

Lane Cove River – Sediment, Mangroves and Dredges

In amongst all those kilometres many of us have paddled on the Lane Cove River, you may have at times noticed something 'unusual' along the river banks – old timbers, remnants of stone wall, industrial detritus. The river has had quite a chequered history since European settlement

For context:-

- The weir just above Fullers Bridge commenced in 1937 to 'improve the aesthetic and access of the area'.
- Before that - ferries were running all the way to Killara (Fiddens Wharf).
- Chicago Mills was the operator of the site recently occupied by Ingredion at Duck Corner (just downstream from our start/finish line). Also referred to as the Corn Factory.
- The 'Rest' is the Fairyland Pleasuregrounds site – on the opposite side of the river just upstream and visible from our club pontoon – just look for the huge Canary Island Date Palm on the river bank

Early History

Lane Cove National Park lies within the area of the Kuring-gai people, whose territory stretched from the northern shore of Sydney Harbour to Broken Bay. Early European colonisers of the areas reported several different groups or clans inhabiting the valley, including the Cameraygal and Walumedegal. The exact boundaries of these groups is not known, although it is thought that the Cameraygal inhabited the lower north shore of Sydney west to the Lane Cove River whilst the Walumedegal lived west of the Lane Cove River through Ryde to Parramatta.

Source: Lane Cove National Park Plan of Management (NPWS 1998)

Aboriginal Occupation

The valley provided a wide range of food for a number of Aboriginal language groups prior to 1788. Midden heaps along the Lane Cove River indicate that Aboriginal people occupied the area for thousands of years. The estuaries provided foods such as oysters, fish, crabs and waterfowl, while the forests would have provided possum, kangaroos, bandicoots and other animals.

Early European Settlement

Early in the history of the European settlement in Sydney, the area around the Lane Cove River became an important source of timber. Wharves were built along the river, including one by an ex-convict, Joseph Fidden, in the area now known Fiddens Wharf Reserve. A small vineyard was established in the early 1800s in what is now Fullers Park. By the end of the 1870s, many small orchards were flourishing in the area. Jenkins Kitchen, near the NPWS Visitor Centre, was part of a 1860s family homestead.

Source: <http://www.friendsoflanecovenationalpark.org.au>

River Sedimentation from 1880's

.. However, the 1880's were critical years for the Lane Cove River Valley. They marked the transient from the slow pace of the agricultural settlement to the increasing rate of change and suburbanisation of the second century of settlement. In this decade a large section of the longstanding Field of Mars Common was subdivided and sold. Figtree, Gladesville and Iron Cove Bridges were built giving road access to the city and a piped water supply was established to Ryde and Chatswood. These were the foundations of further development and population growth and, thereby, of environmental change along the river.

*With further clearing, especially on the slopes, closer suburban settlement and road building, sedimentation accelerated. **An average of 1.2m of sediment, coating the bottom and banks of the river, was deposited from the 1880's to the 1950's and mangrove growth exploded along the mudflats.** The river was then dredged (late 1950's to early 1970's) and much bottom sediment removed but the mangroves remained, in large blocks as well as fringing most of the shoreline. Areas already colonised were not touched by the dredgers, except for access, thus preserving the extent of their outward march at this time.*

Source: Wetlands – changes in the shoreline vegetation of the middle Lane Cove River – Lynette McLoughlin 1984

The Mangrove dilemma

The March of the Mangroves I

Along the river foreshore communities have changed as sedge marsh and reed beds have given way to mangroves. This has occurred as settlement has provided very favourable conditions for the growth of mangroves. Settlement has put into the river great quantities of silt, eroded from roads and cleared land, and nutrients. Thus mangroves have grown on new mudflats along the river's edge as well as taking over former saltmarsh areas. This happened in the mouth of Stoney Creek (now Blackman Park) which, in the 1880s was still the wide, open mouth of a creek with a few clumps of reeds and mangroves. By the time it was designated as a rubbish tip in the 1950's the whole area was filled with mangroves. Change from saltmarsh to mangroves has occurred extensively opposite on the Ryde shore in Buffalo Creek and Kittys Creek. Most of the rest of our foreshores where silt has accumulated, have acquired far more extensive stands or fringes of mangroves than they carried in 1788

Source: Natural Environment of Lane Cove – by Lynn McLoughlin 1992

<http://www.lanecove.nsw.gov.au/Environment/NaturalEnvironment/Documents/NaturalEnvofLaneCove.pdf>

Mangroves II

...Early maps, photographs and descriptions clearly indicate there were few mangroves on the Lane Cove River in the early period of settlement. There was a variety of ecosystem and vegetation types: reed beds, salt water swamps or freshwater swamps behind low levees, fringing casuarinas and melaleucas on the levee banks, slopes of Sydney Red Gum/Sydney Peppermint reaching down to the water's edge.

However, as the pace of settlement in the catchment increased from the 1880's, the consequent sedimentation in the river built up wide inter-tidal mudflats, decreased the overall depth of the river and plugged the mouths of creeks. Accretion occurred along the entire length of the banks between Fullers Bridge and Figtree Bridge, except where cliffs descend vertically into the water, and to a lesser extent upstream.

From their original small patches near Figtree Bridge and downstream, the mangroves began to spread onto these mudflats, eventually reaching even beyond the present weir. Wherever sediment built up to intertidal height and a width of 1 to 2 metres, the mangroves colonised. The major period of mangrove colonisation appears to have been the first four decades of the 20th century, in the area above Stringybark Creek and even earlier than this further downstream....

Source: The Upper Lane Cove: History, Heritage, Bibliography. Lynne McLoughlin and Margaret Wyatt 1993

Dredging Advocacy – 1800's

Evening News 16 Nov 1898

<https://trove.nla.gov.au/newspaper/>

LANE COVE RIVER.

A DREDGE WANTED.

The Lane Cove Council on Monday evening had under consideration a letter from Mr. N. Joubert, with regard to making application to the Government to dredge the Lane Cove River, near the Hunter's Hill bridge. Mr. Joubert pointed out that quite recently a schooner, laden with coal, couldn't pass through the bridge owing to the shallowness of the water. In consequence, he was obliged to allow the schooner to discharge part of her cargo on to his ferry wharf. After discharging portion of the cargo, another attempt was made to get through the bridge, but the vessel once more became fast on the bank of accumulated silt. Such blocks caused great inconvenience to the travelling public, and he thought it was time something was done to remedy the defects in the bridge, as well as deepening the channel. Alderman Robb considered the council should take action in the matter, and that all the surrounding councils be asked to assist. A joint deputation should wait upon the Minister. Alderman St. Vincent Welch said the council should write at once to the department. The council decided to write to the department as a preliminary, and at the same time communicate with other councils in the district.

Evening News 19 Jan 1901

<https://trove.nla.gov.au/newspaper/>

LANE COVE ITEMS.

The sanitary inspector at the last meeting of the Lane Cove Council submitted a report on the health of the district for the past three years, giving the number of infectious cases of disease during that period. The report showed that although the district is rapidly increasing, the cases of disease have become less each year, and that last year—the year of the plague—there were only three cases; two of scarlet fever and one of diphtheria; the latter case being contracted in Sydney. The report was approved and considered highly satisfactory.

A resolution by the Mayor was passed to the effect that the Minister for Works be asked to dredge the shallow places in the Lane Cove River, so as to render it safe for navigation by rowing boats and small steam launches, and to enable the public to have free access to this popular pleasure resort.

Dredging – 1909-11

The article below gives some good detail on the scope of the dredging undertaken in ~1911. Source:

<http://trove.nla.gov.au/ndp/del/article/15028845>.

15 Jan 1909 Sydney Morning Herald

"UPPER LANE COVE. NORTHERN MUNICIPALITIES CONFER. DEEPENING OF THE CHANNEL URGED.

For many years repeated efforts have been made to induce the Government to improve the channel of the Upper Lane Cove River, and render it navigable. Numerous suggestions have been made, and Mr. O'Sullivan, when Minister for Works, went so far as to promise a weir, but up to the present nothing has been done to render navigation easier or safer beyond the placing in position of finger posts to indicate the channel, such as it is.

Yesterday, at the suggestion of the Mayor of Willoughby (Alderman Bailey), the Mayor of Lane Cove (Alderman Holdsworth), the Mayor of Ryde (Alderman Anderson), the president of the North Ryde Progress Association (Mr. Pierce), Aldermen Turnor and Gray (Hunter's Hill), Alderman Ludowici (Lane Cove), Mr. Bastian (town clerk, Willoughby), Mr. Walsh (Engineer-in-Chief, Sydney Harbour Trust), and several others interested in the matter, made a trip over the upper reaches of the river in a motor launch, to determine what might be done to improve the channel.

The launch was able to proceed seven miles above the Fig Tree bridge. At present there is a small ferry service running seven miles above Fig Tree wharf twice a day, and a shorter distance—to the Chicago Flour Mills—at more frequent intervals. But when the tide is low many difficulties are encountered, and these it is desired to remove.

On the return journey the party landed at "The Rest," a picturesque recreation ground two miles from Fig Tree bridge, where refreshments were served. The Mayor of Willoughby presided. A letter was read from the Premier, stating that a sum of money had been voted and placed at the disposal of the Harbour Trust for improving the channel. His sympathies, he said, were with the movement, which he would assist as far as possible. A letter was also read from Mr. Fell, M.L.A., in which he suggested that delegates of the districts interested should meet him and discuss the situation prior to urging their claims on the Government.

The chairman said they would like to see the river made navigable at low tide, at any rate as far as the Chicago mills. He understood that £500 was at the disposal of the Harbour Trust to improve the channel, and such a sum, judiciously expended, would give at least temporary relief by the removal of obstructing sand spits and rocks. It was necessary that the river should be opened up, as it was largely patronised by excursionists, to say nothing of those living along its banks. If a larger sum than £500 could not be secured, the best thing to do would be to urge its expenditure on the river above the Chicago mills.

Alderman Ludowici said the channel should be deepened by at least 2 feet, with a width of 20 feet, and any dangerous rocks should be removed. It was eight years since Mr. O'Sullivan promised to construct a weir, which, when the Government of the day declined to redeem that promise, could have been carried out by private enterprise had it been

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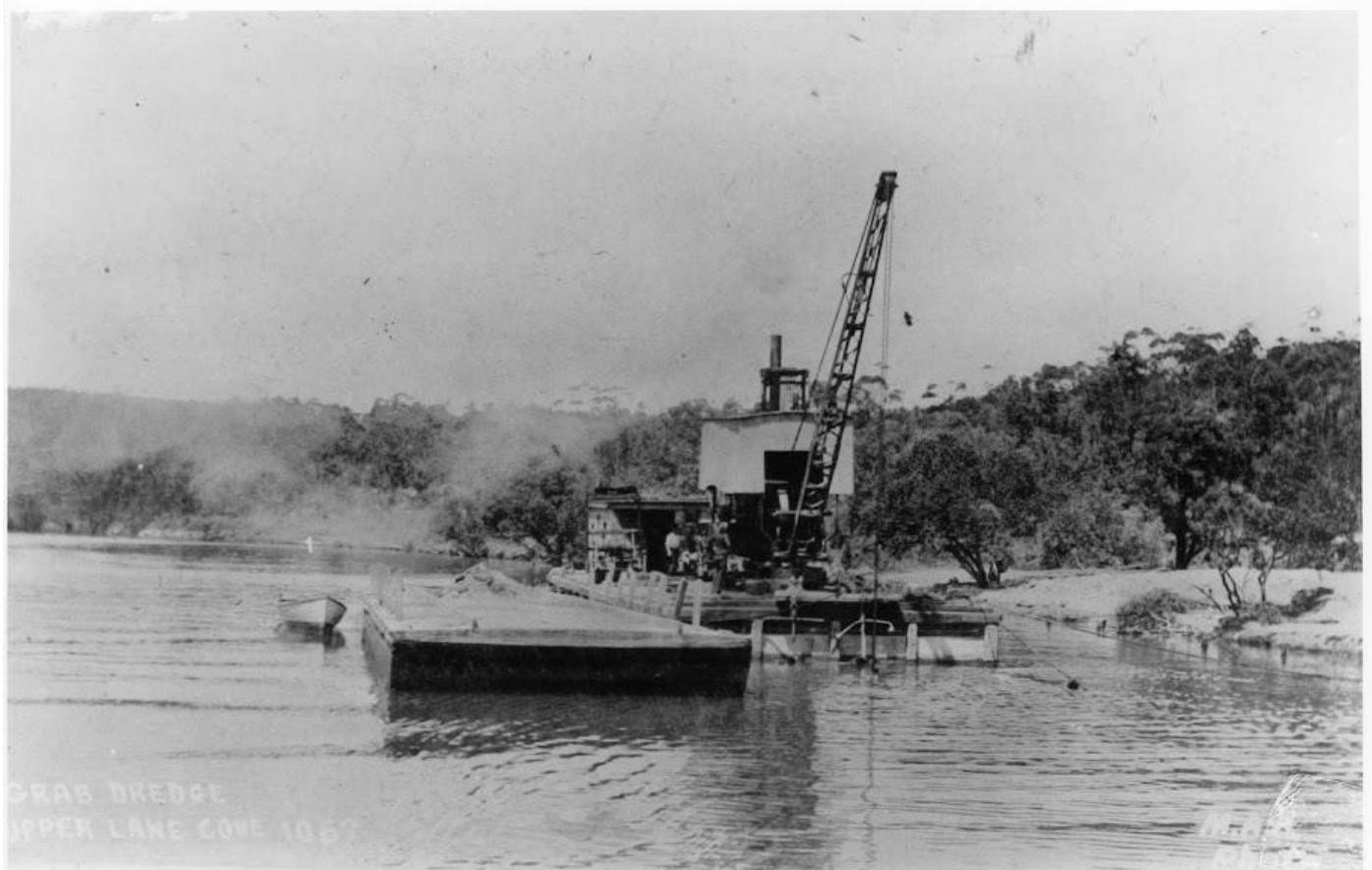
Mr. T. S. Pierce, the Mayor of Ryde (Alderman Anderson), and Aldermen Gray and Turnor (Hunter's Hill), having spoken, it was resolved that delegates should be appointed to meet Mr. Fell on the 21st inst, and that such committee consist of the Mayors of Willoughby, Lane Cove, and Ryde, the president of the North Ryde Association, and Alderman C. Ludowici (Lane Cove).

Mr. Walsh intimated that if the Commissioners told him to proceed with the work he would do so to the best advantage. They ought to do a great deal with the sum voted, but in dredging a channel it was not only necessary to make one capable of accommodating a launch, but one that would enable a dredging plant to carry out its work. The punts drew 5 feet, so they would see the work would be greater than anticipated. There were only three or four areas of rocks to be removed, and the sand should not prove any great obstacle.

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Above: Grab dredge on Upper Lane Cove River around 1911

Source: <https://ryde.spydus.com/cgi-bin/spydus.exe/FULL/WPAC/ALLENQ/13897326/12342710,3> (available for Research Purposes)

Dredging Advocacy – 1930's, 1940's, 1950's

Construction & Real Estate Journal 25 Nov 1936

<https://trove.nla.gov.au/newspaper/>

Lane Cove Improvements

There is an excellent scheme supported by the Government for an Upper Lane Cove National Park. The Organising Committee is at present engaged in the acquisition of the foreshores on both sides of the river above Fuller's Bridge. In order to guarantee a safe water passage to this proposed park area at all tides, it will be necessary to dredge the channel. To achieve this economically the mud must be disposed of locally, care being taken not to spoil the natural beauty of the foreshores. There are many mangrove swamps along the banks that could be utilised to screen low walls built at little cost to receive the dredgings. There are also a number of reservations which official maps show as dedicated to public recreation. A number of these reserves mark the junction of small creeks with the main stream and cannot be of much use for recreation unless reclaimed.

Recently the venue of the State Championship Fours was transferred to the Nepean River on account of the unsuitability of the Lane Cove course. Are we going to let our popular aquatic events slip away from us through neglect to care for our water courses? Disposal of the flats immediately below the bridge at Fig Tree would provide an excellent course.

SMH 13 May 1941

<https://trove.nla.gov.au/newspaper/>

DREDGING REQUEST REFUSED.

The Maritime Services Board has refused a request from the Lane Cove Council to dredge the Lane Cove River, between Fig Tree and Fuller Bridges. The council was informed that the cost involved was not justified.

Council had informed the board that, because of silting up, the river was not navigable by launches along the stretch mentioned.

The Sun – 3 May 1951

<https://trove.nla.gov.au/newspaper/>

RIVER SMELL WILL LAST ANOTHER MONTH, EXPERTS FORECAST

The Lane Cove River, now giving off a sickening smell and killing fish, will be polluted for at least another month, experts said today.

After that the nuisance will probably end. Pollution of the Lane Cove River has caused ratepayers to complain to four riverside councils that:

They also said that future pollution could be avoided by dredging the river, but the Maritime Services Board did not have enough plant to do the job.

● Sulphuretted hydrogen (rotten egg gas) has been rising from the inky water, annoying residents, tarnishing metal and killing vegetation.

● The river water has killed mullet, bream, whiting, eels, crabs, and mud worms.

Local councils referred the matter to the Maritime Services Board which controls the waters of the river.

The board sent an investigating team to check the causes of the pollution.

The causes are:

● Decay of algae — minute water plants which grow in all rivers and bays.

● Discharge of factory waste into the river.

Experts said that decay of algae would stop at the end of the month.

Dredging 1958-74

In the late 1920s-30s, when the Lane Cove National Park was being planned, the silting up of the river was still a major issue. The Committee felt that below Fullers Bridge considerable dredging would be required for comfortable and speedy access, as sand bars limited its use to very small craft and at low tide there were exposed large areas of mudflats which were 'unsightly not to say nauseating'...

...Dredging for sand began above the weir in 1943 when W.A.Davidson was engaged by R.C.Bradshaw Sands (Botany) Pty Ltd.... The river above the weir was again dredged in the early 1970's

...A number of larger companies had investigated the area below Fullers Bridge but rejected it as being most likely to be mud and silt as it was lined with mangroves. Davidson, keen to run his own operation, decided to chance the river downstream and, by 1958 had formed his own company and had agreements with the Trust for use of their land, for

example in River Avenue for stockpiling. He found good quantities of clean sand and dredged most of the river between Fullers an Figtree Bridges from the late 50s to 1974. The locations used for bins, sand washing and stockpiling wee mainly Lane Cove National Park Trust land and royalties were paid to the Trust....

...Dredging was essential to restore the depth of the river and to improve the water quality by allowing tidal flushing processes to operate properly. Whilst dredging did restore the depth of the river it did not restore the width, as the mangroves had already colonised the new mudflats (mostly 2-4 metres wide) along the banks, and the dredgers did not touch mangrove areas, except for access.

However, as a commercial operation, the dredging only took the sand underneath the more recent silt deposited since European settlement. Despite the fact that the major phase of building in the catchment has ceased, considerable quantities of silt are still brought down by the river after rain and siltation is still occurring. With the sand gone, a commercial operation is unlikely to want to dredge the river again therefore erosion in the catchment should be prevented as far as possible....

Source: The Upper Lane Cove: History, Heritage, Bibliography. Lynne McLoughlin and Margaret Wyatt 1993

Sugarloaf Point – Processing plant

<http://www.growingpassion.org/2011/11/saltmarsh-regeneration-of-endangered.html>

Sugarloaf Point is a region in the park that was once a thriving saltmarsh ecosystem. In 1940, 1.2 ha of the Point were mangrove swamp, and 0.2 ha were saltmarsh. Midway through last century, the river was dredged to improve boat access, and the excavated silt deposited onto the salt marshes.



Above: Sugarloaf Point in 1969, at the height of dredging operations. LCRK's 9km turn is out of shot to the left. Photo courtesy of National Parks and Wildlife

The Aftermath

...Dredging has been responsible for a number of modifications of the river and its banks. In a number of areas unwanted material from the dredging (silt, charcoal, shell) was dumped on the banks of the river or low lying flats. A major dump area was Sugarload where a sand-washing plant was located and the swamp behind the former island was filled with dredge spoil and built up to a considerable height forming the present slope from the Sugarload scarp to the foreshore. The north side of Kitty's Creek was another such location with sand-washing, stockpiling and dumping. Dredge spoil was also used to block the natural entrance to the creek through Fairyland.

During the dredging most of the rivers sandy spits and beaches were lost and associated with the 1909-10 dredging was the cutting of a navigable channel in rocks upstream of Fairyland. At other times various outcrops of rocks in the river have also been removed to improve navigation. ...

Source: The Upper Lane Cove: History, Heritage, Bibliography. Lynne McLoughlin and Margaret Wyatt 1993

So there you go! Next time you're out for a daylight paddle on the Lane Cove River – see what evidence you can see of dredging operations. Chances are the mudbank on the way to our 12km turn is going to see some mangrove colonisation over coming years.

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