

Jetty forest timber – Insights from Mark Belton

Eucalyptus wood from a Little River forest could be an inexpensive solution to restoring historic structures, says forestry expert Mark Belton, Director of Permanent Forests NZ.

Mark was key to connecting the Governors Bay Jetty Restoration Trust with a local source of hardwood timber from Banks Peninsula.

Mark credits the discovery of this forest to his friend, colleague, and mentor Ross Jamieson. The two worked together at the Ministry of Forestry. On one of their trips, Ross showed Mark a magnificent forest of eucalypts in Okuti Valley near Little River.

The *Eucalyptus globoidea* trees were planted in 1890, at the instigation of Reverend Simmonds, who had caught the bug of enthusiasm for eucalypts.

Mark says “There are 750 species of eucalypts and to get your head around that sort of territory, you have to have a spare bit of spare time. And Reverend Simmonds did.

“He experimented with several varieties of eucalypts, including these *Eucalyptus globoidea* that were planted in Little River.”

Mark remembers Ross telling him that some of the trees were harvested during the Second World War, when they were requisitioned for the war effort. They desperately needed timber to build wharves in the islands, and, as Mark remembers Ross saying, the timber had good marine durability.

Years later, after Ross had sadly passed away, Mark remembered the forest when the local community rallied to save the long Governors Bay Jetty, which has been closed since 2011.

Mark says “I phoned David Pike who owns Okuti Farm and he remembered Ross, because Ross was such an enthusiast about these trees. I went to see him and it’s a truly magnificent forest – and still is! It’s hardly been touched.

“Then I contacted John Fairweather, who has a passion for sawmilling eucalypts. His company specialises in that – possibly the only one in New Zealand. I discussed all the sawn timber requirements of the jetty, including the piles, and we spoke about which harvesters and contractors would have the skills and ability to do selection harvesting of suitable trees, because it was not going to be a clear-fell job.”

Mark created a spreadsheet showing that this was an inexpensive option for the timber requirements for the jetty restoration. He visited the forest to confirm what was needed in terms of form – size and straightness. Mark says, “I remember the delight of there being wood pigeons and tui among the trees which have developed an understory of native species. The eucalypts are a wonderful nurse crops for native trees.

“In the back of my mind all of the time was ‘I wish Ross was here. He’d have been so into it’.”

And so, a deal was struck between Governors Bay Jetty Restoration Trust and the Pike family who owned the trees. In November 2019, they were felled under the direction of Governors Bay local, Stu Bould.

Mark says, “This was first-time territory. Quite a lot of the timber wasn’t suitable and there was more splitting and shakes than we expected.”

Mark says there are age-old ways of reducing the risk of hardwood timber splitting, such as using ratchets to tension the tree trunk before felling, laying a bed of branches to lessen the impact when it’s felled, driving fasteners into the trunk when felled, and submerging newly felled trees in water.

Mark explains that submerging logs under water to reduce splitting is a standard practice in Europe and North America, and was even used here in Christchurch.

“Oak has a very bad tendency to split. When the Deans cut down 40-year-old oaks from the woodlands they had established in the 1860s near Riccarton House, they dragged the logs into the nearby stream and left them there to de-tension before the wood was sawn. They achieved recovery of beautiful timber as a result, seen today in the panelling, joinery, and flooring of Riccarton House.”

Governors Bay Jetty is a like-for-like hardwood rebuild. The Okuti Valley trees harvested back in November 2019 have provided enough timber for all of the handrails and around half of the planks. The timber that did not meet the required grade due to splitting or cellular collapse (around 33% of that milled) is being used to make garden furniture and raised beds and sold as a fundraiser.

To meet modern building standards, the piles and beams for the new jetty will be sustainably sourced Australian eucalypt Category 1 durability timber. There are no plans to harvest more trees at Okuti Valley. This comes at a price, which Mark finds frustrating.

Mark understands that engineers who sign off on compliance need to sleep at night. However, he says the regulations should be challenged with the regulatory authorities because the requirements don’t match the situation.

“We’re not talking about an industrial wharf that has to withstand a massive ship whacking into the side of it. We’re not talking about a health and safety risk where people would fall off the wharf into deep water and drown. They’d fall into mud or shallow waters.”

Mark says one can observe the durability of logs and stumps of a related species of eucalyptus (globulus) of the same durability class (category 2) that have lain on the foreshore intertidal zone within 100 metres of the jetty for 60 years, and are still sound. “Here am I looking at local proof of its durability, and knowing that that forest has thousands of the stems of the right dimensions for the piles, and for cutting into timber bearers.”

He also says that, with sea level rise, the jetty could have category 2 piles and still last a long time, because the high biological degradation zone would shift upward over the years.

Through his work on the restoration of Christ Church Cathedral, Mark has connected with the International Timber Framers Guild.

“These are the leading timber craftsmen. There’s another realm of knowledge about wood and its uses out there, and managing these issues. They are forever intervening in decay and rot in historic buildings – old cathedrals for example, built in Europe a thousand years ago.

“They replace rot areas using jointing timber. Just because a pile has got a chunk of rot in it, doesn’t mean it can’t be excised and replaced.”

Mark ends the interview with an expression of frustration about rigid standards imposed by New Zealand regulation, and regret the historic jetty will not be repaired in situ, but replaced by an entirely new structure, built alongside.

He says “Modern engineers deal with precision, complete flatness, and no movement. But in Europe, with old buildings the floors, walls, and roofs are uneven, and the buildings are charming and functional. In New Zealand, nowadays we have a neurotic preoccupation with absolute precision, with horizontality and verticality.”

Photos

By Rosie Belton

