduced to the Western Australian Colony. These, in theory, were to provide regular shipping between Busselton and Fremantle, however, visits by steamships remained irregular on account of port inadequacies.⁴⁰ In 1872, the 'Tub' beacon at the Port was replaced by a lighthouse.⁴¹ Also in 1872, extensions to the jetty were made by Samuel Rose at a cost of £88 17s 06d, but the Municipal Council considered them to be inadequate.⁴²

In 1875, the jetty was lengthened by a further 143.3m by G.H. Knapton and J. Mewett for the sum of £626 14s 0d.⁴³ Once this addition had been completed, the low water mark at the sea end of the jetty was at a depth of 3.6m. This end point of the jetty came to be known as the No.1 head.⁴⁴ By 1883, pressure was again being exerted by the local community for extensions to be undertaken to the jetty to counteract silting up along the beach.⁴⁵ In December 1883, a contract was awarded to Yelverton to extend the existing Vasse Jetty, though the work was delayed due to lack of equipment.⁴⁶

During the 1880s the timber industry of the district was performing well, with vessels loading regularly at the Port.⁴⁷ In 1884, a further 229m of jetty was constructed in order to improve the conditions for shipping at the Port. The contract for these works was secured by Yelverton for £359 0s 6d.⁴⁸

This extension apparently did not improve shipping facilities adequately. In the late 1880s, the timber industry called for further extensions to the jetty. *The*

35 Hartley, op. cit., p.15.

36 Hartley, op. cit., p.14.

37 ibid.

38 Jennings 1999, op. cit., p.116.

39 Hartley, op. cit., p.16.

40 Jennings 1999, op. cit., p.151-152.

41 Carroll, op. cit., p.20.

42 Jennings 1999, op. cit., p.117.

43 Souvenir of Official Opening of Busselton Jetty, 1911; and Richardson J.W., "The Countryman": cited in Jennings 1999, op. cit., p.320.

44 PWD Plan Number PO8271-1-2, 1911; and PWD Plan Number PO8271-1-1, 1962.

45 Jennings 1999, op. cit., p.161.

46 Jennings 1999, op. cit., p.162.

47 Jennings 1999, op. cit., p.168.

48 PWD Plan Number PO8271-1-3, 1911; and PWD Plan Number PO8271-1-1, 1962.

Inquirer and Commercial News, on 1 September 1886, reported that, 'the [timber] stations will receive large orders, more especially if our jetty is extended into deep water so that ships may come alongside to load'.⁴⁹ Then on 20 October 1886, it was reported that, 'great dissatisfaction prevails at the hands of the Government in not sending the plans of the proposed new jetty'.⁵⁰ Three years later in 1887, another 353m of jetty were constructed. In 1890, another small extension of 40m was undertaken and this enabled the completion of the No.2 head. At low tide, the depth of the water at No.2 head was 4.3m.⁵¹ By 1894, another 35m extension to the jetty was proposed, however, there was public frustration that the proposed addition would not increase the depth of water sufficiently for intercolonial steamers.⁵² So in 1894, the jetty was extended again by 130m and another 150m were added the following year. During 1895-6, the No.3 head of the jetty was completed when a further 261.6m extension was constructed. This provided a new water depth of 6.1m.⁵³

During the 1880s, the Vasse district began to experience a growth in tourism. In 1881, an official agreement was made to ensure vessels stopped at Vasse for one and a half hours if they had passengers and cargo.⁵⁴ In 1884, *The Inquirer and Commercial News* reported that, 'Busselton has been much enlivened by an influx of several lady visitors'.⁵⁵ By the turn of the 20th century, Busselton was established as a tourist town and in 1904, it was anticipated to become the leading summer and health resort of the State.⁵⁶ In the Christmas season of 1906, some holidaymakers were unable to find accommodation in the town and so they pitched their camps near the beach underneath the shady peppermint trees. Here there were facilities for bathing, as well as shelter sheds, swings, seesaws and the jetty. All of these facilities were well patronised.⁵⁷ An article in the *West Australian* on 17 November 1909 described Busselton as a delightful holiday resort, with an immense sea front, long stretches of beaches and caves for exploring only a few miles from town.⁵⁸ In 1910, holidaymakers who strolled the full length of the jetty claimed that the walk was as good as an ocean cruise.⁵⁹

1891 to 1910 was a period of economic and demographic transformation in Western Australia. Timber exports increased tenfold and coal was first produced at nearby Collie in 1890, thus providing another export for the Port of Vasse. The residential housing boom that accompanied the Gold Boom of the 1890s led to an increased demand for timber. In the eleven years from 1898 to 1910, timber exports statewide exceeded those of wool.⁶⁰ During this period, timber and dairy produce were the main exports from Busselton.⁶¹

49 *The Inquirer and Commercial News*, 1 September 1886.

50 *The Inquirer and Commercial News*, 20 October 1886.

51 PWD Plan Number PO8271-1-3, 1911; PWD Plan Number PO8271-1-1, 1962.

52 Jennings 1999, op. cit., p.225.

53 PWD Plan Number PO8271-1-3, 1911; PWD Plan Number PO8271-1-1, 1962.

54 CSO 340 C.S. to R.M. 15/181.

55 *The Inquirer and Commercial News*, 13 February 1884.

56 *South Western News*, January 1904: cited in Jennings 1999 op. cit., pp.230-231.

57 Jennings 1999, op. cit., p.281.

58 *The West Australian*, 17 November 1909: cited in Le Page J. S., *Building a State*, Water Authority of Western Australia, Leederville, 1986, p. 338.

59 Wroth, B. & Vines, F., *A Bunbury to Busselton Sketchbook*, Rigby, Australia, 1975, p.48.

60 Hartley, op. cit., p.46.

61 Jennings 1999, op. cit., p.269.

In April 1907, the length of the jetty was 1344m. Its head was 83.3m in length and 11.6m in breadth.⁶² In October 1907, a thorough test of the jetty was carried out (using a specially constructed steel trolley loaded with 32 tons of steel rails) and weaknesses in the strength of the structure were revealed.⁶³ In 1908, the jetty was further inspected by an Engineer to determine its safety and capacity for facilitating locomotives and for loading and unloading goods onto vessels. As a result of these tests, one recommendation was made to lengthen the jetty head to 170m, doubling its width and strengthening it, at an estimated cost of £10,423.⁶⁴ The alternative recommendation was to build a skeleton jetty, 'from the east or the shore end of the old jetty, connecting with the middle head and lengthening and widening the top head as in the first scheme'.⁶⁵ This was the alternative that was recommended by the Engineer at an estimated cost of £12,409.

Clear justification of the long-term financial returns of this proposed project was needed before the request could be made to the Government. Five months later a report was presented to the Government, demonstrating that the timber and dairy industries of the region were developing at such a rate as to justify the expenditure on the jetty.⁶⁶ The project was subsequently approved by the Government and this culminated in the most extensive additions undertaken in the lifetime of the jetty. The works commenced in September 1909 and took two years to complete. A new section of jetty was constructed approximately 166.6m north of the land end of the existing jetty. It commenced at the shoreline and angled to join the existing jetty structure at a junction point just east of No.2 head. The drawings for its construction referred to it as the 'New Approach'. It was 715m in length and it provided a rail link to the existing jetty. Its construction in 1909-11 also extended the rail line across land, linking the 'New Approach' (or the Viaduct or Skeleton Jetty as it later became known) with the road intersection of Marine Terrace and Stanley Road. The extensive 1909-11 works also included strengthening the existing jetty structure between the new jetty junction point (of the existing jetty and the 'New Approach') now called No. 2 head and No. 3 head. This portion of the jetty covered Piers 144.5 to 272.5 inclusive and the strengthening exercise essentially involved driving in extra piles along the existing structure. In addition to this, the existing jetty was also extended a further 603m beyond No.3 head, which until 1911 had been the end point of the jetty.⁶⁷ Of this extension, the final 168m was constructed as a berthing head and at this point the depth of the water was 7.6m at low tide. The contract for these works was won by Mr R. O. Law for £15,491.⁶⁸ This was essentially the last major extension to the length of the jetty, and upon its completion in 1911, the jetty measured 1824m from the shoreline to the end of its new berthing head. At this time, the jetty was purported to be the longest sea jetty in the Southern Hemisphere.⁶⁹

At the completion of this works project, the new improved jetty was opened by Frank Wilson, Premier of Western Australia, on 1 March 1911.⁷⁰ In February 1911, intensive dredging of the harbour was commenced and was completed two

62 ibid

63 Jennings 1999, op. cit., p.270.

64 *South Western News*, 7 February 1908: cited in Jennings 1999, op cit., p.270.

65 Jennings 1999, op. cit., p.270.

66 *South Western News*, 4 November 1910.

67 PWD Plan Number 14520-01-01, 1909.

68 Le Page, op. cit., p.338.

69 PWD Plan Number PO8271-1-2, 1911; PWD Plan Number PO8271-1-1, 1962.

70 PWD Plan Number PO8271-1-2, 1911.

months later in May.⁷¹ The dredging resulted in the harbour being sufficiently wider and deeper to allow safer berthing of larger ships. The following November, extra bollards for berthing vessels at the jetty were installed and mooring buoys placed into position to help secure ships.⁷²

Following the extensive improvements to *Busselton Jetty* in 1909-11, social amenities were also added. A pavilion was constructed at the No.1 head and was used for band concerts and other activities.⁷³ By 3 November 1911, sea baths had also been constructed in the area of water between the original jetty and the new Viaduct.⁷⁴ Deemed the finest bathing area in the State, it was secure against the intrusion of sharks. The length of the baths along the original jetty frontage was 100m with the piling between the two jetties 4m deep and measuring 150m wide.⁷⁵ The baths also included a platform (16.6m in length and 4.3m in width) on the jetty that accommodated a number of spacious dressing compartments.⁷⁶

In 1913, 70% of felled timber in the region was being exported, but that year the expansion of the timber industry came to a halt. From 1914-18, the war had a detrimental effect on timber exportation due to the wartime shipping shortage. Timber exports once again boomed during the period from the end of World War I up to 1926-27⁷⁷ and it was during this time that the jetty reached its peak usage. In 1923, the crane at the end of the jetty was capable of lifting a capacity of seven tons and coal from Collie could be loaded from trucks at about 50 tons per gang per hour. There was a railway connection to Boyanup Junction and a fortnightly steamship to Bunbury.⁷⁸ Timber exports fell during the Great Depression, along with declining exports of wool, wheat and meat.⁷⁹ Like other Australian country towns, Busselton suffered during the depression until World War II brought some degree of economic recovery. In 1948, the principal exports of the region were timber and dairy produce.⁸⁰ In the 100 years from the 1850s to the 1950s, the timber export trade grew from a few hundred loads to nearly 80,000 loads each year.⁸¹

In 1951-52, the berthing head at the end of the jetty was widened and in 1960, another small extension, measuring 16m, was undertaken to the end of jetty, taking the total length of the jetty to approximately 1840m.⁸² Improvements and maintenance works were continually undertaken on the jetty during the years of its use as a port. Between 1960 and 1970, all of the existing timber jetties in Western Australia that were still being used for port activities were replaced, supplemented or modified. As *Busselton Jetty* was still in use for shipping purposes until 1972, it is likely that most of the fabric of the jetty was replaced at least once during this period.⁸³ Electric wiring was also installed as part of the modification process during the 1960s.

71 *South Western News*, 17 February 1911.

72 *South Western News*, 7 March 1913.

73 Le Page, op. cit., p.339.

74 *South Western News*, 3 November 1911: cited in Jennings 1999, p. 280.

75 Jennings 1999, op. cit., p.280.

76 Le Page, op. cit., photo fig 5.16, p.339.

77 Hartley, op. cit., p.107.

78 Cummings et al, op. cit., p.21.

79 Hartley, op cit., p.107.

80 Cummings et al, op. cit., p.22.

81 Zafer, op. cit., General Introduction, p.E.

82 PWD Plan Number PO8271-1-1, 1962.

83 Cummings et al, op cit, p.5.

During the post-war period, the shipping trade from Busselton gradually declined as improvements and developments at Bunbury Harbour resulted in Bunbury becoming the major port of the Southwest region of Western Australia.⁸⁴ *Busselton Jetty* was closed to shipping in 1972. A proclamation by the Governor, Sir Douglas Kendrew in the Government Gazette on 21 July 1972 announced the official closure of the Port of Busselton.⁸⁵ After more than 100 years *Busselton Jetty* ceased operation as a shipping facility.

Following the closure of *Busselton Jetty* for commercial shipping and handling activities in 1972, the Government proposed to partially or completely demolish the jetty on two occasions. In both instances, public pressure forced the Government to relent. On the first occasion, following a meeting with the 'Save Our Jetty' group in October 1976, the Busselton Shire Council confirmed that they would seek ownership of *Busselton Jetty* from the Public Works Department. The Shire believed that they were best equipped to manage future tourist growth and other potential business ventures.⁸⁶ The second threat of demolition occurred after 4 April 1978 when Cyclone Alby destroyed much of the oldest section of the jetty (the part of the jetty aligned with Queen Street). Although this could have signalled an end for the entire structure, it instead galvanised the local community into a massive clean-up effort. With the intention of rebuilding the damaged section, council trucks, privately owned cranes and hundreds of volunteers, including a women's committee that served teas and lunches, worked throughout the day to move the jetty timbers off the beach and to the council yards for storage. This community effort established the nucleus for a preservation society.⁸⁷ The loss of this portion of the jetty resulted in an aesthetic change with the originally straight jetty now having a bent or curved appearance.

In 1987, the Shire of Busselton surveyed its ratepayers regarding the future of *Busselton Jetty*. A resounding 90% of people surveyed considered that the restoration and protection of the jetty was the most important project for the Shire.⁸⁸ Consequently, that same year the Government, rather than demolish the remaining structure, allocated \$500,000 to the Shire of Busselton to stimulate the rebuilding of the jetty.⁸⁹ In October 1987, the 'Busselton Jetty Preservation Committee' was formed to raise funds to conserve the jetty and establish the infrastructure to make it economically viable. Since then, with the assistance of the State and Federal Government funding, it has successfully raised over \$4 million in donations and grants.⁹⁰ The Busselton Shire holds the licence for *Busselton Jetty* from the Western Australian Department of Transport. All major capital works contracts for the jetty are administered by the Shire in compliance with Local Government Act requirements.⁹¹

To provide an on-going source of funds for the jetty, a kiosk was built in December 1989 at the jetty entry point to facilitate the collection of an entry fee from people using the jetty between 9.00am and 9.00pm. The first major reconstruction of the jetty took place in 1990 at a cost of \$600,000. A further

84 ibid.

85 *WA Government Gazette*, 21 July 1972.

86 *Busselton-Margaret River Times*, 7 October 1976, p.3.

87 *Busselton Jetty News and Information*, February 2000, p.2.

88 'Busselton Jetty Underwater Observatory', Commonwealth Government Regional Solutions Programme Application, 2002, p.18.

89 Busselton Jetty Environment and Conservation Association, Letter to Hon. Dr G. I. Gallop MLA, 24 October 2001, p.1.

90 Busselton Jetty Environment and Conservation Association, op. cit., p.16.

91 Commonwealth Government Regional Solutions Programme Application, op. cit., p.30.

\$100,000 is still required each year for its on-going maintenance.⁹² In 1995, a jetty train service commenced operation on the jetty railway line that had previously been used to transport cargo. For a fee, the train service accommodates up to forty passengers per trip and takes passengers to the end of the jetty and back. The train service provides access for disabled persons and storage space for diving equipment. Its popularity over a five-year period has seen it travel 30,000km and transport 90,000 passengers.⁹³ Other facilities along the jetty, including lighting for evening use by recreational fishermen, fish cleaning bays, boat landings, shelters and access ladders for swimmers and divers, all contribute to the on-going use of the jetty for recreational purposes.⁹⁴ The extensive length of the jetty also contributes to its on-going viability for recreational use. An article in the *Busselton-Margaret River Times* on 12 October 2000 titled, 'Busselton Long Jetty Title is Safe' reports that *Busselton Jetty* is still the longest timber jetty in the Southern Hemisphere.⁹⁵

In December 1999, a fire damaged the Jetty despite the efforts of Shire emergency crews and volunteer fire-fighters to minimise the damage. As the last 150m of the jetty were now isolated because of the fire, proposed plans for the construction of a \$1 million underwater observatory at the jetty were at risk.⁹⁶ In February 2000, the 'Busselton Jetty Environment and Conservation Association Inc.' (formerly 'Busselton Jetty Preservation Committee'), now responsible for conserving and developing the Jetty, confirmed that the interpretative centre would still be built. The intention of the centre was to give visitors a sense of the history of the place and highlight the richness of the marine environment of Geographe Bay. It was proposed that the development would be reminiscent of previous structures that had been erected on the beach adjacent to the jetty for change-rooms, swimming clubs and scout buildings – all of which have since been demolished.⁹⁷ The interpretative centre was opened in January 2001 and the merchandise and jetty memorabilia that are sold at the centre provides a source of income for the 'Busselton Jetty Environment and Conservation Association Inc.'. Positioned as an entry and fee paying point for pedestrians and train travellers on the jetty, the interpretive centre has been able to calculate for the first time that more than 200,000 people visit the jetty each year.⁹⁸

Busselton Jetty has been valued by several generations of local residents. For example, the Bovell family have been involved in shipping and maintenance of the Jetty dating back to 1880. Today, Reg Bovell, who is now more than eighty years old, remembers rushing from school to the Jetty to fish for herring using any line available. From 1880 his uncles were shipping agents, then his father from 1901 and later his brother Stewart Bovell. The Hon. William Stewart Bovell (known as Stewart) was elected to the Legislative Assembly as the member for Sussex (later Vasse) on 7 June 1947. He was a Cabinet Minister and retired from parliament on 20 February 1971. Stewart Bovell then became the Agent General to London from March 1971 to March 1974, and on 12 June 1976, he was created a Knight Bachelor. Reg took over shipping duties from his brother Stewart in 1947. Reg Bovell's daily routine still includes a walk to the Jetty to feed the seagulls and he says that, 'If I'm not down at the jetty by five o'clock, a few of

92 *Busselton Jetty News and Information*, February 2000, p.1.

93 *Busselton Jetty News and Information*, February 2000, p.2.

94 Commonwealth Government Regional Solutions Programme Application, op. cit., p.30.

95 *Busselton-Margaret River Times*, 12 October 2000, p.6.

96 *West Australian*, 13 December, 1999, p.7.

97 *Busselton-Margaret River Times*, 10 February 2000, p.12-13.

98 *Western Fisheries*, Autumn 2001, p.17.

them come to my garden to hurry me up.’ One of Reg Bovell’s most treasured possessions is a plaque with the inscription, ‘In appreciation of services to Master Mariners calling at Busselton’.⁹⁹

The ‘Busselton Jetty Environment and Conservation Association Inc.’ has 70 financial members, all of whom are local residents.¹⁰⁰ This in itself provides some indication of the significance of the jetty to the local community. The management committee of this association meets on a monthly basis and comprises local volunteers including two Busselton Shire Councillors, the Shire Director of Technical Services and the General Manager of the Cape Naturaliste Tourism Association. The focus of their activities centre around guiding tourism and conservation activities on and around the jetty.

Tourism has become, in the latter decades of the 20th century, a major industry in the South-West region of Western Australia. In 2002, the focus of the jetty was on its viability as a tourist attraction and the proposed development of an underwater observatory at the sea end of the structure. A survey conducted by the ‘Busselton Jetty Environment and Conservation Association Inc’ in 1996 indicated that 42% of those surveyed supported the construction of the underwater observatory on the jetty. *Busselton Jetty* is already recognised as one of Western Australia’s premier scuba diving locations. The combination of the Leeuwin Current and the shade provided by the jetty structure has created a unique marine ecosystem.

There has been some disparity in measuring the length of the jetty over time. The current advertised total length of the jetty from the high water mark is 1841m. The difference between this and the 1911 measurement is probably due to significant accretion since the first section was constructed, and therefore measurements are no longer taken from the original start point.¹⁰¹

In March 2003, the Underwater Observatory planned for the end of the jetty was towed to the site from Jervoise Bay, where the superstructure had been fabricated on a barge. Construction of the observatory was a major engineering feat ‘utilising 17 tonnes of reinforced steel in each section and with cast concrete base and walls’.¹⁰² The observation chamber measured 9.5m in diameter, with eleven windows and was designed to accommodate up to 40 people at one time. The observatory was sunk 8m beneath the surface and anchored to the seabed using seventeen post stressed anchors which were drilled through steel casings into the seabed and then filled with concrete to ensure complete stability. The observatory, which was officially opened on 13 December 2003, cost \$3.6m.¹⁰³

In 2004, the Shire of Busselton engaged BG & E Consulting Engineers to conduct a structural assessment of *Busselton Jetty* as the structural integrity of particularly the Skeleton Jetty and the most northern (sea) end sections were reaching critical levels. The report was completed in March 2005, and by April the jetty train service was halted, although the jetty was still considered safe for pedestrian traffic. The report also stated that the northern end of the jetty was beyond repair. As part of the report, options for addressing the structural

99 *Busselton Jetty News and Information*, February 2000, p.3.

100 Commonwealth Government Regional Solutions Programme Application, op. cit., p.28.

101 Len Boyling, Executive Officer – Busselton Jetty Environment & Conservation Association (Inc.), e-mail to Clare Schulz, HCWA staff, 22 May 2003, on HCWA File 0423.

102 *Intersector Online* Vol 9, No. 25, 19 December 2000, p. 13.

103 Scourfield, Stephen ‘Boardwalk to the Future’ in *The West Australian Weekend Extra*, 15 March 2003, p.17.

problems of both these sections of *Busselton Jetty* were provided to the Shire of Busselton by BG & E for consideration.¹⁰⁴

In late 2006, a concept plan for the foreshore revitalisation was released for public comment. A working group consisting of members from the Busselton Shire, Department for Planning and Infrastructure, the South West Development Commission, Tourism WA and Landcorp was formed to guide the process which will look at sites on the Busselton foreshore that could be developed to finance the urgent and ongoing works to the jetty.¹⁰⁵

The issue of funding to conserve *Busselton Jetty* was the subject of election promises in the 2004 and 2008 State and 2007 Federal Government Elections. In 2009, a \$24m grant from the State Government (administered by the South West Development Commission) has been awarded to the Shire of Busselton for major rebuilding and restoration works at *Busselton Jetty*.¹⁰⁶

13. 2. PHYSICAL EVIDENCE

The physical evidence was compiled by students of the Research Institute for Cultural Heritage at Curtin University following a site inspection in May 2002. In response to some discrepancies in the measurements, the Heritage Council arranged for the jetty to be remeasured by Kevin Kealley, Construction Supervisor for the jetty, in July 2003. This second set of measurements is included at the end of the physical evidence.

Busselton Jetty, a predominantly timber jetty with a total length of approximately 1840m and a maximum width of 12m, is situated at the eastern end of Geographe Bay and has two distinct entry points from which it extends – Queen Street and Stanley Street. The jetty extension from Queen Street was the site of the original jetty built in 1865 and extended on a number of occasions in later years. The majority of this component of the jetty has been progressively buried by drift sands since its construction in 1865 and later demolished following Cyclone Alby in 1978. The 1911 built Viaduct extends from the road intersection of Stanley Street and Marine Terrace and connects with the main jetty structure at Pier 144. This 1911 extension is still extant and is the now the primary means of accessing the jetty.

The Viaduct railway line starts some way back from the shore, where there is a railway shed and siding. Remnants of the early jetty structure that originally extended from Queen Street are still extant and are visible in the waters of the inlet. These remnants are in the form of timber pylons which extend intermittently out from the beach some 18m. The starting point of the original jetty is generally recognised to be about 40m back from the low water mark.

To the east and west of the former Queen Street entry are other small jetties and pile remnants, including the swimming jetties. The foreshore park has open grassed areas with mature Moreton Bay Fig Trees, Norfolk Island Pines, and pedestrian pathways. The café area is central, which includes a single-storey kiosk, public changing rooms and public seating areas. Other elements in the foreshore include a memorial statue of Nicolas Baudin, and various items of street furniture. A car park and restaurant building is located to the east of the Jetty. A skate park is located immediately south the car park entry. The 'Nautical

104 BG & E Consulting Engineers, 'Busselton Jetty Structural Assessment Report', prepared for Shire of Busselton, March 2005.

105 Palassis Architectss, 'Busselton Jetty: draft conservation plan', Subiaco WA, March 2007, p 23.

106 Media clippings, HCWA file P00423; Shire of Busselton <http://www.busselton.wa.gov.au>

Lady' theme park is located to the west of the skate park, comprising mini golf, trampolines, racing cars and a waterslide incorporated into the distinctive tower at the northern extent of the site. These elements are not included in the proposed curtilage for *Busselton Jetty*.

The existing jetty is of standard timber pile, half caps, corbel beam and timber deck construction that was built in nine stages between 1865 and 1911. Reinforcement works have included the incorporation of concrete cover slabs over much of the remaining original decking timber. Some parts of the decking timber have been completely replaced by concrete slabs.

The current entry point of the jetty for public access is concrete and is 2m in width for a distance of 566m, until the jetty changes direction at Pier 144. The width of the jetty then expands to 4m for a distance of 943m, and again to 12m in width for the remaining length of the jetty (260m).¹⁰⁷ There is a metal balustrade along the western side of the length of the jetty. The jetty is also electrified with light poles featured at regular intervals. The electrical wiring of the jetty is estimated to have been completed in the 1960s.

There is a crane on the eastern side of the Jetty's entry point. This crane is a reconstruction of the c.1885 crane that was used at the jetty for lifting cargo. Continuing on, there is a building, also along the eastern side of the jetty, which accommodates a retail outlet, gallery, museum and interpretive centre dedicated to the jetty. This building is attached to the side of the jetty on its own timber pile foundations and is constructed from timber and zincalume. Externally, the building has the appearance of four attached rectangular sheds, of equal size and each with its own gabled roof. Fixed panels of glazing of varying shapes and sizes occupy the walls of the building.

The extant jetty, commencing from the end of Stanley Street, extends in a north by west direction for 566m and then changes direction to extend in a more northerly fashion for 1274m. The total length of the jetty is approximately 1840m. There is a 'bend' in the jetty structure that is situated where the Viaduct would have formed a junction with the original jetty at Pier 144. This section appears structurally sound with extensive sections of the jetty's top beams having been covered with concrete slabs. Timber beams that are exposed are well worn.

In 2005, a structural report indicated that the 1911 Viaduct section of the jetty was in poor condition and no longer structurally sound. The timber decking has rotted through under the train tracks for most of its length, making the cantilevered portion of the decking on both sides unstable. The stability of the decking currently relies on the concrete overlay spreading the load.¹⁰⁸

After the jetty junction, the condition of the structure deteriorates with the decking becoming increasingly worn, although it is still considered safe for public access.

At the jetty junction (Pier 144/145), there is a rotunda that is of timber construction with a galvanised iron roof, all of which is painted in a beige colour. The jetty becomes wider at this junction. Just up from the rotunda on the western side of the jetty are a series of memorial plaques commemorating local Busselton people who frequented the jetty or died at the jetty. Many of the plaques state

¹⁰⁷ Measurements determined from a drawing obtained from the Busselton Jetty Environment and Conservation Association Inc, titled, 'Busselton Jetty (not to scale)', 16/4/2002.

¹⁰⁸ BG & E Consulting Engineers, 'Busselton Jetty Structural Assessment Report', prepared for Shire of Busselton, March 2005, p. 8.

that ashes were cast from the jetty to the water, according to the wishes of the deceased. For example:

In loving memory of Louis Whidborne Lavater
1908 – 1997
Whose ashes were cast from this jetty on 6th March 1998
In Memory of Maurice Reddie Thompson
Born Busselton 1.1.28
Died 16.6.99
'His Favourite Spot'
From his loving family

The general construction of the Jetty is as follows (all dimensions approximate):¹⁰⁹

For the length of the Jetty, there are groups of six pylons spanning the width which are 450mm in diameter and located at 4.2m intervals along the jetty. Each pylon is over 12m in length, with roughly 4.5m buried into the sea bed.

Located at a height which corresponds roughly with high tide level, are two horizontal timbers (or walings) about 300mm by 150mm in section, fixed one each side of the section pylons by means of a single bolted connection which passes through both walings and the pylon between.

Positioned transversely and over the walings are cross braces, 300mm by 150mm in section and aligned above the horizontal. Each cross brace spans across the width of the six pylons, from directly below the longitudinal decking beams to a point immediately over the walings. Each cross beam is attached to the two pylons that it crosses with a single bolt. There is no evidence of cross bracing in the longitudinal direction.

To facilitate the loading of cargo, railway lines have been installed along the jetty structure. All sections of the railway line are extant and operational, although any other evidence of the railway function, such as switch points, has since been removed. At regular intervals are small, timber sidings covered by concrete slabs, presumably for people to move out of the way of the on-coming train. Some of these sidings have been made into fish scaling and cleaning stations and there are fixed plaques at some of these stations, which state that the local Busselton Rotary Club provided the finances to install these stations. The cleaning stations have water-taps and measuring facilities and are of metal and timber construction with a concrete floor. About half way along the jetty, on the eastern side is a lower level landing that is approximately 8m by 4m. The landing is accessed by a set of descending stairs from the main jetty. It is estimated that this landing was constructed during the 1960s.

Extensive sections of the jetty's top beams have been covered and/or replaced with concrete slabs, over which the railway line has been laid. Where timber beams are revealed, they are shown to be well worn and are most probably not original timbers. In fact, only 487m out of the total jetty length are of the original decking timber style. The decking timbers, 250mm wide and 80mm deep, are laid at right angles to, and fixed to the decking beams by means of iron spikes about 25mm long, with one spike at the end of each decking timber. The joints are

¹⁰⁹ All measurements and structural assessments were obtained through the examination of PWD Plan Number P08271-04-01, 1875; PWD Plan Number P03151-01-02, 1896; PWD Plan Number P14520-03-01, 1909; PWD Plan Number P14520-02-01, 1909; PWD Plan Number P14520-01-01, 1909; PWD Plan Number P08271-01-01, 1962.

staggered in some locations and aligned in others. Occasionally, to reduce bowing, two spikes are used at the ends of the decking timbers.

The sea end of the jetty is in poor condition and is fire damaged. There are a series of barricades and fencing to prevent entry onto this unstable and fire damaged section of the jetty-end. There are also warning signs advising of the dangerous nature of this part of the structure and that public access is restricted. The last 150m of the jetty cannot be accessed as the top decking of the previous 70m of the jetty has been destroyed, with only new, post-fire timber piles extant and visible, protruding from the sea bed. Makeshift timber bridges have been constructed, although the site is not stable enough for public access, with some timbers in a state of decay and no safety rails in place. The only fire hydrants along the jetty are situated at the interpretive centre at the jetty entrance.

Measurements as at July 2003, using the first transportable slab as 'zero':

- 65m 4m wide section
 - 569m 2.2m wide section
 - 86m From the junction where the direction changes, to the first section of concrete, with a width varying from 4m to 8m
 - 249m 4m wide concrete deck
 - 211m Timber deck
 - 413m Concrete deck
 - 133m 12m wide section to the centre of the Underwater Observatory; currently piled with partial decking, but will be 12m wide concrete decking once completed
 - 104m From the center of the Underwater Observatory to the end of the jetty, timber section in poor condition.
-
- 1830m Total length.
-

Allowing for some rounding of measurements in each section, and inaccuracies of measurement, an approximate length of between 1830-41 metres is considered accurate.

13.3. COMPARATIVE INFORMATION

During the period from 1832 to 1942, at least 80 timber jetty structures were built, modified, extended or replaced on the coast of Western Australia for the purposes of commercial shipping and handling. All of these structures were of a basic design and were generally constructed using Western Australian hardwoods. Of all these timber jetty structures that were built, only four of the structures still remain completely or substantially intact today. All of the other timber shipping jetties on the coast of Western Australia have been demolished. In a few cases, the entire structure has been destroyed, but in a lot of cases, small remnants of each structure are extant at the site.¹¹⁰

The remaining four timber jetty structures are *Bunbury Timber Jetty*, *Busselton Jetty*, the *Tanker Jetty* in Esperance and *One Mile Jetty* in Carnarvon. All four structures were originally built and used for transporting cargo from sea vessels

¹¹⁰ The Engineering Heritage Panel of the Western Australian Division of the Institute of Engineers Australia, 'Large Timber Structures in WA', 1998, p.4.6-1.

to the shore. The jetties at Bunbury, Busselton and Carnarvon have all undergone extensions on more than one occasion.¹¹¹

Bunbury Timber Jetty was the first to be constructed, in 1864, and at its peak (1950s) measured approximately 1386m.¹¹²

The jetty at Carnarvon, also known as the '*One Mile Jetty*', was constructed in 1886 and measured 1600m in length.¹¹³

The *Tanker Jetty* in Esperance was constructed significantly later, in 1935, and measured 1044m long.¹¹⁴

Of the four remaining jetties, none are being used for their original purpose. However, they represent the major type of maritime timber structure that was used for the transportation of cargo from sea vessels to the shore for the first hundred years or more of the development of Western Australia.¹¹⁵

A search for other significant timber jetties constructed in Australia and the Southern Hemisphere, revealed only one close to the length of *Busselton Jetty*: Port Germein Jetty, South Australia, constructed 1883. Although it also claims to be the longest timber jetty in the Southern Hemisphere in the relevant heritage listings and publicity material, it falls short of *Busselton Jetty*, measuring 1664m.¹¹⁶

13.4. KEY REFERENCES

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13.5. FURTHER RESEARCH

Oral histories of people who were involved in the operation and maintenance of the jetty and the associated port from 1865 to 1972 may reveal a better understanding of the social history of the place.

Preliminary investigations of early building and engineering journals, together with information provided in the structural assessment report (BG&E, 2005) revealed no special significance of the Jetty's structural engineering. However, an analysis of the original plans by a structural engineer may provide additional details on the engineering significance.

111 'Large Timber Structures in WA', p.4.6-1, 6007, 6009, 6011, 6018.

112 Cummings et al, op. cit., p. 24; HCWA Documentation 'Bunbury Timber Jetty', Place No. 3402

113 Cummings et al, pp. 39-40; HCWA Documentation 'One Mile Jetty, Carnarvon', Place No. 4566.

114 Cummings et al, op. cit., p. 12.

115 'Large Timber Structures in WA', op. cit., p.4.6-1.

116 Search of Port Germein Jetty on web, including Department for Environment and Heritage, South Australia; Australian Heritage Places Inventory [www.heritage.gov.au]; www.smh.com.au/news/South-Australia/Port-Germein; www.germeinps.sa.edu.au.