

Restoration of Manly Lagoon – Part 1

WHAT'S BEING DONE?

The Water Quality Monitoring & Rehabilitation of Manly Lagoon Catchment Project

A National Landcare Grant to the Manly Environment Centre (MEC) has funded the continued employment of a Catchment Liaison Officer (CLO) whose role is to work with the community, industry, golf courses, students and other stakeholders to enhance the Manly Lagoon Catchment.

Acting as a central point of contact, the CLO continues to be based at the MEC's Waterwatch Centre and will co-ordinate the following projects:

- WATERWATCH - Water quality monitoring lagoon & creeks
- Community education and awareness
- Lagoon clean-ups
- Golf-course best practise management plans
- Industry education programs
- Regeneration and revegetation

Joint Silver Award

Manly Lagoon Water Quality Monitoring and Rehab Project – Manly Environment Centre



Tree-planting volunteers at Manly Lagoon

Manly Lagoon is a small coastal lagoon situated at the boundary of Manly and Warringah in Sydney's northern beaches area. Environmental investigations have identified numerous pollution sources including urban and stormwater runoff, sewage overflows, tip site leachate, and illegal discharge and dumping of industrial and trade waste. Considered one of the most polluted recreational waterways on the eastern seaboard of Australia, Manly Lagoon discharges into the National Estate-listed waters off Manly Beach. Recreation activities are prohibited.

The project has achieved its aim of being a model project for the Sydney Northern Beaches catchment area and has gained national, state and regional recognition for its involvement in Total Catchment Management within the local community. "The project has involved the community in a variety of educational activities including water quality monitoring, planting and weeding days, drain stencilling, clean-ups and educational lagoon talks," says James Rennie. Catchment tours have been conducted for conservation agencies, Environment Protection Authority legal officers and numerous visiting overseas delegations.



Balgowlah Boys involved in tree planting

The project has thus far attracted approximately 5,000 hours of volunteer time, 3,000 hours of Manly Environment Centre support, and has also attracted thousands of dollars of other 'in-kind' support.

Type of Land Use	Area (km ²)	Area (%)
Residential - low density	6.62	37
- low-medium density	<u>2.31</u>	<u>13</u>
	8.93	50
Industrial	1.22	7
Business	0.24	1
Open Spaces - Recreation	2.67	20.3
Bushland	3.7	14.7
Education and Technical Facilities	11.7	7
Total	17.9	100

The open space generally lies adjacent to the lagoon and its tributaries. Approximately half of the open space is linked to Manly Dam, which ceased operating as a water supply source in 1942 and is now a recreational resource.

Source: Manly Lagoon Estuary Management Study 1995

Physical Changes

Development within the Manly area became rapid following completion of the Sydney Harbour Bridge in 1932. All suitable residential areas were quickly taken up and market gardens sprang up along the creeks, which fed into the lagoon in North Manly and Brookvale.

The waterways of Manly Lagoon and its tributary creeks have been the subject of significant man-made changes over at least the past sixty years or so. Of particular interest is that Hinkler Park was an island up until the 1950s when the former southern channel, some 13 to 15m wide, was artificially closed during bridge and roadworks and replaced by a small 600mm diameter pipe culvert.

Only 10% of the original wetlands in the lagoon catchment remain, 90% having been land filled and/or reclaimed, for:

- Lagoon Park as far south as the present Stella Maris School
- Aitken Avenue
- Manly Golf Course
- Hinkler Park,
- Warringah Golf Course (south of Kentwell Road)

- District Park (now Nolan Reserve)
- Warringah Mall shopping centre
- Playing fields off Aquatic Drive
- Passmore Reserve
- Addiscombe Road
- T.S. Condamine
- Wakehurst Golf Course

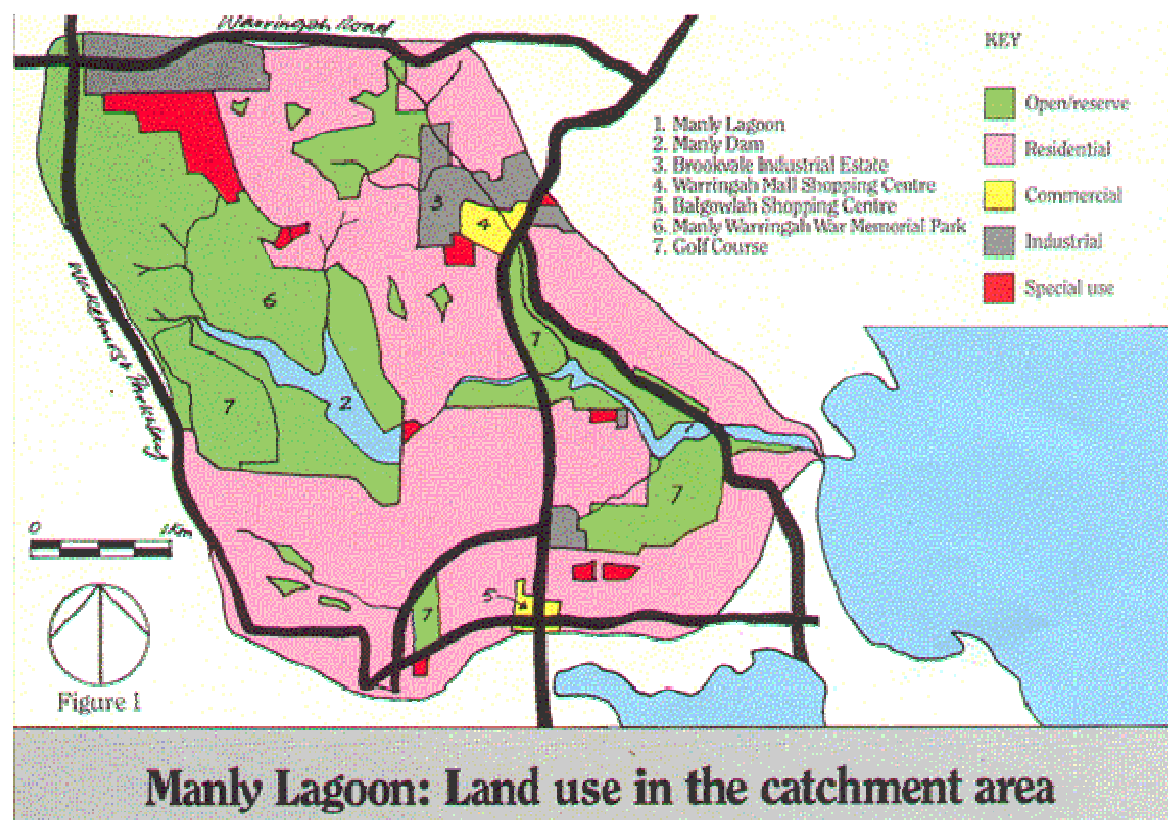
Former Tip Sites

- Addiscombe Road
- Lagoon Park (eastern end)
- Playing fields off Aquatic Drive

Foreshore Former Market Garden Sites

Along the southern side of the waterway from Manly Creek downstream to the eastern end of Campbell Parade

Source: Mcinnes, H. Problems and Principles in Estuarine Management



EUTROPHICATION OR REHABILITATION?

Reversing the Dead-End Trend

The Manly Lagoon Estuary Management Study (1995) states that:

- The **water** of the Lagoon is EUTROPHIC and sensitive to further increases in nutrient inputs.
- Manly Lagoon **sediment** is CONTAMINATED with HEAVY METALS and, compared with Sydney Harbour and Curl Curl Lagoon, has the highest average levels of copper and lead. The concentrations of heavy metals in the muddy surface sediments of the lagoon appear to have increased significantly over the period 1985 to 1993. On the available data, concentrations of lead, mercury and zinc exceed overseas sediment standards (Washington, USA) over much of the lagoon.
- There are 29 Sydney Water sewer overflows in the catchment.

A eutrophic lagoon has limited aesthetic appeal due to high turbidity and the potential for periodic blooms of planktonic algae, including in some instances blooms of toxic blue-green algae. "Apart from visual problems, algal blooms could generate other water quality problems such as production of unpleasant odours, deoxygenation and ultimately fish kills" (Cheng, 1993).