

# Environmental Levy Update

July - December 2015

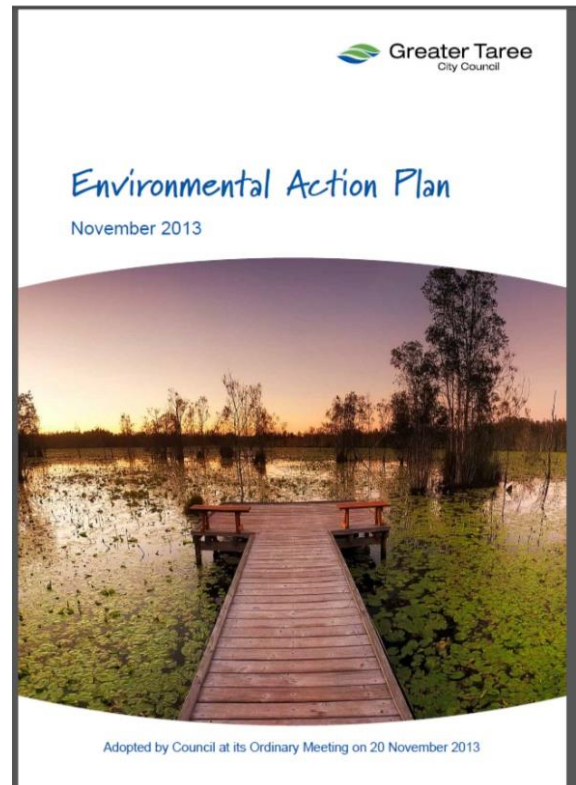
In November 2013 we adopted an Environmental Action Plan that was developed in close consultation with the community to identify local environmental issues of concern.

To help fund the projects in the plan, an environmental levy in the form of a special rate variation was introduced in July 2014 for a period of 5 years.

The levy will raise just over **\$1.3 million** each year for projects that address a range of issues under the following themes:

- Estuary & Water Quality
- Biodiversity
- Sustainability & Environmental Performance
- Dredging & Foreshore Improvements

This update contains a summary of the achievements and projects undertaken between **1 July and 31 December 2015**.



## Successful Grant Applications

One of the benefits of the environmental levy is that it enables us to attract additional funding from the state and federal governments, as most grant programs require the applicant to provide matching funding. As of 31 December 2015 we have been successful in receiving an additional **\$2 million** in external funding to assist in implementing environmental projects funded through the levy. Those granted during the last 6 months (just over \$355,000) which will be matched dollar for dollar through the environmental levy include:

- **NSW Recreational Fishing Trust:**

- **\$5,000** to install a new fish cleaning table at the Bohnock boat ramp.

- **NSW Estuary Management Program:**

- **\$200,000** for Stage 3 of the Big Swamp Acid Sulfate Soil (ASS) Remediation Project: This project is a broad-acre acid sulfate soil remediation project within the Pipeclay Canal-Cattai Creek catchment located east of Moorland. Significant discharge of ASS products into the Manning River estuary has adverse impacts on water quality, aquatic ecology, oyster production and commercial and recreational fishing. The project proposes to acquire and remediate a further 200 hectares of land which will result in a reduction in ASS discharge into the Manning River and an improvement in estuarine health.

## Environmental Levy Update

- **\$70,000** for the Manning Estuary Riverbank Restoration Project: This project will address the sedimentation of the Manning River by stabilising at least one kilometre of severely eroding riverbank located on private land within the Manning River estuary in partnership with local landholders. The project will involve the implementation of a suite of best practice riverbank stabilisation techniques including rock revetment, rock fillets, stock exclusion fencing, weed management and the revegetation of the riparian zone. The project will result in an improvement in water quality and the enhancement of key fish habitat within the lower Manning River.
- **NSW Fish Habitat Action Grants:**
  - **\$39,045** for the Oxley Island Manning Riverbank Stabilisation: This project will implement best practice riverbank stabilisation techniques including rock fillets, stock exclusion fencing, protection and enhancement of saltmarsh/mangrove areas and weeding and revegetation of the riparian zone along 550 metres of an actively eroding riverbank on Oxley Island.
  - **\$37,520** for the Dumaresq Island Manning Riverbank Stabilisation Project: This project will implement best practice riverbank stabilisation techniques outlined above along 1.1km of an actively eroding riverbank on Dumaresq Island (including 410m frontage to the North Channel of the Manning River and 680m frontage to the South Channel). Up to 400m of rock fillets are proposed to be constructed in strategic locations along the riverbank and will build on previous rock filleting projects that occurred on this property in 2000 and 2011.
- **Federal Green Army Program**

Four Green Army Teams have been granted to Council by the Federal Government to undertake weed removal, tree planting, boardwalk construction, water quality monitoring and fauna surveys within public reserves at the following locations:

- Cattai Wetlands
- Big Swamp
- Harrington
- Crowdy Head
- Wingham Brush Foreshore
- Andrews Reserve
- Boronia Reserve

Teams will commence in July 2016 and run over a period of 12 months.



Above: Green Army Team constructing a boardwalk at Cattai Wetlands

## Partnerships

Another benefit of the environmental levy is that it has allowed us to better engage, support and partner with the community, industry and other government agencies to deliver a range of environmental outcomes. In particular, we acknowledge the significant contribution the community makes towards the protection and enhancement of our environment, and encourage the development of projects which build the capacity of the community to get more actively involved in looking after their local area. Some of the partnerships Council has been involved in to deliver projects funded through the levy include:

Taree Indigenous Development & Employment (TIDE) and Gangga Marrang – development of Aboriginal cultural heritage interpretive signage for Cattai Wetlands
Manning Landcare – environmental restoration of Schoolhouse Gully at Wingham
Friends of Browns Creek – installation of stormwater quality improvement devices on Browns Creek
Hunter Bird Observers Group – conducting regular bird surveys at Cattai Wetlands
Hallidays Point Landcare – weed control within littoral rainforest areas
Taree Landcare – tree planting at William Wynter Park and Kolodong Reserve
Mid North Coast Dairy Advancement Group (DAGS) & Dairy Australia – development of dairy effluent management projects
Manning River Oyster Farmers Association & NSW Soil Conservation Service – planning and delivery of the Pelican Bay Peninsula Riverbank Restoration Project
Hunter Local Land Services – marine debris project, riparian fencing on Browns Creek, contribution to the preparation of the Acid Sulfate Soil Remediation Plan
Roche Group – owner of the Harrington riverbank restoration riverbank project site
Water Research Laboratory (Uni NSW) – delivery of a 3-year water quality monitoring program at Big Swamp, and community & industry engagement on best practice Acid Sulfate Soil restoration techniques
Conservation Volunteers Australia – provision of a 10-person Green Army team at Cattai Wetlands for a period of 6 months undertaking weed control & boardwalk construction
Manning Wetlands Steering Committee – meets every 6-weeks to assist in the delivery of initiatives at Cattai Wetlands & Big Swamp
Harrington Lions Club – assisting with the running of World Wetland Day celebrations at Cattai Wetlands
Great Lakes Council – in the delivery of management actions within the Wallis Lake catchment (over a third of this catchment is located within the Greater Taree LGA)
Farquhar Inlet Management Group (FIMG) – planning and delivery of maintenance dredging within the Manning River estuary
Mid North Coast Weeds Coordinating Committee – coordination of regional weed management activities and the production of the booklet 'Garden Escapees & Other Weeds of Bushland & Reserves'
NSW Fisheries – planning and delivery of the Dyers Crossing Weir fish ladder project
Harrington Chambers of Commerce & Men's Shed – enhancement of the Harrington Lagoon foreshore
Manning River Rowing Club – to undertake maintenance dredging of the Manning River foreshore at Queen Elizabeth Park
Tidy up Taree – renovation of the amenities block at Endeavour Place, Taree.

# Estuary & Water Quality

## Manning Riverbank Restoration Projects

During the last 6 months we have completed three projects aimed at rehabilitating actively eroding riverbanks on the Manning River in a bid to reduce the amount of sediment entering the river. Sedimentation can have an adverse impact on water quality, limit the productivity of our oyster and fishing industries, and smother important fish habitat such as seagrass beds.



One of the largest projects which resulted in the protection of over 1km of riverbank at Pelican Bay was delivered in partnership with the Manning River Oyster Farmers Association with funding assistance provided by the landowner and the NSW Government through their Fish Habitat Action Grants and Estuary Management Programs.

The project involved the construction of a series of low rock wave barriers (rock fillets) in front of the riverbank to prevent further erosion, protect marine vegetation and encourage the reestablishment of mangroves to stabilise the bank. Other works included the control of 5 hectares of the highly invasive weed sharp rush, which is threatening the adjoining area of saltmarsh, an endangered ecological community.

Two other eroding riverbank sites at Manning Waters, Taree (30m) and Harrington Waters (60m) have been stabilised using rock revetment. This technique was used as opposed to rock fillets due to both sites being located in public areas requiring access to the river.

**Above: Pelican Bay Rock Fillets**



**Above: Harrington Waters Rock Revetment**



**Above: Manning Waters Rock Revetment**

## Estuary & Water Quality

A contract for the construction of rock filllets along 540 metres of severely eroding riverbank on a property at Harrington has been awarded with work to begin in January 2016. 1km of stock exclusion fencing will be erected to further protect the riverbank from erosion plus the planting of native trees and shrubs once stock have been removed.



**Above: Riverbank Erosion at Harrington**

Additional government funding of approximately \$150,000 was received in December to undertake further riverbank restoration in prioritised locations within the estuary. This funding will be matched dollar for dollar with the environmental levy.

### *Big Swamp Project wins Green Globe Award*

In October 2015 Council, in partnership with the Water Research Laboratory (WRL) UNSW, received a Green Globe Award in the Natural Environment Sustainability category for its recovery efforts at Big Swamp. The Green Globe Awards are the NSW Government's leading environmental recognition program, celebrating excellence, leadership and innovation in sustainability.

The 2000-hectare Big Swamp area at Coralville has been extensively drained for agriculture since the early 1900s and contains some of the worst cases of acid sulfate soils on the NSW coast.

Following a comprehensive hydrological study conducted by WRL, Council initiated the restoration of Big Swamp in 2011 with a \$2 million Federal Government grant to reduce acid runoff into the Manning River.

Outcomes of the project to date include:

- public acquisition of 700 hectares of private land;
- conversion of agricultural land into an 80-hectare tidal wetland; and
- elevation of ground water levels above the acidic soil layer over 620 hectares of drained paddocks.

## Estuary & Water Quality

We have received further funding of \$350,000 through the NSW Estuary Management Program to purchase and rehabilitate an additional 250 hectares of degraded farmland.



Above: Bob McDonell & Tanya Cross from GTCC & Will Glamore of WRL at the Award Ceremony

### Manning River Floodplain Acid Sulfate Soil Remediation Plan

Over the past 100 years, flood mitigation schemes, extensive artificial drainage and the construction of floodgates in high risk acid sulfate soil (ASS) areas of the Manning River floodplain, have caused ongoing environmental and economic impacts in the estuary. In particular, the man-made drains that discharge into the Manning River, Scotts Creek, Lansdowne River, Cattai Creek, Dickensons Creek and Ghinni Ghinni Creek are regulated by floodgate structures that produce large volumes of acidic drainage waters following rainfall events.

Following the highly successful partnership with Water Research Laboratory (WRL) UNSW on the Big Swamp project, we engaged WRL in July 2015 to prepare an ASS Remediation Plan for the entire Manning River floodplain. WRL has just completed a comprehensive data collection program in the field to help identify and prioritise ASS areas. An evidence-based prioritisation method is being used to rank the drainage sub-catchments of the Manning River floodplain, which has been divided into four distinct assessment areas:

1. Dumaresq, Oxley, Mitchells and Cabbage Tree Islands
2. Lower Lansdowne, Moto, Ghinni Ghinni and Dickensons Creek
3. Cattai Creek, Pipeclay Canal
4. Upper Manning estuary including Glenthorne, Taree Estate, Tinonee and Mondrook.

This strategic approach to floodplain planning ensures the ASS drainage sites having the greatest environmental impact and likelihood of remediation are targeted. Based on the outcomes of this assessment, two priority sites will then be selected for remediation in 2016.

This project is being funded from the environmental levy with funding assistance provided through the NSW Estuary Management Program and the Hunter Local Land Services.

## Estuary & Water Quality

### Browns Creek Restoration Project, Taree

A partnership between Council, Hunter Local Land Services and a local landholder has resulted in the protection of 3 hectares of Swamp Oak Floodplain Forest fringing Browns Creek. The Swamp Oak Floodplain Forest is an endangered ecological community suffering from the effects of grazing by livestock and the invasion of weeds.

600 metres of fencing has been recently erected to exclude stock from this sensitive vegetation area and to 300m of riverbank along Brown's Creek, which will encourage the regeneration of mangroves and improve the quality of water within the creek. Weed control will be undertaken this year with the assistance of the Friends of Browns Creek.

Other water quality improvement projects to be implemented early in the new year include the installation of a Gross Pollutant Trap in Wrigley Park to prevent litter from entering Brown's Creek and the construction of a rain garden to help filter out harmful pollutants. All of these projects are being funded through the NSW Estuary Management Program with matching funding provided through the environmental levy.



**Left: Fencing at Browns Creek with Swamp Oak Floodplain Forest in the background**

**Right: Site location**



## Estuary & Water Quality

### Improving Effluent Management on Dairy Farms

To help improve the quality of water in the Manning River estuary, we are currently delivering two dairy effluent management projects with funding assistance provided through the NSW Estuary Management Program.

The first project consists of a large dairy upgrade at Harrington that will be the first of its kind in NSW, consisting of a state of the art 800kL above ground storage tank for dairy effluent capture and reuse. The site requires this type of treatment as it is located within a high rainfall area on a floodplain containing acid sulfate soils, which means the more commonly used effluent pond can't be constructed without causing an environmental impact. The project has been developed over a period of 6 months with assistance from Dairy Australia, the Hunter Local Land Services and the Mid North Coast Dairy Advancement Group (DAGs). Consultants were engaged to prepare a Dairy Effluent Management Plan for the project which was completed in December 2015 and demonstrated that the project was feasible. Planning approvals and detailed designs are now being prepared with construction to occur soon after.

The second dairy effluent management project involves the establishment of a demonstration site to showcase best practice effluent agitation and reuse using mechanical stirrers on a dairy farm at Hannam Vale. This project is due for completion in February 2016.

Both projects will help to reduce the amount of nutrients entering the river which can result in high concentrations of chlorophyll A – the main cause of algal blooms.



Above: Dairy Farm at Harrington



## Biodiversity

### Schoolhouse Gully – Manning Landcare Project

Manning Landcare, in partnership with Council and with funding provide through the environmental levy, have recently completed Stage 1 of a bush regeneration project on public land at Wingham, known locally as 'Schoolhouse Gully'. What was previously a degraded bushland reserve with a tangled mess of environmental weeds and an eroding creek line is now showing good signs of recovery after the area has been extensively weeded, revegetated and mulched. To date over 800 native trees and shrubs grown at our community nursery have been planted on the site with assistance provided by volunteers and Work for the Dole participants. The project has also involved the construction of a new pedestrian bridge across the creek and the formalisation of pathways through the site. Stage 2 of this project will commence in January 2016 with works to extend further downstream.



**Left: Stuart Hood from GTCC (rear, 2<sup>nd</sup> from right) with Manning Landcare representatives Allison Allan (far right) & Lyn Booth (front), bush regeneration contractor Rod Rixon (rear centre), and Work for the Dole participants**

### William Wynter Park – Taree Landcare Project

We have partnered with Taree Landcare to undertake an environmental enhancement project at William Wynter Park. The south west corner of the park drains to the Manning River and supports remnant native vegetation which assists in maintaining water quality and provides habitat for local wildlife. Taree Landcare volunteers have contributed many hours to plant several hundred native trees which have been provided free of charge from our community nursery. We have engaged a professional bush regenerator to assist the group in maintaining the plantings and to undertake follow-up weed control. In conjunction with the project, we are also controlling a large infestation of Coral Tree, a highly invasive weed growing in the low lying area of the park. Once this weed is successfully eradicated, we will work with Taree Landcare to revegetate the area with native species.



## Biodiversity

### Asparagus Control at Blackhead – Hallidays Point Landcare Project



Above: Dense infestations of asparagus at Blackhead

Asparagus is a major weed problem that is quickly invading the littoral rainforest on the headland at Blackhead and the coastal vegetation growing on the dunes at Blackhead Beach. The asparagus is impacting not only the understorey of the forest, but also the steep escarpment of the headland and is beginning to displace the native vegetation. In a bid to help control the spread of the weed we have partnered with the Hallidays Point Landcare Group to fund a professional bush regenerator to supplement the long-term efforts carried out by Hallidays Point Landcare volunteers. A continual program of control will be required to curb the spread of this species so this project is likely to continue for many years.

### Cattai Wetlands Green Army

In September 2016 the Green Army Team completed a 6-month environmental restoration and weed control project at Cattai Wetlands. The project involved undertaking follow-up weed control across all vegetated areas of the site using manual removal or applying herbicides using a number of techniques such as cut and paint and spraying. The major weeds controlled included Morning Glory, Blackberry, Lantana, Groundsel Bush and Camphor Laurel.

Other activities undertaken included the maintenance of assisted revegetation areas, boardwalk construction, fauna surveys and water quality monitoring. These actions have helped to support the natural regeneration of the site by reducing weed competition, enhancing threatened species habitat and endangered ecological communities including coastal wetlands, and strengthening the resilience of the site to function as major wildlife corridor.



The Green Army is a federal government initiative that provides a hands-on, practical environmental action program that supports local environment and heritage conservation projects across Australia.

## Sustainability & Environmental Performance

### Investigation into Coastal Erosion at Old Bar & Manning Point

The beaches of Old Bar and Manning Point have experienced significant recession due to erosion events over a number of decades. Coastal development and beach amenity are under immediate threat as highlighted when three houses at the southern end of Old Bar Beach were demolished following severe storm erosion in 2008.

Notwithstanding an extensive number of studies previously undertaken, which included a range of possible options to address the coastal erosion problems, no definitive cause of the long term and recently accelerated recession of beaches has been able to determined. To better understand why this erosion is occurring we engaged Manly Hydraulics Laboratory (MHL - NSW Public Works) in late 2015 to conduct an investigation to determine whether the processes affecting the dynamics of the two Manning River entrances are having an effect on beach erosion occurring at Old Bar and Manning Point.

MHL have reviewed over 100 documents relating to the study area and are likely to finalise their investigation in February 2016. We will review this work before commencing discussions with key government agencies, in particular the NSW Office Environment and Heritage, to determine the impact this new knowledge will have on previously identified management options for the coast. The results of the investigation will help us to develop an appropriate and practicable management plan for our coastline, and meet the requirements of the NSW Coastal Reforms which are currently in draft form but expected to be in force by mid 2016.



Above: Farquhar Inlet, Old Bar

# Dredging & Foreshore Improvements

## Regional Boating Facility Upgrades

In 2015 we received \$800,000 through the NSW Boating Now Program to undertake upgrades of the Bohnock, Endeavour Place and Manning Point boat ramp facilities.

Stage 1 of the Endeavour Place upgrade has involved a partnership with the community group 'Tidy up Taree' who, using volunteer labour, have refurbished the existing run down toilet block. Subsequent stages of the upgrade will see the resurfacing of the Endeavour Place car park, extension of the boat ramp, as well as additional footpaths providing access between the foreshore, toilet block and Bicentennial Park.



**Above: Endeavour Place Toilets before and after refurbishment**

We have commenced stage 1 of the Bohnock upgrade by engaging consultants to undertake the survey and design of the boat ramp car park. Concept plans were received in late December and will be reviewed before proceeding with the detailed design. Other components of this project include extension and widening of the boat ramp and installation of a centre pontoon and new fish cleaning table.

## Loo with a View – Harry Bennett Park

In December 2015 we completed the construction of toilet facilities at Harry Bennett Park. The need for toilets was identified following the redevelopment of the site from a derelict pool to a park that is now able to host community events. While the use of the area by the public has increased (especially since the construction of the foreshore pathway) the lack of toilets has limited the site's capacity to host community events. The design and construction of the facility was funded from S94 developer contributions and the environmental levy.



## Dredging & Foreshore Improvements

### Harrington Lagoon Foreshore Protection

The Harrington Lagoon foreshore experiences strong north-easterly winds during summer which blows sand off the beach and onto the grassed picnic area, or over the Harrington break wall.

A temporary sand barrier was installed early last year as a trial and proved very effective. As a result a permanent sand barrier was constructed in December that now prevents sand being lost from the beach while maintaining public access to the lagoon.

The sand barrier was built with the assistance of the Harrington Men's Shed.



### Want to find out more?

If you would like to find out more about any of the above projects please contact Tanya Cross, Team Leader Environmental Services, on 6592 5248.