

Typical Projects

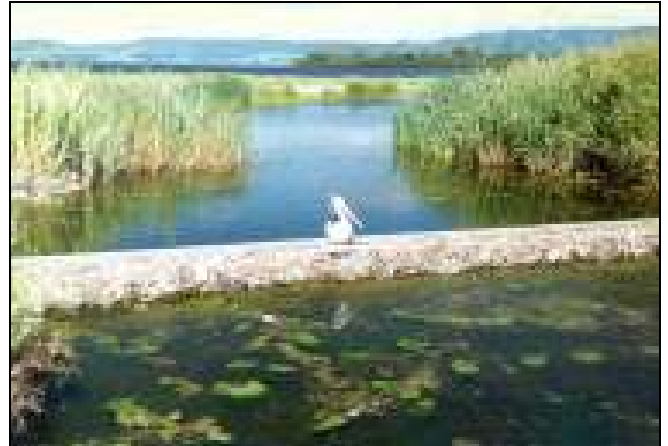
Griffins Bay / Kully Bay and Joes Bay (\$5.75 million)

Some 300,000m³ of sediment has been dredged from Griffins Bay to improve water circulation and boating activities. Dredged material was placed along the shoreline of King St and Northcliffe Drive creating an additional 15ha of foreshore land to the 15ha that already existed.

A large portion of the work was undertaken by young unemployed people under the Commonwealth's Jobskills Program with supervision provided by the Authority. This work included the construction of a wharf and promenade, car park and pedestrian/cycle shared accessway along the waters edge of the King St foreshore.



Griffins Bay and foreshores



Kully Bay Wetland

A major wetland covering some 2.5ha has been constructed in Kully Bay to treat stormwater flows from 5 drains discharging from the Warrawong CBD and overflows from the adjoining sewer pump station. The wetland was constructed in partnership with Sydney Water. The wetland also provides significant bird. In addition, gross pollutant traps have been constructed to help prevent litter and rubbish from reaching the lake.

The Authority has acquired portions of Crown land and Wollongong City Council land fringing the area reclaimed following dredging works. The Authority has progressed plans to develop the King St foreshore for tourism development.

In addition the public amenity of the area has been significantly improved through the refurbishment of the toilet block on Kully Bay oval, the construction of a jetty and viewing platform along the waters edge of the Northcliffe Drive foreshore as well as 2 car parks, an AFL oval, 2 kilometres of shareway, shelter sheds and seats, landscaped areas and a equal access childrens playground. An amenities and education study centre is under construction and should be completed shortly.



Northcliffe Drive Equal Access Childrens Playground



Northcliffe Drive Foreshore landscaping

The improvements to the area have attracted strong community support. As part of Olympic Landcare 2000, the Authority hosted a site near the AFL oval and the wetland. The project attracted some 500 people and involved planting 5,000 native tree and wetland species.

The area has also attracted interest from outside the Illawarra region. As part of the 19th Australian Scout Jamboree held in January 2001 the Authority provided Scouts Australia with a site on the Northcliffe Drive foreshore as a base for sailing activity on Griffins Bay.

A portion of the foreshore land is licensed to the NSW Rowing Association and leased to the Department of Defence. A Rowing Centre has been constructed on the site which is home to rowers of the Illawarra as well as the local Dragons Abreast group and the Five Islands Outrigger Canoe Club. In addition, the Department of Defence has constructed a facility which is home to the Illawarra Naval and Air Cadets.

The boat ramp near the Illawarra Yacht Club has been improved by the construction of a wave break jetty and 2 pontoons for use by the public and the club. The club contributed funds towards the project.

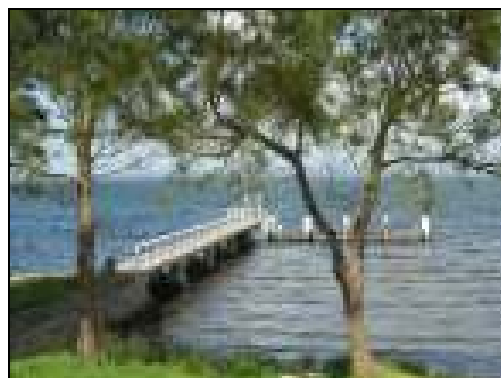
Tuggerah Bay / Wollamai Point (\$1.75 million)

Repairs have been undertaken to restore the former Merinda Wharf. The Merinda was a cruise vessel which operated on the lake for many years.

Historic Dixs Wharf has been restored and a shareway constructed from the former Merinda site to Hooka Point. The shareway has been protected at a number of locations by gabion baskets.



Dixs Wharf after initial restoration



Dix's Wharf after removal of block platform

A water quality control pond has been constructed on the drain immediately to the west of the Illawarra Yacht Club to treat stormwater runoff before discharging to the lake.

A recreational park has been created overlooking the lake, named in the honour of Eugene Von Guerard a renowned landscape painter of the mid 1800s. The park includes landscaped beds, a shelter shed, pathway, car park and drainage improvements. The park was opened by the former Member for Wollongong, Colin Markham MP.



Former Member for Wollongong Colin Markham MP at the opening of Von Guerard Park

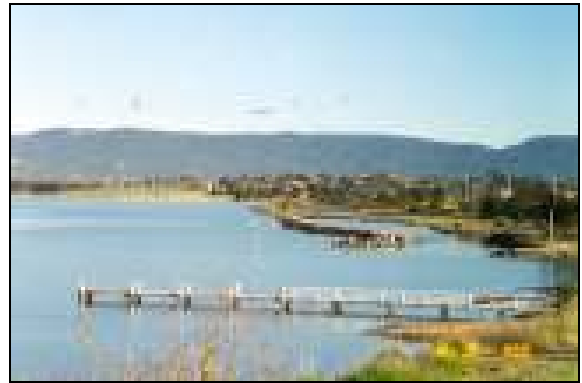


Shelter shed and view over lake from Von Guerard Park

The Authority has provided support to the Budjong Creek Landcare Group in rehabilitating Wollamai Point. Work has involved extensive weed removal and replanting of native trees and shrubs. A jetty and boatramp has been constructed and improvements undertaken in Berkeley Boatharbour. The Authority has recently entered into a long term lease for use of the kiosk in Berkeley Boatharbour.



Wollamai Point Restoration

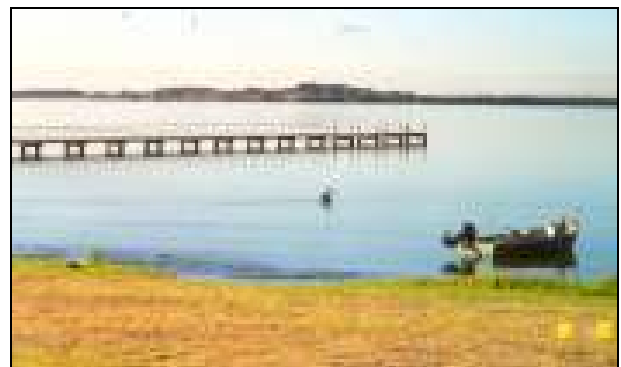


View from Wollamai Point over Tuggerah Bay

A major wetland covering 2.5ha has been constructed at the mouth of Budjong Creek to treat stormwater flows from the sub-catchment and overflows from the adjoining sewer pump station. The wetland was constructed in partnership with Sydney Water. The wetland also provides significant bird habitat.



Budjong Creek Wetland, Berkeley



Tuggerah Bay, Berkeley

An area of Tuggerah Bay to the west of the wetland has been dredged. Some 30,000m³ of material was removed from the bay and used to reprofile the adjacent reserve. A jetty has been constructed looking out toward Gooseberry Island.

A self flushing toilet has been provided on the foreshore reserve and wetland filters have been placed on a number of small drains which discharge across the reserve into Tuggerah Bay. A small playground has been erected and car park as well as shelter sheds on the reserve.

Hooka Point / Hooka Creek (\$0.75 million)

Improvements have been carried out on Hooka Point to create a recreational park. Work has involved weed removal, bush regeneration, construction of a 1.2km shareway, provision of picnic tables and seats, shelter sheds and a bird viewing tower. A footbridge and platform have also been constructed on Hooka Creek.



Hooka Point "Place of Healing" Boardwalk



Hooka Point Shelter



View of Hooka Point and Hooka Creek



Bird Viewing Tower

As part of a community project titled “Hooka Park Place of Healing” the Authority constructed a timber boardwalk and shareway, landscaped areas and provided sandstone blocks for seating and interpretative signage. The park was opened by the Hon. Craig Knowles MP in December 2004.



Minister Knowles (r) and Member for Wollongong Noreen Hay MP (l) at the Hooka Park opening



“Hooka Park Place of Healing” Berkeley



Students from Illawarra Sports High School assisted with platform engravings.

Works are currently being undertaken to restore riparian habitat along a 1km section of Hooka Creek. The project is being undertaken in partnership with the Southern Rivers CMA. Some 15,000 native trees and shrubs have been planted over a 5.5ha area. Additional works are proposed to link public access to the site from Hooka Point as well as water quality improvements.

Koonawarra Bay (\$2 million)

Some 50,000m³ of sediment was removed from the bay fronting Lakeside Drive. Material was placed along the reserve creating an additional 5ha of foreshore land. The reserve has been landscaped and car parking provided as well as a pathway, childrens playground and picnic shelters.



Restoration of the former Illawarra Motor Boat Club Site



Kanahooka Boat Ramp

A jetty and viewing platforms have also been constructed. A shareway has been constructed to link the Lakeside reserve to the Kanahooka Boatramp.

The former Illawarra Motor Boat Club site has been restored. Work involved the demolition of concrete blocks, construction of a rock retaining wall, pathway, landscaping and provision of shelters sheds, seats and lighting.

Purrah Bay (\$0.5 million)

A jetty and 1km shareway has been constructed on the foreshore adjacent to Purrah Bay. Weeds have been removed from the foreshore and areas of salt marsh protected by vehicle barriers.

A water quality control pond has been constructed to treat runoff from the adjacent sub-division.

A car park and playground have been constructed at the entry to the park and a wharf has been constructed on Mullet Creek for fishing, launching and mooring of small water craft.



Purrah Bay playground



Purrah Bay car park and walkway

A new wave break jetty has been constructed at the Kanahooka Boat Ramp to improve launching and retrieval of water craft during adverse weather conditions.

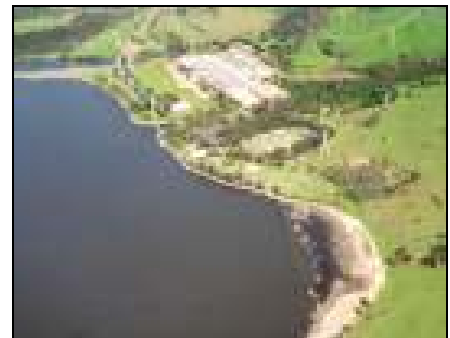
A shareway has partly been constructed along the southern foreshore of the bay and a gross pollutant / sediment trap has been constructed on Barrons Creek.

Yallah Bay (former Tallawarra Power station site) (\$0.25 million)

As part of the sale of the Tallawarra Power Station site, 2.5km of foreshore (including existing amenities) was transferred to the Authority's ownership as well as 250ha of lake bed.



Refurbished Amenities Building, Tallawarra

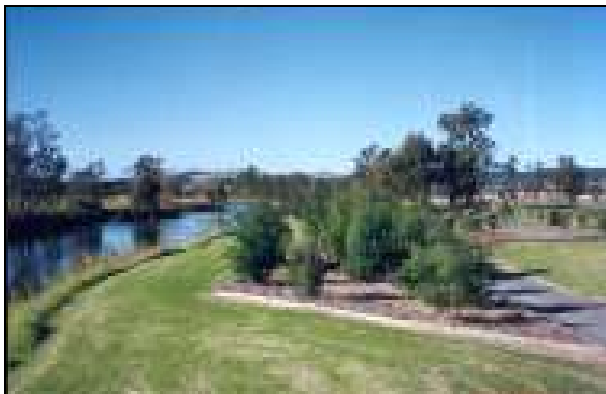


Tallawarra Site

The Authority has refurbished the amenities building and undertaken minor improvements to part of the foreshore strip including the provision of shelter sheds and a children's playground (funded by TRUenergy). Works are proposed to improve boating facilities at the site and link public access to the southern side of Koonawarra Bay.

Haywards Bay / Macquarie Rivulet (\$1 million)

A 1.5km arboretum (plantation of trees and shrubs) including shareway and picnic tables has been constructed along the southern shoreline of Macquarie Rivulet. The work was undertaken by participants under the Commonwealth's LEAP program and specialist contractors with supervision provided by the Authority.



Macquarie Rivulet Arboretum



Haywards Bay

Improvements have been undertaken to the foreshore at Darcy Dunster Reserve including bank stabilisation, a car park, provision of shelters, refurbishment of the toilet block and construction of a shareway linking to the arboretum. The work was undertaken by participants under the Commonwealth's 'Work for the Dole' program and specialist contractors under the supervision of the Authority.

The Authority has negotiated the transfer of 81ha of prime waterfront land along the northern side of Macquarie Rivulet and Haywards Bay from the Winten Property Group. The land includes flood prone land and portions of SEPP 14 wetlands near the mouth of the rivulet.

Koona Bay (\$0.2 million)

A small section of the bay has been dredged to remove sediment from near the mouth of Horsley Creek. Improvements have been carried out to Wilson Memorial Park for recreational activities. A shareway is currently being constructed along the foreshore of the bay.

Burroo Bay (\$0.15 million)

A jetty has been constructed for fishing and to assist with the launching and retrieval of water craft in the bay. A timber platform has also been provided for sailing craft. A timber retaining wall has been constructed to reduce erosion in front of the Oak Flats Sailing Club building. The car park has been resealed with gravel and vehicle barriers erected.



Jetty and boat ramp

Hennegar Bay / Karoo Bay / Davies Bay (\$1 million)

A shareway has been constructed linking Central Park to Skiway Park including a small timber bridge across Oakey Creek.

Ooze has been removed from the shoreline of Hennegar Bay / Karoo Bay and the mouth of Oakey Creek.



Skiway Park boat ramp

Gross pollutant traps have been installed on a number of drains discharging from the Oak Flats area to capture rubbish and litter. GPTs have been installed at Central Park, Skiway Park (2 off) and on Oakey Creek.

Part of Davies Bay has been dredged and a boat ramp, car park and jetty have been constructed at Skiway Park.

A sediment trap has been constructed on the storm water drain at Madigan Avenue.

Boonerah Point / Whyjuck Bay (0.25 million)

Improvements have been carried out on Boonerah Point for recreational purposes including jetty, car park, picnic tables and landscaping.

A sediment trap and trash rack have been constructed on the drain at Konrads Rd.

A major wetland covering over 1ha has been constructed on Howard Fowles Oval to treat storm water runoff from the Lake Illawarra / Warilla shopping area.



Entrance area / Windang Island / Reddall Reserve / Windang Foreshore Park (\$6 million)

A southern training wall connecting to Windang Island has been built to 'train' tidal flows to the northern side of the island. As part of the work, major dunal works were undertaken at the northern end of Warilla Beach and a shallow swimming area was created near the entrance.

The Authority propose constructing a northern breakwater and extending the southern wall as well as dredging of the channel to keep the entrance open more often than in the past to improve amongst other things flushing of the lake. These works are expected to commence in April / May 2006.



Work has been undertaken to improve the recreational use of Reddall Reserve. Work has included the formalisation of 4 car parks, construction of a boat ramp, landscaping, provision of picnic shelters and BBQs, childrens playground, shareways, lighting and stormwater controls.



Improvements have been carried out to the Windang Wharf / Boat Ramp and Windang Foreshore Park (Pine Tree Park). A self flushing toilet has been installed at the boat ramp car park and a childrens playground erected on the park. Additional car parking has been provided to the park and a timber boardwalk has been erected along the waters edge to improve access to the channel area.

A timber retaining wall and foreshore improvements have also been undertaken at Judbooley Park.

Stepped access has been provided to Windang Island and an Aboriginal midden fenced and sign posted. Extensive areas of Bitou bush have been removed from the Island's plateau and drainage provided to reduce erosion.



Bitou Bush Removal on Windang



Stepped Access to Windang

Windang Peninsula (\$2.5 million)

A recreational park has been created along Windang Peninsula promoting Aboriginal culture and heritage of the lake district and surrounding areas. The park covers some 500m in length and includes feature mounds resembling a traditional Koori camp site, planting of native trees and shrubs, picnic tables and seats, a car park, timber boardwalk and gravel pathways as well as stormwater improvements. Extensive interpretive material is provided within the park to assist understanding of the significance of Aboriginal culture in the area. A team of local Aboriginal workers employed on a job training program organised by the Authority completed the project.

Prior to work commencing the area was extensively covered by dense growth of lantana and other weeds as well as dumped builders refuse.

A bird hide, viewing platforms and bird roosting posts have been erected along the shoreline.



Heritage Park

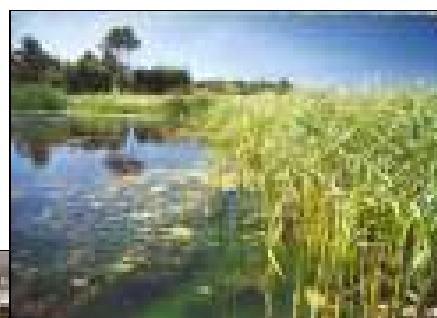
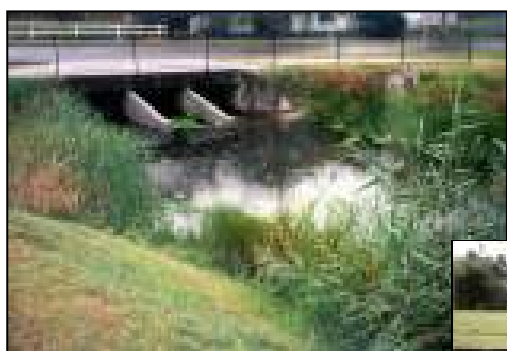


Bird hide, roosting posts and viewing platform

Improvements have been carried out at Purry Burry Point including a jetty, car park and vehicle manoeuvring area. A gravel bike track suitable for use by children of all ages has been constructed on the reserve as well as a 200m long timber boardwalk near Nicolle Rd.

Stormwater Controls (\$2.5 million)

A range of stormwater controls have been placed on 40 of the 100 major drains entering the lake eg wetlands, water quality control ponds, gross pollutant traps, sediment traps to treat pollutants and nutrients as well as measures to enhance and protect riparian vegetation.



Algal Harvesting (\$1 million)

Some 20,000 tonnes of macroalgae has been removed from the near shore shallows of the lake to remove nutrients and improve aquatic habitat areas. Work has been undertaken by contract using specialised floating equipment.

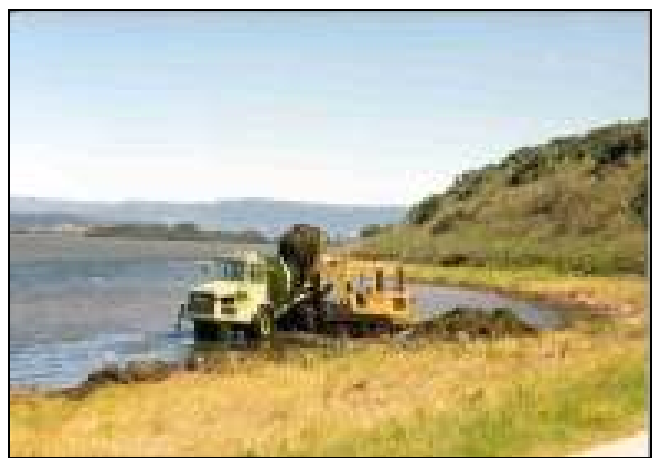


Foreshore Clean Up (\$1.5 million)

Some 40,000 tonnes of decomposing organic wrack has been removed from the lake shoreline as well as thousands of tonnes of rubbish / litter, vehicles, car and truck tyres, shopping trolleys etc.



Macroalgae



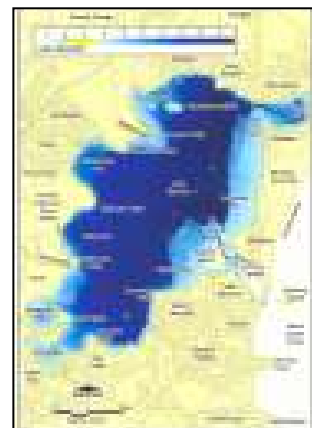
Removal of seagrass wrack

Monitoring and Studies (\$1 million)

About 90 technical reports have been completed including environmental assessments, feasibility studies, options reports and geotechnical investigations.

A Management Study & Plan has been prepared detailing actions and strategies needed to bring about long term improvements to the lake and foreshores. This document forms the basis of the Authority's ongoing works program.

A detailed hydrographic survey of the lake has been completed.



Water quality in the lake is monitored continuously at 3 sites in the lake. Basic WQ parameters are recorded (water level, pH, DO, Temp and Salinity). A detailed water quality monitoring program of 10 sites in the lake was undertaken between 1996 and 2001 focusing on nutrient compounds.

A whole of lake study of seagrass areas was completed in 2000. The Authority intend repeating the study transects on a frequent basis to determine trends in seagrass growth

A number of performance indicators are being assessed to determine trends in the condition of the lake.

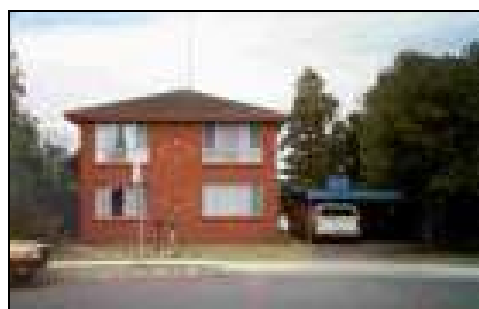
Miscellaneous (\$1.75 million)

Administration, accounting management, property management and land matters (leases and licences) are attended to on an annual basis.

Two properties were purchased along Judbooley Parade, Windang to ensure continued public foreshore access to the lake between Windang Bridge and Oaklands Village.



7 Judbooley Pde, Windang



17 Judbooley Pde, Windang

Annual Report

Each year, the Authority produces an Annual Report on its activities and operations.



“Lake Illawarra – An Ongoing History”

A major publication detailing the history of Lake Illawarra, entitled “Lake Illawarra – An Ongoing History” was published in 2005.











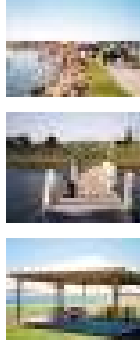

Notes

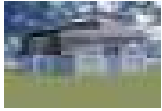
1. Expenditure for specific areas includes an allowance for maintenance (and repairs) of Authority assets estimated to be approximately \$100,000 pa.

Total Expenditure (for period 1987 to 2005): \$30.1 million

SUMMARY OF LAKE ILLAWARRA AUTHORITY PROJECTS

Development Works

	<p>Improved lake water quality through the construction of 3 large wetlands (Budjong, Warrawong and Warilla) and the placement of controls on 40 of the 100 major stormwater drains entering the lake to treat pollutants.</p>
	<p>Improved lake water quality, fish habitat and boating access through the dredging of some 500,000m³ of bed sediments and collection / removal of 20,000 tonnes of macroalgae to increase water circulation and distribution of seagrass meadows.</p>
	<p>Improved foreshore access and reduction in offensive odour through the removal of 40,000 tonnes of decaying seagrass wrack around the 38km of lake shoreline.</p>
	<p>Improved lake amenity through the removal of 20,000 tonnes of rubbish and litter from the lake including dumped motor vehicles, hundreds of car and truck tyres, numerous shopping trolleys, thousands of plastic bags and bottles, needle syringes and flood debris.</p>
	<p>Improved terrestrial habitat for wildlife through the removal of 15ha of weeds such as lantana, bitou bush and Norfolk Island Hibiscus and the re-establishment of native vegetation.</p>
	<p>Enhancement and protection of 10km of shoreline riparian vegetation including 400m of Mullet Creek bank as part of the Reed Park Stormwater Reuse Scheme and maintenance of 50ha of parkland.</p>
	<p>Stabilisation of the entrance of the lake and creation of a shallow swimming area.</p>
	<p>Improved access to Windang Island.</p>
	<p>Improved infrastructure for passive and active recreation including:</p> <ul style="list-style-type: none"> ▪ 15km of shareways ▪ 1km of boardwalk ▪ numerous BBQs ▪ shelter sheds, seats and tables ▪ 8 carparks ▪ 8 jetties, 1 wharf and 2 pontoons ▪ 5 viewing platforms ▪ 2 equal access playgrounds
	<p>Upgraded 7 boat launching ramps.</p>



Constructed an amenities building and education study centre at Warrawong.

SUMMARY OF LAKE ILLAWARRA AUTHORITY PROJECTS

Other Activities

	Prepared whole of lake hydrosurvey.
	Acquired 2 properties off Judbooley Parade, Windang to improve public access and amenity.
	Accepted Trusteeship of the Crown Reserves at Cudgerie Island and Windang Island.
	Negotiated the transfer of 2.5km of shoreline and 250ha of the bed of the lake to the Authority as part of the sale of the Tallawarra Power Station.
	Negotiated the transfer of 81ha of foreshore land adjacent to Haywards Bay to the Authority.
	Assisted in the publication of the book titled "Lake Illawarra – An Ongoing History".
	Managed numerous leases and licenses for recreational and commercial activities.
	Restored community amenities at Kully Bay and the former Tallawarra P/S site.
	Provided training and employment opportunities for many hundreds of unemployed and unskilled youth through programs such as LEAP, Jobskills, Training for Aboriginals, Green Corps and Work for the Dole.

