



Lake Macquarie
Landcare

Case Study

Foreshore Site

Lakeside Retirement Village Landcare



Mangroves and saltmarsh fringing the Lake edge adjacent to Lakeside Retirement Village Landcare site

Project Partners:

- Lakeside Retirement Village Landcare
- Lake Macquarie Landcare Resource Centre (Lake Macquarie City Council)
- Recreational Fishing Trusts (NSW Department of Primary Industries)
- Lakeside Retirement Village (LendLease)



Lakeside
Retirement Village
Landcare



Recreational
Fishing Trusts



Lake Macquarie
City Council

Background

Lakeside Retirement Village is operated by LendLease and is located in Bonnells Bay on the Western side of Lake Macquarie.

Site Information

The Lakeside Retirement Village Landcare site is situated on a Council managed Crown Reserve between the Retirement Village and the Lake edge. The site is zoned E2 Environmental Conservation and contains valuable saltmarsh vegetation that supports healthy Lake ecosystems.

Vegetation

According to Bell & Driscoll vegetation mapping, the Landcare site contains the following vegetation communities and Endangered Ecological Communities (EECs):

- LMCC Map Unit 40 Swamp Oak - Rushland Forest - EEC equivalent: Swamp Oak Floodplain Forest
- LMCC Map Unit 38 Foreshore Redgum-Rough-barked Apple Forest - EEC equivalent: River-flat Eucalypt Forest on Coastal Floodplains

Lake Macquarie

Lake Macquarie is located on the NSW east coast. It contains mountains, forests, waterfalls, extensive beaches, and a large coastal estuarine lake with an area of approximately 110 square km, and a catchment area of 605 square km.

These areas support a wide range of habitats and uses including nature conservation, recreation, residential and commercial development and rural activities. As a result, the natural environment has suffered a high degree of modification and degradation.

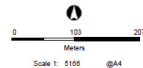
Aboriginal Heritage

Lake Macquarie is rich in Aboriginal cultural heritage dating back tens of thousands of years. The people who lived around Lake Macquarie and Newcastle were known as the Awabakal which means "*the people of the flat surface*" presumably referring to the Lake and its flat surrounds.



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Above: Site locality map - Landcare site shown in red

- LMCC Map Unit 47a
Saltmarsh - EEC equivalent:
Coastal Saltmarsh

Native plants present on the site include:

Trees and shrubs

- Black She-Oak *Allocasuarina littoralis*
- Coffee Bush *Breynia oblongifolia*
- Forest Red Gum *Eucalyptus tereticornis*
- Grey Mangrove *Avicennia marina*
- Hop Goodenia *Goodenia ovata*
- Prickly leaved Tea Tree *Melaleuca stypheliodes*
- Swamp Oak *Casuarina glauca*
- Sweet Pittosporum *Pittosporum undulatum*



Above: Grey Mangrove in flower

Vines

Glycine *Glycine clandestina*

Native Grape *Cayratia clematidea*

Purple Coral Pea *Hardenbergia violacea*

Groundcovers, ferns, grasses and rushes

Blue Flax Lily *Dianella caerulea*

Common Maidenhair Fern *Adiantum aethiopicum*

Kidney Weed *Dichondra repens*

Native Violet *Viola hederacea*

Right Angled Grass *Entolasia stricta*

Salt Couch Grass *Sporobolus virginicus*

Samphire *Sarcocornia quinqueflora*

Scurvy Weed *Commelina cynanea*

Seablite *Suaeda australis*

Spiny-Headed Mat-Rush *Lomandra longifolia*

Swamp Weed *Selliera radicans*

Tall Saw Sedge *Gahnia clarkei*

Warrigal Cabbage *Tetragonia tetragonoides*



Above: The native saltmarsh plant Seablite

The Landcare site has also been impacted by a range of weeds including:

Asparagus Fern

Brazilian nightshade

Bridal Veil Creeper

Kikuyu

Lantana

Paddys Lucerne

Panic veldtgrass

Wild Tobacco



Above: Asparagus Fern growing in Swamp Oak forest at the Landcare site

Fauna

The Landcare site and connecting ecosystems are rich in a range of birds, mammals, frogs, reptiles, crustaceans, fish and insects.

Birds sighted at the Landcare site include:

Australian White Ibis

Black Swan

Chestnut Teal

Eastern Yellow Robin

Masked Lapwing

Pacific Black Duck

Purple Swamphen

Royal Spoonbill

White-faced Heron

Landcare group

Lakeside Retirement Village Landcare group formed in 2012 under the guidance of Team Leader Charlene France. As group members are residents of the retirement village, they have varying abilities to assist with weed

removal. Whilst some members focus on crowning out Asparagus Fern or removing berries and rubbish from the site, others undertake equally important duties such as catering, record keeping, photography, publicity, education and encouragement!



Above: Purple Swamp Hen

Below: Landcare group volunteers removing Asparagus Fern



Projects and achievements

In January 2017, Lakeside Retirement Village Landcare were successful in obtaining a Habitat Action Grant through the NSW Department of Primary Industries Recreational Fishing Trust.

The project was initiated to support the limited capacity of the volunteers at Lakeside Retirement Village by providing professional assistance to remove the noxious weed Asparagus Fern which is very labour intensive and covering an area too large (and too thick) for the group alone to work. The professional crew were engaged to use hand removal methods to ensure the sensitive saltmarsh was not damaged. The project will benefit the lake's ecosystems and recreational fishing as it is restoring saltmarsh which is known to support fish habitat.

Asparagus Fern smothers the native saltmarsh vegetation and removing it will allow better ecosystem functioning and optimum habitat for benthic invertebrates (which support juvenile fish). Asparagus Fern not only creates a monoculture, excluding native saltmarsh vegetation, it also has the capacity to alter the ground level through sediment capture and extensive root and water nodule development. This has major impacts on saltmarsh function as saltmarsh has a very narrow range of tolerance for soil height variation in relation to water level.

In March 2017 the LMCC Natural Areas Project Team commenced weed removal as part of this project. The team removed Asparagus Fern over an area of 1500m² and were assisted on many occasions by volunteers of Lakeside Retirement Village Landcare Group. The Landcare group also held a working bee in May 2017 which involved volunteers from neighbouring Landcare groups.



Above: Professional Bush regenerators removing Asparagus Fern

Follow up weeding is occurring throughout the second half of 2017 and an education day is planned for September to showcase achievements and raise awareness about the values of the Landcare site to a wider audience from the Retirement Village and community.



**Above: Before primary weeding under the project commenced.
Below: After Primary weeding of Asparagus Fern**



References and Further Information

Australian National Botanic Garden - www.anbg.com.au

Bell and Driscoll, 2014, *Vegetation mapping of Lake Macquarie LGA: Stages 1 – 5*, available at www.lakemac.com.au

Buchanan, R, 2009, *Restoring Natural Areas in Australia*

LMCC, 2004, *Lake Macquarie Coastal Planting Guide*, available at www.lakemac.com.au

Weeds Australia - www.weeds.org.au

The Lake Macquarie Landcare website www.lakemacquarielandcare.org provides links to newsletters, environmental programs, grants, Landcare, weeds and trees.

If you wish to know more about this and other projects in Lake Macquarie please contact the Landcare Resource Centre.

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