

SERVING THE PENINSULA SINCE 1906

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History

with JOHN MORCOMBE

Lagoons dominated peninsula landscape

AMONG the most prominent features of the peninsula landscape are the four lagoons - Manly, Curl Curl, Dee Why and Narrabeen - which punctuate the coastline between Sydney. Harbour and Broken Bay.

Picturesque and popular, the lagoons have shaped, the development of the peninsula but have also borne the brunt of that development - three of the four lagoons are permanently unsafe for swimming.

The story of the lagoons - where they came from and where they will go - is the subject of a lecture at the Dee Why Civic centre next Wednesday night by Dr Peter Roy, senior research scientist with the Geological Survey of NSW, a division of the Department of Mineral Resources.

Dr Roy's lecture is the second in the 1999 Hilltop to Headland Lecture Series presented by the

Story started 200m years ago

Northern Beaches Catchment Management Committee to give local residents the chance to learn more about their environment.

By definition, Broken Bay, Sydney Harbour and the four lagoons are all estuaries, semi-enclosed bodies of water on the coast where fresh and salt water mix.

The story of these estuaries begins more than 200 million years ago with the birth of the rocks of which the peninsula is formed - a time when Australia was still part of the supercontinent called Gondwana and Sydney lay at the mouth of a broad river basin that was flat and swampy.

About this time, rivers eroding inland mountains began dumping vast amounts of sand, silt and clay into the Sydney Basin.

This process continued for 20-30 million years, during which time layer upon layer of sediment was laid down until the original swamp lay buried hundreds of metres below the surface.

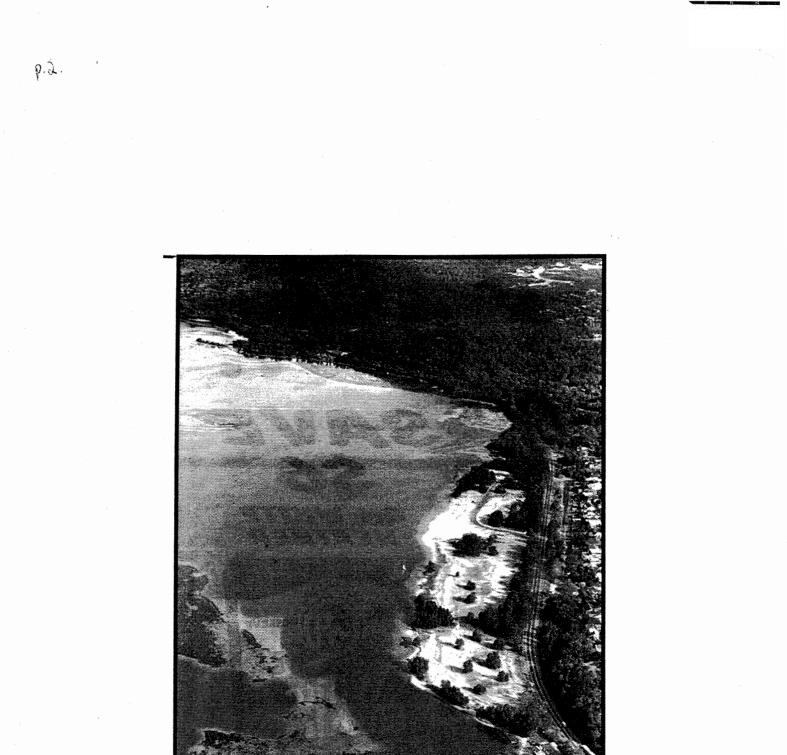
Over geological time the organic matter in the swamp was converted to coal, the sandy sediments were cemented by pressure into sandstone, such as Hawkesbury sandstone, and the finer silt and clay were turned into mudstone and shale. Under tectonic pressure, the supercontinent of Gondwana began to break up and, about 60-80 million years ago, the eastern part of Australia broke away and the Tasman Sea basin was formed.

Subsequently, rivers draining the eastern seaboard began eroding the existing pattern of coastal valleys.

As the pattern of the continents changed so did the climate, driven by the currents of the oceans now separating the drifting continents.

An ice cap formed at the South Pole about 15 million years ago, followed by a permanent ice cap at the North Pole about three million years ago.

From this time, the planet fell subject to periods of glaciation, during which the ice caps expanded and contracted many times, alternately locking up and releasing such vast quantities of



Top view ... from the air, the Narrabeen Lagoon looks fabulous

OCAL STUDIES

water that, at times, the characteristics of sea level rose and fell by up to 120m.

During those times when the sea level was at its lowest, the coastline of Sydney was 15-20km east of its present position and the continental shelf was exposed.

Significantly, rivers from the mountains had to further excavate the valleys just to get to the sea.

This process was repeated many times, interspersed between glacial periods by episodes when the coast was flooded.

The last of the Ice Ages peaked about 20,000 years ago, when the coastal valleys were excavated a final time by the rivers cutting their way to the sea.

As the last Ice Age ended, the sea level rose, slowly flooding the coastal river valleys to form estuaries.

The present sea level was reached about 6,500 years ago, although it may briefly have been a metre or two higher before stabilising at its present level.

As the sea rose toward its present level, vast quantities of sand and sediment were transported from the continental shelf, distributed by wind, waves and currents and then deposited to form beaches, dunes and sand spits.

But the early estuaries in the flooded river valleys were not all identical.

The differences between the estuaries is a mouth of each estuary at the time it was formed, and the interplay of natural effects like tidal currents, ocean swells and river discharges.

Together these characteristics and natural effects control the subsequent sedimentation patterns, salinity regimes, water circulation and, ultimately, the ecology of the present-day estuaries and lagoons.

Sydney Harbour and Broken Bay are estuaries which combine deep, relatively wide entrances with strong oceanic and tidal influences and substantial river discharge, and thus remain open to the sea.

But the four peninsula lagoons occupy broad, shallow valleys across which wind and waves have formed barriers of sand.

They also have narrow, shallow entrances that are mostly blocked by sand shoals, and all are fed by low-discharge rivers from small catchment areas.

Over goelogical time, the extent of the sand barriers has increased and the estuaries have become shallower due to sedimentation by sand and mud.

Today the peninsula lagoons are generally closed to the sea - the power of the ocean to close the mouths of the estuaries with sand is far greater than the power of their stream discharges to open them.

Only after very heavy rain may the entrances function of the geological temporarily open when Wednesday.

the the water level within the lagoon overtops the sand barrier and carves a shortlived channel to the sea.

> And the lagoons are still evolving.

Over geological time, probably hundreds thousands of years, the lagoons will naturally fill with sediment from the surrounding catchment area and their streams will be confined to narrow channels meandering across flood plains to the sea.

Unfortunately it is difficult to determine the rate at which the lagoons are silting up, either by natural or artificial agency.

Unlike a tree whose rings mark the passage of time and the measure of growth, the sediment accumulating on the lagoon floor is constantly being stirred up by worms, shell-fish and other small marine animals so it never settles into measurable layers.

And any attempt by humans to buck the geological trend by dredging the sediment is problematic - the muddy sediment is rich in sulphides which, when exposed to air, produce sulphuric acid and sulphate salts.

Perhaps only geological time will determine the future of our lagoons.

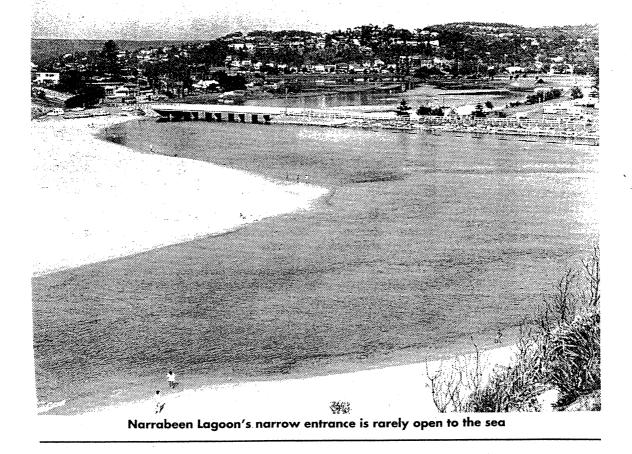
• Dr Peter Roy's lecture Where did our lagoons come from and where will they go? will be presented in the Civic Centre, Council Warringah Chambers, at 7pm next

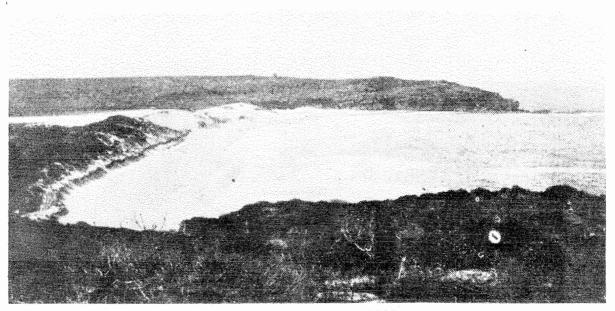


Dee Why ... one of the smallest and shallowest of our lagoons

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How lagoons helped shape development





Curl Curl Beach, about 1905

The name Curl Curl was probably an accidental variation of the aboriginal term 'Curial Curial' which referred to the progress of man on the river of life. Curl Curl appeared on a Parish map as early as 1842 but it did not refer to the area, north of Harbord, known as Curl Curl today. Instead, Curl Curl lagoon was the original name for Manly Lagoon and Curl Curl Head referred to the headland at Queenscliff. Why Curl Curl was 'moved' north is not clear, but may have been connected with the naming of Queenscliff during the reign of Queen Victoria, 1837-1901. An early local reference to the northern part of Harbord Estate as Curl Curl, was made by a resident, Rose Holloway, in 1899 when she wrote of wreckage on the beach.

The land boom experienced by Harbord in the mid 1880s was followed. five years later, by a recession. Land developer S. H. Handcock reported that "Seaside and beach properties took a big tumble and for fully twenty years there was little or no business doing". He added that a Queenscliff property bought during the boom for £3000 (\$6000) was later sold by its purchaser for $\pounds 600$ (\$1200). When at last interest in real estate began to revive, the reason was partly economic but also closely connected with the increasing popularity of surfing.

Up to 1902 mixed bathing and daytime surfing after 8.00 a.m. was prohibited by law. But in that year W. D. Gocher defied authorities by plunging into Manly Surf at noon on three



Real estate leaflet, 1912.

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On A Shoestring

The Depression & 1930s in Manly, Mosman, Pittwater and Warringah

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ABOUT THE BOOK

LANDSCAPE AND MEMORY

People's attachment to their local place emerged strongly from this project. In their mind's eye most people interviewed saw the 1930s landscapes as sparsely populated even in the most settled of areas. Large stretches of bush in between the houses and many dirt roads loom in their memories.

Pat Curtis describes the scene:

...nobody would leave, voluntarily leave this area because you had the bush, and you had the sea and the surf and the harbour. It was really, it seems as though the whole world was here... even Allambie Heights in the 1930s – it was like being in the mountains, because there were no houses. There was nothing to be seen ... you had this feeling of being up in the air. And you could see across to Manly

Society at this time was highly localised and many people lived near their place of work, especially further up the peninsula where public transport was limited. Many thought that beyond Dee Why it was all 'thick bush'.

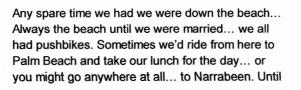
Because there was so much open space bushfire was an ever-present danger. Gwen Jack remembers:

n 3))

All the Collaroy area adjoining Long Reef ... was completely bare and almost every Christmas there would be a bush fire out there and the whole of that area would be alight. It was quite spectacular...

The sea was a central part of many narratives; stories about varying uses of the harbour and beaches for leisure, play and work – swimming, surfing, fishing , sailing, journeys to and from work. Many interviewees gave lush descriptions of 'magic' sights, of clear waters, lots of bush through which they roamed, plenty of fish and rabbits, with few people and great freedom. Harold Mildwater recalls:







North Curl Curl Beach with sandhills.



Rowing at Deep Creek, Narrabeen, c1930.



Palm Beach, c1934.

'Social' lagoon encroachments By JOSEPH GLASCOTT, Environmental Writer A State Pollution Control Mention Control

Commission report holds

out little hope of preserving Svdney's northern beach lagoons in their natural state.

The report says that social and community life near the lacoons is hostile to their natural values. The commission carried out

an environmental investigation of Narricean, Habbord and Dre Why is open ast yeer,

The ing style the set of the ests by local residents, part cularly the Narrabeen Lagoon Committee, about pollution and siltation of the lagoons.

The commission's report was presented to the Government in February, but has only now been made available.

Since the commission made its inquiry the lagoon committee and other local action

groups have protested against the development of a proposed regional shopping centre on part of the Warriewood valley swamps.

The protesters say the shopping centre development will damage the Warriewood wetlands, which drain into Narra-, been Lagoon.

The commission says in its report that estuarine waterways in uthan areas add a special dimercion to daily life.

"The sound of water running in a valley, sunlight glinting on a lagoon's surface, tranquility of a foreshore reserve and fascination for wild life ensure an atmosphere for relaxation." the report said.

"The expanse of safe water with its biological productivity of its aquatic system provides additional opportunities for recreation."

served. But our social and community life is, in many ways, hostile to these values. "Urban subdivision, traffic,

refuse disposal and industry are all essential parts of daily life.

"The need is for pursuit of all activities without unnecessary environmental degradation.

The commission's report said Narrabeen Lagoon's special value was its provision for acive water-based recreation and "passive" relaxation along its loveshores.

The special value of Dee Why Lagoon was in the preservation of its wildlife habitat. especially its rich and varied bird life.

Harbord Lagoon and its foreshores required improvement to reach full potential for recreation amenity.

"These are values to be pre- had increased in all the lagoon catchment areas after residential development.

There seemed no justification for further consolidation of shorelines or reclamation of land in any of the three lagoons.

The report said the area's general decline in bird and animal populations was characteristic of areas where urban development occurred.

decline This progressive could be arrested by the management of specific habitats for their wildlife value.

The report said swimming was prohibited in the lagoons because of a presumed risk to health from pollution.

However, there was a need to review the criteria for assessing health risk and the continuous closure of the lagoons to swim-

The report said soil erosion ming.

A swamp reclaimed from rubbish

Shotguns made Curl Curl echo

From the sitting room of their Stewart Avenue home, Betty and David Phillips have seen many changes to Curl Curl Lagoon in the past 30 years. The changes reflect the post-war development of a "wilderness" with a few fibro weekend shacks to a quiet seaside suburb.

The Phillips were among the first to build their home on land adjoining the lagoon. In the early days their backyard was an accessway for trucks dumping rubbish in the swamp. The tip was later turned into a grassy reserve and with the fields surrounding the lagoon it became a popular playground. Locals describe Curl Curl as a suburb forgotten by time – it is central and isolated.

The beach with its high sand dunes and wild surf is rugged and unspoilt. In contrast is the tranquility of the lagoon and its surrounds which split Curl Curl and North Curl Curl. The Phillips have watched the fads come and go from their backyard adjoining the lagoon, from the duck shooters firing at dusk, to the eel catchers, the noisy trail bikes and the horses that were tethered further up by the lagoon. "We used to sit here and hear the shots coming for the ducks. One night a bullet ricocheted over our house. They would never find anyone because they (the duck shooters) would hide in the reeds," Betty said. "There used to be swans on the lagoon.

"We used to sit here of a morning over breakfast and see the ducks swimming along with the ducklings."

The fields on the other side of the lagoon were popular for family bonfires and for children's overnight camping expeditions.

by SHARON BRETTKELLY

Until the council built a small footbridge, the children used stepping stones to cross the lagoon to school at North Curl Curl. But when the lagoon swelled with rain the children had to take the long route to school.

Sadly, the swans have disappeared and no one fishes for eels anymore. Betty has noticed oil slicks on the water and believes the tip has caused leaching problems.

But the Phillips still enjoy the tranquility.

"We want to keep it as a nice passive reserve for people to walk in and not worry about bikes and skateboards

□ Betty and David Phillips . . . "We want to keep it as a nice passive reserve for people to walk in and not worry about bikes and skateboards and things like that." Picture: Ros Cannon.

and things like that," she said. It was the Aboriginal name for lagoon, curial curial, that gave Curl Curl its name.

Betty said families would picnic on the grassy verges of the beach before the bus shelter and car parks were built, but people mostly avoided the surf.

"There were hardly any people around then. The dangerous surf kept a lot of people away," she said. An important landmark overlooking South Curl Curl Beach is Stewart House.

This holiday home and education centre for underprivileged children was first set up to cater for malnourished children 60 years ago.

Thousands of children have stayed at the home and for many Curl Curl will be especially remembered as their first sight of the ocean.

