

Karaaf – Interpretive historical analysis – Draft October 2023, *post colonisation only.*

Note that the following document is a subset of a more detailed historical analysis incorporating Wadawurrung history. There are some redactions resulting in some text gaps. The Wadawurrung Traditional Owners Aboriginal Corporation has given approval for the release of this information.



Figure 14: G.F. Norton (Breamlea Landscape), 1890s, oil on canvas, showing the prominence of the sandhills between the wetlands (middle ground) and the sea (background). Source: Accession no. 1997.17, Geelong Gallery collection, gift of Jim and Libby Cousins, 1997.

6.0 Change related to arrival of Europeans

6.1 European Land Ownership: Grazing and Cultivation

While cattle and sheep grazing, and cultivation, formed a foundation for the prosperity of the Colony of Victoria following European colonisation, these pastoral pursuits, changed Wadawurrung Country forever. Dr Alexander Thomson (1800-1866) had been appointed as catechist to the Aborigines by the Port Phillip Association¹ but he had more success as a grazier than teaching the Wadawurrung the virtues of Christianity. He first established his station near Buckley's Falls, Fyansford, but by November 1837 he had relocated his headquarters to 'Kardinia' on the south bank of the Barwon River, opposite the where Geelong township was to be laid out.² Thomson's run, where he grazed both cattle and sheep, was officially known as Thomson's Cattle Station or Bream Creek and it was vast: it extended from the Barwon River almost to Spring Creek.³ Along the northern bank of the Thomson's Creek (which had been officially named after him) and its tributaries, G.D. Smythe applied Wadawurrung nomenclature to different locations. They included

.⁵ By 1856,
Thomson's station on Thomson's Creek held 3400 sheep.⁶

/South Beach Station

Other Runs were soon established. Closest to Point Impossible and the western portion of the Karaaf Wetlands, William Neal established a cattle and sheep station under licence in 1841.⁷ The 160acre (65 hectare) property was first named ' ' after Wadawurrung nomenclature (Figure 12), but by January 1852 it was officially known as 'South Beach' (this was the name also given to the sea foreshore in front of the Point Impossible dunes).⁸ There, Neal built a three-roomed cottage, wool shed and stock yard near a fresh water hole. He fenced a paddock with timber posts and rails and two other paddocks in Brushwood.⁹ He sold the pre-emptive claim (then amounting to 320 acres [130 hectares]) to Robert Zeally in 1853¹⁰ (Figure 40). Zeally had accrued over 2700 acres as part of his South Beach Station by 1860. There, he grazed 2682 sheep and 17 cattle but the licence to the South Beach Run was cancelled in 1869.¹¹

1 I. Wynd, *Barrabool: Land of the Magpie*, Barrabool Shire, Torquay, 1992, p.8.

2 *Ibid.*, pp.7-8.

3 R.V. Billis and A.S. Kenyon, *Pastoral Pioneers of Port Phillip*, 2nd edn., Stockland Press Pty Ltd, Melbourne, 1974, p.130.

4

6 *Geelong Advertiser and Intelligencer*, 19 June 1856, p.3.

7

8 See Smythe's map (Figure 12) and Neal, op.cit.

9 W.M. Housey, 'Robert Zealley of South Beach Station in the County of Grant Pre-emptive Claim 320 Acres', 15 November 1854, VPRS 5920, Packet no. 730, Public Record Office Victoria.

10 *Ibid.*

11 Schedule A, Return of Stock kept and depastured by Mr. Robert Zealley in the District of Grant', South Beach Station, Puebla, 12 March 1860, VPRS 5920, Packet no. 730, Public Record Office Victoria and Billis and Kenyon, op.cit.

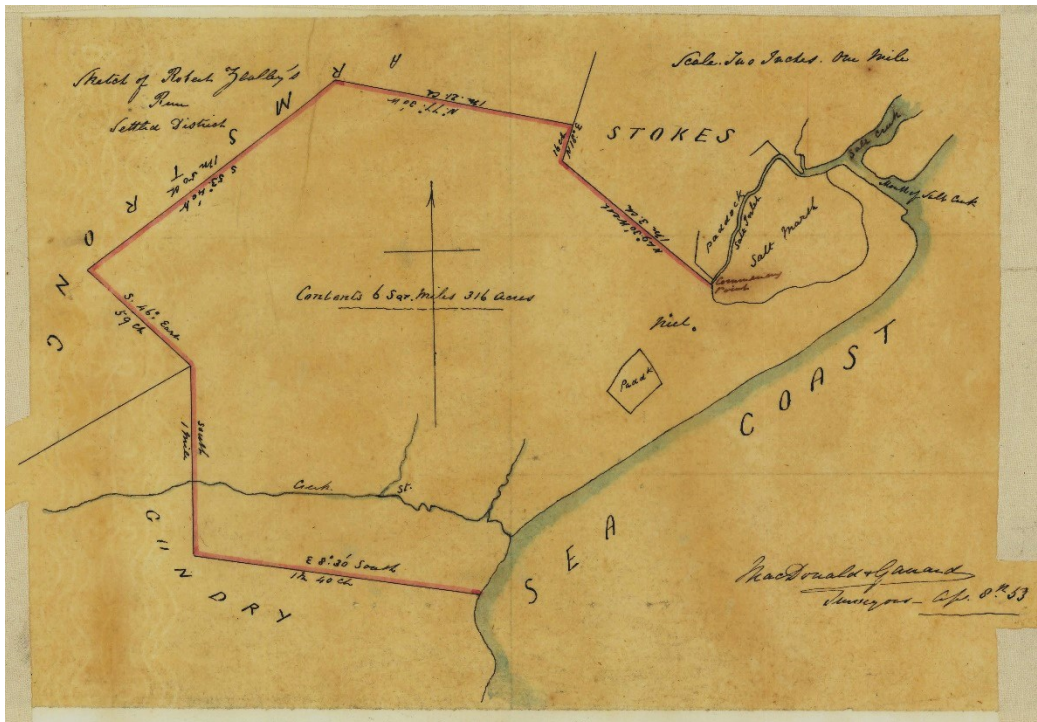


Figure 40: 'Sketch of Robert Zeally's Run (formerly Neal's Run), April 1853. Source: VPRS 8168/P0002, RUN 410, Public Record Office Victoria.

During the ensuing years, the station continued to function for grazing purposes. During World War Two from 1940, the farm property was occupied by the Australian Army for artillery training and practice, and surveillance from the concrete emplacement constructed on the west bank of Bream Creek near Point Impossible¹² (Figure 41). This was in response of the need to provide sufficient defence of Victoria's coastline and a defensive arc was prepared from Maryborough in Queensland to Portland in Victoria. Vickers machine guns were installed in the emplacement by the 23/21 Battalion.¹³

12 N. Tucker, 'Karaaf Wetlands', Angair Inc. online at <https://www.angair.org.au/2-uncategorised/970-karaaf-wetlands>

13 Rowe, *About Corayo, op.cit.*, pp.945-946.



Figure 41: Former concrete gun emplacement on the bank of Bream Creek, Point Impossible, May 2022. Source: David Rowe.

In 1993, the former South Beach Station comprising 126 hectares was proposed as a resort by Malaysian business Daio Hussain Yusuf of Golden Beach Pty. It was to include a five star hotel, 100 houses, hundreds of units, indoor sports complex, horse academy and polo ground and a golf course.¹⁴ The land was rezoned to allow the construction of the resort, residential area and golf course (the latter to encroach on the south-west corner of the Karaaf Wetlands).¹⁵ Excavation for the new estate had commenced by 2002 following the laying out of roads and subdivision of allotments earlier that year.¹⁶

Other Stations and Farm Properties

'Sport Hall', 'Salt Water Creek' and 'Beach' Stations

To the east of Neal's original South Beach Station (now the Torquay Sands residential and golf course development), John Stokes had established the Sport Hall Run in 1836.¹⁷ It was situated on the northern fringe of the Karaaf Wetlands, south of Thomson's Creek (Figure 42). This proposed and two adjacent allotments owned by Stokes were advertised for public auction in 1909.¹⁸ North of Thomson's Creek adjoining Stokes' Sport Hall Run was Elias and Silas Harding's Salt Creek Run that he took up in c.1840.¹⁹ Adjacent to Lake Murtnagurt, John Macvean took up Beach Station in 1848.²⁰

14 *Geelong Advertiser*, 18 November 1993.

15 *Ibid.*, 17 November 1993.

16 See Plan of Subdivision PS443140M in Certificate of Title vol. 11766, fol. 365 and aerial images, 2002, Surf Coast Shire collection.

17 Billis and Kenyon, *op.cit.*, p.126. See also Stoke or Sport Hall Pastoral Run No. 1194 Papers, 1859, VPRS 5920, Packet no. 1194, Public Record Office Victoria.

18 Messrs. Burns & Sparrow, Saltwater Creek, Puebla Parish, 'Plan of Valuable Farm Land, 22 May 1909, GRS 2032/32, Geelong Heritage Centre collection.

19 Billis and Kenyon, *op.cit.*, p.65.

20 *Ibid.*, p.94.



Figure 42: A.J. Skene, 'Plan of Preemptive Sections marked for Messrs. Macvean, Harding & Stokes', Parish of Conewarre Country of Grant, 11 July 1854. Source: Landata.

Crown Allotment 93 Parish of Puebla

The allotment now known as the Karaaf was not part of the first pastoral runs established in this area, possibly relating to being seen as less desirable agricultural land having been noted as salt water, scrub and salt marsh on the earlier plans listed above. However, in 1865 the land was alienated from the Crown and became the freehold of James Noble, Figure 42a and 42b. James Noble had large agricultural land holdings in Connewarre, Charlemont and Bream Creek districts. This land was used for agricultural purposes, grazing and some cropping, for more than 100 years.

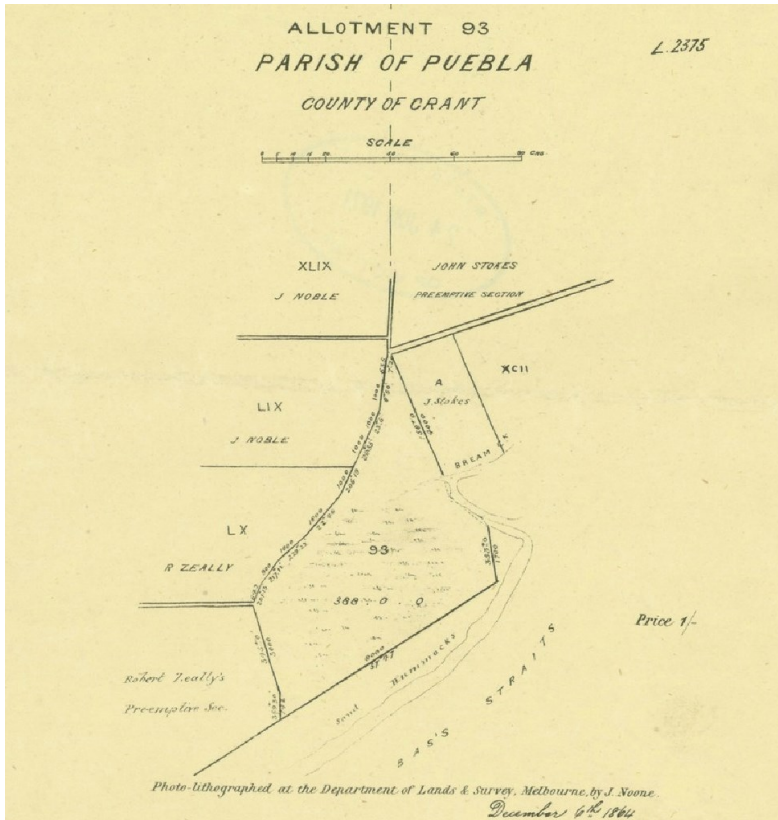


Figure 42a, Allotment 93, Parish of Puebla, County of Grant, Department of Lands & Survey, Melbourne by J. Noone, 1864, State Library record 9920376983607636



Figure 42b VPRS 8168/P0002, PROCP11; Puebla, extract Parish Puebla County of Grant 1878, Public Records Office

Cultivation

In addition to cattle and sheep grazing, Wadawurrung Country was cultivated with exotic crops. Much of the lowlands and marshlands Country of the Wadawurrung Balug was taken up by the Parishes of Connewarre and Puebla. In 1857, the Connewarre Parish boasted the production of 12,709 bushels of wheat, 496 bushels of barley, 2845 bushels of oats and 197 tons of potatoes.²¹ Meanwhile, the Puebla Parish produced 2050 bushels of wheat, 620 bushels of barley, 2608 bushels of oats and 66 tons of potatoes.²²

6.2 Effects of Grazing and Cultivation

European grazing and cultivation had devastating consequences on Wadawurrung flora and fauna, way of life and survival. The land had been re-visioned to meet European needs and demands. The impacts were significant and swift. The murrnong, which was dug up in great numbers by Wadawurrung women near Point Impossible and the Karaaf Wetlands,²³ was one of the first casualties. As early as February 1840, the Wadawurrung lamented that 'there were no Murrnong about Geelong. It was like P.P. [Port Phillip], all gone. The bulgany

21 *Agricultural and Livestock Statistics of the Colony of Victoria, for the Year Ending 31st March 1857*, Parliament of Victoria, Melbourne, 1857.

22 *Ibid.*

23 Malcolm, *op.cit.*

[cattle] and sheep eat it all.²⁴ This claim was later quashed by some Europeans in 1852 but this key staple in the Wadawurrung diet had been lost or greatly diminished.²⁵ Today, no indigenous Murnong grows in the Greater Geelong region.²⁶ Also likely to have been affected was the Karaaf Wetlands. In 1844 for example, John George Robertson in the Western District first noticed the degrading effects caused by imported hooved livestock with the disappearance of indigenous herbaceous plants and landslips beside creeks.²⁷ For over 100 years, livestock is likely to have had access to the wetlands and the indigenous plants may suffered as a consequence. In relation to Pigface for example, Beth Gott and John Conran in *Victorian Koorie Plants* state that it 'was once abundant on the northern plains of Victoria, but was destroyed by cattle and sheep.'²⁸

6.3 Wattle Barking

Wattle barking transformed the landscape of the lowlands of Wadawurrung Balug Country. It destroyed the 'grandfather' trees that held high cultural importance and nutritional value, and were a key part of the Wadawurrung economy where the gum and the jark were traded far and wide. Land was subsequently also cleared by farmers in order to cultivate and graze it. Farmers had considerable difficulties removing the wattles which 'grew too thickly and too fast' and ultimately the continual removal proved unsuccessful.²⁹ Instead, from the 1860s, it was found profitable to strip the trees for their bark.³⁰ This wattle bark product was much-needed and prized for the burgeoning tanneries in Geelong and further afield.³¹

In the Puebla and Connewarre Parishes near Point Impossible and the Karaaf Wetlands, for example, Sharp Brearley procured the prized Black Wattle bark from Andrew White's landholdings at Spring Creek (Torquay) in 1873.³² With his brother, John, Sharp Brearley operated the Australian Tannery on the Barwon River at Marshalltown (now Charlemont), the largest tannery in the southern hemisphere.³³ They paid the highest price for 'Best Black Wattle Bark' delivered to their tannery.³⁴ The following year in 1874, the wattle trees in the timber reserve at Spring Creek (now the Torquay township) had been stripped of their bark and most cut down.³⁵ Sharp Brearley claimed no responsibility for this devastation, agreeing with this critics that 'the beauty of the place has been in a great measure spoilt by this wholesale destruction of the trees.'³⁶

24 G. Presland (ed.), *Journals of G.A. Robinson January 1840 – March 1840: Extracts of manuscripts held in the Mitchell Library, Sydney, and published with their permission*, Records of the Victorian Archaeological Survey, no. 5, July 1977, p.46.

25 Rowe, *op.cit.*, p.37. Malcolm, *op.cit.*, corroborated the loss of the murrnong in 1845 declaring that that it had 'greatly diminished, from the grazing of sheep and cattle over the land, because I have not seen so many of the flowers of it in the spring as I used to see. It bears a beautiful yellow flower.'

26 *Ibid.*

27 D. Rowe, 'Djilang, Corayo and beyond: the Geelong region landscape and its European transformation' in D. Jones & P.B. Roos, *Geelong's Changing Landscape: Ecology, Development and Conservation*, CSIRO Publishing, Clayton South, 2019, p.108.

28 Gott, et.al., *op.cit.*, p.30.

29 E. Harvey, Minutes of Evidence in E.J. Dixon, J. Bosisto, M.L. King, G.R. Fincham, J. Rees, T. Cope & F. Von Mueller, *Report of the Wattle Bark Board of Inquiry*, Parliament of Victoria, Melbourne, 1878, p.20.

30 *Ibid.*

31 Rowe, *About Corayo, op.cit.*, p.407.

32 *Geelong Advertiser*, 25 September 1874, p.3.

33 Rowe, *op.cit.*, p.407, 492.

34 *Geelong Advertiser*, 15 January 1885, p.2.

35 *Ibid.*, 25 September 1874, p.3.

36 *Ibid.*

By 1879, 'nearly all the timber' (in addition to wattle barking) had been cut down and carted to Geelong for firewood. One correspondent bemoaned that 'looking north, south, east or west, you see a comparatively open country' from 'Barwon Heads, Bream Creek, or higher up the stream.'³⁷ This correspondent gave one of the earliest concerns of the potential climate change impacts of such a loss of trees:

The wholesale removal of trees may have had a very prejudicial influence on our rainfall; for the last four or five years the quantity of rain has been very limited in comparison to previous years. There is often a low barometer, and the clouds appear charged with rain, but none comes, and they pass away and discharge their contents along the ranges, on which a few trees have been spared by the woodman's axe.³⁸

6.4 Changes to the Point Impossible Dunes and Karaaf Wetlands and Bird Habitat

Change also occurred to the landscape of the sand dunes at Point Impossible. The traditional and regular layering of shells, stone, shellfish and other refuse, charcoal (from fires) and sand, and damage to coastal woodland vegetation by introduced livestock, brought about sand drifts and erosion. Ecological change was also caused by the other exotic animals as initiatives of the Victorian Acclimatisation Society, most notably by its member, Thomas Austin. He introduced wild rabbits to his property at Winchelsea in 1859.³⁹ They spread across Victoria and were ravaging the sandhills at Point Impossible by 1866.⁴⁰ On moonlit nights the rabbits 'were seen playing about on the open spaces among the scrub in dozens.'⁴¹ In 1882, an attempt to eradicate them with 600lbs [272 kg] of phosphorised oats and wheat at Bream Creek and Buckley's Well at Breamlea proved ineffective apart from poisoning the vegetation and the waterways.⁴² Still 'very thick' in numbers in 1913,⁴³ some population decline came a few years later following the application of poisonous gas.⁴⁴

The importation and liberation of foxes from England by Thomas Chirnside at Werribee Park in the early 1870s also impacted the Point Impossible and the Karaaf Wetlands. By 1881, they had reached as far as the Cape Otway Forest while closer to Bream Creek they were 'a great nuisance' to Andrew White's grazing interests.⁴⁵ By 1888, they were ravaging livestock in the Connewarre area.⁴⁶

Another threat was the killing of birds by humans. By 1862 there were 'shooting expeditions' to Bream Creek for ducks, but other birds including cranes, pigeons and other birds all met their fate by the gun.⁴⁷ In 1868, the *Geelong Advertiser* reported on 'a big gun' that had been 'frequently used for shooting the duck and teal that occasionally visit Bream Creek.'⁴⁸ Although laws were introduced to manage the loss of birdlife, in 1888 it was reported that 'sportsmen who desire to have as much real sport with gun and dog as possible during the approaching season complain that the law with regard to the close

37 *Ibid.*, 2 April 1879, p.2.

38 *Ibid.*

39 Rowe, *Djilang, Corayo and beyond*, *op.cit.*, p.108.

40 *Geelong Advertiser*, 8 August 1866, p.2.

41 *Ibid.*

42 *Ibid.*, 15 April 1882, p.4.

43 *Ibid.*, 4 January 1913, p.3.

44 *Ibid.*, 9 May 1917, p.3.

45 *Ibid.*, 15 June 1881, p.3.

46 *Australasian*, 7 April 1888, p.18.

47 *Geelong Advertiser*, 4 December 1862, p.3.

48 *Ibid.*, 11 May 1868, p.2.

season for duck, teal and other wild fowl continues to be disregarded.⁴⁹ It was bemoaned that 'the young fowl are killed before they are large enough to compensate for their carriage from the waters, whilst it is said that the destruction of nests of ducklings, etc., has already proved of a serious nature.'⁵⁰

Birds were also killed by the Victorian and Geelong Naturalists in the late 19th and early 20th centuries as part of an age of exploration and discovery where taxidermy was part of contributing to scientific knowledge and art.⁵¹ Along with other animal life, birds killed for 'taxidermy mounts were presented as objective facts' available for study in the natural history collections of the Naturalists Societies and in museums.⁵² In 1909, for example, the 'enthusiastic bird observer and photographer' shot a Pied Oyster Catcher 'close to the mouth of Bream Creek.'⁵³

The loss of indigenous coastal woodlands and scrublands, and the arrival of cattle, sheep, and rabbits and foxes and other introduced vermin, threatened the habitat of many of the birds at Point Impossible and the Karaaf Wetlands. Some species that are likely to have been prolific in this locality were rarely sighted by the turn of the 20th century. This included the Pied Oyster Catcher, a bird likely to be notable as part the cultural beliefs of the Wadawurrung. Charles Belcher in *The Birds of the District of Geelong* noted in 1914:

The magnificent stretch of sandy shore which runs with a few rocky interruptions from Port Philip Heads to Torquay makes, one would think, an ideal environment for this Oyster-catcher; yet, in spite of its abundance throughout the Straits Islands, I have only two instances to record of its occurrence on this part of the coast ... It is a bird of striking black and white plumage, with red bill, so that one is not likely to miss it on such an open shore, if it is there.⁵⁴

Transformation of the Point Impossible and Karaaf Wetlands landscape also came from the introduction of exotic plant species. By 1875, the sand drifts were noted as a concern.⁵⁵ Similar erosion was also experienced further east at Barwon Heads. There in 1902, 'maritime sand plants' were sought from the Director of the Melbourne Botanic Gardens, W.R. Guilfoyle to cover the sandy patches in the Barwon Heads Park and at the Bluff (Mt Colite).⁵⁶ By 1908, there was a call to vegetate the 'ever shifting, never resting, sand dunes away beyond the Barwon towards Bream Creek and Torquay.'⁵⁷ Described as 'prominent objects like immense camels' humps as seen from the Ocean Grove heights' marram grass (*Pasamma arenaria*) and native broad leaf tea tree (*Leptospermum loevigatum*) were strongly encouraged. Other 'sand staying plants of mostly creeping habit' were also encouraged, including New Zealand Spinach (*Tetragonia implexicoma*) and *Acrtotis*'

49 *Ibid.*, 22 October 1888, p.2.

50 *Ibid.*

51 H. Maiorano, 'The Victorian Naturalist and their Interest in Taxidermy', Historic Denver online, <https://mollybrown.org/victorian-naturalist-interest-taxidermy/>

52 E.L. Andrews, 'Interpreting Nature: Shifts in the Presentation and Display of Taxidermy in Contemporary Museums in Northern England, PhD, School of Fine Art, History of Art and Cultural Studies, The University of Leeds, November 2013, p.19.

53 *The Australasian*, 3 October 1914, p.41 and Belcher, *op.cit.*

54 *Ibid.*, pp.69-70.

55 *Geelong Advertiser*, 30 October 1875, p.3.

56 D. Rowe, *The Pleasure Grounds of the Barwon Coast: A History*, Barwon Coast Committee of Management Inc., 2005, p.71.

57 *Ibid.*

Argentea (a marigold-shaped flower with silvery leaves).⁵⁸ Marram grass was subsequently planted along the dunes between Barwon Heads and Torquay. In 1917, the *Geelong Advertiser* reported on an inspection of the marram grass plantations at Bream Creek.⁵⁹ Other plantings followed. In 1937, for example, the Bream Creek Recreation Reserve Trustees, made an application to the Department of Lands and Survey for a grant of £20 'to plant marram grass on some drifting areas of sand in the Reserve.'⁶⁰ Readily prone to fire, the dunes (at least between Barwon Heads and Bream Creek) were regularly damaged by fires throughout the early 20th century.⁶¹ Broad-leafed tea tree was also to be planted.

In 2001, G.W. Carr in a Weed Management Plan identified 133 weed species immediately west of the Karaaf Wetlands on the site known as the Torquay Sands Residential Lakes and Golf Course development.⁶² They included species in pasture, on imported fill to a former tip site, and revegetation areas that previously carried Moonah Woodland. Carr further found that:

Many of these weed species (especially annual grasses) are ubiquitous or very abundant are not amenable to control because of their abundance, cost consideration, or because they are integrated in remnant indigenous vegetation in situations where control with herbicide would adversely impact non-target (indigenous) species.⁶³

In July 2002, Doug Frood in an 'Environmental Assessment, Karaaf Wetlands', found that in addition to the 88 locally indigenous plant taxa recorded from the Karaaf Wetlands there were 91 introduced species.⁶⁴ The wetlands therefore hold a larger number of introduced plantings than indigenous species. Frood found that the 'great majority of the introduced species are restricted to the drier areas, fringing the saltmarsh system.'⁶⁵

58 *Geelong Advertiser*, 8 August 1908, p.10.

59 *Ibid.*, 26 November 1917, p.4.

60 R.E. Blythe, Hon. Secretary, to The Secretary, Department of Lands and Survey, 16 June 1937, VPRS 441/P01, 102, Public Record Office Victoria.

61 See for example, *Geelong Advertiser*, 20 May 1911, p.3, 2 April 1914, p.3, *The Argus*, 17 June 1935, p.3.

62 G.W. Carr, 'Torquay Sands residential lakes and Golf Course Weed Management Plan', draft, prepared for Robert Luxmoore Specialised Project and Management Services, August 2001, p.7, Surf Coast Shire collection.

63 *Ibid.*

64 Frood, op.cit., p.1.

65 *Ibid.*

6.5 European Transformative Effects on Bream/Thomson's Creek and the Wetlands

European colonisation brought with it changes to water flow, water composition and quality and to marine fauna and flora of Bream/Thomson's Creek through the construction of fords, bridges and roads; livestock grazing and cropping; and fishing and tourism. The creek provided a conduit for pollutants association with grazing and farming. Arsenic-based products were used to treat cattle tick and control sheep lice, contaminating soil and water.⁶⁶ Arsenic also had the potential to disrupt plant metabolism.⁶⁷ At Harding's Salt Water Creek Station in 1854, strychnine was used in an attempt to destroy wild dogs. It was placed in the carcasses of dead lambs around a water hole that had been sunk in 1844. This led to the contamination of the water and the fatal poisoning of livestock.⁶⁸ Other impacts on the traditional water composition and quality are likely to have been caused by ammonia (from livestock wastes and discharge outlets into the creek), introduced parasites and diseases, and changes to water salinity, temperature and gas compositions.⁶⁹ Today, one of the more significant threats to the ecology of the wetlands is climate change. In 2008, the Victorian Coastal Strategy identified the need to 'plan for sea-level rise of not less than 0.8 metres by 2100.'⁷⁰

Creek Crossings, Roads and Drainage

By 1855, a ford (known as Stokes' Ford) had been constructed on Bream Creek, immediately north of 'Buckley's Well' at Breamlea.⁷¹ Another, known as 'Rocky Ford' had been erected further inland at the southern boundary of Fulton and Co. Lot B, Section XXIV in the Parish of Connewarre (east of the Surf Coast Highway today).⁷² Between these fords another followed over Thomson's Creek near the south-east corner of James Stevenson's Lot D of Section XXIV in the Parish of Connewarre (south of the exiting culvert over the Horseshoe Bend Road). This ford was illustrated in an oil painting attributed to the surveyor, F.E. Gilbert in 1865 (Figure 43).

66 D. Sarkar, M. Konstantinos, M. Parra-Noonan & D. Rupali, 'Effect of soil properties on arsenic fractionation and bioaccessibility in cattle and sheep dipping vat sites', *Environment International*, vol. 33, no.2, February 2007, p.164.

67 P.M. Finnegan and W. Chen, 'Arsenic Toxicity: The Effects on Plant Metabolism', *Frontiers in Physiology*, vol.3, article 182, 2012, p.1 stated that while plants evolved with arsenic content (possibly given that it is chemically similar to phosphorous, an essential plant nutrient), inorganic arsenic disrupts plant metabolism.

68 *Geelong Advertiser and Intelligencer*, 14 July 1854, p.4.

69 These latter impacts were given in relation to the environmental tolerances of eels in McKinnon, op.cit., pp. 21-24.

70 Coastal Planning Fact Sheet: Managing Coastal Hazards and the Coastal Impacts of Climate Change, Department of Sustainability and Environment, 2008.

71 A.J. Skene, Subdivision of Sections 11, 12, 13, 19, 20, 26, 27, 27, 28 in the Parish of Conewarre, County of Grant part 3, 22 October 1855, Surf Coast Shire collection.

72 G.A. Windsor, Plan of Barrarbool, Conewarre, Duneed, Gherang Gherang, Modewarre, 8 February 1855, VPRS 8168/P0002, Roll 15, Public Record Office Victoria.



Figure 43: F.E. Gilbert (attrib.), 'Crossing place, Bream Creek, near Geelong', 1865, oil on canvas. Source: Accession no. 000.52, Geelong Gallery collection, Acquired.

One of the earliest roads to traverse the wetlands on the north and west banks of the Bream Creek had been erected by 1859. Known as Blackgate Road today (eastern-most portion), it gave access to four allotments that had been created between the north bank of the creek and Stokes' Sport Hall (or Salt Water Creek) Station.⁷³

The need for additional freshwater in 1869 brought about a proposal for the construction of a breakwater over Bream Creek in the Conewarre Parish section. This proposal met considerable criticism and resistance, as outlined by one objector in the *Geelong Advertiser*:

If the reason assigned by the instigators of this arbitrary design of closing the creek was a genuine one, there might be some cause for so doing; but some people, when they acquire property hardly know how to conduct themselves from shellfish impulses, which renders them in a state of torture and misery whenever they see strangers on their property. It is an established fact that all the settlers who have taken the akin to store the rain-water in lagoons, on the banks of the creek, have an abundant and steady supply throughout the year, so that the endeavour to dam up the creek and put an end to the amusement of our piscatorial friends, in one of the finest and most romantic spots in the district, proceeds more from that narrow-minded jealousy which actuates some men than from any other case.⁷⁴

This breakwater did not eventuate.

By 1872, a track had been created over the wetlands at Breamlea in order to provide access for anglers and tourists. This was to provide access to a site that had been temporarily reserved behind the Breamlea dunes and adjacent to the east bank of Bream Creek in 1871 for recreation purposes.⁷⁵ Known as Picnic Point, an additional 280 acres was reserved for

73 F.E. Gilbert, Plan of Subdivision of Section XCII Parish of Puebla, County of Grant, 28 February 1859, put-away plan P94/001, Landata, op.cit.

74 *Geelong Advertiser*, 22 April 1869, p.3.

75 *Victoria Government Gazette*, 9 February 1872, p.333.

recreation purposes in 1872.⁷⁶ One of the early large picnics that followed the opening of the road and the recreation reserve was by the staff of Brearley Brothers in 1872 to celebrate the 20th anniversary of the firm (Figure 44). The Brearley Brothers were well acquainted with the area given it provided bark from the wattles for their burgeoning tannery at Marshalltown.



Figure 44: 'Brearley Brothers' Picnic, Bream Creek, 1 October 1872.

Source: GRS 2009/01240, Geelong Heritage Centre collection.

By February 1875, agitation for a 'new road' as a replacement of the original track led to a 'meeting of Gentleman' being arranged by F. Vile, honorary secretary at the office of Messrs Brearley Brothers.⁷⁷ Neighbouring farmer, E.L. Vagg protested against the formed 'of a raised road across the swamp at Picnic, Bream Creek' because 'it would dam back the water on his land.'⁷⁸ Nevertheless, a few months later, Sharpe Brearley forwarded a cheque of £100 for the new road.⁷⁹ The new road was completed by January 1876.⁸⁰ Constant repairs to the road were required in the ensuing years due to it being damaged by tidal and floodwaters.⁸¹ As early as 1878 the South Barwon Council organised '14 chains of drain made to allow the back water to escape to the creek on the high tides subsiding.'⁸²

By 1909, a bridge was proposed over the creek at the south end of Dans Road to cater for the increasing number of tourists. This proposal also appears not to have transpired but in 1911 it was decided to construct a bridge over the Bream (Thomson's) Creek on the Torquay Road.⁸³ Built in concrete as a culvert bridge, it neared completion in February 1912 and was anticipated to 'prove a boon to travellers to Torquay.'⁸⁴

76 *Ibid.* Camping later become popular amongst the trees at near the recreation reserve and in 1941 the area was surveyed and proclaimed the town of Breamlea. See Rowe, *op.cit.*, p.801.

77 *Geelong Advertiser*, 2 February 1875, p.3.

78 *Ibid.*, 16 March 1875, p.3.

79 *Ibid.*, 13 April 1875, p.4.

80 *Ibid.*, 11 January 1876, p.4.

81 See for example, *Geelong Advertiser*, 6 May 1882, p.3, 7 May 1885, p.4, 6 April 1889, p.4.

82 *Ibid.*, 7 March 1876, p.4.

83 *Ibid.*, 12 October 1911, p.3.

84 *Ibid.*, 26 February 1912, p.2.

By 1914, there were at least six fords over Bream/Thomson's Creek from the creek mouth at Bass Strait to Moriac.⁸⁵ Between 1910 and 1925, a track was created between Blackgate Road and Mullet Creek⁸⁶ (Figures 45-46). This track ultimately led to Point Impossible and became known as Bream Punt Road.⁸⁷ The name of the road implies that vehicular access to Point Impossible was by a punt. However, it is more likely that a ford had been constructed near the mouth of Mullet Creek. This ford may have been submerged during high tide water inundation to the wetlands. A causeway was also shown on maps in 1954 and 1956, but not specifically annotated as a 'ford' until 1956 (see Figures 47-48). It is likely to have been at this time when the new causeway was constructed as it was shown on an aerial image in 1957.⁸⁸ This causeway included a 750 mm diameter pipe to provide water flow from Bream Creek to the wetlands⁸⁹ (Figure 49). Another access track through the wetlands had also been constructed between 1954 and 1956 (Figures 47-48). It was laid out as an arc to the west of the then existing track and ford. In 1968, the South Barwon Shire Council became the proprietors of a narrow portion of land to the east and south of the Karaaf Wetlands.⁹⁰ It appears to have been about this time when the former track from Blackgate Road was realigned, straightened and formalised into the existing Point Impossible Road. It was graded in 1984.⁹¹

Additional access to Point Impossible was also created between 1954 and 1956 from the south-west (Figures 47-48). Known as The Esplanade, traversed the low-lying land between the dunes complex and the wetlands (this track was improved in 1985 to provide better access to the optional dress beach adjacent to the Point Impossible dunes).⁹² The junction of Bream Punt Road and The Esplanade was gazetted Kerger Reserve in 1970.⁹³ It was named after the Kerger family, including August Kerger, who occupied (and later owned) a farm on the north bank of Bream Creek (opposite Breamlea) from 1892-93.⁹⁴ The projecting elevated land on the west side of the Bream Creek mouth was named Point Impossible in 1971, the name deriving from the fact that surfers found access to this locality difficult.⁹⁵ By 1973, Kerger Reserve had been formalised into a large round about (Figure 50). A car park and toilet block were constructed at Point Impossible mainly to cater for the Optional Dress beach goers in 1984.⁹⁶

85 Plan of Anglesea, Victoria, South J 55 M-I, prepared by Commonwealth Section, Imperial General Staff, 1915 (surveyed 1910), State Library of Victoria.

86 Ibid. and Plan of Victoria, Anglesea, prepared by the Australian Section, Imperial General Staff, 1928, State Library of Victoria.

87 The name of the road was given in the *Victoria Government Gazette*, 23 December 1970, p.3985.

88 'Anglesea B2 or 866 B2, Zone 7', Aerial Survey of Victoria, Department of Lands and Survey, Central Plan Office, 8 March 1957, Landata.

89 Ibid. and Plan of Anglesea, Victoria, 1956, Royal Australian Survey Corps, Australian Army, State Library of Victoria and Photo-Map Anglesea B2, Zone 7, Department of Lands and Survey, Aerial Survey of Victoria, 8 March 1957, Surf Coast Shire collection.

90 Certificate of Title, vol. 8833, fol. 981, Surf Coast Shire collection.

91 See City of South Barwon Minutes, 1984 in Reserves file, Point Impossible, City of South Barwon RES/52/02/02, Surf Coast Shire collection record no. D22/91662.

92 L.H. Miller, City of South Barwon Engineer to R, Stone, Dept of Conservation, Forests & Lands, 7 Feb 1986, Reserves file, op.cit.

93 *Victoria Government Gazette*, 23 December 1970, p.3985.

94 See Plan of Valuable Farm Land, 22 May 1909, Geelong Heritage Centre collection, which showed the Miss Noble as owners.

95 South Barwon Shire Minutes, 31 Apr 1971, p.281, Geelong Heritage Centre collection, and 'Point Impossible', VicNames – The Register of Geographic Names online at <https://maps.land.vic.gov.au/lasi/VicnamesUI.jsp> This was contrary to the view of the Hydrographer of the Royal Australian Navy who deemed the name 'Point Impossible' inappropriate for a coastal feature.'

96 R. Mackenzie, MLC to David Henshaw, Member for Geelong Province, 17 Jan 1984, Reserves file, op.cit.



Figure 45: 'Anglesea, South J 55 M-I Southern Half, Victoria', (part) June 1915 (surveyed 1910). Source: Commonwealth Section, Imperial General Staff, Melbourne, State Library of Victoria.

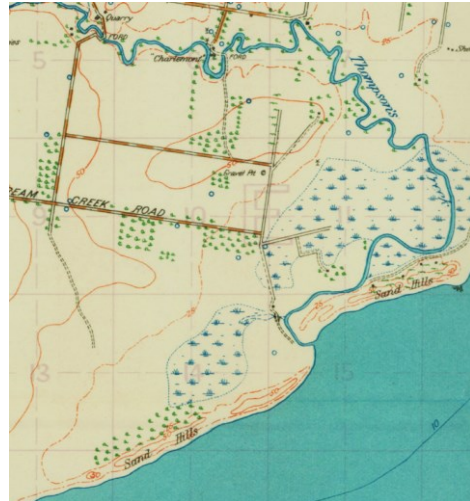


Figure 46: 'Anglesea, Victoria', (part) November 1928 (surveyed 1925). Source: Australian Section Imperial Staff, Melbourne, State Library of Victoria.



Figure 47: 'Anglesea Victoria' (part), 1954. Source: Australian Section Imperial General Staff, Melbourne, Surf Coast Shire collection.



Figure 48: 'Anglesea Victoria' (part), 1956. Source: Royal Australian Survey Corps, State Library of Victoria.



Figure 49: Former Causeway over Mullet Creek before 2004.
Source: Surf Coast Shire collection.



Figure 50: Aerial image showing the large roundabout known as Kerger Reserve, 1973.
Source: Aerial image 2728, Landata, State of Victoria (CC-BY-NC 4.0).

The construction of the fords, causeways and raised roads changed the natural water flow of the creek, and hindered the traditional migration of eels and fish upstream. More particularly in relation to the Karaaf Wetlands, the construction of the ford over Mullet Creek possibly as early as 1928 restricted the amount of water entering and leaving the wetlands.⁹⁷ In 1998, Eric Bird, Environmental Adviser, prepared a report entitled 'Geomorphology and Management Issues on the coast at Breamlea'. He gave the following implications and solutions:

The salt marsh in the western basin [Karaaf Wetlands] has become a relatively dry scrubland, subject to inundation only by rainwater and seepage from the dunes, notably after periods of very wet weather. Its status as a high tide salt marsh development in a former estuarine lagoon has consequently been modified, the natural wetlands conditions persisting only in the vicinity of the tidal creeks. The situation may have been complicated by the inflow of polluted water from the municipal tip that existed near the western end, a tip that has been closed and is now partly covered by sand. In retrospect, the building of a causeway road and the confining of tidal inflow and outflow through a small pipe have proved unfavourable ecologically for the western basin salt marsh, and the restoration of pre-existing tidal ventilation is necessary to restore natural wetland inundation and drainage cycles. This could be achieved by inserting more (and larger) pipes to allow tidal inflow beneath the causeway, or replacing part of the causeway by a bridge. The measurements on a high spring tide (7th December 1998) indicated only very limited tidal inflow, and a very substantial increase in the cross-sectional area of the entry to the western basin will be necessary to restore natural tidal ventilation in the creeks and marshes.⁹⁸

97 Bird (Geostudies), 'Geomorphology and Management Issues on the coast at Breamlea', op.cit.

98 Ibid., p.2.

A report in 2001 entitled 'Flora and Fauna Assessment and Environmental management Plan for Torquay Sands Residential Lakes and Golf Course Development, Torquay' reinforced Bird's findings that the limited inundation of the wetlands had negatively impacted fauna and flora. It found that:

Generally, the fauna habitat in the study area is of poor quality, with limited areas of remnant vegetation that are substantially degraded. Edge effects from the former tip site, pest animals (rabbits, foxes), weed invasions and human impacts have contributed to diminished habitat quality.⁹⁹

Like Bird's conclusions, this report recommended the reinstatement of the traditional hydrological regime (tidal flooding) by the removal of the causeway over Mullet Creek.¹⁰⁰

In 2003, hydraulic analysis of the tidal flow in the Karaaf Wetlands from Mullet Creek was carried out by Water Technology. The conclusions of this report affirmed the significant reduction in tidal flows and inundation extents as identified in earlier reports. The hydraulic analysis suggested the replacement of the culvert (causeway) with either two or four 1.8 x 1.5 RCBCs in an effort to provide a significant improvement in hydrological conditions.¹⁰¹

In late 2004, the causeway at Mullet Creek was replaced with a reinforced concrete bridge comprising three large culverts (Figure 51). Financial contributions for its constructed included \$105,000 from the Corangamite Catchment Management Authority (CCMA) and \$15,000 from Barwon Water.¹⁰²



Figure 51: Causeway with four new culverts, Point Impossible Road, Mullet Creek.
Source: Surf Coast Shire.

It appears that drainage from the neighbouring residential estate has impacted the ecology of the wetlands. In July 2022, Doug Frood found increased levels of water inundation from stormwater inputs from the western end of the Karaaf Wetlands. He further stated:

Observations suggested that there is potential for drainage from this area into the upper extensions of the Mullet Creek system, indicating the potential for an interaction between stormwater inputs and backflow up Mullet Creek.

99 Carr, et.al., op.cit., p.1.

100 Ibid., p.3.

101 Water Technology Pty Ltd, 'Thompsons Creek Wetland Investigation', prepared for the Surf Coast Shire, September 2003, p.9, Surf Coast Shire collection.

102 Undated illustrated typescript provided by, Surf Coast Shire, May 2022.

Consequently as well as developing a lens of fresh to hyposaline water under the relevant part of the saltmarsh and allied vegetation, the stormwater inputs may be flushing salt out of the system, compounding ecological change.¹⁰³

Fish Netting

Soon after European colonisation, Bream Creek was a regular attraction for anglers. In 1864, it was described as 'a far fishing stream' and a 'piscatorial attraction.'¹⁰⁴ So good was the catch of bream that by 1866 it was 'suggested that a handicap fishing match should be held.'¹⁰⁵ This was organised by the newly-formed Geelong Anglers' Protection Society whose aims were the promotion of fellowship between anglers, provision of sporting contests and the protection of fish from netting.¹⁰⁶ Yet, by this time the creek had been exploited by some anglers using fish nets. This led to an extension of the 11th Clause of the Fisheries Act in 1864 to include the Barwon River (excluding Lake Connewarre), Spring Creek and Bream Creek.¹⁰⁷ Further illegal netting continued from the 1870s until at least the 1920s. Excellent hauls were taken at times of high fish prices which led to a profitable trade by the poachers.¹⁰⁸

103 Frood, op.cit., p.39.

104 *Australasian*, 10 December 1864, p.4.

105 *Bell's Life in Victoria and Sporting Chronicle*, 12 May 1866, p.4.

106 Ibid. and D. Tout-Smith, 'Victorian Anglers Club, Melbourne, Victoria, Museums Victoria online, <https://collections.museumsvictoria.com.au/articles/2519>

107 *Victoria Government Gazette*, 9 January 1863, p.65.

108 *Geelong Advertiser*, 13 January 1873, p.3, 17 February 1903, p.4, 10 June 1912, p.4, 22 September 1920, p.3 and *Argus*, 5 November 1875, p.7.

Bream Creek Weir

During the early 20th century (and before 1920), Dugald McIntyre, then owner of 'Charlemont', constructed an earth and stone embankment punctuated by a pipe at the mouth of Bream Creek to represent water inundating his property into 'Zeally's Swamp'.¹⁰⁹ This was the first substantial realised embankment since the proposed breakwater of 1869.

In 1948, as a consequence of the Puebla and Connewarre Districts having been further developed as farmland with sown crops (and the removal of many of the trees) and reduced rainfall, a spillway was proposed by local landowners adjoining Bream Creek in order to obtain water for stock and irrigation.¹¹⁰ Five years later, A.D. Randle and others proposed a weir for 'the lower part of the Creek on its frontage to Salt Water Creek P.R., Section XXVI, Parish of Connewarre'¹¹¹ (Figures 52-53). Work was carried out on the rock and earth weir at Randle's property in 1954, having been approved by the State Rivers and Water Supply Commission (SRWSC).¹¹² The SRWSC declared that the construction was 'quite satisfactory and already those concerned have obtained some benefit - for stock and irrigation - from the supply of water headed up by the weir.'¹¹³ Twin 24 inch (609.6 mm) diameter concrete pipes were installed, along with a concrete and rock core wall 2'6" (720 mm) deep below crest level through the centre of embankment. The weir bank was extended across the 'scoured channel to the high ground with a pugged clay core wall trenched 3 feet (914 mm) into the solid ground and 3 feet (914 mm) wide over which the main bank could be built.'¹¹⁴ The downstream side of the bank acted as a spillway during high flow periods in the creek.¹¹⁵ In 1957, R.T. Squire of the Farm Water Supplies Branch of the State Rivers and Water Supply Commission declared the success of the weir in that 'both pastures and lucerne have been irrigated from the water in the creek without any harmful result and there was a small discharge passing through the pipes from the creek to sea at date of inspection.'¹¹⁶

109 'Proposed Concrete Spillway over Bream Creek', undated report in Watercourse Bream Creek (Thompsons Creek) file, VPRS 6008/P2/360, Public Record Office Victoria.

110 Ibid.

111 A. Randell, 'Cross Section of Bream Creek', sketch drawing, 1953, Watercourse Bream Creek (Thompsons Creek) file, op.cit.

112 R.T. Squire, Farm Water Supplies Branch, River and Water Supply Commission, Memorandum for H.E. Harding, Senior Division Engineer, Re: Weir across Bream Creek at Connewarre, 11 July 1957, Watercourse Bream Creek (Thompsons Creek) file, op.cit.

113 Ibid.

114 Ibid.

115 Ibid.

116 Ibid.



Figure 52: Weir at Bream Creek, south of the former Salt Water Creek Pre-emptive Section 26. Source: MapshareVic online, Department of Environment, Land, Water and Planning (CC-BY-NC 4.0).



Figure 53: Aerial imaging showing the location of the weir on Thomson's Creek. Source: MapshareVic online, Department of Environment, Land, Water and Planning (CC-BY-NC 4.0).

Not everyone agreed with Squire's analysis. In 1960, Dennis Ryan, a recently retired Public Servant, Senior Justice, and Fisheries and Game Inspector at Geelong, wrote a damning letter to the SRWSC entitled 'Wilful Obstruction of an Inland Tidal Stream by means of an Unofficial Weir and, the resultant pollution [sic.] of the water and fish so entrapped upstream from such Weir.' Details of Ryan's tirade included the following:

The Stream in question is "Bream Creek" or "Thompson's Creek" which rises between Mt Duneed and the Vicinity of Mt. Moriac, and after a course of several miles flows into Bass Strait at the Seaside Resort of "Breamlea" about midway between Torquay and Barwon Heads.

This stretch of water affected by Tidal Waters reached upstream for about 3 miles or so and, has for many long years been proved the best Bream producing water in South-Western Victoria, until, it is understood a move some little time ago was made ... and assisted by the members of the South Barwon Shire Council to construct a weir made from tons of Blue Stone Boulders ...

... All Tidal water is completely prevented from moving past the weir to become stagnant and putrid. Two small concrete through-pipes were built into the side of the Weir but, these have been always closed with large Steel Plates bolted over the mouths of the pipes. A further layer of concrete has been placed over the top of the lowest side of the weir and extended over the stretch [sic.] of same to prevent any flood waters passing down stream.

... Pastures and cultivated Rape have died as a result of the very recent pumping of the stagnant water.

During the past fortnight the High Seas in Bass Strait have pushed the High Tides upstream and raised the water level to within 1 ft of the Weir level and as a result has caused the wholesale flooding of low lying paddocks on both sides of the stream for about the width of 1 ½ miles right down to the "Breamlea" Resort which has been partly flooded, and, only saved from complete isolation by most of the houses being built on the higher slopes of the Sand Dunes there.

... By the presence of this Weir Bream cannot reach the upper stretches of the Stream which are most ideal for their Spawning in water of Low Salinity.

The distance or area for angling of Bream has been reduced by $\frac{2}{3}$ of the original water in the Stream.

... The Weir is similar to those recently blown out and removed by the Commission on the Werribee River and later in the Warrnambool District. My opinion and of all users of the stream is that this Weir at Geelong should meet the same fate and, those responsible for its construction be dealt with.¹¹⁷

By 1976, a concrete and brick addition to the weir as a diversion for water flow as part of an elver trap was subsequently constructed by Eels Pty Ltd.¹¹⁸ These additions deviated from the approved design by the SRWCS given that the eel trap gave 'no provision for providing

117 Dennis Ryan, J.P., to The Secretary, State Rivers and Water Supply Commission, 28 April 1960, Watercourse Bream Creek (Thompsons Creek) file, op.cit.

118 See R. Pietsch, Diagrammatic Representation of Weir on Bream Creek', Fisheries and Wildlife Officer, Geelong, 29 March 1977, Watercourse Bream Creek (Thompsons Creek) file, op.cit.

compensation flows downstream.¹¹⁹ In early 1978, The Fisheries and Wildlife Division, Geelong, conducted a netting survey in the creek. Ultimately, the survey indicated 'the vast change in the creek from 20 years ago' and it was suggested that 'the poor fish catch with the nets supports the Divisions [sic.] view that we need not take an active role in attempting to remove the weir, at the present time at least.'¹²⁰

These conclusions failed to account for the barrier that the weir created in relation to the migration and movement of eels and fish. Protections for ensuring the passage of aquatic biota came through different legislated Acts in 1987 (Conservation, Forests and Lands Act), 1995 (Fisheries Act), 1998 (Flora and Fauna Guarantee Act) and in 1999 (Water Act).¹²¹ The artificial physical barrier comprising the weir on Bream Creek was identified as excluding diadromous native fish species from the estuary.¹²² In 2000, a rockramp fishway was constructed around the northern end of the weir.¹²³ Vertical slots were also introduced at the culverts on Horseshoe Bend Road (Figure 54) (which had replaced the ford in this locality by 1865 – see Figure 43) and Ghazeporre Road.¹²⁴ Both the rockramp and vertical slots were introduced in an effort to allow fish to gain pass around these barriers. In late 2000, qualitative fish surveys (with an emphasis on migratory fish species and the threatened Yarra pigmy perch *Edelia obscura*) were conducted. The results of the fish surveys were produced in a report in 2001 by Brenton Zampatti entitled 'Distribution of Yarra Pigmy Perch in the Thompsons Creek Catchment and Preliminary Assessment of a Rockramp Fishway' which found that:

Fifteen species of fish were collected during netting and electrofishing surveys of the Thompsons Creek catchment. Four of the species collected were diadromous (i.e. migrate between fresh and saltwater during their lifecycle) and six species were estuarine/marine species that are unlikely to enter freshwater. One of the native freshwater fish species collected is classified as threatened in Victoria, namely the Yarra pigmy perch (*Edelia obscura*). One introduced exotic species was also collected, namely the eastern gambusia (*Gambusia holbrooki*).

The lack of flow through the fishway resulted in only a partial assessment of the effectiveness of fishway in providing passage for diadromous fish species in Thompsons Creek. Nevertheless, the surveys did indicate that juvenile common galaxias and shortfinned eels were utilising the fishway at flows as low as 1 ML/d. Juvenile tupong were collected immediately downstream of the fishway thus indicating that this species may utilise the fishway given suitable flows. The key upstream migratory period for tupong, however, is October to February (Koehn and O'Connor 1990) which coincides with the period when Thompsons Creek ceases to flow. Consequently the weir at Connewarre may remain a substantial barrier to the movement of tupong.¹²⁵

-
- 119 P. Rogan, Senior Research Officer to The Secretary, Fisheries and Wildlife Division, 2 June 1976, Watercourse Bream Creek (Thompsons Creek) file, op.cit.
- 120 R.E. Pietsch, Fishers & Wildlife Officer, Geelong, to S. McCormack, Secretary, Commercial Fishers Section, 3 Feb 1978, Watercourse Bream Creek (Thompsons Creek) file, op.cit.
- 121 B. Zampatti, 'Distribution of Yarra Pigmy Perch in the Thompsons Creek Catchment and Preliminary Assessment of a Rockramp Fishway', produced for Corangamite Catchment Management Authority, July 2001, p.1.
- 122 Ibid.
- 123 Ibid.
- 124 Zampatti, op.cit.
- 125 Ibid., p.iii.



Figure 54: Culvert over Thomson's Creek, Horseshoe Bend Road, April 2022.

Source: David Rowe.

7.0 Closures to the Bream Creek Mouth

Throughout the 19th century, the intermittent temporary closure of the Bream Creek mouth appears to have been a natural phenomenon influenced by the reduced flow of the creek caused by droughts. W.S. Urquhart's Plan of Part of the South Boundary of the County of Grant (submitted in February 1846) showed the closed mouths of Bream Creek, Spring Creek and the Anglesea River (with the Barwon River mouth at Barwon Heads being open) (Figure 55). This map was prepared at a time of a 'long-continued drought'.¹²⁶ Just a few months after the completion of the map, the drought broke with 'a plentiful fall of rain.'¹²⁷ The completion of G.D. Smythe's map in 1847 (Figure 56) showed the open mouths of Bream Creek, Spring Creek and the Anglesea River, a consequence of returned rainfall and sufficient water flow to push back the sand barriers. Similarly in 1866, the Bream and Spring Creeks and Anglesea River mouths had closed during a drought at this time.¹²⁸ The Geelong Anglers' Protection Society sought tenders for opening the creek mouth, accepting £1 per week from local grazier, Andrew White.¹²⁹ This appears to have been the first organised, regular, artificial opening of the creek mouth. White's work came to an end in 1869 when heavy rain brought the drought to an end and the Spring and Bream Creeks 'had never been known to be so high.'¹³⁰ In 1872 it was declared that for 'three years the mouth of the [Bream] creek' had 'never been so clear.'¹³¹

126 *The Maitland Mercury and Hunter River General Advertiser*, 13 May 1846, p.1.

127 *Ibid.*

128 *Geelong Advertiser*, 3 March 1866, p.3.

129 *Ibid.*, 24 October 1866, p.1.

130 *Ibid.*, 23 October 1869, p.11.

131 *Ibid.*, 11 July 1872, p.2.



Figure 55: W.S. Urquhart, Plan of Part of the Southern Boundary of the County of Grant (part), 26 February 1846. The closed mouths of Spring and Bream Creeks are on the left and right respectively. Source: VPRS 8168/P0002, SC91-1, Public Record Office Victoria.



Figure 56: G.D. Smythe, survey of the Rivers and Creeks from The Barwon Heads to Point Roadknight (part), 1847. The open mouths of Spring and Bream Creeks are shown on the left and right respectively. Source: VPRS 8168/P0002, CS30B, Public Record Office Victoria.

A further drought in 1897 again closed the mouth of Bream Creek.¹³² The creek mouth was artificially reopened by the neighbouring farmer, August Kerger. As reported in the *Geelong Advertiser* by William Colledge:

Having just left Bream Creek I can bear out truthfully (for a fisherman) the remarks in your issue of to-day about the fishing at its mouth. Mr Noble and yours truly have fished it more or less during the last twelve days, and until it blocked up we generally got good sport, but as soon as the sand silted up the mouth last Saturday neither a fish, nor a bite even. On Monday Mr Kerger set to work and took a whole day at digging away the sand, and on Tuesday from twelve o'clock noon till five in the afternoon we got fully 90 fish – salmon and mullet, big ones, running from a half to three-quarters of a pond each, and as we passed the Messrs Freeman were glad to see them doing well also. My object, however, in sending you this is to urge the anglers who benefit so much by Kerger's attentive and hard work to give him some practical help. He is a poor man, and has to work hard for a living; so I say do a little to show our estimation of his diligence and attention to this long and neglected and net-fished creek. Messrs Duckworth and Fox will, I am sure, be glad to take any little or big amount which grateful anglers may desire to subscribe, say even a shilling each, and I and my fellow fish companion will start it by giving 2s 6d each.¹³³

August Kerger had vested interests in ensuring the creek mouth remained open. His farm property on the north bank of Bream Creek was low lying. Any inundation caused by the backfilling of the closed creek mouth may have flooded his property. It was susceptible to flood following periods of heavy rain, as outlined by Kerger's son, Bob:

Sometimes floods would come down the River [Creek]. One night when we were in bed and the tide was in about midnight, my mother got up about half past twelve and the water was coming into the house and on the verandah. She woke us up and we went down and let the horses and cows out of the sheds. She made a fire and gave us a cup of tea and a feed so we'd go out to the ocean on a full stomach! Then the tide started to go out. It's very low-lying, there's no high ground. It has flooded since.¹³⁴

Kerger also operated a boat-hiring business to supplement his farming income. As outlined in the *Australasian* in 1889, 'Mr. Kerger's house is almost on the bank of the creek, and as he has half a dozen boats always on hand, the angler is always sure of a boat'.¹³⁵ Ensuring the creek mouth was open was therefore important for the ongoing success of his business.

It seems that the creek mouth closures during the years of drought may have provided much-needed inundation of banked-up creek water as a measure of survival for fauna and flora. Since the late 20th century, lower rainfalls and reduced water flows caused by water extraction for agriculture may have sustained the estuary closure than possibly the more temporary closures prior to European colonisation and climate change. The mechanical opening of the creek mouth has been the subject of community debate, particularly unauthorised works given that a permit is required to open the creek mouth.¹³⁶ In 2008, the Surf Coast Shire organised an opening in cooperation with the City of Greater Geelong. A multi-agency initiative in 2016 saw the opening being funded and with the management

132 *Ibid.*, 10 May 1897, p.2.

133 *Ibid.*, 19 June 1897, p.4.

134 B. Kerger in Roberts (ed.), *op.cit.*, p.19.

135 *The Australasian*, 15 April 1899, p.23.

136 Notes provided by Surf Coast Shire, May 2022.

of the excavator being carried out by the Surf Coast Shire¹³⁷ (Figure 57). In 2019, several unauthorised attempts were made to open the creek mouth.¹³⁸ A community session was held at Breamlea where mixed responses were given to the matter of mechanical opening.¹³⁹



Figure 57: Mechanical opening of the Bream Creek mouth, 8 September 2016.

Source: Surf Coast Shire collection.

The prolonged duration of mouth closures seems to have negatively impacted on the ecology of the Karaaf Wetlands. This is outlined by Doug Froud in 2022:

Sustained inundation due to back flooding from Thompsons Creek can occur during periods of estuary closure. It is noted that mortality of Shrubby Glasswort is also evident in the saltmarsh adjacent to Breamlea, further implicating estuary closure as a cause of shrub dieback in the saltmarsh system. P40

... Dieback occurs when the saltmarsh experiences prolonged flooding due to closure of the entrance of the Thompson Creek estuary. Impoundment and harvesting of water for agricultural use, in conjunction with climate change may be influencing the natural cycles of stream opening and closure. It is suspected that there may be an interaction between the impacts of stormwater inputs and the ponding of water during events of estuary closure. It is recommended that the estuary be maintained in open condition to assist recovery of the impacted saltmarsh vegetation. If stormwater inputs into the wetlands can be prevented or at least substantially reduced, the development of thresholds for subsequent decision making around artificially opening the Thompson Creek entrance could be a useful tool for minimizing the extent of future dieback events.¹⁴⁰

137 'Known openings Thompson Creek mouth', manuscript provided by Surf Coast Shire.

138 Ibid.

139 Ibid.

140 Froud, op.cit., p.2.

8.0 Towards the protection of the Karaaf

The Karaaf was retained as farmland throughout the 19th and much of the 20th centuries. Comprising 145.4 hectares (Crown Allotment 93, Parish of Puebla), Robert Washington Noble sold it to Dugald, William Fletcher and Ann Bell McIntyre, graziers of Freshwater Creek in 1908.¹⁴¹ In 1915, Dugald McIntyre became the sole owner.¹⁴² Apart from being occupied by the military during World War Two, McIntyre appears to have retained ownership until 1966 when the land was sold to William John Adams, a Company Director.¹⁴³ In this same year, the property was transferred to Dorothy May Clarke of North Geelong. Two years later in 1968, a narrow portion of the site on the east and south boundaries was acquired by the shire of South Barwon (the eastern portion comprising the area of Point Impossible Road today).¹⁴⁴ It seems that the Shire also leased a south-east portion of the wetlands as it was created into a municipal rubbish site known as the Breamlea tip (Figure 58). In 1970, the Municipal Health Inspector recommended against relocating the tip further east into the wetlands site as 'this area would not meet with the approval of the Health Commission, as the General Sanitary Regulations do not permit the tipping of rubbish in in water (the regulations do not differentiate between garbage and rubbish) also that the cost of developing this area may prove prohibitive (re: fencing, damming back of surface water and complying with fire regulations).'¹⁴⁵



Figure 58: Aerial image of the south-western portion of the Karaaf Wetlands showing the former municipal tip location (centre), 1975. Source: Geelong Area, Australian Survey Office, film CAS897, © Commonwealth of Australia (Geoscience Australia) 2021 (CC-BY-NC 4.0).

141 See Certificate of Titles, vol. 137, fol. 319, vol. 3916, fol. 081, Surf Coast Shire collection.
 142 Ibid.
 143 Ibid.
 144 Ibid.
 145 South Barwon Shire Minute Book, 22 September 1970, Geelong Heritage Centre collection.

In 1975, the balance of the allotment was purchased by the City of South Barwon¹⁴⁶ who continued to run the landfill and leased remaining portions of the land for grazing and cropping. The following year the Land Conservation Council (LCC) recommended the Crown land wetlands on the east side of Bream Creek become a flora and fauna reserve.¹⁴⁷ This recommendation did not cover the Karaaf as it was freehold and therefore not the subject of LCC recommendations. In 1995, the City of Greater Geelong (successors to the City of South Barwon) placed a covenant on the Title pursuant to Section 3A of the Victorian Conservation Trust Act 1972.¹⁴⁸ Comprising 131 hectares in 1998, the Karaaf site was sold to Golden Wood Pty Ltd,¹⁴⁹ the company later responsible for the adjoining residential development, with the former tip becoming part of the golf course of the proposed resort. Approximately 10 hectares of native vegetation was cleared (bulldozed) on the covenanted area in 1998 by the owner in breach of the covenant, mainly in the Shrubby Glasswort dominated west saltmarsh¹⁵⁰ (Figure 59 & 59A). On 30 September 1999 as part of the planning approvals enabling the Sands residential and golf course development, a Section 173 Agreement was entered into under the Planning and Environment Act 1987.¹⁵¹ This detailed agreement contained many provisions including that the bulk of the Karaaf wetlands be protected. In 2005, title to the agreed area of wetlands to be permanently protected was surrendered to the Crown (meaning the covenant and S173 no longer applied to this parcel) and the land gazetted as a site for the 'preservation of species of native plants', coming under the management of a predecessor to the Department of Energy, Environment and Climate Change (and now managed by Parks Victoria). This land, now known as Allotment 2006 Parish of Puebla, was formally gazetted as part of the Breamlea Flora and Fauna Reserve in 2014.¹⁵² In 2019, following Royal Assent for the Parks Victoria Act, the reserve was transferred to Parks Victoria.¹⁵³

146 Certificate of Title, vol. 9117, fol. 990, Surf Coast Shire collection.

147 P.W. Goldstraw, Wildlife Management Officer, Memorandum to P. Holbreach, Officer In Charge, Wildlife Management, Fishers and Wildlife Division, Arthur Rylah Institute, 26 July 1976, Watercourse Bream Creek (Thompsons Creek) file, op.cit.

148 See Certificate of Titles vol. 11704, fol. 622, vol. 11704, fol. 623 and vol. 11766, fol. 910.

149 Certificate of Title, vol. 9117, fol. 990.

150 Trengove, op.cit., p.6.

151 Certificate of Title, vol. 9117, fol. 990.

152 *Victoria Government Gazette*, 30 October 2014, p.2516.

153 Certificates of Title, vol. 11704, fol. 622 and vol. 11704, fol. 623, Surf Coast Shire collection.



Figure 59: Karaaf Wetlands following bulldozing, 1998. Ground level view. Source: Glenda Shomaly (with permission).



Figure 59a: Aerial view showing extent of bulldozing in the Karaaf, 1998. Source: Glenda Shomaly (with permission).

9.0 References/bibliography (removed)