

A case study of **Pelican Blacksmiths Landcare**



Treat Weeds

Regenerate Native Riparian Vegetation

Project Partners:

- NSW Environmental Trust
- Lake Macquarie Landcare Resource Office (Lake Macquarie City Council and Lake Macquarie Landcare Network Inc.)
- Hunter- Central Rivers Catchment Management Authority



Cabbage Tree Palms - *Livistona australis* are a feature of the site

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Lake Macquarie

Lake Macquarie is a large, intermittently open, saline coastal lagoon in NSW. It covers an area of approximately 110 square kilometres, and has a catchment area of 605 square kilometres. The lake contains many estuarine creek zones where freshwater tributaries interface with the saline body of the main lake, and it supports a wide range of habitats. It is subjected to a wide range of uses, including recreation, industry, development, and rural activities, resulting in a high degree of modification to the natural environment of the region.



Right: One of the many paths the group have constructed on the site.



Left: Mature Cabbage Tree Palms tower over the site.

Site Information

The Pelican– Blacksmiths Landcare site is an urban bushland area of 7.5 hectares, off Soldiers Road Reserve, Soldiers Road, Pelican. The site is bordered by the old Belmont Airport to the north; the Old Pacific Highway to the east; Soldiers Road to the south- with housing and a reserve; and Lake Macquarie to the west. The Pelican Blacksmiths site is part of the proposed Lake Macquarie Coastal Wetlands Park under negotiation by the Lake Macquarie City Council and the State Government.



Vegetation

The dominant vegetation communities on the Pelican Blacksmiths site are *Swamp Oak Rushland Forest* and *Swamp Mahogany-Paperbark Swamp Forest*. *Swamp Oak - Rushland Forest* occurs in low-lying areas and along coastal lagoon fringes where periodic inundation by saline tidal water exerts a strong influence on the range of species present. The community characteristically has a low forest canopy, mid-storey reeds and rushes, and a dense ground layer of salt tolerant rushes, grasses and herbs. *Swamp Mahogany - Paperbark Swamp Forest* occurs in areas of impeded drainage near coastal swamps and lagoons. The *Swamp Mahogany – Paperbark Swamp Forest* community on the Pelican–Blacksmiths site has more species diversity than is commonly found in this community. A feature of the site is also the large numbers of Cabbage Tree Palms - *Livistona australis*.

One of the timber bridges constructed to give the local community and visitors access to the site.





This area has been cleared of dense thickets of weed such as Lantana, Morning Glory & Madiera Vine.

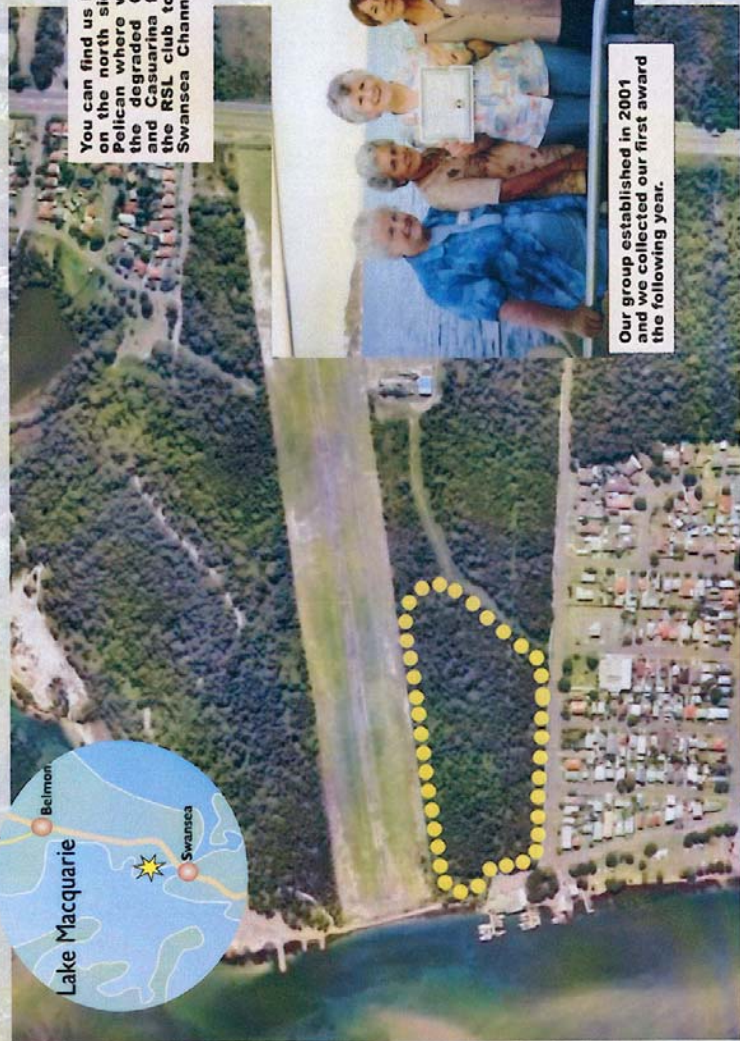
Two Endangered Ecological Communities (EEC) are present on the Pelican-Blacksmiths site. An EEC is an ecological community listed as facing a very high risk of extinction in NSW under the *Threatened Species Conservation Act 1995*. *Swamp Oak Floodplain Forest*, and *Swamp Sclerophyll Forest on Coastal Floodplains* are the two EEC's present, and there are remnants of a third - *Littoral Rainforest*.

Swamp Oak Floodplain Forest is found in close proximity to rivers and estuaries and is generally found on soils with a saline influence. Species composition will vary markedly from site to site depending on the moisture content present. *Swamp Schlerophyll Forest* generally has several layers of vegetation, including trees, shrubs, groundcovers, and wetland plants such as reeds and sedges. This community also supports many important bird species, both native and migratory, including raptors (birds of prey), and shore birds and waders.

Littoral Rainforest is a closed forest ecological community recognised by its close proximity to the ocean (generally less than 2km) and closed canopy (about 70% of the sky obscured by tree leaves and limbs). The littoral rainforest species are not represented on this site as a distinct community, but are scattered in mosaics through the *Swamp Sclerophyll Forest*, probably as a result of site disturbance and fire.

The threatened species *Syzygium paniculatum* Magenta Lilly Pilly is also found on the Pelican – Blacksmiths site. The Magenta Lilly Pilly is a small to medium

Pelican Blacksmiths Landcare



You can find us in the Crown reserve on the north side of Soldiers Road Pelican where we are rehabilitating the degraded Cabbage Tree Palm and Casuarina forest from opposite the RSL club to the marina on the Swansea Channel.



Our group established in 2001 and we collected our first award the following year.

8 JAN 2008

Courtesy of Pelican Blacksmiths Landcare group

sized rainforest tree that grows to 8 m tall. It is found only in NSW, in a narrow, linear coastal strip from Bulahdelah to Conjola State Forest.

The key threatening processes of the Pelican – Blacksmiths site are the presence of exotic vines and scramblers; the invasion of native plant communities by exotic perennial grasses, bitou bush and boneseed; and the presence of *Lantana camara*.



Members of the Landcare group work on the site every Monday, Wednesday, Thursday and Friday, from 9am to 2pm

Pelican Blacksmiths Landcare Group

The Pelican Blacksmiths Landcare group formed in 2001 with four core members – Beverley Harvey, Vinette Diver, Joanne Edwards, and Deb Parsons. Steve Aubin and Ian Broadfoot have since joined the group. The group work with the Landcare Green Team, Landcare Bush Regenerators, project volunteers, and sometimes other Landcare Volunteers, to complete 420 hours of work on site per month.

Pelican – Blacksmiths Landcare list their greatest achievement as receiving the Environmental Trust grant titled ‘The Protection of Rainforest and Swamp Forest at Soldiers Road Reserve’.

They list their greatest challenge as cleaning up after the June 2007 storm, when they were unable to go on site for four and a half months. They were assisted in the clean-up of the site by Warren Tressider and staff from Stocklands who felled and removed unsafe trees from the site, and also donated 3000 tubestock to plant.

Environmental Trust Grant

The Protection of Rainforest and Swamp Forest at Soldiers Road Reserve is a Lake Macquarie Landcare project being undertaken by the Pelican-Blacksmiths Landcare Group and funded by the NSW Government's Environmental Trust program. The grant provides more than \$40,000 to supply resources for the protection and rehabilitation of the Pelican-Blacksmiths site, to engage the community, and to highlight the cultural heritage of the site.

It is a three year project, spanning from 2007-2009 and divided into three stages. Prior to starting the project, Carl Fulton, Vegetation Officer for Lake Macquarie Landcare, devised an action plan that divided the total Soldiers Road site into three areas: one area per year. Each area was to be worked on in mosaic blocks.

The threat of losing this important ecological community was a strong motivating factor for Pelican-Blacksmiths Landcare to apply for this grant. Prior to this the group had successfully carried out bush regeneration projects along the border of Soldiers Road Reserve and were compelled to extend their work and increase their skills and understanding of bush regeneration.

Beverley Harvey explained, *"the Pelican Blacksmiths Landcare group were careful to ensure a sensitive approach to working in the endangered ecological communities and with the threatened species. Volunteers worked alongside professional bush regenerators to enhance their knowledge and gain experience in restoration techniques."*

It is anticipated that this project will see the riparian zone of an unnamed watercourse restored, improving the water entering Lake Macquarie. It will



The sign erected at the start of the "Cabbage Tree Palm Walking Track."



June 2002 the official launch of the work

The first bridge is built



also improve biodiversity, natural habitat, connectivity, visual amenity, and provide social benefits to local residents and visitors to the site.

To date Stage 1 and Stage 2 of the Pelican-Blacksmiths site is now free of primary weeds - small, medium and large, and weed growth has been suppressed by over 90 cubic metres of mulch. Native plant tubestock has been established and is flourishing, and a walking track, two bridges, and a sign have been constructed through the Landcare Resource Office to encourage community onto the site.

CMA Management Targets

The Hunter-Central Rivers Catchment Action Plan (CAP) is a guide to protecting and improving our region's natural resources over the next 10 years. The CAP consists of Management targets that direct on-ground work in the Hunter-Central Rivers region. Lake Macquarie Landcare and Lake Macquarie City Council are working with the CMA to achieve the environmental and educational outcomes of the CAP in the Lake Macquarie region.

Pelican Blacksmiths Landcare group work towards the following Management Targets on their site.

- MT 02 – Regenerate Native Vegetation
- MT 03 – Treat Weeds
- MT 05 – Protect Culturally Significant Areas
- MT 07 – Rehabilitate Wetlands
- MT 13 – Manage Nutrient Runoff
- MT 18 – Regenerate Native Riparian Vegetation

- MT 20 – Instream and Foreshore Stabilisation
- MT 21 – Restore Instream Habitat
- MT 23 – Urban Stormwater Management
- MT 30 – Enhance Foreshore Vegetation

Management Target 03 – Treat Weeds

Weeds can invade native vegetation, especially if land is disturbed. They often have vigorous growth and may not have any natural predators, so can quickly become the dominant species. Weeds replace native vegetation which affects the stability of the land and reduces the biodiversity of plants and animals in the ecosystem. Treating weeds reduces the number and effect of weeds and minimises their natural resource impact, improving the health of the ecosystem.

The following weed species occur on the Pelican Blacksmiths site: *Anredera cordifolia* Madeira Vine, *Araujia* sp. Moth Vine, *Asparagus* spp. Asparagus Ferns and Bridal Creeper, *Hedera helix* English Ivy, *Ipomoea cairica* Coastal Morning Glory, *Ipomoea indica* Indian Morning Glory, *Lonicera japonica* Japanese Honeysuckle, *Solanum seaforthianum* Climbing Nightshade, and *Tradescantia fluminensis* Wandering Jew, Exotic perennial grasses *Pennisetum clandestinum* Kikuyu and *Stenotaphrum secundatum* Buffalo Grass. There is also some *Cortaderia* sp Pampas Grass on site.

To date Pelican Blacksmiths Landcare have removed the following weeds from their site as a part of the Environmental Trust project: Lantana, Crofton Weed, Castor Oil Bush, Cobblers Peg, Wide Leafed Morning Glory, Indian Morning Glory, Wandering Jew, Flea Bane, Norfolk Island Hibiscus, Ochna, Phoenix weed palm species.

Beverley Harvey commented, “so far we are very happy with the site as we have been keeping on top of the weeds and we feel we are winning the battle.”



May 2002 view of site before clearing work was started.

June 2002 clearing along the edge of the footpath





Planted area near footpath in 2002

Same planted area near footpath in 2003



Management Target 18 – Regenerate Native Riparian Vegetation

Riparian land is any land that adjoins or directly influences a body of water. Riparian zones are important because of the diversity of ecological processes that occur within their boundaries. The riparian zone affects the quality of the adjoining aquatic ecosystem and assists in soil conservation, increased biodiversity, and improved water quality within that system.

Regeneration of native stream bank vegetation increases the stability of the stream bank. The establishment of vegetation on a site is the most effective means of preventing soil erosion. The roots of stream bank vegetation hold together the deeper soil and the parts of the plant above the ground protect the soil surface from the impacts of rain and wind.

A good cover of vegetation protects the soil surface by reducing the velocity of surface runoff. It also acts as a filter for runoff which carries with it sediment, nutrients and pollutants that decrease water quality in the stream. Vegetation provides important habitat for flora and fauna. It can also shade the river and minimise extremely high water temperatures.

The Pelican Blacksmiths Landcare Group, assisted occasionally by the Landcare Green Team and Bush Regenerators, and other Landcare and program volunteers have planted close to 9000 native plants on their site, many on riparian areas. 6000 of these plants have been supplied by Lake Macquarie Landcare and have been funded by the Environmental Trust project. The remaining 3000 native plants were very kindly donated by Stockland.

This important environmental work has been undertaken by the Pelican Blacksmiths Landcare Group who volunteer their time to aid the regeneration of important ecological communities. If you would like to assist in this important work please contact the Landcare Resource Office on:

(02) 4921 0392 or email lro@lakemac.nsw.gov.au



June 2005 cleared area at the Lake end of the site

June 2007 storm, site flooded and trees uprooted!



Going, going, gone! Coral Trees and Norfolk Island Hibiscus are removed

2008 clearing work done by Karen Fuller and Sharon McCarthy and their team.



September 2007 storm damaged trees removed.



Resources

Publications such as the Lake Macquarie Coastal Planting Guide (LMCC), Attack of the Killer Weeds (Coastcare), Foreshore Stabilisation and Rehabilitation Guidelines (LMCC) and Native Plant of Weed, Pick the Difference, Volumes 1 & 2 (Ann Loughran).

In addition, the Community Support Information Pack produced by Lake Macquarie City Council and the Hunter Central Rivers Catchment Management Authority is available in limited hardcopy and CD format covering a wide range of resources used in natural resource management in Lake Macquarie.

Hunter Central Rivers Catchment Management Authority

The Hunter Central Rivers Catchment Management Authority provides support to this and other projects through the Catchment Officer, Regional Facilitator and Community Support Program supporting Catchment Action Plan Management Targets of:

- Treat Weeds (MT03)
- Regenerate Native Riparian Vegetation (MT18)

If you would like to know more about the Hunter Central Rivers Catchment Management Authority please phone 4324 3844 or go to www.hcr.cma.nsw.gov.au

Images courtesy of Pelican Blacksmiths Landcare & Denis Hilder



Produced at the
Landcare Resource Office
under the
Community Support Program,
April 2009

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