

An aerial photograph of a coastal town and harbor. The town is built on a peninsula, with a harbor to the left and a beach to the right. The water is a vibrant green color. A dark grey rectangular overlay is positioned in the center of the image, containing the text for the program. The text is arranged vertically, with 'HEALTHY' in green, 'WATERWAYS' in blue, 'PROGRAM' in white, and 'ballina shire council' in white with a lowercase 'b'.

HEALTHY WATERWAYS

PROGRAM

ballina shire council



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Image credit: Mick Howland



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VISION

“ to work with the community as a whole to physically change catchment condition across both public and private land tenures for the improvement of flora and fauna habitat, bed and bank stability and water quality ”



OVERVIEW AND STRATEGIC CONTEXT

SCOPE OF THIS PROGRAM

This Healthy Waterways Program is for the Ballina Shire Local Government Area. It sets out the strategy and operational objectives for Council's Healthy Waterways Program. It focusses on work funded by a Special Rate Variation granted to Council as well as other monies able to be leveraged to meet these objectives. It also shows how this work fits in with that of other organisations such as NSW Government agencies, upstream Councils, industry best practice, NGOs and Landcare groups.

Many individuals and groups of landholders also work to positively impact on river health.

Each and every one of these activities provide an important contribution to cumulative improvements over time.

This vision sits within the broader Ballina Shire Council vision of being 'safe with a strong, connected community, a healthy environment that is treasured and protected and a thriving economy'. The environment and waterways were a priority for many people who were interviewed as background for the development of the Community Strategic Plan (CSP), and this priority is recognised in the principles developed for the CSP and the Delivery Program. The Healthy Environment stream incorporates the Healthy Waterways Program which seeks to:



- **undertake and promote initiatives that improve our waterways (HE1.2) and**
- **minimise negative impacts on the natural environment (HE3.2)**

Ongoing consultation shows that local communities continue to value their waterways highly. Specific mention of local creeks are made by most rural communities in describing what they enjoy about their area. The Alstonville 2037 Strategy considers that reinstatement of the Big Scrub is a priority, as is Tosha Falls. Ballina 2035 specifically considers North and Emigrant Creeks, as well as the health of the broader Richmond River as a priority.

The vision applies within a timeframe of between 8 to 12 years. The overall objective is that, over time, there will be a measurable positive change in water quality, riparian vegetation, bed and bank stability and in freshwater locations, insect (macroinvertebrate) populations.

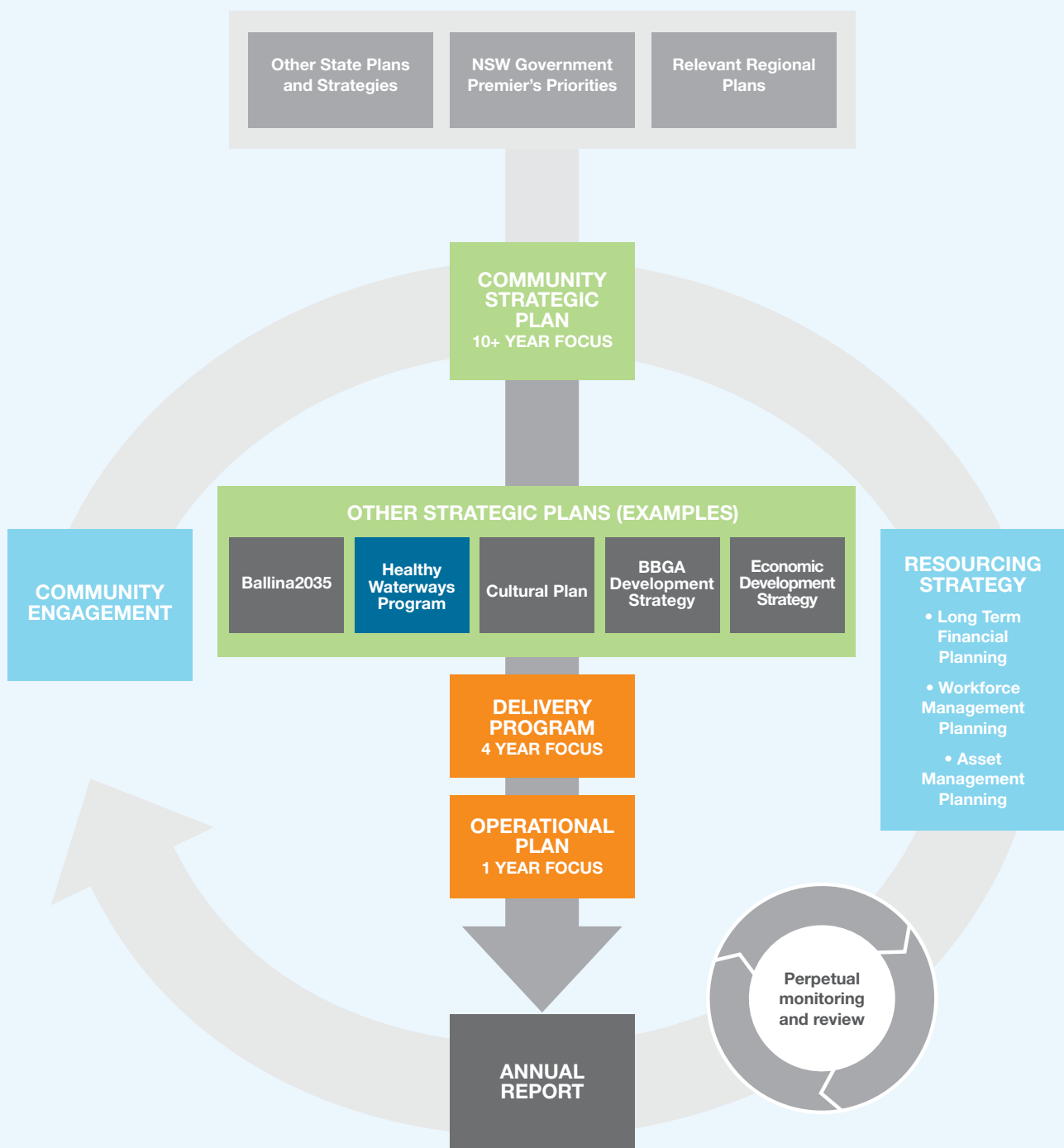
Image credit: Northern Rivers Tourism

How do we know that what we are doing is the right thing? ...

Past people thought they were doing the right thing too

The Healthy Waterways Program forms part of the NSW Office of Local Government's Integrated Planning and Reporting Framework.

There are a number of key elements in the framework including reporting requirements. The diagram below illustrates where the program fits in the overall framework and how our plans interrelate.



WHAT ARE WE MANAGING AND WHERE?

Ballina’s coastal location is a beautiful backdrop to the communities of Ballina Shire. The entrance to the Richmond River and its estuarine tributaries are highly prized for their scenic beauty, for swimming, fishing, boating and other recreational opportunities. However, a healthy estuary is built in the upper catchments with good land management decisions implemented across both private and publicly held lands.

Good land management means different things in different situations. This program applies to any location which can reasonably be expected to impact on waterway health within Ballina Shire. It applies as a value-added proposition, in that it does not replace Council’s core business.

Core business includes:

- best practice application of erosion and sediment control in its own construction and maintenance, and ensuring compliance with development control provisions
- best practice treatment of wastewater and stormwater
- addressing pollution, both as a preventative and for incident management.

The Healthy Waterways Program encompasses:

- Advocacy on behalf of our community for better waterway outcomes in addition to our role in core business. Activities such as putting forward the case for our community with the NSW Government, commenting on policy or seeking resources, are an integral part of this work.
- Leveraging extra financial or other resources for improving creekbanks, ecological habitat in riparian areas and reducing weeds or nutrients entering waterways, and other activities to improve waterway health directly at a location. Usually this means applying for grants and reporting on their progress which can be quite time intensive. Such funding is important because the work required is greater than the Special Rate Variation can accommodate.
- Partnerships within and external to Council working on issues impacting on waterways locally and

regionally within the Richmond River catchment.

This includes partnering with Rous County Council, being part of the Implementation Committee for the Coastal Zone Management Plan for the Richmond River Estuary as well as directly partnering with other LGAs on specific issues.

- On ground works across our waterways, from first order streams to the Richmond River itself. We have developed projects on publicly owned land, and worked with private landholders on a site by site basis to develop programs for works.



OBJECTIVES

- Support and contribute to healthy waterways, environments and coastal habitats
- Improve water quality and aquatic habitats
- Reduce litter, illegal dumping and pollution incidences in our local environments
 - Support sustainable developments, landuse and practises
 - Support effective governance and stakeholders
- Support continual educational awareness
 - Protect Aboriginal cultural values
 - Recognise climate change projections
 - Recognise and reduce impacts on threatened species and communities
 - Support local social, cultural and economic benefits.

OUR WATERWAYS

OVERVIEW

The town of Ballina is situated at the confluence of the Richmond River and North Creek. The Richmond River has a catchment of 6800km². The main local government areas within the catchment are Kyogle, Lismore, Richmond Valley, parts of Byron Shire and Ballina Shire. Ballina Shire, being located in the estuarine part of the Richmond River, becomes the 'demonstration frontline' of the health of the river where the impacts of the smaller land use decisions which cumulatively impact on its turbidity, its oxygen levels, nutrient levels, fish populations and other factors. However, the river is a whole ecosystem which works across all the freshwater, upstream locations to the brackish to the saline and estuarine locations. Decisions made throughout the catchment (whether positive or negative) have an impact.

Many who have lived here for a long time remember when the river looked a certain way, and they use this as their reference point for how it should look. However, the river has experienced many changes as a result of European settlement. The original entrance to the Richmond River was mobile across a wide area, and the whole catchment was a network of wetlands and forests.

What we now know is that although recent events such as the large fishkills of 2001, 2008 and now 2020 are demonstrating poor catchment health, the river has been demonstrating poor health for a long time. Poor water quality, high sediment loads and bank erosion are just some of the factors contributing to poor health.

RIVERS AND CREEKS

The Richmond River is a prominent feature of the towns of Wardell and Ballina and provides the backdrop for the villages of Empire Vale, Pimlico, Keith Hall and South Ballina. The tidal influence here means that the river usually looks clean and inviting, but the large changes to the floodplain mean that water quality, riparian vegetation, and changes to bank structure result in poor habitat for plants and animals including fish. Discharge from floodplain drains can contribute to water that is low in pH, polluted or low in dissolved oxygen. Removal of riparian vegetation has resulted in the need for rock revetment to 'stabilise' banks as wave action creates erosion on unprotected areas.

In larger rainfall events, suspended sediments can impact on estuarine waters for up to two weeks.



North Creek and the Richmond River c1920s



Emigrant Creek, June 2020

THE NORTH CREEK CATCHMENT

North Creek drains formerly hind-dune wetland systems and the eastern hills. Its sandy and wetland soils on the floodplain reflect the extensive wetland complexes which were formerly fresh in the upper reaches, with brackish waters and intermittent openings to the estuary at very high tides and during storm events. The catchment and estuary environment is very different to what formerly supported wetlands, forests, wildlife and fish. Wetlands have now been extensively drained for agriculture and urban development, and sediment loads have increased substantially as a result. Oceanic influences are also now more evident in the lower reaches of the North Creek estuary.

Lake Ainsworth falls within the North Creek catchment.

EMIGRANT CREEK (INCLUDING MAGUIRES AND HOUGHLAHANS CREEK)

Emigrant Creek also formed part of the estuary in its lower reaches, where the tidal influence occurs as far up as the confluence of Maguires and Houghlahans Creek, and at Tintenbar. All three creeks rise on the krasnozem soils of the Lismore Basalts which are fertile, and free-draining. These catchments are also highly modified, with much native vegetation removed for agriculture meaning both sediment and nutrients

flow into creeks which formerly supported freshwater fish in a low nutrient environment. Wetlands were also common on these Plateau areas which regulated downstream flows, both for water quality and flow.

PLATEAU CREEKS FLOWING SOUTH TO THE TUCKEAN BROADWATER (MAROM, GUM, YOUNGMANS, YELLOW CREEKS)

These creeks have similar geology and vegetation to those of the Emigrant Creek catchment, but flow south to feed the Tuckean wetland. One-third of the wetland is located within Ballina Shire, and the upper two-thirds are located within the Lismore Shire. It was previously variously forested and open wetland, and was mostly freshwater prior to its drainage. However, in earlier times of higher sea level, the presence of acid sulfate soils in the Tuckean indicates that it is likely it was inundated by brackish or saline water. The Tuckean was drained over time to provide what was perceived to be more productive agricultural land. However, it is now known that wetlands are extremely productive for both land and riverine environments, supporting fish, aquatic vegetation, wetter vegetation communities and the animals that inhabit these locations.

WETLANDS AND FLOODPLAIN

The Richmond River floodplain is approximately 1000km², which is large in comparison to the overall size of the catchment. Previously this was a mosaic of open wetlands, and *Melaleuca* forest and lowland subtropical rainforest on floodplain.

Some of the very large formerly fresh wetlands in the Bungawalbyn and the Tuckean as well as upper estuarine locations in Emigrant and North Creek have now, due to extensive landuse change and floodplain drainage, become a source of 'blackwater' after flood events.

Blackwater forms when oxygen in the water is used up as vegetation rots whilst inundated. Usually this vegetation has established on formerly permanently wet areas which have been drained. This water tends to drain slowly after a flood event, and the reaches the main river around seven to ten days after the flood peak.

Localised blackwater events are recorded in the upper estuary as early as the late 1800s. However, floodplain drainage and the presence of vegetation that is susceptible to inundation has meant that fishkills are happening on a much larger scale.

Recent large fishkills resulted in 2001, 2008 and to a lesser extent, in 2020. A Blackwater Technical Note is available on Council's website or at rous.nsw.gov.au.

Drainage of former wetlands is also a source of acid discharge. Originally, floodplain drainage was introduced to increase the ability to utilise these areas for agricultural purposes and supported by the NSW Government. However, we now know this can affect the pasture itself resulting in acid scalds or acid discharge to creeks and the river. Fish will become diseased in chronically acid situations. Orange staining of floodplain vegetation, and orange 'floc' staining sediment is common. Very clear water in drains is often a sign of acid sulfate soils. More information is available at environment.nsw.gov.au/topics/land-and-soil/soil-degradation/acid-sulfate-soils.

Another potential issue is the formation of mono-sulfidic black oozes (also called MBOs) in drains which are not subject to tidal exchange or frequent flushing through efficient drainage. MBOs may then discharge during a large rainfall or flood event and because these substances have a large demand for oxygen where it becomes available. This can also contribute to a wider blackwater event.



Kilgra, Richmond Valley. Image credit: Nicholas J Fisher



Lake Ainsworth

SIGNIFICANT WATERWAYS

LAKE AINSWORTH

Lake Ainsworth is a tea-tree lake located just north of Lennox Head. It has important cultural associations for Aboriginal people, and is a popular part of the Lennox Head community lifestyle also. It is a unique and sensitive ecosystem providing significant ecological value within the local area and is home to a wide variety of plants and animals.

A Coastal Management Program for Lake Ainsworth is in place and implementation has commenced.

SHAWS BAY

Shaws Bay is a remnant of the former entrance to the Richmond River and was formed when North Wall was constructed. The bay is tidal and extremely popular for swimming, snorkeling, walking and kayaking. The seagrasses in the bay are regarded as some of the best in Northern NSW and support many fish.

The 2015 Shaws Bay Coastal Zone Management Plan is in the final stages of implementation. Works improving both recreational and environmental aspects of the Bay have been undertaken. A new Coastal Management Program will be developed to replace the CZMP and enable continuing access to government funding to supplement Council's own funds.



Shaws Bay Ecological Zone, compensatory saltmarsh basin and marine vegetation area. Once or twice a year king tides around the 2m mark will flow to the very top of the eastern basin

HEALTHY WATERWAYS

HOW DO WE KNOW THERE IS A PROBLEM?

There have been signs for many years that the Richmond River and its tributaries are not as healthy as they could be. These include falling commercial fish and oyster harvests, blackwater events and large sediment loads in the river in the days and weeks after rainfall events.

Many of the waterways within Ballina Shire were identified as stressed during the late 1990s as part of the NSW Water Reform process. Creeks within the Alstonville Area (Emigrant and Maguires Creek) and those flowing to the Tuckean Swamp (flowing south on and from the Alstonville Plateau) were identified as stressed both hydrologically and for environmental reasons. Weeds, pollution (including fertiliser and nutrients in runoff) and high levels of extraction from surface water particularly during medium to low flows contributed to this categorisation.

For areas around South Ballina to Wardell, and in

waterways around Lennox Head, weeds, pollution (again such as fertiliser and nutrients in stormwater runoff) and bank stability have been the main issues. A lack of riparian vegetation particularly on the main Richmond River was a big issue.

A 2014 Ecohealth study provided a comprehensive, comparable and relatable way to understand the health of our river and its various waterways.

There is no one impact or issue which has contributed to the health of the river. Land use changes over time, drainage of floodplains, pollution, removal of native vegetation, dams and other water use all change the nature of creeks and rivers. The Ecohealth methodology used bed and bank condition, riparian vegetation condition, water quality and insect populations in freshwater locations to understand and benchmark the health of sites throughout the Richmond.



Some common practices which lead to poor river health

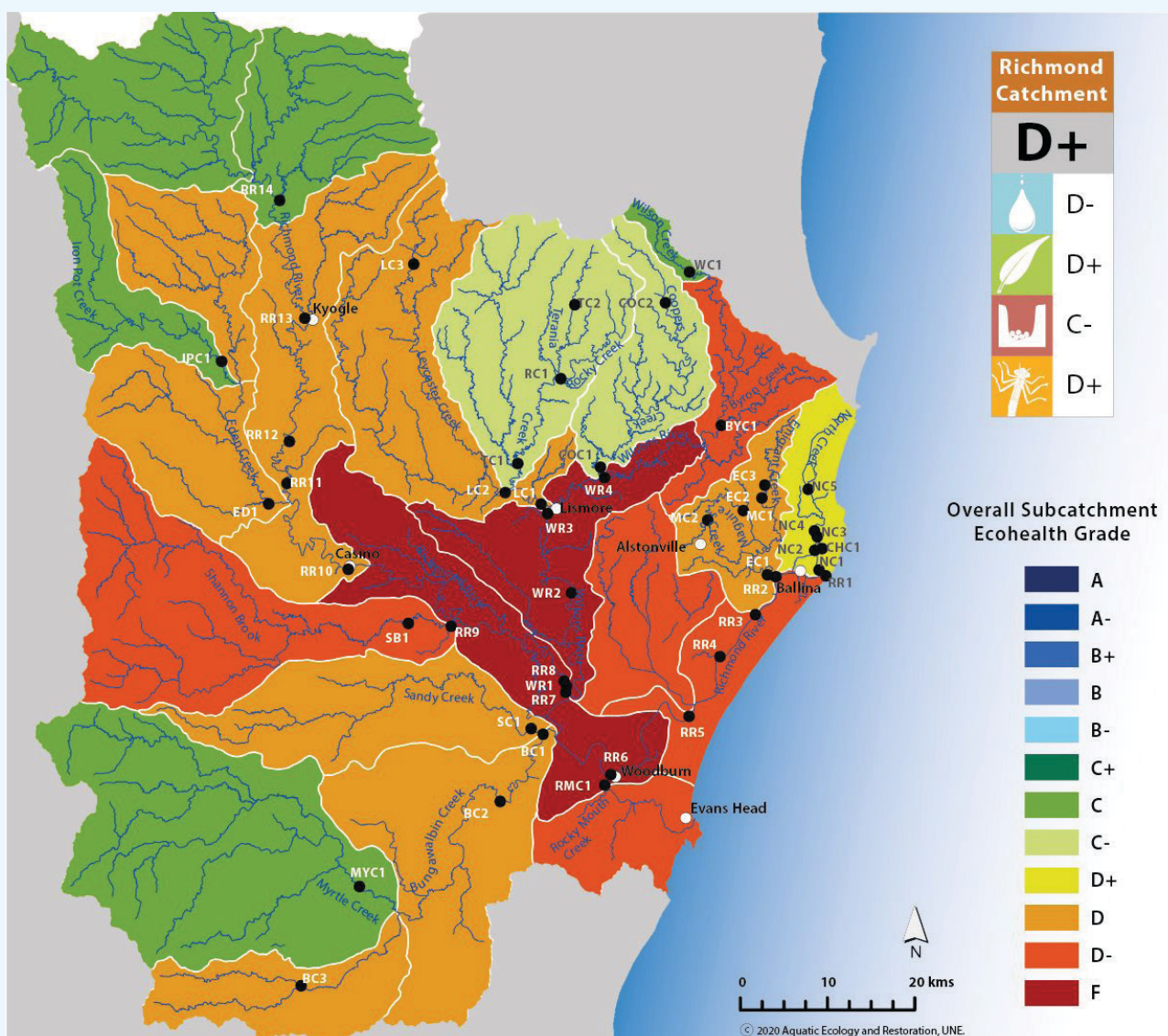


Good things we can do!

CONDITION OF RIVERS IN THE REGION

This map shows the overall ecological health condition for the Richmond River catchment and estuary. At the time of writing, the overall rating was a D minus. The upper estuary and lower Wilsons River scored an F overall. Catchments wholly within Ballina received a D plus as their highest mark. All factors measured were Poor or Very Poor.

Note that this study did not consider the impact of large rainfall or flood events, so these scores reflect the 'business as usual' condition of sites along the waterways.





Near Tuckean Nature Reserve. Image credit: Nicholas Fisher

CONDITION OF WETLANDS IN THE REGION

Wetlands were much more prevalent in the catchment prior to European settlement. Ballina Nature Reserve and its surrounds, and the Tuckean Nature Reserve and its surrounds are small remnants of wetlands that were formerly widespread in the Richmond River estuary.

Much of where the Ballina settlement sits today was formerly a mix of wetlands, saltmarsh and mangrove communities. Wetlands are a critical part of our natural environment, providing a buffer from wave action, reducing the impacts of floods, absorbing pollutants and improving water quality. They are nursery areas for fish as well.

Many wetlands were drained or filled for agriculture or urban development, and flow paths have been interrupted by roads or other infrastructure.

Freshwater wetlands, in particular, were often seen as simpler to convert to pasture or agriculture and drained for these purposes. As we collectively learnt more, we realised that poorly constructed floodplain drainage can mobilise acid in drained soil profiles and also contribute to a reduction in dissolved oxygen during flood events.

Wetlands are critically important as nurseries for fish, for improving water quality (by dropping out sediment and using up some of the nutrients prior to discharge in creeks and rivers). More vegetation helps to regulate water temperature and provides different ecological niches for different fish and other species to thrive. This concept includes different flow speeds as well - faster flow and drainage is not necessarily better for river health.

WATERWAY ROLES AND RESPONSIBILITIES

Rivers and creeks are the responsibility of everybody. Each land management decision has a potentially positive or negative impact on the waterway and environment. Over time, poor decision making may often mean rivers and creeks suffer what is known as ‘the tragedy of the commons’ where the cumulative impact of individual decisions are not taken into account by the person implementing that decision, but then cumulative impacts on the health of the waterway becomes evident over time.

Some responsibilities are placed by legislation on Council, on state government and on individual landholders or industries. Essentially each landholder is responsible for the impacts of their land management decisions on the natural environment. It can be difficult to attribute issues such as topsoil loss during rainfall events, poor water quality, assisting distribution of weeds (including camphor laurel) to a single source which can be problematic. Often they arise unintentionally rather than from a deliberate decision to negatively impact others or the environment.

Whilst Council does undertake works on its own land, and works with NSW Government agencies, landholders and non-government organisations to effect positive change in waterways, it is a collective responsibility that we all hold for the long term future health. Council can and will report on the health of waterways over time. Council utilises Special Rate Variation funds towards long term positive change on riverbanks and in programs that result in positive change in waterway health.

However, every resident within Ballina Shire lives within the Richmond River catchment. Your local creek flows to the Richmond River estuary. Simple changes and simple decisions that positively benefit your local creek or river will result over time in a healthier waterway. The cumulative benefits of things like using erosion and sediment control on construction sites, controlling weeds on your property (rural and urban), applying the correct rates of fertiliser, ensuring your on-site sewage management system is working correctly, and disposing of your litter correctly should not be underestimated.

We are all part of ensuring healthy waterways, and a healthy river starts in the upper catchment.



Houghlahans and Maguires Creek

OUR MANAGEMENT RESPONSE

SO WHAT'S THE PLAN?

Council will continue to partner with upstream councils and NSW Government agencies to work on improving the health of the catchment.

A Special Rate Variation was sought by Ballina Shire Council in 2017 to boost the budget available to make positive change in local waterways. These funds are used directly for on-ground works or as leverage to attract grant funds.

We partner with other organisations such as Rous County Council, Landcare or other groups and individuals to achieve positive change in our catchments.

We also strategically plan for future works using the Coastal Management Program planning process.

HOW CAN WE MEET BOTH STRATEGIC AND OPERATIONAL NEEDS?

Ideally, strategy is followed by implementation but sometimes opportunities arise with agencies or landholders for projects. It is also important that we are undertaking on-ground projects to begin positive change in areas where there is momentum. It helps us to develop partnerships, understand the benefits of positive change and begin to improve water quality and habitat.

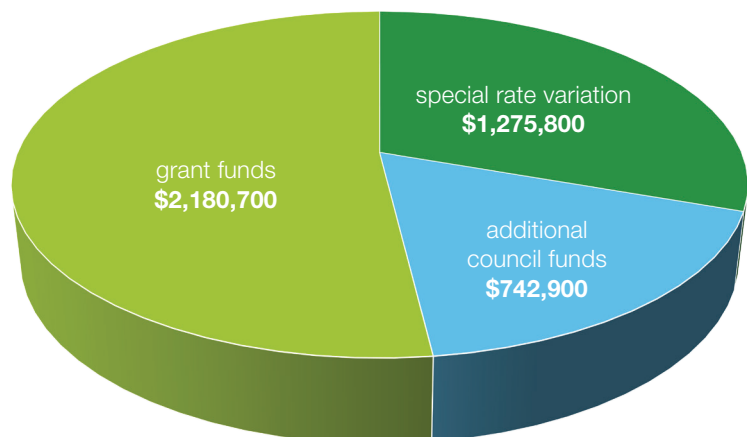
To date, these opportunities have included:

- Financial support of the Ozfish Unlimited investigation into floodplain management options for the former Tuckean Swamp complex.
- Assisting groups of private landholders by sourcing grant funds to help them re-establish riparian vegetation on their properties.
- Assisting NCLLS to identify sites with the broader Emigrant Creek catchment for reinstatement of riparian vegetation as part of a program under the Marine Estate Management Strategy.
- Advocacy for local residents with respect to localised issues such as erosion, artificially low flows in nearby creeks, water pollution or poor water quality.
- Providing administrative and grant management support to the former OEH for the Richmond River Governance and Funding Project.

HEALTHY WATERWAYS PROGRAM FUNDING

2018- 2021

Figures as at June 2021. These figures are subject to change as additional funding sources arise.



MAROM AND CHILCOTTS CREEK REVEGETATION PROJECT

In 2019, Council successfully obtained an Environmental Trust grant on behalf of landholders wanting to improve their riparian/riverbanks. Works included primary weeding, planting, camphor removal and then maintenance along the creeks.

IN AN IDEAL WORLD, STRATEGY IS FOLLOWED BY IMPLEMENTATION

Council has a number of projects which are taking place over multiple years. These projects include larger ones foreshadowed in the Delivery Program and Operational Plan and smaller projects which are reliant on external funding for their execution.

The guidelines around how Healthy Waterways funding is directed and used are:

1. Work should contribute to a strategic goal within a Coastal Management Program (North Creek, Lake Ainsworth) or Coastal Zone Management Plan (Richmond River, Shaws Bay). This parameter means that work undertaken has been considered in the context of the catchment or locality conditions, so that the chances of such work meeting Criteria 2 are enhanced.
2. Work should contribute to better water quality, better terrestrial or aquatic habitat, and bed and/or bank stability. This may happen utilising different tools, but there should be a sound basis for these tools and preferably a documented benefit to their use in other areas prior to implementation in Ballina Shire.
3. Works on private land will not be funded from the Healthy Waterways Program at this time. This is not to say Council will not assist private landholders. Existing grants have been sourced and are administered by Council staff to assist private landholders to reinstate riparian vegetation. Council has also advocated for works to be funded by the Marine Estate Management Strategy on private landholdings.



Apr 2019

dense pasture grass dominates site



Apr 2020

weed control in preparation for planting



Dec 2020

plantings protected by plant guards

**MAROM AND CHILCOTTS CREEK
REVEGETATION PROJECT**

In 2019, Council successfully obtained an Environmental Trust grant on behalf of landholders wanting to improve their riparian/riverbanks. Works included primary weeding, planting, camphor removal and then maintenance along the creeks.



Apr 2020

dense 95% weed cover and injected camphor laurel resprouting



Apr 2020

weeds sprayed and reduced to <5% camphor laurel retreated



Dec 2020

weed control continuing, planting of groundcovers and natural regeneration

The following examples show what we are working on now and into the near future:

■ **Lake Ainsworth Coastal Management Program**

Endorsed by the state government and projects underway.

■ **Shaws Bay Coastal Zone Management Plan**

Implementation of this strategy continues to environmental, social and recreational improvements over the past five years. This strategy will, in time, transition to a Coastal Management Program also.

■ **Coastal Zone Management Plan for the Richmond River Estuary**

Estuarine councils, including Rous County Council, have contributed to some improvement in the catchment and estuary since this strategy was gazetted in 2012. Implementation has been hampered by difficulties with ensuring effective governance of river and estuary health issues as well as having sufficient funds to make a measurable difference to creeks and waterways.

■ **Richmond River Coastal Management Program**

A scoping study is currently underway to develop a new Richmond River Coastal Management Program.

■ **North Creek Coastal Management Program**

A comprehensive Scoping Study has been completed as Stage 1. Studies to fill data and knowledge gaps are being rolled out progressively.

PROGRAM	IMPLEMENTATION ACTIVITIES
SHAWS BAY COASTAL ZONE MANAGEMENT PROGRAM	<p>Implementation</p> <ul style="list-style-type: none"> • Dredging of Shaws Bay in strategic locations • Establishment of saltmarsh basin and other compensatory revegetation • Foreshore improvements along Pop Denison Reserve, Fenwick Drive Reserve and Compton Drive Reserve.
LAKE AINSWORTH COASTAL MANAGEMENT PROGRAM	<p>Implementation</p> <ul style="list-style-type: none"> • Beach nourishment • Bush regeneration and riparian vegetation plantings • Backfill exposed tree roots • Foreshore restoration
NORTH CREEK COASTAL MANAGEMENT PROGRAM	<ul style="list-style-type: none"> • Scoping Study completed • Hydrological Study – in and around Ballina Nature Reserve • Water Quality Monitoring – Implementation and Monitoring • Preliminary Data Integration for hydrological model and hydrodynamic modelling for full catchment overview
RIPARIAN REVEGETATION	<p>Grant funded revegetation of sites at Marom Creek, Gum Creek, Duck Creek, Chilcotts Creek, Chickiba Creek, Maguires and Houghlahans Creek.</p>
EMIGRANT CREEK PROJECT	<p>Grant funded revegetation and resnagging of Emigrant Creek between Tintenbar Road and Tamarind Drive. Work is occurring on privately owned land on the south bank of Emigrant Creek funded by the owner, NCLLS and Ozfish Unlimited.</p>
FLOODPLAIN DRAINAGE INVESTIGATION	<p>This work is a partnership project with Rous County Council. At present it is focused on the Keith Hall and Mobbs Bay areas.</p>
RICHMOND RIVER COASTAL MANAGEMENT PROGRAM	<p>This is being led by Rous County Council, but is supported financially and in kind (staff resources) by Ballina Shire Council.</p>
COMMUNITY INFORMATION NIGHTS	<p>Council partners where possible with other organisations to deliver information about waterways, and environmental issues which relate to projects run by the Healthy Waterways program.</p>
COMMUNITY AWARENESS	<p>Using various forums for showing how waterways can improve. These include the ‘Riverbanks are Messy’ brochures, the ‘Love it or Lose it’ project, Community Connect articles etc.</p>
REPRESENTING OUR COMMUNITY	<p>Providing comment to NSW Government policy and operational processes such as the review of the Richmond River Water Sharing Plan.</p>
STRATEGIC LAND ACQUISITION	<p>This has occurred on an opportunistic basis where funding is available and the acquisition will assist with improving our waterways in the longer term. Council has bought land at Teven Road fronting Emigrant and Houghlahans Creeks and plans are being prepared to develop a reserve including water access to support recreational fishing.</p>
CORE ACTIVITIES	<p>Council assesses and conditions development applications to protect the environment. Best practice in stormwater management, waste management, environmental health and other core activities are important as well to ensure the health of our waterways.</p>



Ballina-Lennox Head Recycled Water

WHAT ELSE COUNCIL IS DOING TO IMPROVE THE HEALTH OF OUR WATERWAYS

■ Onsite Sewage Management

Including Approvals to Operate, an inspection program and development of a strategic framework.

■ Recycled Water

Both Ballina and Lennox Head Sewerage Treatment Plants were upgraded to Recycled WasteWater Treatment Plants in 2014, meaning they supply recycled water to homes, sportsfields and other users. Alstonville STP also re-uses almost 100% of their treated water for approved purposes. Wardell STP re-uses approximately 25% of its treated water throughout the year. Strict licensing conditions dictate any discharge to occur on an ebb tide (when water is flowing out to sea) and also keeps nutrient and other water quality parameters within guideline limits.

■ Erosion and Sediment Control

Continuing professional education seminars

■ Clean Up Australia Day

■ Acid Sulfate Soils Program

Oversight of the Self Regulation Program by cane farmers in Ballina Shire

■ Pesticide Use Policy

Review to ensure our practices meet or exceed expected guidelines.

■ Contaminated Lands Program

Council manages this on behalf of six Northern Rivers councils, with the objective of improving the contaminated land technical capacity of council staff to ensure regionally consistent processes for the management of contaminated land are developed in each LGA.

■ Landcare Support Program

Council supports Landcare in various ways across the Shire in a number of different locations. This work supports biodiversity and healthy ecosystems, and in turn better supports riparian locations.

■ Extractive Industries Strategy

■ Water Quality

Council responds to complaints and concerns regarding water quality.

■ Support others initiatives

Council supports NSW agencies and NGOs with administrative and logistical support. Activities include the installation of a Seabin at Fawcett Park to help manage fishing line waste, organising Council staff to be at educational workshops run by DPI – Fisheries, distributing information within the community and providing small donations to support complementary activities.

EMIGRANT CREEK

Reinstating creek riparian vegetation and incorporating bank stabilisation to over 3km of creek banks. Weed removal and control also included the installation of fauna boxes and holes.

SOMETIMES IT LOOKS WORSE BEFORE IT GETS BETTER

Council does sometimes get negative feedback regarding its activities under the Healthy Waterways Program as well as Landcare or other environmental projects. There can be temporary visual impacts with weeds dying off and native plants taking time to establish. Council also has a responsibility to address biosecurity issues, and prescribed responsibility under various legislation with respect to some weeds. It can take two to five years for the replacement of weeds with a functioning native community, and ongoing maintenance is required due to the climate, fertile soils and abundant rainfall we enjoy here in Ballina Shire.

These impacts are temporary and necessary to re-establish fish habitat, good water quality, native riverbank vegetation and stable riverbanks. It will take time for the positive changes to accumulate across the catchment.



Nov 2019

poor water quality event



June 2020

banks replanted and mulched



Dec 2020

bank plantings progressing

PROSPECT LAKE

Reinstating coastal EEC and protecting a cultural site. Weed control works and monitoring completed by Conservation Volunteers Australia.



Dec 2018

>60% exotic weeds: ground asparagus, coastal morning glory and wandering trad



May 2019

works reduce exotic weeds to <25%
native species increase to 30%



May 2020

native species increase to 40%

AT WHAT SCALE WILL WE WORK?

LOCAL

There are many community groups and professional organisations that work in our local community to help our environment be healthier. Many landholders, including farmers, also do work on their properties to retain native vegetation or reduce pollutants into waterways. This collective contribution to enhancing our environment is really important because no one organisation can resource the work that would need to occur to significantly improve the Ecohealth scores for our local creeks and waterways.

Examples include:

1. **Richmond Landcare Inc** – both the umbrella organisation and the Landcare Groups who work with them.
2. **Ozfish Unlimited** – Richmond River Chapter
3. **North Coast Local Land Services** have also been working very hard across both private landholdings and public lands within the Emigrant Creek catchment (which includes Maguires Creek and Houghlahans Creek) to reinstate riparian vegetation and reduce erosion from gravel and dirt roads. The funding source for this has been through the Marine Estate Management Strategy.

Council is extremely grateful for all of this effort contributing to healthier creeks and rivers. If you would like to get your group involved, please see Appendix A for how Council works with community groups under the Healthy Waterways Program.

WHAT CAN YOU DO TO HELP OUR WATERWAYS?

Water quality, bank stability, fish habitat and other factors which lead to healthy waterways are complicated, cumulative and the result of many decisions over time by many different land managers. Council's strategic direction with respect to healthy waterways is set out in this program.

However, there are many locations where Council does not have direct influence and where others can have a positive impact on the health of local creeks and rivers. You do not have to have creek frontage to be positively contributing to a healthier creek, catchment and Richmond River.

Examples of small actions include:

- Put your rubbish in the bin, particularly plastics.
- Dog poo can go in the organics bin.

- Put your green waste in the organics bin, or take it to the Waste Management Centre.
- Use the Ballina Shire Urban Garden Guide to help you with your garden design and planting. This also has a list of local environmental weeds, which are commonly sold in nurseries but can quickly become weedy especially near riverbanks and wetlands.
- Use appropriate fertilisers in the right amounts.
- Keep any stockpiles away from the gutter to reduce the potential for erosion.
- Control your weeds, especially on rural landholdings. This includes woody weeds such as camphor laurel and coral tree. Not doing so poses a biosecurity risk to your property and others.

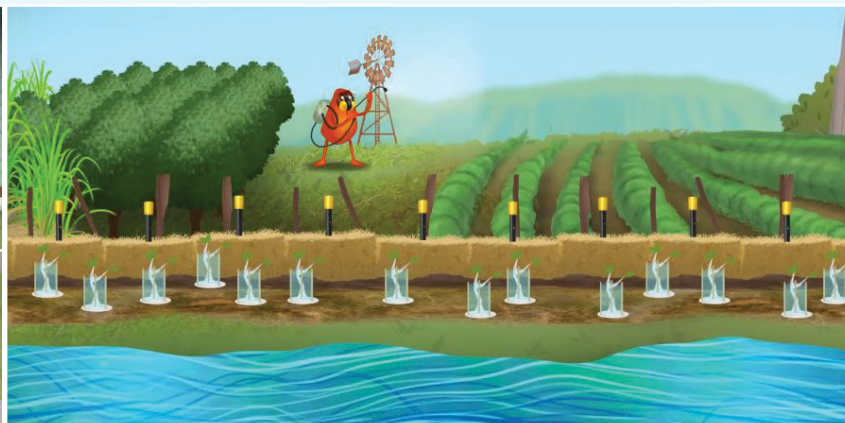




Image credit: Mick Howland, Hydrosphere Consulting

REGIONAL

Council works with other councils on the Richmond River Coastal Management Program to plan and implement strategic and on-ground works across the catchment to cumulatively improve the condition of creeks and rivers. Examples include:

1. The Richmond River Governance and Funding Project. Council financially contributed to this project, and assisted the Department of Planning Industry and Environment's Environment Energy and Science Division with financial and grant management of the consultant working on this project.
2. Ballina Shire Council is a member of the CZMP Implementation Committee, hosted by Rous County Council, which provides a forum for planning for river health. A Coastal Management Program is now under review.
3. Council has partnered with NCLLS and other catchment councils on a riparian revegetation project. Three projects across the catchment have been completed, on Maguires Creek, the Wilsons River and the Richmond River.
4. Council staff provide feedback and advocacy through various fora, including the Northern Rivers Joint Organisation NRM Group on issues affecting river health. The Richmond Ecohealth Report identified some very serious issues across large areas of the catchment. The methodology of the report focused on the areas immediately adjacent to riverbanks at various locations. The parameters measured were water quality, riverbank vegetation, the stability of the river bed and banks and the presence and abundance of freshwater insects as food for fish.

There is a cumulative effort across local government, industry and community organisations in various locations. However, the scale of resources required is substantial and every bit counts.

REFERENCES AND FURTHER INFORMATION

Kijas, J. May 2019

An Echo of Wings: A History of the Tuckean Swamp

Acret., A., Billington, K. and Deere, D. (2013)

Emigrant Creek Catchment Management Plan

produced for Rous Water by Water Futures Pty Ltd.

Hydrosphere Consulting (2011)

Estuary Management Study and Coastal Zone

Management Plan for the Richmond River Estuary

Hydrosphere Consulting (2015)

Coastal Zone Management Plan for Shaws Bay

Hydrosphere Consulting (2019)

Lake Ainsworth Coastal Management Program

Alluvium (2019)

North Creek Coastal Management Program – Stage 1 Scoping Study

Ryder, D., Mika, S., Richardson, M., Schmidt, J. and Fitzgibbon, B. (2015)

Richmond Ecohealth Project 2014

Assessment of River and Estuarine Condition

Aquatic Biogeochemical and Ecological Research (2007)

Richmond River Estuary Processes Study

prepared for Richmond River County Council

Department of Land and Water Conservation (1999)

Stressed Rivers Assessment Report

Catchment - North Coast. Catchment – Richmond

www.loveitorloseit.com.au

APPENDIX A

FOUR YEAR PLAN

ACTIONS

These actions align with the directions in our Community Strategic Plan and are reported quarterly to council via the Delivery Program/Operational Plan. These actions will be implemented over four years from 2021/22 to 2024/25. Some projects priorities may change with funding commitments and other external stakeholder factors.



Healthy Environment (HE)

- undertake and promote initiatives that improve our waterways (HE1.2) and
- minimise negative impacts on the natural environment (HE3.2)

NORTH CREEK

North Creek Coastal Management Program

Stage 2 Studies Hydrology/Hydrodynamics and Water Quality

Progress North Creek Dredging Studies

North Creek CMP Stage 3

Identify potential and priority management options within North Creek (includes stakeholder, landholder, community liaison)

North Creek CMP Stage 4

Development of plan for implementation, public exhibition, Council endorsement, forward to NSW Coastal Council.

EMIGRANT, MAGUIRES AND HOUGHLAHANS CREEK

Emigrant Creek – OEH Grant

2.6km creekbank revegetation and bank stabilization (and maintenance)

Maintenance NCLLS Planted Works

along Emigrant, Maguires and Houghlahans Creeks

New riparian project implementation at strategic locations

Develop Teven Recreational/Riparian Vegetation Project

SHAWS BAY

Implement actions from Coastal Zone Management Plan

MAIN TRUNK OF RIVER BOUNDARY CREEK TO MOUTH

Development of new Coastal Management Program for the Richmond River (Rous, Lismore, Kyogle, Richmond Valley and Byron Councils)

Input into Richmond River Water Sharing Plan and other policies of NSW Government relating to river management

Riparian Revegetation Planning (partnership with other LGA's and Rous CC)

Mobbs Bay/Keith Hall Drainage and Water Quality Study (in partnership with Rous CC)

Continue participation in outcomes of **Tuckean Hydrological Study** and **TBL Outcomes Study** (Ozfish and Rous CC)

LAKE AINSWORTH

Implement actions from Coastal Management Program

COMMUNITY EDUCATION

Community information nights

Stormwater and rural runoff

Sediment and Erosion Program

Love It or Lose It campaign

Support other stakeholder and government initiatives

APPENDIX B

ENGAGEMENT WITH COMMUNITY

ENGAGEMENT WITH COMMUNITY GROUPS WITHIN THE HEALTHY WATERWAYS PROGRAM

This framework has been prepared with reference to the Ballina Shire Community Participation Plan, to provide guidelines for Council staff in respect of engagement with groups working on river health issues within the shire.

The framework takes account of the following principles:

- The need for accountability, transparency and equity in our discussions with groups/group members.
- The need to demonstrate that accountability, transparency and equity in those discussions so that groups are treated equally respectfully and fairly.
- The consideration of the interests of our whole community in these discussions, including those where there is/may be a direct impact on their livelihoods or lives.
- The timeframe that is involved in making positive change, and assisting the community to be a part of this cumulative positive change over the medium to longer term.

Council staff will and do work in collaboration with NSW agencies and with other local government organisations on projects that meet the objectives of the CZMP for the Richmond River Estuary, the Shaws Bay CZMP or on other endorsed river health programs such as the Lake Ainsworth and North Creek CMPs.

Council staff will liaise with community groups looking for improvements in river health on the following basis:

1. The first point of contact is through the Manager - Public and Environmental Health Section as the manager of the Healthy Waterways Program.
2. As Council staff, we are non-political and will provide reasonable support to any group undertaking a project/s that fulfil the objectives of the Coastal Zone Management Plan for the Richmond River Estuary, or Coastal Management Programs for North Creek, Lake Ainsworth and Shaws Bay feedback and advice. We do not generally collaborate on projects with community groups, simply for resourcing reasons.
3. Cash or significant contributions to groups must be requested through the Community Donations process. The approval of contributions will be based partly on the ability of Council staff to realistically service the contribution, ensuring it is properly and reasonably directed to the activity for which it has been requested.
4. Funding will be allocated at the discretion of Council. No application is guaranteed funding support, or that the full amount requested will be provided.
5. Council will ask for corroboration of contributions and support from the proposing organisation and its partner organisations before committing funds and public support to a project. There must be a clear benefit to the community that can be articulated for a contribution to be considered.
6. Projects for which support is requested should not conflict or be seen to conflict with the objectives and policies of Council, should not impose or imply conditions that would limit the Council's ability to carry out its functions fully and impartially and should not interfere with the maintenance of a consistent and professional image of Council within the community.
7. Respectful behaviour is expected from community groups. This includes following due process, understanding the need for probity and accountability required of those in the public sector and treating staff as the group themselves would wish to be treated. Approaching multiple staff members in an attempt to circumvent due process is not respectful behaviour.
8. Groups can expect their information contributions to be utilised within planning processes and as the basis for further investigation by Council staff. This may or may not result in a visible outcome, but the group will be updated as to how their information has been used.

The following examples illustrate the preferred approach from a community group given three different types of issue:

A 'NEED ACTION NOW' TYPE ISSUE SUCH AS A WATER POLLUTION INCIDENT

The group should contact the Environmental Health Group Secretary through the main office (ph 1300 864 444) and ask for an urgent Customer Request to be lodged and referred. As much information as possible should be supplied.

Where the group is working with a contact within Council, this information can be cc'd directly to that contact with any photographs or other attachments.

GENERAL INPUT TO PLANNING OR OPERATIONAL ISSUES REGARDING RIVER HEALTH

Where there is no formal avenue currently open to groups to provide this input in a general sense (such as a public exhibition period or community engagement exercise), information may be emailed or sent to Council staff on the council@ballina.nsw.gov.au email marked to the attention of the desired staff member.

Formal exhibitions of strategies or policies will invite feedback from the public, including community groups.

SPECIFIC PROJECT BASED WORK

Where specific projects request information or staff resourcing, a formal request should be made. Council

will attempt to assist all reasonable requests for help within its own purview but requests may be referred to the Community Donations process for transparency.

Policies dealing with aspects of the Community Donations process cover the following areas:

- Council fees
- Capital Works (usually applies to sporting groups)
- Financial Assistance
- Insurance for Environmental Volunteer Groups working on public land

APPENDIX C

LEGISLATION AND POLICY

Working to improve the health of waterways is an area that works across public and private lands with all types of landuse, and may be impacted by different (or no) consent processes. A range of tools can be utilised to effect change, although in many cases these tools are strictly voluntary.

The following is a list of legislation, a key planning policy which can have an effect on activities in coastal catchments which are designed to guide, direct or enable works with a positive environmental outcome.

Legislation	Object
<i>Coastal Management Act 2016</i>	Protect natural coastal processes and and coastal environmental values. Coastal Management Programs must be developed and gazetted by 31 December 2021 to ensure Councils are still eligible to apply for funding through the NSW Coasts and Estuaries Fund
<i>Ballina Shire Koala Management Strategy</i>	To sustain a viable koala population into the future
<i>Ballina Shire LEP and DCP</i>	Support a healthy natural environment (amongst other objectives)
<i>Water Management Act 2000</i> (Regional Water Sharing Plans and Strategies)	To share the water between the environment and other users
<i>NSW Fisheries Management Act 1994</i>	To support sustainable fish populations
<i>Local Government Act 1993</i>	To define the responsibilities of local government, including planning and reporting about the report
<i>Local Land Services Act 2013</i>	To ensure a productive and fully functioning landscape (environmental, social, economic)
<i>National Parks and Wildlife Act 1974</i>	To provide a framework for managing National Park estate
<i>Natural Resources Access Regulator Act 2017</i>	To set up NRAR as the regulator for ensuring compliance with natural resource management legislation (mostly for water related licensing and regulation)
<i>Protection of the Environment Operations (POEO) 1997</i>	Provide efficient, innovative and effective ways to reduce pollution
<i>Environmental Planning and Assessment Act 1979</i>	Promote a better environment by the proper management, development and conservation of the State's natural and other resources. Facilitate environmentally sustainable development integrating triple bottom line outcomes into decision making
<i>Environmental Protection and Biodiversity Conservation Act and Regulations 1999</i>	This is federal legislation and its purpose is to: <ul style="list-style-type: none"> • Provide for protection of the environment • Promote environmentally sustainable development • Promote biodiversity • Include indigenous peoples in natural resource management
<i>Crown Land Management Act 2016</i>	Provide for the social, environmental, economic and cultural management of Crown Land. Facilitate the use of Crown Land by Aboriginal peoples



HEALTHY WATERWAYS PROGRAM

ballina shire council 

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