



Brunswick Valley Historical Society Inc.

MUSEUM

NEWSLETTER
April 2021

17 Myokum Street MULLUMBIMBY 2482
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MARKET DAYS (3RD SATURDAY OF THE MONTH) 9 AM-1 PM

Jack Banner's Exceptional Record of Public Service

John William Banner was born 31Dec1865 Sheffield, Yorkshire, the son of Joseph and Mary, and presumably did a wheelwright, blacksmith and/or coach building apprenticeship before landing in Sydney in 1885. His circumstances are a mystery until 1891 when he turned up at Byron Bay after marriage to **Leah Leverton** in Liverpool, although a potted biography in Dec1931 of the staunch Country Party devotee says he *was associated with Railway Leagues in earlier times. Coming to Australia in 1886 from England he was later associated with the late J.S.T. McGowan (Labor Premier of NSW 1910-12) in Labour activities and subsequently was organizing secretary for labour interests in the Byron district for many years.... Leah, born 9Oct1870 Turo, Cornwall, also landed in 1885.*



J.W. Banner's Coachworks and Blacksmithery in building right, pre 1903, Byron Bay. (Jack Banner is the bloke in the white apron in front of the house believed to be his residence.)
(Courtesy Great-granddaughter Robyne Griffith-Ayres)

In 1891 he established the *Byron Bay Coach Works and General Blacksmith* business on leased railway land on the corner of Jonson and Shirley (Lawson) Streets.



The Jonson and Shirley/Lawson Corner viewed from Joe Yates' Orient Coffee Palace ~1920. J.D. Wilson's Auction Mart now on the site of J.W. Banner's Coachworks 1891-1903, and Ryan's Refreshment Rooms on the site of his residence.

His involvement in Byron's community affairs began almost immediately, becoming a foundation member of the *School of Arts* in Oct1892, of which he was President by 1898 and boasting that their library now carried 400 books. He was a spokesman at the momentous meeting of Sep1894 when shareholders in the *North Coast Fresh Food and Cold Storage Co Ltd* decided to build the Creamery at the Bay, remaining pro-active at all subsequent Norco meetings. He was also a

diligent member of **David Jarman's Breakwater League** and in Sep1896 he and Jarman were the Bay's delegates to the meeting at Lismore that decided to lobby for the *Casino-Tenterfield Railway*. He was active in all fund-raising functions at the Bay and further afield at Mullumbimby, often participating as a singer on the entertainment programme whilst carrying out MC duties. On the occasions of fund-raising for the *Byron Bay Brass Band* he was assisted by Leah, and in between these events he was often called upon to chair public meetings and farewells.

He was vice-president of the *Progress Association* by 1899 and by 1902 was also president of the Jockey Club and a star of the Rifle Club. Along the way he and Leah acquired a couple of blocks in town; lot 8, section 48, Kingsley Street, for

£23/10/- in Jun1897, and lot 7, section 19, Shirley Street, for £17/10/- in Jun1898. In 1900 they sold lot 8 to the Anglican Church for the erection of a vicarage, making £6/10/- profit on the deal. Jack was Vicar's Warden and treasurer of the first Anglican Parochial Council Apr1898.

Maybe it was a premonition that the car would make inroads into his coach business that prompted him to join the booming dairy industry with the acquisition of a farm at Billinudgel in 1903, selling his Byron business to blacksmith **William Elbra**. *A surprise social was tendered to Mr and Mrs J.W. Banner on 25Jun1903, in the School of Arts, as a farewell prior to their departure from the Bay.... Mr J.E. Glasgow occupied the chair..., and as President of the Progress Association spoke of Mr Banner as a member during the past twelve years who had always been zealous in the endeavour to advance the town and its vicinity, and untiring in his efforts to please all....*

Mr Jarman spoke in high terms of Mr Banner as a worker and progressive citizen..., of whom He could not speak too highly... as an energetic member of the community.... Mr A.E. Brown on behalf of the United Grand Lodge of Oddfellows... presented regalia and apron of the order... to their Past Noble Father....

The assembly then presented a written testimonial, saying *We... beg that you will accept this address as a souvenir of the high opinion we hold of your business and social qualities and of the very active part you have taken in the welfare and progress of the town of Byron Bay during your residence of twelve years....*

As at the Bay, he immediately became involved in Billinudgel affairs. In Jul1904 he was voted to the chair to umpire a political rally by '**Honest John**' Perry, a privilege normally reserved for **Gerald O'Connor**, credited as the founder of Billinudgel. Perry, member for Richmond and Colonial Secretary in Premier See's shaky Progressive Government, delivered his pitch to 80 'Nudgelites, O'Connor seconding the motion that *proposed a vote of confidence in Mr Perry..., which was carried unanimously*. Progressive Perry ended up with 19 votes at Billinudgel, against Liberal Temperley, founder of the *North Coast Anti-Alien Society* and now proprietor of the *Richmond River Times* at Ballina, on 42. [And overall 'Honest John' almost lost his seat, winning 1330 votes (38%) against Temperley's 1290 (37%), with women voting for the first time. Billinudgel had unanimously voted to form a branch of Temperley's Anti-Alien Society in May1896.] But whether Banner's political leaning remained leftish at this stage is a mystery.



Cr J.W. Banner 1906

At a public meeting at Mullum in Oct1906 **Jack Banner** and **John Morrison** were elected to contest the first Byron Shire election as 'A Riding' representatives. But it transpired that **John Macgregor** and **Alfred Wallis** of Myocum also decided to run, the punters subsequently giving the nod to Banner and Macgregor with a respective 120 and 95 votes. The six new Councillors elected Jarman as Shire president, Macgregor as his vice-president and confirmed Byron Bay as the Shire capitol. (And in the absence of Macgregor, voted 3-2 to buy 'Jarman's Hall' as the permanent Council Chambers, against the wishes of Banner and Bate.)

Thereafter Jack was a very busy man, council duties competing with his day job establishing and managing the farm dubbed 'Kiveton' after the Yorkshire town near where his parents lived, with a homestead arising at the end of Middle Pocket Road, all while finding time for community activities - *Councillor Banner, who is always on hand when his services are required, filled the position of chairman* (at a fund raising concert in May1907 for the Billinudgel Cricket Club) *in his usual capable manner....* And continued to chair most Billinudgel general meetings, functions and farewells.

David Jarman died May1908 and **John Glasgow** elected as his replacement, while **John Macgregor** was elevated to the President's chair with **Jack Banner** as his Vice-President. In Feb1910 Macgregor resigned and Banner elected to the Presidency. In Jun1910 and again in Feb1911 Banner travelled to Sydney to lobby for finance to

complete the bridge over Donaghy's Crossing on the Montecollum-Goonengerry Road, still Mullum's main thoroughfare to Lismore. (Upon return from Sydney he stood down as President in favour of Cr Armstrong, but he again donned the President's robes 1914-15, 1920-24, and 1931-32).

He had a more upright political posture by Oct1912 when elected as foundation President of the *Billinudgel Branch of the Liberal Association*, and in Sep1913 chaired the meeting at which the Nudgelites were urged *to work for the return of our present (Liberal) member (Mr Perry) who had proved himself throughout many years of service a representative worthy of our confidence....* A week later the first moves towards Liberal preselection occurred with a meeting of 83 delegates at Bangalow, at which Banner was elected to the committee of the Byron Electoral Council. Perry was controversially preselected over lawyer **Peter Street**, son-in-law of **W.R. Baker**, while the *Mullum Star* backed the wrong horse in championing the cause of the founder of Bangalow, Catholic **Robert Thord Campbell**, running as a 'Selected Country Party

Candidate', the first ever appearance of such a party on the Northern Rivers. (And *Since its formation, Cr Banner has been a supporter of the Country Party...* said his Dec1931 biography.)

Dairy Politics

Jack Banner JP made his first foray into cow politics in Jul1913 when he was elected vice-president of the *Dairy Farmer's Association of NSW* during the annual conference in Sydney, at which he was outspoken on a number of matters. In Jun1914 the now busy President of the Byron Shire wrote to the *Tweed Daily* and *Mullum Star* warning that *The Association came into existence three years ago... and the demands of the Rural Workers' Union was the principle cause.... The Fighting Fund raised was sufficient to keep demands at bay but The Rural Workers' Union has now been absorbed by the Australian Workers Union..., and they are determined to bring their case before the court, so the DFA needs to be ready with a bigger bat.*

Despite the efforts of Banner and his Sydney executive in temporarily thwarting the AWU, farmer apathy remained the go and in Apr1915 when the *Necessary Commodities Commission* fixed the price of butter Jack wrote again, advocating the taking of a leaf from the Union tactics manual. *The very classes we are called upon to find cheap butter for are the very classes who are at the present moment holding out their hand for the last farthing, to be squeezed out in the shape of wages, and who, when the Wages Award Board do not give them all they desire, simply say they will not comply, and as a result, strike!... So What is wrong with the farmer going on strike?....*

On 8May1915 ~80 farmers met at the Mullum School of Arts to protest *against the unjust attitude of the Necessary Commodities Control Commission in refusing to raise the price of butter.... Jack Banner* was still obsessed with a strike to drive the point home: *We would be justified in stopping our supplies for a month and giving the milk to the pigs....* The farmers eventually got a rise of 1d/lb, but *criticised the Dairymen's Association for not taking the matter up vigorously..., while Jack retorted that the executive was not backed-up by the apathetic members. If they gave the Dairy Farmer's Association their unstinted support, that body would be able to move and see that something was done. Had it not been for the Association the rural workers' claims would have been granted long ago....*

In Jun1916 the DFA placed itself in mothballs and its funds in trust due to *slackening of enthusiasm in decreasing income from subscriptions....* The Association went the way of the eleventy seven dairy organisations before it and the *Primary Producers' Union* eventually rose from the ashes, **Jack Banner** being one of the driving forces in its formation at a monster meeting in Lismore. He was appointed to its Provisional Central Executive as the Tweed-Brunswick delegate and in late Jun1916 attended the meeting in Sydney at which they thrashed out the details of its working machinery.

In Jul1916 he formed the first branch of the PPU in the Brunswick Valley at Billinudgel, the meeting electing him secretary and delegate to the District Council. A week later he was voted to the chair at another monster meeting that formed the Mullum branch of the Union, saying *They all knew what had forced their hands, but still he had met farmers who had stated they did not believe in unionism. But to-day they were facing the foe, and what was 15 years ago was not the same to-day. They must organise to defend themselves....* There were still a few holdouts for strike action, which *would not hurt the individual farmer, but it would starve the city man. They would then have to pay our price to get it... or turn to margarine... and it is a fight between the city and country....*

In Jul1917 Jack became President of the *Tweed District Council of the PPU* and its delegate to the Sydney-based Central Executive after the Northern District Council was split into two districts (Tweed and Richmond), by which time he had joined the banana gold rush. In between he became involved in the conscription issue and at a meeting at the Mullum School of Arts in Oct1916 *in favour of conscription... he moved That those present form themselves into a committee to organise this district for the purpose of securing an overwhelming expression of the popular will.... Voluntaryism had been proved a failure and now there was nothing left but Conscription for those who did not see their duty otherwise.... Labor had raised the cry that Hindoos would take their place if they left for the fight.... White Australia was still their motto.... The motion was seconded by (Englishman) Rev **Velvin**, who said that if Conscription was not passed Australia was not a place for a white man or a free man to live in....* They were both appointed to the Executive Committee. And on the war front, he became foundation president of *The Billinudgel League of Loyalty to the British Empire* in Jul1918. Post war he became foundation President of *The Billinudgel Returned Soldiers Reception League.*

The next major straw added to his heavy workload was taking up the cause of the banana growers in their anguish over the influx of Chinese into the industry, particularly after returned soldiers started to flood into the game, one of whom was his son **Jack Leverton Banner** who became a committeeman with the *Billinudgel People's Party*, formed at a meeting chaired by Jack Snr in May1919. The People's Party had evolved from the *Soldier's and Citizens Party*, which reckoned it was best placed to look after the diggers' interests. At a meeting of the PPU Central Executive in Sydney in Jul1919 Jack

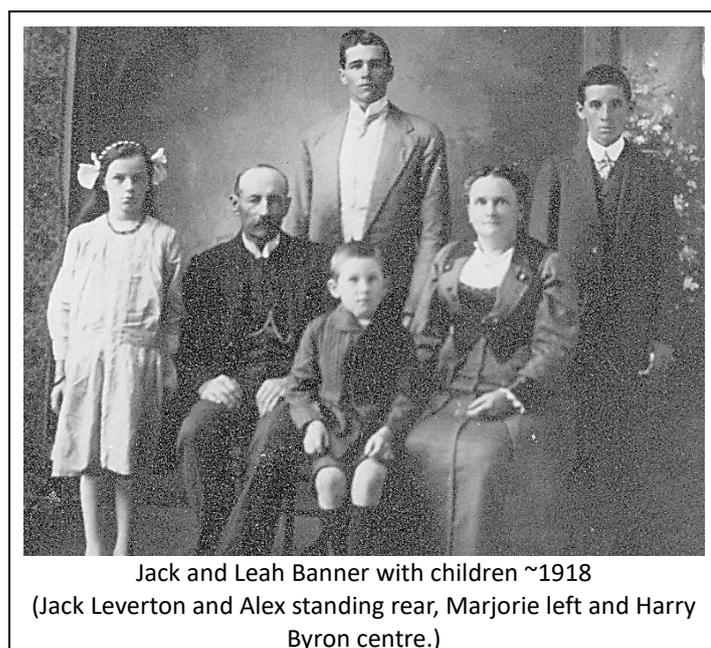
Snr moved to *treat with urgency* the matter of the danger arising from the invasion of the Tweed and Brunswick districts by Chinese speculators, bent on securing the very choicest lands.... He had been the main spokesman in the delegation to parliament and pointed out to the assembled politicians that... *The invasion of the Celestials in his opinion constituted a big menace. It was detrimental to the best interests of the white population and more especially to the returned soldiers..., but these people were offering big inducements to freeholders to dispose of virgin country at a high purchase price..., thus precluding our own race from participating in the benefits.... He especially emphasised the great headway the Chinese had already made in the Mullumbimby and Main Arm areas, and pointed out that Chinese merchants and growers were already in negotiation with other freeholders with a view to taking over their properties at a lucrative figure....* In Jun1920 he again took up banana growers' concerns as well as PPU interests when he addressed the Board of Trade, but it was the glut and Bunchy Top Disease rather than political agitation that saw the Celestials fade away and ease the heartburn.

In Oct1920 he was diverted by the *New State Movement*, the Country Party's perennial hobby horse. He chaired the meeting that led to formation of the *Billinudgel Branch of the New State League*, becoming its president and assisted by committeeman **Jack Jnr.**, who by this time was secretary of the Billinudgel Branch of the PPU. In Mar1923 Jack Jnr started his life-long career as paid secretary of the *Tweed District Council of the PPU*, still under the presidency of Jack Snr. And the PPU became the power base of the Country Party but, along with Norco, always maintained it was 'non-political' as it rejected all Labor Party proposals for the dairy industry. (Jack Jnr also served as secretary of both the Tweed District Council of the Country Party and the Byron Electoral Council of said Party.)

In May1922 Jack Snr chaired the meeting that welcomed Prime Minister Hughes to Brunswick Heads, saying in his introduction that *Australia was the White man's Own Country, but there were economic conditions against it that would give concern as to its future.... The present gathering, as primary producers, were the back-bone of the country, and he was sure that in placing their trust in Mr Hughes he would see they would not be confounded....*

Wilson's Creek

In mid1923 Jack Snr handed over 'Kiveton' to 2nd son **Alex**, newly married to **Doris Gibson** of Billinudgel, and re-settled on his property 'Hillcrest', next to the primary school at Wilson's Creek, from where he became *President of the Wilson's Creek Hall Committee* and a prominent member of the *Mullum Branch of the PPU*. But it wasn't smooth sailing and he didn't come to dominate the Mullum branch as he had at Billinudgel, although becoming one of Mullum's delegates to the Tweed District Council, of which he remained President. In Mar1924 he was given the honour of opening Mullum's 17th Annual Show at which he announced *that he will be a candidate for Byron at the next State elections*. But due to a vote counting cock-up at his old Billinudgel branch the aspiring politician subsequently withdrew from the race. In Nov1925 he was welcomed onto the committee of the Agricultural Society and in Dec1925 returned unopposed as 'A Riding' representative on Byron Shire Council.



Jack and Leah Banner with children ~1918
(Jack Leverton and Alex standing rear, Marjorie left and Harry Byron centre.)

Back in Jun1925 he allegedly came to some arrangement with the prominent Laborite **James Condon**, a Mullum PPU branch delegate to the Tweed District Council (of which he was a vice-president), to share the duties of the District Council delegate to the Central Executive, and allegedly made some hazy assertion that he would hand over the Presidency of the District Council to Condon, but wshed on the deal. This prompted **Norm Rollo** at a Mullum PPU meeting in Jul1926 to move *That Mr J.W. Banner be expelled from this branch....* After a long acrimonious debate *A secret ballot was then taken and the motion to expel Mr Banner was defeated by 15 votes to 10*, but the fall-out from the ugly episode saw Jack take a backward step from dairy affairs, while an internal power struggle continued.

At the AGM of the Mullum PPU in Jan1927 six people turned up to re-elect **J.D. Condon** as president and *elect (5) delegates to Tweed District Council.... Mr J. Banner was again nominated as a delegate, but declined, as he found his*

own business required all his time. He deplored the small attendance at this meeting, and thought the infusion of some new blood might do the branch good.... Mr Frank Cook, said Mr Banner had spent two years of his life for the last ten years on PPU work, and touching on the financial part, he was of opinion that Mr Banner had spent too much of his own money on PPU work.... Mr J.D. Condon said that whatever may have been the differences between himself and Mr Banner in

bygone days, there could be no difference of opinion as to Mr Banner's work, and the branch would be lacking in its duty if it did not in some way recognise the work he had done.... It was most disheartening to see rank and file taking little or no interest in the affairs... and it was a most disgraceful thing to find that only six farmers took enough interest in the PPU to attend the annual meeting.... He could quite understand Mr Banner if he felt fed up of the whole business, after the work he had done....

In Feb1927 Secretary **J.L. Banner** summed up the work of the Tweed District Council, while **Mr J.W. Banner**, who has occupied the position of President of this Council and delegate to the Central Executive since its inception in July 1917, completes his term to-day.... (And after more internal ructions, in Apr1927 **James Condon** tendered his resignation as President of the Mullumbimby branch of the PPU, and also as delegate to Tweed District Council....)

While butter continued to occupy his time, the rapidly evolving electricity network was becoming a major part of Jack's council workload, together with taking up the cause of Brunswick Heads where the residents were getting louder in their complaints of relative neglect in Council's budget priorities. In Jan1929 he became Deputy President of the Byron Shire and in Dec1930 began his 9th year in the President's chair.

In Oct1932 he travelled to Sydney to see the Minister for Works about replacing the Brunswick ferry with a posh bridge and got an undertaking that the Minister would *recommend to the Unemployment Relief Council (URC) that a grant be made for the work..., provided 90 per cent was spent on engaging unemployed....* And on 7Apr1934 *A further link in the progress and development of the Brunswick was achieved... when the official opening ceremony of the bridge across the river at Brunswick Heads took place..., at which Leah Banner did the ribbon cutting honours. This was not only a compliment to Mrs Banner, but was also a recognition of the magnificent services rendered the Shire by her husband.... The bridging of the Brunswick River at the site of the old punt*



One of the last Unemployment Relief Grants in the district was for a footbridge at Brunswick Heads, and on 30Jan1937 **Cr J.G. Snow**, President of Byron Shire Council, officially declared the Brunswick Footbridge open. The honour of cutting the ribbon was given to **Mrs J.W. Banner....**

was the realisation of a dream cherished by Cr Banner for many years.... By this time Brunswick Heads had also been electrified, initiated by Jack with a visit to Sydney in Sep1933 to seek a £2500 loan through the URC.

After fifteen years work on behalf of the residents of Wilson's Creek and Huonbrook in all matters affecting their welfare, Cr and Mrs J.W. Banner were tendered a farewell by their many friends in Oct1937 when their services were eulogised.... Perhaps there is no man in the district who has given such a fine term of service to the community and set such a fine example of citizenship. For over 30 years Cr Banner has been a strong advocate for the farmer and for the townfolk and like time-honoured "Johnny Walker" is "still going strong."....

Jack was in his 33yr of service on the Shire Council when he died 7Sep1939, aged 73. On 17Dec1939 **A.E. Budd MLA** in the presence of 2000 Bruns holidaymakers, some accommodated in 'over 700 tents'..., *officially dedicated... Banner Park... to perpetuate his memory, he being largely instrumental in having the area cleared and brought to its present condition.... Such a ceremony was tinged with regret at the departure of a very worthy man, who had served his district and generation faithfully and well for many years. "There are many evidences to be found of the late Cr Banner's progressive spirit, initiative and determination to leave the district better than he found it.... Mr Budd said that the late Cr Banner had sacrificed personal interests to a large extent and, even in times of adversity, had shown a wonderful outlook on life.... Banner Park would be an everlasting memory and would be an inspiration to others to take a similar interest in civic matters....* Amongst the audience, if not on the stage, was **Leah Banner** (who died at her home in Gordon Street 27Jun1948 aged 77). Budd MLA then went across to the beach to open *The Brunswick surf pavilion and public dressing sheds... and present the club with a Union Jack in the presence of more than 2000 people... gathered for a surf carnival.* Jack now has a dedicated page on ANU's site [Obituary - John William Banner - Obituaries Australia \(anu.edu.au\)](http://Obituary - John William Banner - Obituaries Australia (anu.edu.au))



Boxing Day at Brunswick Heads 1939 – beach frolickers taking the new path from the footbridge to the surf club's new pavilion.

In 1944 son **Alexander Joseph Banner** sold 'Kiveton' to the banana growing Phillips brothers of Middle Pocket and resettled at Myocum where wife Doris died 1951 (aged 50), sometime after which Alex went banana growing at Chowan Creek. He died 1980 Lismore, aged 79, and was buried back in Mullum next Doris. **Jack Leverton Banner** continued as long serving secretary of the *Tweed District Council of the PPU*, along the way adding the secretaryship of the *Murbah Retail Traders Association*, the *Tweed River Agricultural Society* and a few others to his CV. He also served as a Director of the *Tweed District Hospital* and on the Committee of the *NSW Central Council of the Country Party* before dying at Murbah 1966 aged 68. **Harry Byron Banner** also found his niche in administration, following a stint as a bank officer, banana grower and greengrocer. He was appointed *as secretary of the Mullum War Memorial Hospital Board* in 1949 and in 1953 became Alderman Banner on the Municipal Council. He retired from the Hospital jobs in 1975, *Board chairman John Bourne* saying *Mr Banner had become legendary in hospital life. He had been appointed first in 1949 and his worth had been recognised by the Commission of his appointment to administer Byron Bay and Bangalow Hospitals as well....* And his 18yrs on the Municipal Council was the third longest term of aldermanic service. He died 1987 Mullum, aged 78. Peter Tsicalas



Black Sand Mining & Its Legacy

(3 part series by BVHS Committeeman Dr Mark Edwards)

Part I - History

The Australian east coast, a place of sunshine and white beaches, blue seas and surf held the world's greatest known resource of the minerals Rutile (Titanium Dioxide) and Zircon (Zirconium silicate). Black mineral sands were found along most of the coastline from southern New South Wales to northern Queensland. Production over 47 years to the end of 1980 often supplied 90% of the world market for Rutile.

Sand mining began in Australia in 1870 when **John Sinclair** discovered gold and other minerals within the black sand deposits on Shaw's beach, Ballina, NSW. Basic mining for gold, platinum, and tin was done entirely by hand. Miners depended on south-easterly gales to expose the black sand and bring the heavier, gold-containing particles to the beach surface.

At that time, the local press reported there were up to 300 miners on the Ballina beaches, some obtaining 16 to 31 grams of gold per week. Locations especially noted for their original richness were Tallow Beach (south of Byron Bay), Seven-Mile Beach (south of Broken Head), Black Rock Beach (North Ballina) and Jerusalem Creek (south of Evans Head). By 1890 most of the beach gold deposits were exhausted. Perhaps the first mining lease applicant in Northern NSW, for Zircon, Rutile, Ilmenite, Gold, Tin and Platinum, was **Cecil Cumberland** in 1928. In 1933 several overseas companies commenced to scrape and shovel pockets of the rich mineral sand, which

was exported overseas without any attempt to separate the various components. In the early 1940s, increases in shipping costs led to separation of mineral concentrates before export. In 1935 the company *Metal Recoveries* employed six men with horses and scoops as a means of scraping the beach. The late **Bill Healy** was owner and driver of some of these horses and sand processing operations; later in April 1936, with the help of ten men, he exported ten tons of Zircon in bags overseas.



Zircon Rutile processing plant on current Woolworths site Byron Bay.
(Courtesy Dr Brett Stubbs via 'Thematic Study Byron Shire')



Sand Mining at Tallow Beach near Tallow Creek

The first large scale mining of heavy mineral sands was carried out in 1935 when *Zircon-Rutile Ltd* (ZRL) began production of Zircon and Rutile at Byron Bay. Mining began at Seven Mile Beach, south of Tallow Beach, and concentrates were transported to the treatment plant on Jonson Street (now the site of Woolworths Supermarket). In 1947, it expanded north to Tallow Beach, starting at Broken Head at the southern end then moved to Taylor Lakes, Suffolk Park, and Tallow Creek, then finally closer to Cosy Corner near the Byron Bay lighthouse. In 1948 floating suction dredges replaced most of ZRL's bulldozers, scrapers and trucks (see forthcoming article on 'Mining Methods'). Banks of spiral concentrators on these dredges separated the heavy minerals simply and cheaply from the other sand grains. Heavy mineral concentrates were pumped to the treatment plant which now operated continuously. The remaining sand (tailings) was pumped back to the mined areas. In 1961 ZRL was taken over by *Associated Minerals Consolidated* (AMC). They and other companies continued mining at Tallow Beach, then later moved inland, and finally to the beach and dunes at Main Beach (Ref.: *Byron Bay Historical Society*). The main mining areas in Northern NSW were Fingal, Cudgen, Hastings, Pottsville, Sharpes Beach, New Brighton, Mooball Beach, Brunswick Heads, Byron Bay, Broken Head, Woodburn, Evans Head, Coffs Harbour (Morley, 1981).

Timeline of local and world events relative to the mineral sand market

1908 - A.J. Rossi of the *Titanium Alloy Manufacturing Co Pty Ltd* (TAMCO), (Niagara Falls, USA), produced the first recognized Titanium white pigment, superior to the commonly used lead and zinc pigments of white paint. However, certain sand minerals, **Ilmenites** (a source of Titanium) from the Australian east coast, were unsuitable for Titanium white manufacture as the high chromium content produced a yellow discolouration of the paint.

1925 - the nature of the sand mineral **Rutile** (also an ore of titanium metal) was first recorded in the technical literature.

1930s - **Zircon** was highly valued as a refractory (material resistant to very high temperatures) in steel manufacture furnaces.

1934 - **Zircon Rutile Limited (ZRL)** produced Zircon from local beaches between Ballina and Byron Bay, which was bagged and exported around the world from Byron Bay port (**1940-1945**).

World War II

1940s - during WWII Rutile was in high demand.

1941 and onward - the armament programme involved the construction of many all-welded 'Liberty' ships, providing a new market for Rutile, which was used as a flux for the welding rods. Therefore the production of Rutile concentrate from 1943-45 by ZRL made a major contribution towards the supply of the welding rods for the war effort.

1943 - ZRL became first company in world to produce clean, separated, high-grade Zircon, Rutile and Ilmenite products.

1950 - the Korean war commenced and production and value of Rutile and Zircon doubled.

1954 - to compete with Russian advances in aircraft design using titanium metal, the USA decided to build a major bomber fleet, also using Titanium, again boosting demand.

Prior and subsequent to **1954**, the relatively large tonnages of Ilmenite produced in the separation processes were either sent overseas in the mixed concentrates (exported between 1935-50), or it was dumped or stockpiled.

1957 - the USSR space programme launched "Sputnik"; consequently the USA changed focus to the production of missiles, abandoning the Titanium clad bomber programme and subsequently causing the market to drop.

Between 1950 and 1961 - ZRL, centred at Byron Bay, was the largest and most profitable producer of Zircon and Rutile in the world. However, in November 1961 ZRL ceased to exist upon takeover by *Associated Minerals Consolidated* (AMC).

1961 - the major USA company, Du Pont, successfully used Australian Rutile in a new chlorination process for the production of Titanium pigment. This process superseded the Jepsen sulphate process which used Ilmenite but caused significant environmental problems.

Du Pont required large supplies, therefore a rationalisation of many small Australian producers ensued. The eighteen companies listed early in 1961 were reduced to ten in 1962. Additional large American contracts were secured in 1963-65.

A **Rutile production boom** had occurred in the mid-1950s. In the 1960s, Mineral sands ranked as a quarter of all Australia mineral exports and 90% of world production was from Australia. Rutile



Associated Minerals Consolidated Ltd (aka AMA) dredge and processing plant, north of Belongil 1960s.

concentrates were exported to USA, United Kingdom, Netherlands, France, West Germany, Italy, Belgium-Luxemburg, Sweden, Japan and Poland. Zircon concentrates were exported to USA, UK, France, Netherlands, Japan and Italy. Ilmenite and Monazite concentrates were exported to UK, USA, and Japan.

1968 - Mining ceased at Byron Bay after 34 years, and processing in **1972**.

By the **mid 1970s** - there was a **Zircon production boom** mainly due to the demand for refractories by Japan's booming steel industry; **1971** - peak production of both Rutile and Zircon; Rutile peak value - **1976**; and in Zircon peak value - **1975**. By the mid **1970s**, only the company, *Mineral Deposits Ltd.*, had been highly successful.

None of the mineral sand mining companies existent in the middle 1970s escaped the major environmental problems that had caused so much concern to both the industry and the coastal communities of eastern Australia.

1978 - USA had further demand for these minerals for production of supersonic aircraft and the space programme.

1979 - *Mineral Deposits Ltd*, with headquarters at Southport, operated eight mines in northern NSW.

1980 - In Japan, Ilmenite was in demand for the blast furnace smelting of iron ores.

In the early 1980s, the principal market for east coast Rutile was the pigment industry, which took some 75% of the production for the manufacture of Titanium White by the chlorination process and 20% for welding rod flux coatings.

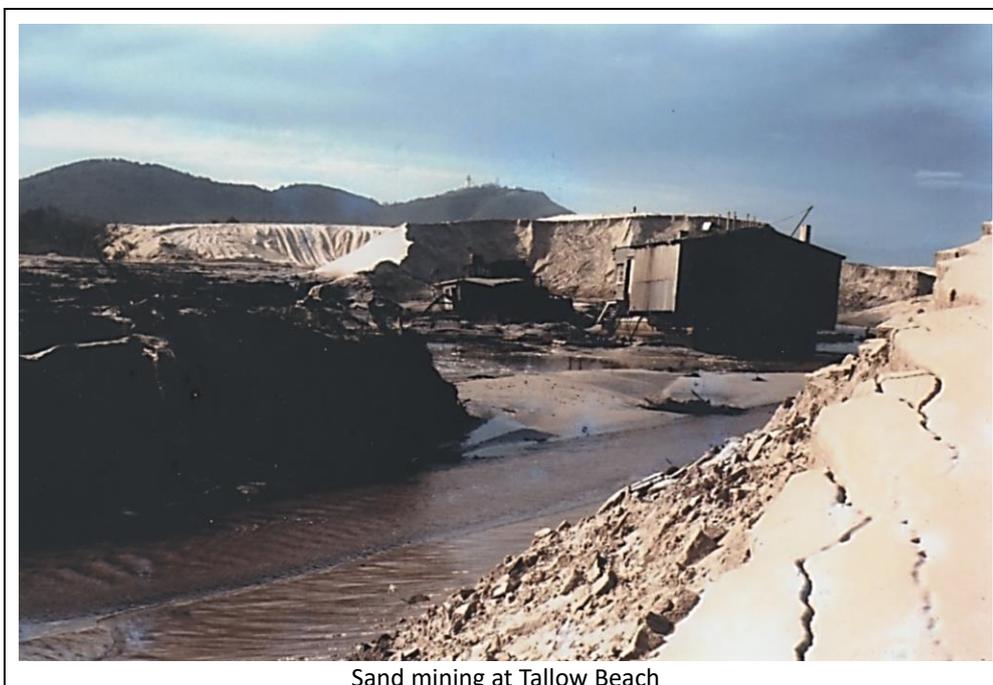
Black Sand Minerals Characteristics

Components and comparative densities: Rutile (TiO_2) 4.5; Zircon (Zr_2SiO_4) 4.6; Ilmenite (Fe_2TiO_3) 4.7; Monazite (Ce,La,Th,PO_4) 5.1 and minor amounts of gold, platinum, and tin (Ref.: *Byron Bay Historical Society*). Rutile and Zircon are non-magnetic minerals. Heavy mineral sand is half the size of the silica component and twice as dense. Zircon and Ilmenite each comprise about one third of the heavy minerals. Zircon, Rutile and Ilmenite make up 97% of black sand deposits (ores). The remaining 3% are the accessory minerals, and include small quantities of Garnet, Chrome Spinel, Monazite, Chromite, Andalusite, Hornblende, Platinum, Tourmaline, Leucosene, Magnetite, Cassiterite, Epidote, Gold, and Staurolite. Monazite, a complex phosphate of various rare earths, being the heaviest mineral, was obtained as a "top cut" on the concentrating tables (see following article on Mining Methods) along with gold and tin.

Geology

Eroded from rock since the Precambrian age, the black mineral sands originate from the granite of the Great Dividing Range situated some 50 to 100 miles from the eastern coast of Australia. The nature of deposits of heavy minerals along a shoreline depend on supply from rivers draining out to it, the form of the coastline, and sedimentation rate in bays.

Formation of deposits of economic value depends on many factors: climate, incidence and direction of storm waves, beach profiles and sizes of beach sand grains. High grade seams of black sand are found on the beaches, beneath the berm, beneath the fore-dune, and in both the outer and inner barriers. These shoreline placers may reach to the full extent of the beaches, (many kilometres and up to 100m wide, and a few millimetres to several metres thick. The thickest deposits of heavy minerals being formed on the southern side of the headlands, that is, on the northern end of the beaches, for example, Cosy Corner beach, Byron Bay.



Sand mining at Tallow Beach

Black Sand Mineral Uses

Rutile and Ilmenite are the principal ores for Titanium metal, ferro-Titanium alloys, and are a source of Titanium Dioxide (TiO_2) by digestion in sulphuric acid. Titanium Dioxide and other titanates are used in the electronic industry due to their remarkable electrical properties. Since early 1930s, TiO_2 became the most widely used white pigment for paints, plastics, paper and other uses due to many superior qualities.

Rutile, either with or without Ilmenite is a valuable flux in electric welding. Ferro-Titanium is used extensively in most ferrous metals. Ferro Titanium alloys contain 15-70% Titanium and is produced in electric arc furnaces or by the aluminothermite process. Ilmenite is invaluable for grain refining (enhancing microstructure) and toughening of aluminium alloys.

Ilmenite contains approximately half the Titanium content of Rutile. In 1964, Australia only exported 4% of world production due to its abundance elsewhere. The Ilmenite from the east coast is dumped due to chromium content and at that time was not suitable for white pigment production.



Titanium metal > melts at 1,800 deg. C. and made by chlorination process; is as strong as some steels, but only about half the weight. Titanium metal is used in aircraft and spacecraft (jet engines, aircraft frames and missile industries), corrosive chemical environments and prosthetics.

Zircon > used as foundry moulding sand, (particularly in high grade castings), ceramic glazes, and enamel. Ferro Zirconium is an important additive to alloy steels made with iron, aluminium, and silicon and others improving ductility and toughness. Zirconia has a melting temp. of 2,500 Deg. C. and used in furnace lining, rocket motors and is extremely resistant to acid attack. Pure Zirconium metal is made from the conversion to Zirconium tetrachloride and when freed from its hafnium component, is used in atomic reactors. Zirconium is used in electronics, ceramics, engines, and spacecraft.

Monazite > a source of rare earths: phosphates of cerium, lanthanum, neodymium, and thorium, which are used in rechargeable batteries, x-ray screens, fibre optics, high performance magnets, ceramics, television tubes, gas lamp mantles, carbon electrodes, a deoxidant in metal refining. eg., cerium is also used in glass colouring and sensitizing, lapidary polishing, polishing powder for precision optical lenses during World War II. The Thorium is extracted by an alkaline leaching process. Contained in the residue (Mischmetall) of this process are Rare Earths in the form of carbonates and metal oxides, that is, cerium and lighter Lanthanons alloyed with iron. These are further extracted and used for high grade polishing agents, lighter flints, special welding techniques, nuclear power plants, ferrous and non-ferrous alloys and other diverse applications (in the 1960s). Thorium 99% and cerium 1% was used to manufacture incandescent gas mantles. Thorium is a potential nuclear fuel. Although Uranium has been preferred over thorium as a source of nuclear energy. (Morley, 1981) (Crow, 2011) (Geoscience Australia, n.d.).

Brunswick Valley Historical Society Inc. Newsletter

This newsletter is written by and for the members of the BVHS Inc

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Roland Sjoberg

Shed Manager:

Roland Sjoberg

Market Manager:

Sarah Newsome

Heritage Panel

Representative

Chris Cooney

Newsletter:

Members

Public Officer: Susan Tsicalas.

All members are invited to contribute to this newsletter

Please email contributions for the newsletter to

bvhs84@yahoo.com.au

*Deadline for newsletter items
Friday 1st May 2021

NEXT MEETING

**Tuesday 11th May 2021
@10.30am**

MUSEUM HOURS –

Tuesdays and Fridays

10.00-

12.00

Market Saturdays 9.00 - 1.00

MULLUMBIMBY

COMMUNITY MARKET

Next Market- Saturday 17

April

mullummarkets.com.au

REFERENCES

__Crow, J.M. (2011) *Unsung Elements*. New Scientist, 2817, pp37–41

__Geoscience Australia (n.d.) *Mineral sands down under*, The Australian Atlas of Mineral Resources, Mines, and Processing Centres. Retrieved from http://www.australianminesatlas.gov.au/education/down_under/minerals_sands/index.htm

__Morley, I.W. (1981) *Black Sands – a history of the mineral sand mining industry in Eastern Australia*. St Lucia: University of Queensland Press.

IMPORTANT NOTICES

Meeting time – 2nd Tuesdays of each month at 10.30am
2021 Membership Subscription is now overdue!

BRUNSWICK VALLEY HISTORICAL SOCIETY INC. MUSEUM
RENEWAL OF MEMBERSHIP 2021

Membership Fees	Payment Options	
Adults \$15 Concession \$10 Students \$5 Printed mailed copy of newsletter \$5 p.a.	<i>Cheque/postal order payable</i> Brunswick Valley Historical Society Inc PO Box 378 Mullumbimby 2482	Direct deposit BSB:032 583 Westpac A/c No: 201192 Reference: Your name

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AT THE MUSEUM

This year at each market we feature a special object, and each is accompanied by a booklet with its history/story thanks to Dr Frederick Theiss. February’s market was Kevin Brereton’s sculpture, *Heritage*. March was the revitalised **Replica Pioneer Slab Hut**. The April Object of the Month is **Tuckett’s Tomahawk** in conjunction with a special exhibition - **Rotary Australia celebrating 100 years** - containing a display of photos, banners, clothing etc from members of Mullumbimby District Rotary. What’s the link? Read the booklet!

Stewart’s Menswear’s window will also feature items from Mullumbimby Rotary District to highlight the centenary of this important organisation and the work it does not only locally, but internationally. Rotary was launched in Melbourne on 23rd of April 1921.

In acknowledgement of Anzac Day we are honouring our local women with a new exhibition **Brunswick Valley Women At War** featuring the women who enlisted in the military (Air Force, Army & Navy), nursing, helping on farms, volunteering etc. The emphasis is on WWII as so many locals participated and the roles carried out were many and varied.

Come and check out what is happening at your museum.

