

# The Great Wall of China: Catchment policy and forests beyond the Yarra watershed 1850-1950

Peter S. Evans

*Light Railway Research Society of Australia*

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**ABSTRACT:** Catchment policy developed in the nineteenth century for the supply of water to metropolitan Melbourne demanded that the catchments remain closed to all outside influences, including forest utilisation. This policy had effects far beyond simply locking up large areas of timber. Metropolitan water supply authorities built no bulk water storages between the completion of the Yan Yean Reservoir in 1857 and the completion of the Maroondah Reservoir in 1927. This insistence on stream-flow schemes saw the catchments march steadily eastwards across the southern face of the Great Dividing Range until they formed an almost unbroken barrier between Toolangi and Matlock. This paper examines the implications of catchment policy for forest utilisation outside the metropolitan catchments as a result of the Board of Works' defence of its policy, the geography of the Great Dividing Range, and the limitations of existing transport technology.

## 1 INTRODUCTION

North-east of Melbourne are the forested slopes of the Great Dividing Range. This range, so handy to a growing metropolis, represented a source of two prized resources, wood and water. The bureaucracies that developed to conserve, utilise and protect both of these commodities found themselves in conflict almost from their inception. The conflict was to have repercussions for the management of these forests that are still largely unresolved today. This conflict would not only affect the water catchments themselves but, because of the geography of the Great Dividing Range and the limitations of transport technology, would have far reaching effects for the forests outside the catchments as well.

## 2 WOOD VS WATER: THE BATTLE OF THE BUREAUCRATS

Historically, these forests were known by the generic term of "The Great Victoria Forest". In February 1872, Inspector of State Forests William Ferguson produced a report with the aim of proclaiming the area a State Forest under the control of the Department of Agriculture. Ferguson reported dense stands of tall, straight trees on the spurs averaging from 100 to 150 trees to the acre. On the rich river flats, the trees grew less densely but attained an extremely large girth, especially in the Watts Valley. He recommended that every acre in the prized Watts Valley be reserved for timber production. (*The Age*, 22 February 1872).

Just as importantly, the forest acted as a source of large quantities of pure water. Problems with the supply from the Yan Yean Reservoir prompted the commissioning of a trial survey of a water

supply scheme on the Watts River in 1879. The surveyor's report, completed in 1880, suggested two schemes. The first incorporated a storage dam 105 ft high while the second called only for a low masonry weir above Healesville. Both included forty-one miles of aqueduct to take the water to Melbourne. The Watts scheme would be used to supplement the winter supply for Melbourne while the Yan Yean Reservoir refilled. The second and cheaper of the two options was adopted at an estimated cost of £521,637. A final survey was completed in 1885, construction started in 1886, and the system was officially opened on 18 February 1891 with much fanfare and a guest list of 340, which included Conservator of Forests Perrin. If that gentleman could have foreseen the frustrations for forest utilisation that were to follow, he might not have been so eager to attend. (VPRS 8609/P28 unit 12 files H12 and H14, VPRS 8609/P1 unit 20 file 101).

From the time construction started, all activity in the catchment received careful scrutiny from the Department of Water Supply and objections were lodged against all developmental schemes, including sawmilling. Between 1885 and 1891, all alienated land in the Watts catchment was purchased by the Government and the small settlement of Fernshaw was closed in preparation for the use of the area for water supply. (VPRS 8609/P1 unit 73 file 686). After the Melbourne & Metropolitan Board of Works was formed in December 1890, it took up where its predecessor left off, and generations of Melbournians have reason to be thankful for the high standards and stringent precautions it adopted to safeguard the purity of the city's water supply. However these high standards were to set in train an enduring conflict in forest management in Victoria.

When the *Forests Act 1907* was passed it created not only a formal service for the control of Victorian forests for timber production, but carried within it a clause which would formalise a widening gap between two cultures each determined to manage the forest resource in different ways. At the instigation of the Board of Works, Section 16 subsection 6 of the Act allowed for sections of reserved State Forest to be excised for the purposes of water supply with the joint concurrence of the Ministers for Lands, Forests and Mines. The printer's ink on the Act was barely dry in February 1908 when the Board of Works made a claim for the O'Shannassy catchment. Melbourne was growing fastest in the higher suburbs east of the city, and these suburbs could not be supplied with water from the Watts except by pumping. A source at a higher elevation was required. The officers of the newly-created Department of State Forests were already aware that the headwaters of the O'Shannassy carried some of the best timber in Victoria, and vigorously opposed the reservation of the catchment without some provision being made to safeguard the commercial use of the timber. Protests were also made by deputations from the Shires of Healesville and Upper Yarra. The territory of both Shires met in the catchment, and the councillors could see the future development of their Shires compromised. The Healesville deputation was supported by Ewen Cameron, MHR, who had been Minister for Water Supply from 1902 to 1904. Cameron stated it was common knowledge that the Board of Works "wanted to take the whole country this side of the Divide".

The deputations had a strong and logical argument with which to back their opposition to the reservation. Apart from the Yan Yean reservoir, the water supply for Melbourne utilised no storage. The Watts scheme relied on stream flow during the winter months. The proposed O'Shannassy scheme would do the same. Both foresters and councillors argued that what was required was a storage on the Watts, not another stream-flow scheme. Since the minimum daily summer flow of the whole Yarra basin, as measured at Warrantdyte, was only two thirds the average daily consumption of Melbourne, some form of storage would eventually be inevitable. Despite the logic of this, the Board of Works won the day after waging a sustained campaign in the press. The O'Shannassy catchment was formally excised from the forest reserve in February 1910. The only concession to forestry interests was that the timber was especially reserved to the Crown and could only be utilised if parliament passed a special Act to authorise it. It was a hollow victory for the Department of State Forests. Its officers must have known that it would take a brave politician to put the interests of forestry and the timber industry above those of the hundreds of thousands of Melbourne voters whose health depended on a supply of pure water.

The Board of Works pressed ahead with the construction of the O'Shannassy channel, but a drought in 1913 forced an emergency reservation and foreshadowed the next round of the conflict. The channel was already completed across the lower face of Mount Donna Buang and, in February

1914, the Board sought permission to turn the waters of the Dee, Ythan and Cement creeks into the channel until the O'Shannassy end could be completed. The Board of Works was satisfied with this until April 1915, when it lodged a renewed claim for the entire Upper Yarra catchment east of the O'Shannassy, a total of 50,000 acres. The Board had first sought this catchment in 1891 and had tried several times since then. Perhaps encouraged by its success with the O'Shannassy, this application was couched in more imperious terms. Again, the supply was to be based solely on stream flow.

The furor created by this demand made that in relation to the O'Shannassy catchment pale by comparison. The Shire of Upper Yarra, the Lilydale-Warburton Railway Trust and the Department of State Forests all raised emphatic and angry protests. None disputed that the Board of Works had every right to take the water for the needs of the growing city, but all protested against the locking-up of the forests. Prospective settlement, recently-completed roads, railway revenue and the future of the numerous sawmills around Warburton were all threatened. Forester A.W. Grainger was quickly ordered into the Upper Yarra on an assessment survey. His estimate showed that timber with a commercial value of £11,000,000 and a royalty of £700,000 was at stake. This timber was viewed as the reserve to which the Warburton timber industry would move once present areas were cut out. The Department of State Forests claimed emphatically that sawmilling and water supply could co-exist if the industry was carefully supervised and managed under strict sanitation regulations. Thomas Murray, Chief Engineer of the State Rivers & Water Supply Commission, agreed. Nowhere else in Australia were catchments managed as stringently and protectively as they were by the Melbourne & Metropolitan Board of Works. A somewhat peevish letter from the Board of Works to the Premier expressing "surprise and regret" that the catchment was not handed over to it on demand, resulted in a terse reply from the Premier. Victory was not to be so easy this time. (Forests Department file top-numbered 7449).

The conflict deepened in April 1923 when the Board of Works added a portion of the Baw Baw plateau to its demand for the reservation of the Upper Yarra catchment. The areas claimed, in total, would more than double the area under the control of the Board. If the claim was successful, the Board of Works would control 80% of the best of the commercial forests of Mountain Ash in Victoria, forcing sawmillers further afield and raising the price of timber because of increased freight charges. In desperation, the Forests Commission turned to the Crown Solicitor. That gentleman offered an opinion which suggested that the legality of Board of Works operations at distances as far removed from Melbourne as the Upper Yarra was questionable. However, this was a murky pool into which all parties eventually declined to dip their toes. Small concessions were made on both sides. The Forests Commission gave up the already-logged Silvan catchment to the Board of Works, and the construction of the Silvan Dam delayed the need for water from the Upper Yarra. In return, the Board of Works offered to allow the Forests Commission to log 40,000 acres in the basin of Walsh Creek until the Upper Yarra water was required.

By 1927, the Board of Works had completed the Maroondah reservoir, a large storage dam replacing the small weir on the Watts River near Healesville, and was pushing ahead with a survey for a storage on the Yarra above Walsh Creek. Matters were rapidly reaching the point where some sort of agreement on the Upper Yarra catchment had to be reached. On 4 October 1928, the Forests Commission and the Board of Works signed an agreement whereby 45,000 acres of catchment above Walsh Creek would be reserved for the purposes of water supply. Five thousand acres on the eastern and southern boundaries of the catchment would be set aside as an experiment for the dual purpose of water supply and timber production. This agreement represented more of a temporary truce than a lasting peace. In January 1930, the Forests Commissioners became aware of an alternative plan for an Upper Yarra dam below Walsh Creek. Shortly afterwards, the Board of Works announced that the 5000 acres would be returned to the sole purpose of water supply, as a contour channel to isolate drainage from the timber production area would be too expensive to construct. The conflict now took a decided turn for the worse. The Forests Commissioners immediately referred the recently signed agreement to the Crown Solicitor who found it to be a "model of ambiguity". With this legal obstacle removed, the Forests Commission began to lobby for the right to start logging the 5000 acres. Permission was finally granted in 1938 and tenders were advertised for

logging rights, which were to be issued under a system of strict control designed to prove conclusively that water supply and timber production could co-exist. (VPRS 11563 unit 396 file 56/2569).

The experiment was never carried out. On 13 January 1939 the entire Upper Yarra catchment was swept by wildfire. The potential for erosion in the denuded forests became another factor in the ongoing argument, which became acrimonious in the Stretton Royal Commission into the 1939 bushfires. (Stretton 1939: *passim*). Later in 1939, the Board of Works made a revised proposal for the Upper Yarra Dam public for the first time. The new proposal placed the dam below the junction of Walsh Creek and the Yarra River. The Forests Commission learnt of the new proposal in August of that year and immediately set about establishing its claim to retain all rights over the timber growing in the valley of Walsh Creek. (VPRS 11563 unit 191 file 39/2316). Cutting in the Walsh Creek basin was accelerated following the 1939 bushfires and, in 1940, the Commission surrendered its remaining Upper Yarra rights after the Board of Works offered payment in compensation for the timber royalties to be lost. (VPRS 11563 unit 204 file 40/1325). The area of 5000 acres was permanently incorporated into the catchment. Construction of the dam was delayed by the Second World War, and work did not resume until 1948. The timber on all areas to be submerged was removed by logging contractors operating under the supervision of the Forests Commission and the Board of Works. (VPRS 11563 unit 275 file 48/509). The dam was completed in August 1957 and the Board of Works turned its attention to the Thomson catchment. At first, only a small scheme was proposed to dam the headwaters and divert them into the Upper Yarra when the need eventually arose. This aroused vigorous opposition from Gippsland rural interests and the scheme was set aside until plans for a larger scheme were unveiled in 1962. The dam across the Thomson River was finally completed in May 1983.

Draining the northern slopes of the Great Dividing Range is the Big River, a tributary of the Goulburn. Water from this side of the range formed part of the supply for the Sugarloaf Weir, an irrigation scheme begun in 1914 and completed in 1927. The scheme was enlarged between 1951 and 1956 to become Eildon Weir. As the water was primarily for irrigation use, the catchment need not be "closed" and there was no threat to the operations of the timber industry until the Board of Works proposed diversion of the upper reaches of the Big River into the Upper Yarra. This plan was vetoed by Premier Bolte in April 1964 for political reasons, but the refusal resulted in the addition of Cement, Starvation and McMahons Creek on the Yarra side of the range for metropolitan supply. Importantly, these latter catchments were the first to be used for the dual purpose of water supply and timber harvesting although they remained largely "closed" to other interests. (Dingle, Rasmussen 1991: 141, 219, 264-267, 371). Today, the southern fall of the Great Dividing Range between Toolangi and Matlock forms a solid wall of water supply catchment. Only three public access roads traverse the catchments, and it is these on which the modern timber industry relies for access to the forests north of the Great Dividing Range.

### 3 THE GREAT WALL OF CHINA

In the late nineteenth century it was a very different matter. The Wombat Forest serving the central goldfields was effectively cut out, and the demand for timber for a rapidly growing Melbourne required a source close to the city. By the early 1900s, recently constructed railways to Healesville, Warburton and Gembrook promised just such a supply. When these forests were cut out over the next few decades, the next closest sources of supply would be over the Dividing Range in the Acheron Valley and, east of Warburton, in the headwaters of the Yarra.

An effective case-study supporting the contention that catchment policy had effects well outside the boundaries of the catchments exists in the history of transport in the Watts catchment. The Victorian Railways completed its line to Healesville in 1889, just as the Department of Water Supply was preparing to open its Watts River scheme. The early promise of the first of these projects as a mode of transport for the timber industry was compromised by the second due to the demand for a closed catchment. Up until this time only one sawmill had managed to establish itself against the protests of the Department of Water Supply. It was to be both the first and the last.

In February 1877, E. B. Henley, the manager of the Australian Handle & Woodenware Manufacturing Company, applied for a sawmill site in the valley of the Watts River. An immediate protest was raised by the Department of Water Supply and, as a consequence, the application was refused. Henley was surprised, considering that the water would not be needed for years to come, and argued that the over-mature Victoria Forest should be logged and replaced by a new, young forest. He threatened to take his business offshore to Tasmania. The power of Henley's arguments was apparently persuasive and the Company was issued with a licence for its site in November 1877. Despite Henley's early optimism, the Company met with limited success and became insolvent early in 1881, and the mill was purchased by John Holland in July 1881. (VPRS 5357, unit 3752, file H 36791). Holland was largely supplying the local trade but, when the railway was extended to Healesville, the business would undoubtedly expand. (*The Vagabond*, *Argus* 23 May 1885).

This was not to be. In 1886, the Department of Water Supply lodged an official objection to Holland's sawmill licence. This time, it had its way and a renewal was refused in February 1887. While the mill was below the intended position of the weir on the Watts River, it drew the water to power the mill from above the weir. In addition, it had by this time cut so far along the river that it was already encroaching on the intended catchment. It had to go. Holland was offered £275 in compensation. This was accepted and the mill was removed in March 1890. (VPRS 8609/P1 unit 73 file 686). This was to be the last sawmill in the Watts catchment. From a growing position of strength, the Department of Water Supply now wanted more than just a catchment closed to sawmilling.

#### 4 TRANSPORT ACROSS THE BLACKS' SPUR

The section of road between Healesville and the top of the Great Divide at the Black Spur had formed part of the Yarra Track to the Jordan and Woods Point goldfields since 1862. Its future was inextricably tied to the proposal to use the Watts catchment for water supply, presented to the Legislative Assembly on 1 June 1880. (VPP, *Votes and Proceedings of the Legislative Assembly*, 1st Session, 1880, p 33). After the Department of Water Supply took over the catchment, it was bound by law to maintain the road in a trafficable condition, but did its best to make sure as little traffic used it as possible.

The imminent construction of a railway extension to Healesville encouraged several sawmillers to apply for cutting areas on the north side of the Black Spur. Among the applications was that of partners Thomas Crowley and Patrick Fitzpatrick, who applied for a mill site in 1886. Although the proposed mill site was well outside the catchment, the Department of Water Supply registered an objection to the granting of any such licence. The only route between the proposed mill and the future site of the Healesville railway station was over the road through the catchment. This, in the view of the Department's supervising engineer, William Davidson, would create "objectionable" traffic. If this application was successful, others would surely follow. Davidson was determined to see it quashed. (VPRS 8609/P1, box 67, MMBW file 645).

Both *The Herald* and *The Argus* newspapers supported this stance. The latter firmly rebutted the arguments pressed by Crowley & Fitzpatrick in support of their renewed application for a mill site in 1888. Not only did the article decry the possible pollution of the catchment, but it rebuked the sawmillers for casting their greedy eyes on the forests of the Black Spur. "We have too few such places in the Colony", it thundered, "and they should be kept intact". (*The Herald* 22 October 1888; *The Argus*, 13 November 1888, 16 November 1888 and 17 November 1888). The controversy entered the Victorian Parliament on 18 September 1889 when the subject of sawmilling along the Great Dividing Range was raised in the house. Opinions on the matter, as would be expected, varied widely. While some parliamentarians thought that a forest locked up was a forest wasted, others did not want it touched at all. (VPP, *Victorian Parliamentary Debates*, Vol. 64, pp 1654-1655; Vol. 65, pp 1875 and 2110-2115; VPP, *Votes and Proceedings*, Vol. 1, 1890, pp 1015-1037). The inquiry that followed and further debate in the newspapers of the day undoubtedly bolstered the

determination of the newly-constituted Melbourne & Metropolitan Board of Works to see the catchment left untouched.

An application to select land on the northern border of the catchment and a renewed application by Crowley & Fitzpatrick for a sawmill site at Narbethong in 1891 spurred the Board of Works to attempt to protect the catchment with a buffer zone 1½ miles wide from which all settlement, timber splitting and sawmilling activities would be prohibited. This zone would almost double the area originally controlled by the Board. A buffer zone of this size was obviously excessive and the Board of Works was forced to settle for a ten-chain reservation from Mt Dom Dom east towards Mt. Donna Buang, and a twenty chain reservation west towards Mt St Leonard. The reservation was gazetted in March 1896. Even so, this narrow strip drew criticism from *The Age* newspaper regarding the "pig-headed policy" of "[building] a Chinese Wall around the forest". (VPRS 8609/P1, unit 67, serial 645).

## 5 RAILWAY AND TRAMWAY PROPOSALS

As part of its policy of restricting travel within the catchment, the Board of Works was obviously not going to go out of its way to improve the existing road, which was a serious impediment to the transport of timber over the Great Dividing Range. Initially, what the proponents of improved transport across the range really wanted was a railway rather than just a better road. Between 1883 and 1890, a number of broad-gauge railway surveys were completed, but construction was vetoed because of the high cost and anticipated operating losses. (VR plan index books, volume 1, p 5; volume 3, pp 387-390; VR *Annual Report* for the year ended 21 December 1883, p 17; VPRS 425 unit 767 serial 683). The depression of the 1890s silenced the clamour for a railway across the Black Spur for the time being, but a cheaper alternative, a railway of narrow gauge, was considered in 1896. (VPP *Report of the Standing Committee on Railways on Selecting Localities for the Permanent Survey of Narrow-Gauge Lines*, 1896). While narrow-gauge railways generally cost less to construct, the major drawback of such a line was its much higher running cost. (VPRS 425 unit 157 file 5399). Estimates again suggested that the traffic available over the Black Spur did not warrant the construction of either a broad-gauge or a narrow-gauge railway.

In September 1913, a deputation headed by the Acheron Valley Railway League sought, permission to lay a privately-owned steam tramway alongside a new road formation to be constructed across the Black Spur following a survey completed by the newly-formed Country Roads Board. In return, it required 90,000 acres of forest land allocated to it to fund the tramway, which was primarily to carry timber. The senior officers of the Board of Works were horrified by this suggestion. They protested that the proposed tramway was "most objectionable, and liable to result in serious pollution of the [water] supply", as well as being a fire-risk. The Board repeated that it had, in the past, offered no objection to a railway properly constructed and operated by the Railway Department, but that it could not see its way to accede to any other proposal. For its part, the Government would not build a railway as the traffic would not warrant it, but would sanction the construction of a private tramway. At a stalemate, the conference was adjourned. (VPRS 11563 unit 17, file 24/4734, VPRS 8609/P21 unit 431 file 26/1330; VPRS 8609/P1 unit 68 file 648; and VPRS 425 unit 767 file 683).

The one potential breach in the "Great Wall of China" was the Acheron Gap, a very narrow neck of land separating the Watts and O'Shannassy catchments. This tiny breach only existed because a Royal Commission had refused the Board of Works the right to control the headwaters of the Acheron River in 1901. (VPP, *Thirteenth Progress Report of the Royal Commission on Proposed Diversion of Water From The Upper Acheron for the Supply of the Metropolis and the Question of Vesting the Catchment in the MMBW*, 1900-1910, paper 10, pp 3-12 - the weak link has long since been closed by the inclusion of Cement Creek into the catchment system). With a railway or tramway through the Watts catchment all but ruled out, Acheron Valley sawmiller Joseph Timms formed a Company in 1922 to construct a steam tramway along the Acheron Valley and through the Acheron Gap to join up with an existing tramway to Warburton. This would allow

Acheron Valley and Cumberland timber to get to a railhead without crossing a catchment. The plan received in-principle support from the Forest Commission, but failed when the Company went into liquidation in 1925. (VPRS 11563 unit 10 file 23/0842; VPRS 11563 unit 14 file 24/0525; VPRS 425 unit 753 file 5642). Although the Acheron Valley Railway League continued to press for a railway across the Black Spur to Narbethong, it was clear that there was little if any chance of success. Ironically, when Narbethong had been surveyed in 1865, John Wigglesworth had named the streets after outstanding British engineers including such prominent railway engineers as Stephenson and Brunel. Now Narbethong would never become the railway terminus its promoters had so desperately hoped it to be, and any timber would have to be transported by road.

## 6 ROAD IMPROVEMENTS

When it was finally clear that no line of rails would ever be constructed across the Great Dividing Range at the Black Spur, the would-be sawmillers in the Acheron Valley had no choice but to press once more for the improvement of the existing Board of Works road. Despite the high construction cost for any new road (*The Argus* 20 October 1921), a major upgrade was rapidly becoming inevitable. By 1924, The Board of Works was prepared to improve the road to motor traffic status if the government would prohibit the carting of timber over the road. It had few allies to back this stance. Back in 1907 the Shire of Healesville had accepted that it could have either tourist traffic or timber traffic on the road, but not both, and had thrown its influence behind the tourist trade. Since then, its support for the timber industry had firmed and it rather tartly informed the Board of Works that the Board should concentrate on improving the road instead of trying to control the type of traffic that used it. The Forests Commission neatly sidestepped the question by stating that it had no power to control traffic on roads outside Forest Reserves under its control. The Crown Solicitor informed the Board that it could control the weight of vehicles, but not what they carried. In a fit of pique, the Board of Works abandoned its plan to upgrade the road. (VPRS 8609/P1 unit 68 file 648). Its intransigence stifled Acheron Valley sawmilling for a decade.

In September 1934 the Board of Works and the Country Roads Board reached agreement for a new road to bypass the worst features of the old route. The Board of Works would contribute £3000 towards the cost, provide the necessary fencing, and maintain the section of road within the catchment when it was completed. The Country Roads Board would carry out the construction and fund the balance of the cost at some £9000. Removal of timber would be minimised and all ferns removed from the route would be replanted to give a "ferny bower" appeal to the passage through the forest. (*Herald, Argus, Age* 15 September 1934). A large allocation of funds for unemployment relief in June 1935 marked the start of the project. By March 1936 the earthworks were almost complete. (*Herald* 11 November 1935, 10 December 1935, 6 February 1936, *The Age* 11 March 1936). The new road was opened to light traffic in April 1936 and, after consolidation, was expected to be opened to heavy traffic, including timber trucks, from early 1937. (*The Age* 21 April 1936).

Timber loads over the new road were initially limited to a gross weight of eight tons on a vehicle with six pneumatic tyres (VPRS 11563 unit 157 file 37/1146), but were gradually increased. The new route was an unqualified success and, with only surface improvements, is still in use today. The new road with its gentle grades was critical to the large scale exploitation of the timber in the Acheron Valley and crossed a metaphorical watershed in local timber production. However, during the entire period from 1891 to 1937 when the Watts section of the "Great Wall of China" blocked effective timber transport across the Great Dividing Range, tramway and railway had been the dominant form of transport. Throughout the 1920s, scarcely a stick of timber was transported across the Black Spur, and the sawmilling industry in the Acheron Valley languished.

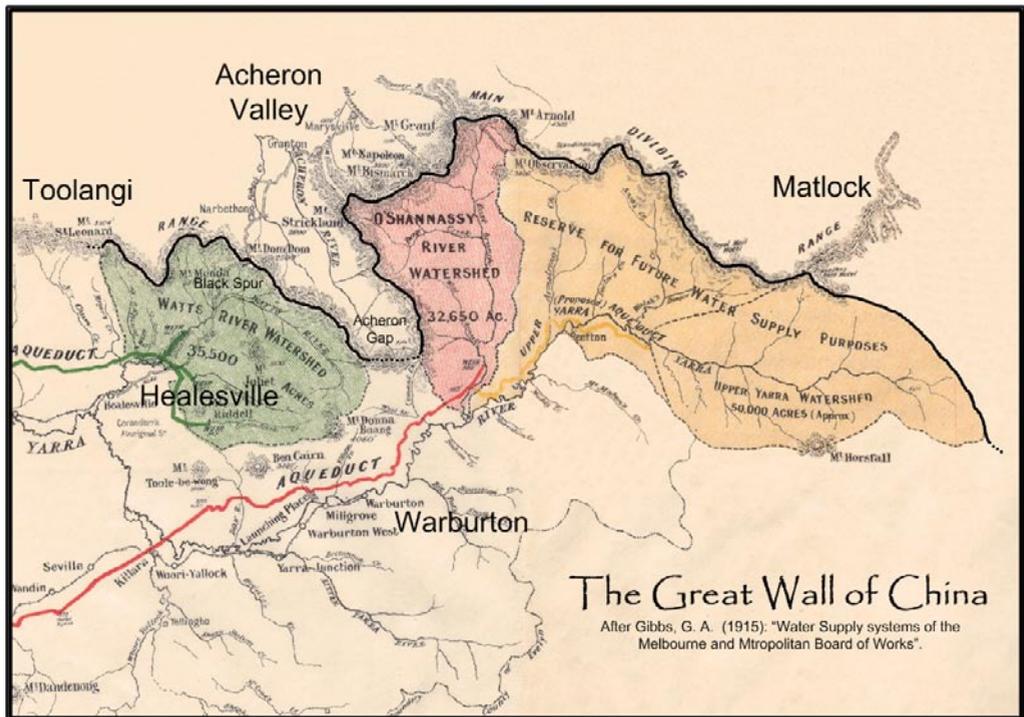


Figure 1. Map showing the catchments constituting “The Great Wall of China”

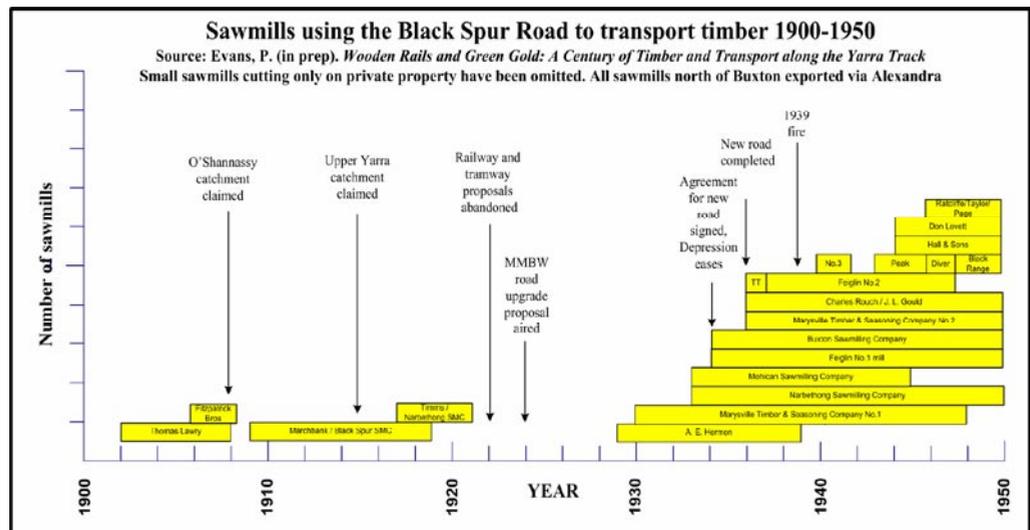


Figure 2. The rise of Acheron Valley sawmilling following improvements to the Blacks’ Spur Road

## 7 WARBURTON

The Acheron Valley was by no means the only timber-producing area affected by the “Great Wall of China”. While Warburton lay to the south of the Great Dividing Range and its access to the metropolitan timber market was assured, its long-term future was threatened by the Upper Yarra catchment to the east. Exploitation of the forests around Warburton had been intense from the opening of the railway in 1901, (McCarthy 2001: *passim*) and the introduction of imported steam logging technology from America at Starvation Creek in the mid 1920’s (VPRS 7854/P2 unit 60 registration 5947; unit 67 registration 6686) allowed the forests to be cut at a rate that astounded the local foresters. (McCarthy 2001: 229). It was clear that the forests had a limited life-span as far as the first cut was concerned and that, sooner rather than later, new areas would have to be opened up to the trade. The logical move was east, further up the river. A number of railway and tramway surveys were made in preparation for such a move. (VPRS 425 unit 195 files 1135 and 11765; VPRS 11563 unit 14 file 24/0525). However, the agreement between the Forests Commission and the Board of Works signed in October 1928 had locked-up 45,000 acres of prime timber in the Upper Yarra catchment. The next closest production areas to Warburton were north over the Great Dividing Range at Matlock and south of the Upper Yarra catchment on the southern slopes of Mount Baw Baw. The first of several sawmills was established near Matlock in 1934 (VPRS 11563 unit 206 file 40/1579) and on the southern fall of Baw Baw at Tanjil Bren in 1937 (Saxton typescript, n.d.). Following the 1939 fires these sawmills multiplied in number as the fire-killed timber was salvaged. Both areas were well-peppered with names of sawmillers who had abandoned cut-out areas at Warburton and Powelltown.

## 8 CONCLUSION

It might be wondered why such a conflict in forest management should have been maintained for so long. The answer lies in two opposing cultures with irreconcilable differences. Water supply engineers wanted their catchments to be in a wild and undisturbed state. Tall forests attracted rainfall. Rich undisturbed humus and topsoil acted as a sponge, retarding run-off and releasing water in the summer months when it was most needed. All human intervention had to be excluded as far as possible to prevent pollution. All foresters, on the other hand, were taught that forests had to be removed from their wild state and brought under a carefully planned system of commercial management. Tramways and roads must be provided for access for fire protection and management, as well as for egress for forest produce. The forest resource should be carefully measured, and only a volume equal to the annual increment should be removed each year. That volume should be utilised as efficiently as possible. Each culture became concentrated in a powerful semi-autonomous body. So long as each culture remained almost equally powerful in its ability to lobby government, compromise was impossible.

The nett effect of the protracted conflict was twofold. Firstly, the Board of Works' voracious appetite for large areas of catchment to support its stream-flow schemes ensured that, except in times of severe drought, Melbourne is unique in mainland Australia in having a secure supply of uncontaminated water for more than two million people. For the timber industry, the result was more complex. The location of the Watts River catchment strangled the infant timber industry in the Upper Acheron and stopped it dead for a decade. The Upper Yarra catchment blocked the further development of the Warburton timber industry and forced it to leap-frog the catchment to Matlock and out-flank it to Tanjil Bren. As a direct result, these were the first three large-scale timber production areas in Victoria to be established without ready access to a railway. The sawmillers were forced to turn to motor transport, which helped to accelerate the demise of the timber tramway. A concurrent revolution in road construction and truck technology confirmed the place of roading in forest development and changed the face of forestry in Victoria forever.

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