

Richmond
Valley
Council



Richmond Valley Flood 2022



RESPONSE

TUESDAY 5 APRIL 2022

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Richmond Valley Council recognises the people of the Bundjalung nation as custodians and traditional owners of this land and we value and appreciate the continuing cultural connection to lands, their living culture and their unique role in the life of this region in the past, present and future.



\$150 million+ to rebuild our communities

Australian Army soldiers from 3rd Brigade assist the Woodburn community by clearing water-damaged belongings off the street as part of Operation Flood Assist 2022.

EXECUTIVE SUMMARY



Rebuilding from this catastrophic event will require a supreme effort and support from all levels of government

The Northern Rivers flood disaster of March 2022 has devastated the Richmond Valley, with catastrophic damage to homes, businesses and public infrastructure.

The Mid Richmond villages of Coraki, Woodburn and Broadwater experienced the highest flood levels in recorded history, with two major floods in quick succession. Our community is still reeling from the sheer scale and devastation of this event.

As the flood waters recede, the full extent of the recovery challenge is becoming clear. We have not just lost homes and businesses, we have lost the infrastructure which holds communities together.

The social and economic fabric of the Northern Rivers region is slowly being unravelled as the days and weeks go by.

With more than 10,000 people homeless, essential business and construction firms decimated, and key infrastructure failing, all levels of government need to act now to rebuild from this catastrophic event. It will require a supreme effort.

Richmond Valley Council has played a strong role in the initial disaster response - working to restore essential services, re-open roads and support emergency services.

Our community acknowledges the tremendous support we have received from emergency response agencies, the Australian Defence Force and the many volunteers who stepped forward to help in the most challenging of times.

We now begin the long and difficult journey of rebuild and recover.

Although it is still difficult to assess the full extent of loss and damage Council

believes the repair and replacement costs for essential infrastructure, such as roads, bridges and sewerage systems, will exceed \$150 million.

The cost to local homes, businesses, the natural environment and the wellbeing of our communities will be much greater. We expect the recovery process will take at least three years.

After seven Natural Disaster Declarations in just three years, as well as a global pandemic, Council believes this latest crisis will stretch our Northern Rivers communities to their very limits.

There are strong connections across this region for employment, services and supplies and we are only just beginning to understand the potential flow-on effects of losing key industries, facilities and workers.

In a region already challenged with severe housing shortages, rising unemployment, and limited access to essential building materials and services, providing short-term assistance will not fix the scale of devastation the Northern Rivers faces.

It will take an enormous amount of effort and support for those affected to rebuild their lives.

Richmond Valley Council and the wider community will be there every step of the way to support the individuals, families, businesses and farmers impacted by this disaster.

But we cannot do this alone. Our Council needs strategic investment, open engagement and strong leadership from all levels of government to meet this overwhelming challenge.

The recovery process will take at least three years.



The February-March floods saw unprecedented damage to homes, businesses and public infrastructure in the Richmond Valley. As the flood waters recede, the full extent of the recovery challenge is becoming clear. We have not just lost homes – we have lost the infrastructure which holds communities together

What have we achieved so far?

- Majority of flood waste removed from Casino, Coraki, Woodburn and Broadwater
- Established usage agreement and EPA licensing for temporary waste transfer point to service the entire regions flood clean-up effort
- Emergency repairs to 40 flood damaged roads to improve safety and access
- Assessed more than 60 percent of our 1064km road network for flood damage
- Restored water and sewerage services to basic operations
- Restored kerbside waste collection services
- Reviewed initial damage assessments on 2333 structures
- Carried out detailed building inspections on 150 properties
- Supported the operation of evacuation and recovery centres
- Identified suitable sites for temporary accommodation and supported State agencies to source and supply emergency housing.
- Provide rate relief to flood victims and free access to building records to help with insurance and repair work.
- Completed an economic impact assessment on local business

Next steps

- Finalise flood waste collections in villages and rural areas
- Remediate temporary waste transfer points at Coraki, Broadwater and Casino
- Collaborate with PWA to transport waste away from Coraki transfer point to interstate landfill
- Complete assessment of the road network and 129 bridges
- Work with TfNSW to design solutions for major landslips on Naughtons Gap and Bentley roads
- Apply for Disaster Recovery funding to repair our roads - up to \$100m damage
- Complete repairs to the Broadwater sewerage system, Woodburn sewage pump stations and Rileys Hill sewage treatment plant
- Complete repairs to the Casino raw water pump station
- Complete building inspections of up to 400 homes
- Repair community buildings and facilities
- Advocate for more assistance for local businesses

We need help with . . .

- Disaster Recovery Funding for road repairs and landslip remediation - \$114m+
- Disaster funding for water and sewerage repairs - up to \$50m
- Temporary housing for flood victims - up to 1000 people homeless
- Targeted support for major industries, small-to-medium business and agricultural industries
- Wage support for flood-affected local workers.
- Funding for important flood response planning, including place plans to revitalise villages - \$300,000
- Continued funding for a local recovery team (two years) \$300,000
- Support to undertake a major review of urban drainage systems in Casino and Evans Head - \$1m+
- Support for mid-to-long term growth in permanent housing options





A Coraki resident takes time to thank the many volunteers who showed up to help flood victims.

RICHMOND VALLEY BRIEF STATISTICS



for 2020/2021

CATEGORY	2020/2021
TOTAL POPULATION	23,490
FAMILY HOUSEHOLDS	5262
MEDIAN WEEKLY HOUSEHOLD INCOME (‘2016 Census)	1191
COUNCIL AREA (KM2)	3051 km2
GRP (GROSS REGIONAL PRODUCT)	\$900 million
VISITORS TO RICHMOND VALLEY	302,000
DOMESTIC VISITOR NIGHTS STAYED	119,000
VISITOR SPEND IN LOCAL ECONOMY	\$76 million
LOCAL JOBS	7923
TOP PRODUCTION - MANUFACTURING	\$323 million
AGRICULTURE, FORESTRY AND FISHING PRODUCTION	\$96 million

Data sources: .id Economy - National Economics (NIEIR) - Modelled series & Australian Bureau of Statistics and Tourism Research Australia Local Government Area profiles.

Drone footage of flood-affected Broadwater and surrounds.



COUNTING THE COST

Property damage - homes and businesses



- Total properties in the Richmond Valley: **10,800**
- Number expected to be impacted by flooding (based on modelling): **Up to 3000**
- Structures inspected/assessed so far: **2333**

Total assessment results

- Destroyed: **30**
- Damaged*: **1142**
- Undamaged: **1161**

Varying degrees of damage; numerous properties awaiting structural assessment

Residential assessment

- 26 destroyed
- 812 damaged

*There were 198 assessed as damaged but not classified by building type

Business structures assessed

Commercial:

- Total assessed: **85**
- Destroyed: **1**
- Damaged: **34**

Industrial:

- Total assessed: **23**
- Damaged: **9**

Estimated production loss for the Richmond Valley (mainly agriculture and manufacturing):

\$250m

over two years
(2021-23)

Areas with the greatest damage:

- **Coraki** - three structures destroyed, 297 damaged
- **Casino** - 270 structures damaged
- **Woodburn** - one structure destroyed, 152 damaged
- **Broadwater** - seven structures destroyed, 68 damaged
- **Swan Bay** - seven structures destroyed, 59 damaged

Flood waste removal

- 13,000 cubic tonnes of waste per day transported to Mid Richmond holding site (Coraki Quarry)
- 700 truck movements per day to collect waste from affected communities
- \$6 million to be funded in advance by Richmond Valley Council to expedite the clean-up.

**Broadwater residents
come face to face with
the devastation wreaked
by the 2022 flood event.**



ESSENTIAL INFRASTRUCTURE

Water and Sewerage Services

Estimate
to repair,
replace and
improve flood
resilience of
infrastructure

\$50m

Urgent
repair work
to restore
reliable
service

\$8m

See detailed information on page 10

Roads and bridges

Estimate
to repair,
reconstruct
and replace
critical
infrastructure

\$100m

Estimated
cost of
landslip
remediation

\$14.1m

See detailed information on page 16



A section of Upper Cherry Tree Road washed away during the 2022 flood event.



COMMUNITY BUILDINGS

Council is yet to complete costings for damage to community buildings. Early estimate is \$2 million. Affected facilities include:

- **Council depots:** Inundation of Coraki depot and fabrication shop, including fleet, plant and equipment
- **Community halls:** Four - Coraki, Woodburn, Colley Park and Leeville
- **Emergency services buildings:** Six
- **Cultural/early education/tourism facilities:** Six - including inundation of Woodburn Visitor Information Centre
- **Sports facilities:** Nine - including major damage to Casino Indoor Sports Stadium and Woodburn Pool plant room, damage to amenities at various facilities
- **Public toilet blocks:** Five

COUNCIL FLEET

10 vehicles submerged. Including:

- Three utilities
- Two trucks (one valued at \$130,000)
- Garbage truck (\$500,000)
- Forklift
- Three commercial grade ride on mowers.

Total insured value: \$700,000

Total replacement value: \$970,000

Sourcing replacement vehicles will be a challenge, due to the ongoing supply impacts of COVID. Council was facing delays of up to 12 months for new fleet prior to the flood. Council has traditionally sourced its plant and equipment from local or regional suppliers wherever possible.

These suppliers have now suffered extensive flood damage and stock that was on order has been lost.



Richmond Valley Council's Woodburn community building, which houses the Visitor Information Centre, suffered severe damage from the 2022 flood event.



MAJOR PROJECT DELAYS

Richmond Valley Council has received funding under the **Bushfire Local Economic Recovery Fund** in 2020-21 for three major community projects.

These projects have now been significantly delayed due to direct impacts of the February-March flood event.

Council will be seeking an extension of time for these projects from the funding administrator:

It is expected that overall project costs may increase by 15-30 percent due to rescoping/redesign in response to flood impacts and rising costs of labour and materials

Casino Showgrounds and Racecourse upgrade

This site was used as a base camp for Australian Defence Force personnel and BlazeAid volunteers during the disaster recovery period.

- **Project Value: \$9,000,000**
- **Grant Amount: \$8,200,000**
- **Council and other Grant contributions: \$800,000**
- **Extension required: 12 months**

Rappville Sewerage System

Rappville and surrounding areas experienced flooding during the February-March event. A review of the scope and design of this project may be required following assessment of flood impacts.

- **Project Value: \$3,500,000**
- **Grant Amount: \$3,000,000**
- **Council contribution: \$500,000**
- **Extension required: 12 months**

Casino Industry Activation Project

This site experienced flood impacts and further investigation/redesign may be required.

- **Project Value: \$13,333,000**
- **Grant Amount: \$9,969,000**
- **Council contribution: \$3,364,000**
- **Extension required: 12 months**

PROJECTS WHICH CAN PROCEED

Evans Head Sewage Treatment Plant Augmentation

This project was being funded through the Safe and Secure program, administered by Water Infrastructure NSW. The project includes completion of stage two of the original STP design. Although the STP is functional, it experienced high inundation of salt water during the flood event and there are concerns this will result in asset damage in the short-to-medium term. Completing the stage two augmentation would allow stage one to be taken off line for comprehensive maintenance/repair.

Northern Rivers Rail Trail Casino/Bentley section

- **Project value: \$7,500,000. Grant Amount: \$7,500,000.** Pre-construction works may proceed as planned (subject to availability of contractors and equipment).
- Some rescoping/redesign may be required due to flood impacts on the rail trail corridor.

RESTORING ESSENTIAL SERVICES

Water Supply and Sewerage

The Northern Rivers flood impacted water and sewerage services throughout the Richmond Valley, with some communities losing access to potable water and sewerage services during the event.

Early estimates of the cost to repair, replace and improve flood resilience of our community's water and sewer infrastructure is \$50m.

Our communities need urgent government assistance to rebuild, replace and improve resilience of this critical infrastructure - and clarity on the terms and requirements of any disaster funding available.

Urgent Repairs

All water supply and sewerage services within the Richmond Valley have now been restored to a basic level, with a number of facilities operating on emergency mode. The cost of urgent repairs to ensure these services remain operational in the immediate future is **\$8m+**.

This includes:

Safe drinking water - \$1.5m

- Replacing the damaged carbon dosing system at the Casino raw water pump station, to ensure the drinking water supplied to Casino township and major food processing facilities continues to meet the Australian Drinking Water Quality Guidelines

Essential sewerage services - \$1.5m

- Replacing/refurbishing most of the components in the Broadwater pressure sewerage system. Control panels to 200 homes, as well as pods and pumps were severely damaged or destroyed. Sewerage is only available to a limited number of properties at present and the system is operating manually.

Sewage transfer systems - \$1m+

- Repairing sewage pump stations inundated by water at Woodburn, Broadwater, Coraki, Rileys Hill and Casino. At least seven switchboards (average cost \$150,000 each) will need to be replaced.
- Pumps and other components from transfer systems have been sent to a specialist facility in Queensland to be oven dried, in the hope they may be returned to service.
- It is unknown if these components can be saved



South Casino transfer - \$1m+

- The main sewage transfer system between South Casino and the Casino STP has suffered significant flood damage. More than 650 homes in South Casino rely on this system to transport sewerage.
- The transfer system uses last-century technology to macerate raw sewage and transfer it under the Richmond River via a syphon system.
- All surface components, including the macerator, were severely flood damaged. Council was able to clean out the syphon system to the point where it is achieving basic function, but it will require constant monitoring and cleaning to ensure it continues to operate in emergency mode.
- Council needs an urgent solution to ensure the long-term operation of this system. Options assessment and replacement with contemporary technology will be required.



Primary pump station - Casino - \$1m

- Pump station one is the primary sewage transfer point for the Casino network.
- This station suffered extensive damage to the switch room, which will require urgent repair.
- To avoid future inundation, it will be necessary to raise the height of the switch room.



Urgent repairs to sewage treatment plants - \$1.5+

- All four of Council's sewage treatment plants have been flood impacted, with the Casino, Coraki and Rileys Hills sites suffering inundation.
- There are a number of urgent structural and electrical repairs to all three sites, including repairing switch rooms and carrying out emergency stabilization of the Casino trickle filters.
- These works will need to be completed as a priority to ensure the plants continue to operate.



Council's Water-Sewer team repairing a broken water service in Broadwater.



BUILDING FLOOD RESILIENCE IN OUR CRITICAL INFRASTRUCTURE

“ This unprecedented flood event has highlighted vulnerabilities in the Richmond Valley’s water and sewerage networks and provided Council with a clearer understanding of the network’s risk profile.

Issues we encountered during the flood event include:

Loss of visibility of system performance

- Council’s sewerage systems have limited capability for automated monitoring and operation.
- Most plants require a level of manual operation and physical attendance at the site. With the level of inundation experienced, all sewage treatment plants, most major pump stations and drinking water transfer systems in the Mid Richmond became inaccessible.
- Communications and SCADA systems were lost within the early days of the disaster, as power failed, battery back-up systems depleted and key communications facilities were isolated by flood water.

SOLUTION:

This problem could be addressed by:

- Investing in higher levels of automation to ensure remote operation and monitoring.
- Investing in solar-powered communications systems to ensure we maintain visibility of system performance during power failure/flood isolation - **estimated cost \$650,000**

Lack of back-up power supply

- The flood event saw widespread power outages which continued over many days.
- Although the main water supply at Casino had a back-up generator for the raw water pump station, this required manual operation, which meant staff had to navigate dangerous floodwaters to access and activate the generator.
- The Mid Richmond water supply relies on small, elevated reservoirs, which are replenished by pumps.
- When the power failed, the water supply was quickly depleted and Council had to urgently source generators and attempt to access flooded sites to ensure potable water could continue to be supplied.

SOLUTION:

This problem could be addressed by:

- Investing in additional automatically operated generators for key water-sewer pumping stations - **estimated cost \$500,000**

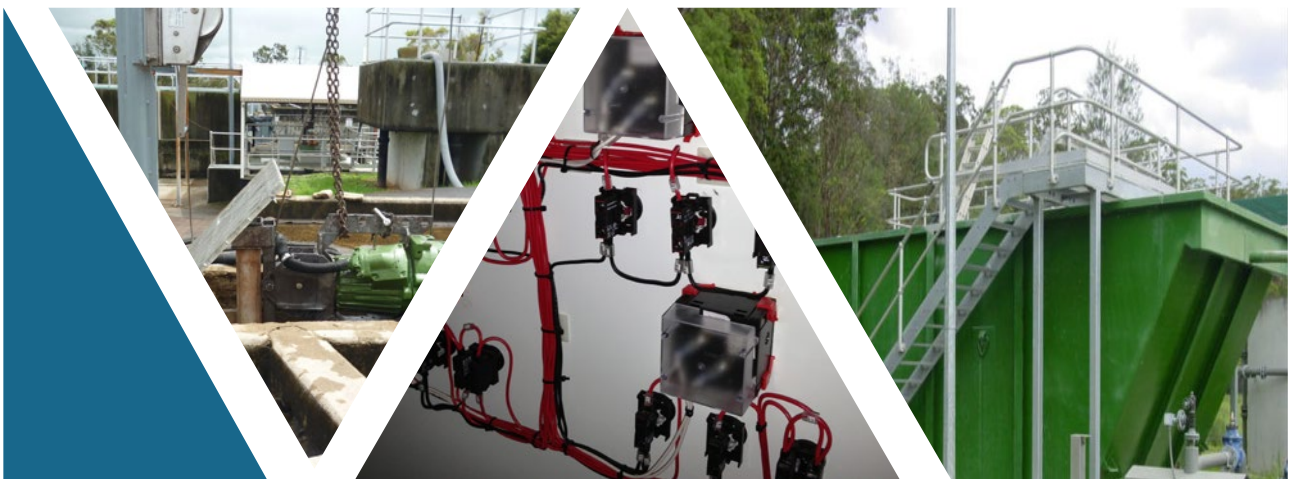
Water quality challenges

- During a major flood event, the community's health and safety depends on maintaining a safe water supply for drinking, washing and cleaning.
- Casino's water supply is sourced from the Richmond River, which saw extreme levels of turbidity (suspended particles) throughout the flood event. As an example, the Australian Drinking Water Guidelines establish a maximum level of 0.5 NTU for turbidity. The source water entering the Casino water treatment system at the height of the flood was 1200 NTU.
- In a sustained flood event, it is not possible to simply shut down the treatment plant and rely on the limited amount of water stored in the system. Casino's water treatment plant has limited levels of automation to detect and respond to water quality risks.
- As a result of turbidity challenges, Casino's drinking water supply was subject to a Boil Water Alert from 24 February to 9 March. This resulted in the loss of all stored water, as the system was flushed to remove potential contaminants.
- The 2022 flood event has highlighted the need to make urgent improvements to the Casino Water Treatment Plant. Richmond Valley Council was already investigating this issue, in consultation with NSW Health.

SOLUTION:

This problem could be addressed by:

- Investing in additional automation and monitoring equipment at the water treatment plant
- Introducing additional storage for treated water to allow the plant to be shut down in high turbidity events
- Providing additional water treatment processes, such as addition of a clarifier and UV disinfection system.
- **Estimated cost \$10m+**



Council's raw water pump station in Casino was inundated with flood water, requiring urgent structural and electrical repairs. The pump station services the Casino Water Treatment Plant.



A NEW SEWAGE TREATMENT PLANT FOR CASINO

Like many areas in regional NSW, the Richmond Valley relies on water and sewerage systems which were largely designed and constructed by previous generations.

The facilities are nearing the end of their asset life. They have weakened structures, are difficult to retrofit with current technologies and do not achieve the treatment standards required in the 21st Century.

Casino Sewage Treatment Plant's components date back to the 1930s. The plant's inlet works, trickle filters and tertiary ponds had reached the end of their asset life and the inundation of the site in the 2022 flood event has accelerated their demise, with structural failure in the trickle filters.

Richmond Valley Council had already identified the replacement of this plant as a top priority to support the NSW Government's Regional Job Precinct project and the urgent need for additional housing in the Casino urban growth areas.

This is a catalyst project to open the way for economic growth and support our community's recovery from this catastrophic flood event.

Richmond Valley Council does not have sufficient funds to complete this project. While Council is in a position to part-fund the redevelopment, it will require assistance from other levels of government to deliver this critical infrastructure.

SOLUTION:

Replacing the Casino Sewage Treatment Plant (estimated cost \$25 million+) will help to secure some 600 additional local jobs through the Regional Job Precinct development and open the way for an additional 1000+ new homes on flood-safe land near the Casino township.



RESTORING KEY REGIONAL ROADS

“ Approximately 60 percent of our road network has been assessed and the majority of roads are showing significant damage.

The 2022 flood event, followed by the impacts of increased traffic for highway bypass and bulk waste clean-ups, has taken a huge toll on the Richmond Valley's road network.

Council maintains 1064km of roads - both sealed and unsealed - and all have suffered extensive damage, with an estimate of **\$100 million** to repair and rebuild this critical infrastructure.

Council expects it will need at least 150,000 tonnes of gravel for its rural roads alone.

Emergency repairs on 40 roads have already been carried out to support access and safety for residents.

Several major landslips have occurred in North Casino on key link roads. The early estimate for repairing this damage is **\$14.1 million**, however, further geotechnical assessment will be required before final costs are known.

Assessment so far:

- 100% of 'A' Class Unsealed Road (163km)
- 99% of 'B' Class Unsealed Roads (208Km)
- 89% of 'C' Class Unsealed Roads (145km)
- 10% of rural sealed roads
- Urban road networks still to be assessed
- 130 bridges still to inspect
- 1000 culverts to be cleaned & assessed

Securing jobs

The Richmond Valley's road network is critical to restoring the regional economy and rebuilding flood-damaged communities.

Our region relies heavily on agriculture and food processing, with major facilities including the Casino Food Co-op (meat processing) and Northern Rivers Livestock Exchange supporting the beef industry, and the Sunshine Sugar Mill at Broadwater sustaining cane farmers in the Mid Richmond.

The Richmond Valley's gross regional product is an estimated \$900 million, with manufacturing being the most productive industry, generating \$323 million.

Agriculture, forestry and fishing contributes \$96 million.

It is essential that we restore key freight routes and transport links serving agricultural industries to secure thousands of jobs within our community and support the recovery process.



Reconnecting communities

Council's road network also provides critical community connections, linking flood devastated villages such as Coraki, Woodburn and Broadwater to employment in nearby towns, regional services, support and education facilities.

The Broadwater Public School was destroyed in the floods, with children now having to make a 30km round trip to the Evans Head School. With the extensive damage to both Broadwater and Woodburn, nearby Evans Head will become a much-needed local hub for key support services.

Restoring the Woodburn-Evans Head Road will be essential in assisting the Mid Richmond villages to recover. Some 70 percent of this road suffered inundation and extensive reconstruction will be required. Estimated cost: \$6m

The critical role of MR145

For several days during the flood, the Mid Richmond communities of Coraki, Woodburn and Broadwater were locked in isolation as rising waters severed ties to much-needed help from major centres such as Casino.

The Casino-Coraki-Woodburn Road (MR145) is a critical link between our Richmond Valley communities and the flood event showed us just how important this road is to the safety of the 2700 residents in these villages.

While it is not practical to redesign MR145 to endure a 1-in-500 year flood event, such as the one just experienced, there is considerable opportunity to improve this road to ensure it gives the earliest possible access to communities in future flood events.

Richmond Valley Council was working on a long-term project to strengthen MR145 as a major link road before this latest flood event. Council had received some \$10m in Federal assistance towards this project and required an additional \$32m to complete the remaining works.

Sadly, the full length of the road has now been devastated by flooding and the subsequent impacts of heavy rescue vehicles and bulk waste removal trucks on the saturated pavement. There have been up to 1400 truck movements a day, in and out of the Coraki Quarry to deliver flood waste to the transfer station.

It is estimated the cost of repairing the road and improving its flood resilience is at least \$42m.



Bridges and culverts

All 129 of Council's bridges will need to be inspected for structural damage over the coming weeks.

So far, damage to four bridges is confirmed, with the repair cost estimated at \$230,000 to replace approaches which have washed away.

Inspection of Casino's most essential structure, Irving Bridge, on the Summerland Way, has not yet been completed as the service road used to access the bridge (Halsteads Drive) was washed away in the flood.

There are also 1000 culverts to be cleaned and inspected, with major damage confirmed on two multi-cell culverts so far on Bentley and Reynolds roads, Casino.

Pavement and potholes

There has also been significant damage to pavement across the road network, with some \$1m worth of stripped seal to be repaired.

This will take considerable time and materials.

It is expected that further damage will emerge in coming weeks as the impacts of heavy traffic on saturated pavements become apparent.



Casino's Irving Bridge access road,
Halsteads Drive, was washed away during
the 2022 flood event.



Bentley Road landslip.



Naughtons Gap Road landslip.



REBUILDING HOMES



More than 400 homes are uninhabitable and 1000 local people are homeless

Assessing the damage

The 2022 floods have devastated local communities and damaged hundreds of homes.

Three weeks beyond the flood, we still do not know how many local families are homeless. But the impacts of displacement and despair are unfolding each day in our Mid Richmond communities

Up to 3000 properties within the Richmond Valley have been affected by the flood to varying degrees, with 2333 initial damage assessments completed so far by emergency response agencies on homes, businesses and other structures.

Areas which recorded the most severely impacted or destroyed structures were Broadwater, Woodburn, Swan Bay, Coraki, Bungawalbin and Casino.

The initial assessment provides a starting point for understanding the scale of the damage and the extent of homelessness due to the disaster. Early estimates are that at least 400 homes may be uninhabitable.

The next stage of the assessment is for Council to follow up with more detailed building inspections to determine whether houses can be repaired or may need to be demolished.

Early indications are that most of the damaged homes can be repaired. However, some have been so extensively damaged that it will take months to bring them back to a habitable standard.

Early estimates

- 1766 damage assessments completed
- 838 structures assessed as having flood damage
- More than 400 homes may be uninhabitable
- 30 building inspections completed on homes assessed as destroyed
- 150 building inspections completed on seriously damaged homes; a further 200+ inspections required.
- Up to 1000 people homeless



Emergency accommodation

Estimates are that some 10,000 people in the Northern Rivers have been rendered homeless by the 2022 flood disaster. This includes up to 1000 residents of the Richmond Valley.

However, it is still difficult to gauge the full extent of the impacts as many flood victims are currently sheltering with friends and family, and have not sought help with emergency housing. There are families still traumatised by the event - living in cars and tents, or camping out in damaged homes.

Our community needs urgent help from all levels of government to provide safe short-term housing for flood victims.

In a region that was already experiencing the worst housing shortage on record (due to COVID impacts), this latest disaster has stretched the Northern Rivers to breaking point.

At present, flood-affected families are being housed in temporary holiday accommodation, motor homes and caravan parks, but there is not enough housing to go around.

Council can help by identifying suitable sites for temporary housing - it has already explored two viable possibilities in the Mid-Richmond.

However, providing the temporary homes to occupy these sites is beyond the resources of local government. Urgent action is required from State and Federal governments to resolve the housing crisis.

Without safe housing, local people will be forced to walk away from the only things they have left - their towns and villages and the social ties that have held them together during this crisis.

Residents who have lost their homes and their jobs will leave the region to seek help from family and friends elsewhere, because they have no choice. Children will leave their schools, local workers will move on, and connections to people, place and country will be broken.

If our region's economy is to recover, we will need to retain every skilled worker in the Northern Rivers - and find many more workers to help in the rebuilding program.

Hundreds of additional trades and contractors will be required to complete the roadworks, rebuilding and construction tasks that lie ahead.

All of these workers will need to be accommodated in temporary housing while they complete these tasks. Solving short-term housing needs will be the main catalyst for our region's recovery.



Damage to homes across the Richmond Valley from the 2022 flood event has been unparalleled.



The impacts of displacement and despair are unfolding each day in our Mid Richmond communities.



Up to 3000 properties within the Richmond Valley have been affected by the flood to varying degrees.





Royal Australian Navy physical training instructor Leading Seaman Dominic Morris, from HMAS Cerberus, helps clean up flood debris at Broadwater as part of Operation Flood Assist 2022.

REBUILDING OUR COMMUNITIES

Helping flood-affected residents back in to their homes as quickly as possible will speed the Richmond Valley's recovery and ease local housing pressures.

Early inspection results suggest that less than 30 homes in the Richmond Valley may require demolition and full rebuild. However, others have been so severely damaged they will require extensive remediation and repair. To achieve this, owners will need:

- Access to streamlined planning requirements which are affordable and easy to understand.
- Options to increase flood resilience of homes, such as house raising.
- Support with re-financing and funds to get the building work underway.
- Support for landlords to undertake urgent repairs in rental properties to get displaced tenants back in their homes.
- Access to essential building materials, such as frames and trusses, wall cladding and lining, plumbing and electrical supplies. Many of the local firms which provided these materials have been devastated by the flood and will need targeted assistance to get them back on their feet to support the regional rebuild.
- Access to essential building services and trades to complete the works. The Northern Rivers was already experiencing a shortage of building supplies and services due to the COVID pandemic. Targeted investment and support will be required from State and Federal governments to increase the workforce.

Council can provide support to home owners and businesses seeking to rebuild through fast-track assessment (as implemented following the 2019 bushfires) and help with preparing development applications, via the Development Concierge service.

However, more direct assistance will be required through State regulation and policy amendments to achieve the scale of rebuilding work the Northern Rivers desperately needs.



Long-term housing solutions

Richmond Valley Council has been working on a long-term housing solution for our community for the past six months to help address the housing crisis. This work will also be a critical piece of the recovery process.

In support of the Regional Job Precinct project, Council has prepared an Urban Growth Management Strategy for the Richmond Valley and a more detailed place plan for Casino. These studies have identified suitable flood-safe land which could be released for the extra housing that our community will need - not only to help recover from the flood, but to cater for the additional workers who will move to the region once the Regional Job Precinct is fully established.

Council has a viable option to provide 1600 much-needed homes in the Casino district through private investment. But it needs help with master planning, fast-track approvals and essential infrastructure to make these homes a reality. Estimated cost of the supporting infrastructure is \$20m.

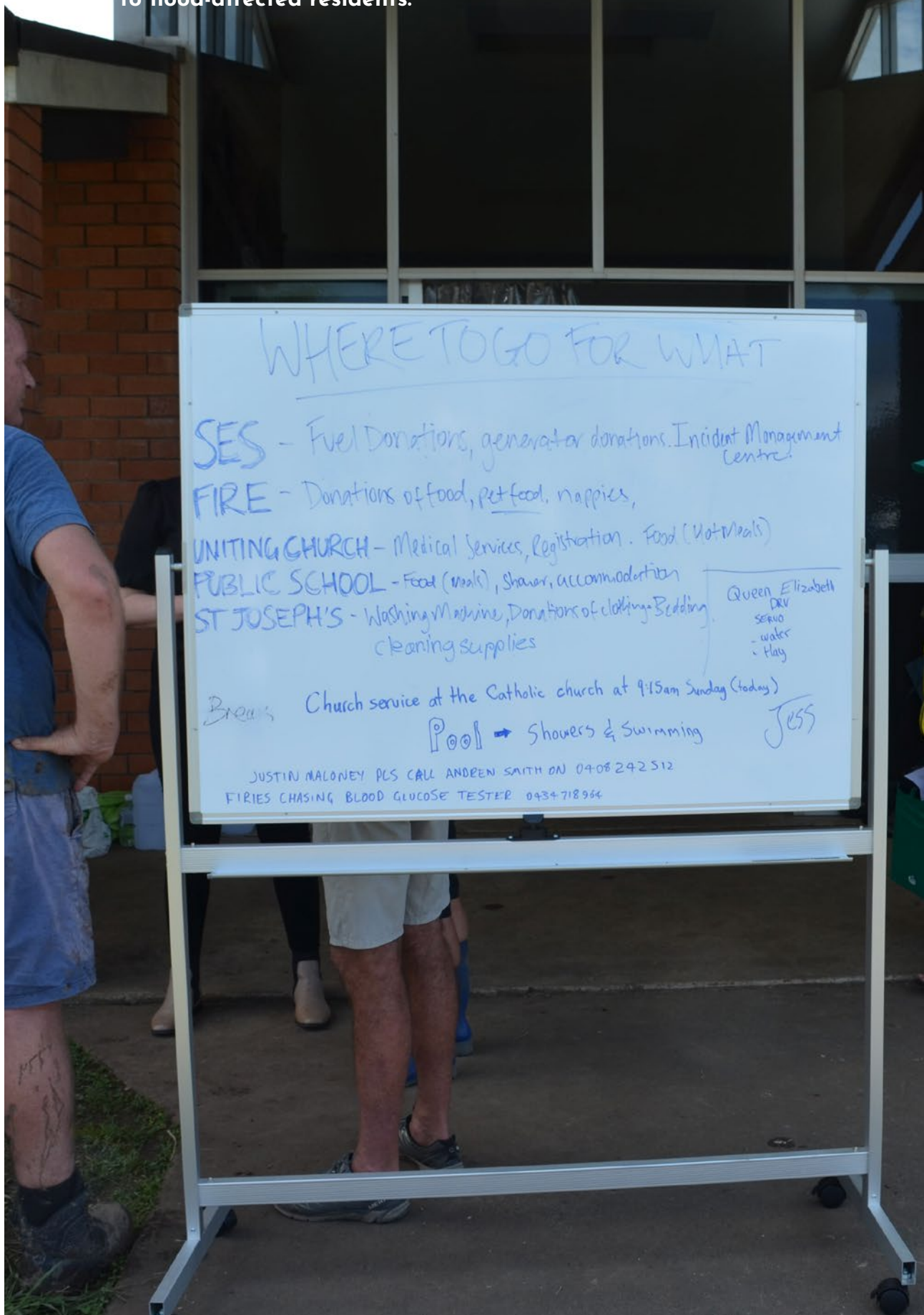
Similarly, there are options to provide up to 300 affordable homes/social housing on Crown lands which are currently zoned residential. However, this can only be achieved through direct investment by the NSW Government.

WHAT DO WE NEED?

- Urgent assistance with safe temporary accommodation that keeps people connected to their own community.
- Fast-track planning solutions that help people rebuild as quickly as possible and improve flood resilience for their homes.
- Targeted assistance for local building supply firms and building trades and services.
- Financial support for those seeking to rebuild - including owner/occupiers and landlords.
- Targeted government support to help fast-track long-term housing solutions in the Richmond Valley.



Recovery centres and donation hubs have been critical in getting much-needed support to flood-affected residents.



Australian Army soldiers organise donations for flood-affected Casino community members as part of Operation Flood Assist 2022.



SUPPORTING ECONOMIC RECOVERY

The Richmond Valley's economy has been growing steadily over the past two decades, with annual production of more than \$900 million.

Key drivers of the economy are agricultural industries and manufacturing, both of which have been significantly impacted by the 2022 flood - homes, businesses, livestock, grazing land, crops, machinery and infrastructure lost or damaged.

Council's priority is to rapidly rebuild stronger and more resilient communities, focussing on the health and wellbeing of people, repair of property, and restoration of small business, primary producers and the environment.

Already under incredible strain from drought, bushfires and the COVID pandemic, intervention is needed now to ensure our towns, which are inextricably linked to the agricultural industry, are able to recover and prosper again.

To help gain an understanding of the flood's impacts on the local economy, Richmond Valley Council engaged Sea & Star Advisory to undertake a preliminary economic impact statement and advise on measures to support economic recovery.

The study found that, although the Richmond Valley's economy could expect to experience significant loss of production over the next two years - estimated \$250 million, there was strong capacity to recover relatively quickly and support the wider recovery of the Northern Rivers.

Achieving this recovery will depend on the level of support local business receives in the next 12 months to re-activate essential services and sustain local employment.

Economic impacts

- Richmond Valley annual production: \$900m
- Expected production loss 2021/22: \$196m (-21.3%)
- Expected production loss 2022-23: \$69m
- Main production losses in agriculture & manufacturing



Supporting business recovery

To begin the recovery journey local business needs:

- Cash flow to support wages
- Access to replacement assets
- Reliable supply chains to source materials & stock
- Maintenance of skilled labour
- Continued consumer demand
- Access to affordable finance and insurance
- Easy-to-access government assistance

Without intensive support in the first 12 months, there is a risk that the recovery process will be delayed, as key skills and employees are lost and customers move to other suppliers. The Richmond Valley is well placed to support economic recovery in the Northern Rivers, with a sound industrial and agricultural base and flood-safe land for future development. Initiatives such as the Richmond Valley Regional Jobs Precinct will be a catalyst for the recovery process.

Securing jobs

Sustaining local employment is one of the key challenges in the immediate aftermath of the floods. To recover quickly we need to keep local workers in the Richmond Valley - which means securing accommodation for those who have been displaced and securing income for those who work for, or rely upon, flood-impacted businesses.

Impacts on the local workforce extend beyond the Richmond Valley flood event, as some 32 percent of local workers travel outside the local government area each day for employment. More than 1600 of these workers are employed in Lismore, which suffered devastating flood impacts in the central business district. Some 760 workers travel from Lismore each day to work in the Richmond Valley. These workers' homes may have been flood affected.

With a number of key local employers currently unable to trade, there is a risk that skilled workers will be lost unless a targeted assistance package - such as the Job Keeper or Job Saver initiatives - are introduced in the short-to-medium term. This would provide much needed security for both recovering businesses and the local families who depend upon them for their livelihood.



SUPPORTING ECONOMIC DRIVERS AND ENABLING INDUSTRIES

To secure the future of the local workforce and support the recovery process, targeted assistance is required for key industries and major employers within the Valley.

Beef and dairy industry

The local beef industry supports thousands of direct jobs in cattle production, sales and meat processing, as well as indirect employment in transport and agribusiness industries.

The Casino Food Co-op employs some 900 local workers and contributes \$65 million to the local economy each year.

Council's Northern Rivers Livestock Exchange accounts for some \$143.2 million in annual cattle sales.

Dairy production is also strong in Mid Richmond communities such as Coraki, where flood impacts have been the most severe. Recent data shows dairy product manufacturing contributes more than \$21 million of the Richmond Valley's regional exports.

Richmond Dairies produces a range of frozen milk products including creams, cream blends and milk concentrates, as well as milk-based powders which are used by food manufacturers around the world. Its Casino factory employs around 50 people.

The full impacts on local beef and dairy producers in the Richmond Valley are not yet known. As the second wave of flooding begins to recede, assessing how many livestock have been lost, how much fencing and farm equipment destroyed will take more time. With further heavy rains predicted, losses will increase. Local beef and dairy producers have access to the NSW Government's agricultural assistance package, however, the off-farm income restrictions in this package do not reflect the operating environment of most local producers.

Richmond Valley Council was quick to respond to immediate industry needs by re-opening its Northern Rivers Livestock

Exchange within two days of the flood event. However, to support long-term recovery, it will be essential to ensure critical local infrastructure, such as roads and bridges are restored, so beef cattle can be transported for sale and milk from local dairy farms can be collected for processing. Maintaining support for major industry employers, such as Casino Food Co-op and Richmond Dairies, will also be essential throughout the recovery process.

Sugar production

Sugar production also contributes substantially to the Richmond Valley economy through cane production, transport, sugar milling and power generation. The Mid Richmond communities rely heavily on Sunshine Sugar's Broadwater Mill and associated Cape Byron Power facility for direct employment (120+ jobs). Cane growing also provides substantial employment, with the Richmond Valley accounting for some 45 percent of regional cane production. To support the long-term recovery of this industry, on-going assistance for cane producers and targeted assistance for key production facilities, such as the Broadwater Mill, will be required.

Tourism

The Richmond Valley visitor economy has been growing incrementally over the past five years. Tourism is estimated to contribute \$78 million direct visitor expenditure to the Richmond visitor economy per year.

The 2022 flood events have severely impacted Mid Richmond accommodation providers. Eight providers have said extensive repairs were required to re-open, with one Broadwater caravan park owner saying they may not re-open. Two large caravan parks are being used as evacuation centres. Government support will be needed to improve visitor accommodation quality and capacity to attract new and high-yield visitors.

Construction industries

The floods have also impacted key industries in the Mid-Richmond that are essential for rebuilding Northern Rivers homes and community facilities - including major plumbing firms, timber truss manufacturers and engineering firms.

Helping these industries to recover through targeted assistance will ensure that other businesses can recover and that much needed home rebuilding programs can commence.

The Richmond Valley Flooding Economic Impacts Statement includes a recovery action plan for revitalising the local economy.

WHAT DO WE NEED?

- Income support for local workers, such as government-funded JobKeeper or JobSaver programs. We need to keep employees connected to their employers.
- Continued government assistance and access to finance for small-medium businesses
- Targeted support for key industries to secure local jobs and expedite rebuilding and recovery
- Continued assistance for local agricultural industries impacted by the floods

Richmond Valley businesses, like the Coraki Post Office, are in need of targeted assistance to secure the future of the local workforce and support the recovery process.



Supporting local industries will assist in recovery. The Sunshine Sugar Mill at Broadwater contributes substantially to local employment, both directly and via the many local cane farms which rely on the mill for processing.





Council was quick to respond to industry needs by re-opening the Northern Rivers Livestock Exchange within two days of the flood event.

REBUILDING THE MID RICHMOND

The four Mid Richmond communities of Coraki, Woodburn, Broadwater and Evans Head share a strong connection. Residents regularly travel between these villages for shopping, services, sport, education, cultural and social events.

Restoring these traditional ties will help to accelerate the recovery process. With severe flood impacts to regional centres such as Lismore and Ballina, the Mid Richmond communities will rely more heavily on services and support from Evans Head in the coming months.

Restoring critical roads

Council's top priority will be to restore the roads which link these three communities together - the former Pacific Highway between Woodburn and Broadwater and the two connecting roads between Evans Head, Broadwater and Woodburn will all require substantial work. The Evans Head-Woodburn Road suffered extensive damage during the flood, with an estimated \$6m in repairs required.

The link road between Woodburn and Broadwater is still under the management of Transport for NSW and will require extensive repair to support the rebuilding and recovery process.

WHAT DO WE NEED?

- Targeted government support to help key industries in the Mid Richmond recover
- \$6m to reconstruct and repair the Woodburn-Evans Head Road
- \$100,000 to prepare a series of place plans for rebuilding and revitalising Mid Richmond communities
- Funding and support to revitalise the Woodburn CBD and implement other civic improvements identified in the place plans



Revitalising our villages

Each of the four villages has its own unique identity and it will be important to ensure the rebuilding process reflects this local character.

The devastation to Broadwater and Woodburn is profound, with only a handful of buildings unaffected by the flood.

Shopping centres, community halls and the local pool have all been badly damaged. Helping these communities to re-imagine, rebuild and revitalise their villages will be an important part in the healing and recovery process.

In Woodburn, some 35 percent of local jobs are in retail, accommodation and food services, so helping local businesses, such as cafes, the hotel and service station to get back on their feet will be a priority.

Council had already commenced a revitalisation program for Woodburn following the Pacific Highway bypass, with major improvements to the Riverside Park. Although the park and visitors centre was inundated in the flood, the damage was not as bad as expected and this important community space can be restored. Council had also commissioned concept designs to upgrade the Woodburn business district and these plans will form a good starting point to inform the rebuild of the village.

Broadwater will also require revitalisation of the village centre, local facilities and businesses. A key part of the recovery will be supporting local agriculture and industries to get back on their feet - such as cane farmers, the Sunshine Sugar refinery and Cape Byron Power.

Coraki has been hit hard by the flood and will take longer to recover than other communities. An important part of this process will be working with the local community to restore social connections and services and support local industries to recover.

Evans Head is also on the journey to recovery and is expected to play a stronger role in the Mid Richmond as surrounding communities start to rebuild. There is opportunity to revitalise the Evans Head CBD and to build on the unique character of the village.

Council proposes to prepare a series of place plans for the four Mid Richmond communities to help identify the infrastructure and services these communities will need, and where future housing and commercial development may be located. The plans will include specific flood recovery initiatives for each community.



The devastation to Woodburn is profound, with only a handful of buildings unaffected by the flood



Council had already commenced a revitalisation program for Woodburn following the Pacific Highway bypass, with major improvements to the Riverside Park.



RESTORING OUR ENVIRONMENT

While work continues on counting the human cost of the 2022 Flood Event, the long-term impacts to our unique environment will take much longer to assess.

At least 70 percent of the Richmond River catchment within Council's area has been impacted in some way. Riverbanks have been ripped away, vital habitat decimated and land and waterways polluted. It will take many years to understand the consequences of this event.

Restoring the Richmond River

Stabilising and restoring the Richmond River banks is one of the most urgent issues for our community. The sheer force of flood waters has ripped out trees and vegetation and badly eroded the bank.

Drone inspections of the riverbank surrounding Casino have been carried out, revealing some 80 percent loss of vegetation coverage. There is a risk of further damage to infrastructure and homes through landslips and riverbank collapse as sandy loam soils are destabilised.

Access to specialist expertise and additional funding to stabilise and restore the riverbank over the coming months will be essential.

Restoring the riverbank is also critical for ensuring the survival of already endangered ecological communities. The riparian corridor was the last link for local and migratory native fauna already under pressure from increased development and agricultural activity.

This loss of habitat will impact the remaining ecosystems and may result in extinction, or critically endanger some species of flora and fauna. Loss of nesting hollows, feeding sites and protection from predators will place migratory birds at risk and they may never return to the river.

We have also lost substantial flying-fox roosting habitat along the length of the river. Over the past two years Council has invested some \$100,000 in improving flying-fox habitat on the Queen Elizabeth Park riverbank at Casino for the resident grey-headed flying-fox population and migratory little red flying foxes. All of this work was washed away in the flood.

As a consequence of losing hundreds of roosting trees along a 4km stretch of the Richmond River bank from MacDonald Park to the urban limits of Casino, the flying-fox colony has moved to local parklands, causing significant damage to trees and limiting public access to facilities, due to health and safety issues.



Restoring the health of the river will take many years and a targeted clean-up and restoration program will be required.

Torrential rains have caused flash flooding in the upper catchment towns, over-flowing sewage treatment systems and carrying pollutants into the river from farms, homes and industries.

Erosion to the riverbank has also revealed historic rubbish dumps and building rubble, which contains unknown contaminants. Parts of the catchment, including the lower Richmond River and Bungawalbin Creek, are experiencing anoxic conditions, with resultant fish kills.

Prolonged flood water inundation is also taking its toll on critical habitat, such as the coastal heath systems between Woodburn and Broadwater. These systems provide protection for many marsupials and ground dwelling fauna, which are now at risk as the heath begins to die.

It will take a long-term, multi-agency approach and significant funding commitments to address the environmental impacts of the flood for the Richmond Valley and surrounding communities.

WHAT DO WE NEED?

- Urgent assistance and funding to stabilise and restore eroded riverbanks
- Support to restore riparian corridor habitat and re-establish flying fox roosting sites - Estimate \$200,000 for replanting programs.
- A targeted clean-up and restoration program to restore river health in the Richmond River catchment.



Stabilising and restoring the Richmond River banks is one of the most urgent issues for our community. The sheer force of flood waters has ripped out trees and vegetation and badly eroded the bank.



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BUILDING RESILIENCE TO NATURAL HAZARDS

The 2022 event saw unprecedented flood levels and will reshape our understanding of the way Northern Rivers communities can survive in a changing climate.

Although it is impossible to design 'flood-proof infrastructure' and mitigation measures to withstand such a major event, there are steps Richmond Valley Council can take to ensure that we are better prepared when the floodwaters rise again.

Revisiting flood modelling

Council was about to finalise its revised Richmond Valley flood study when the February-March event occurred. The revised study consolidated previous studies and developed a new, consistent flood model for the local government area.

With the lower Richmond recording levels well above a one-in-500 years flood, there is an opportunity to review and improve our flood model by undertaking additional calibration to the 2022 event.

Council has already invested some \$180,000 in the revised flood study. Investing an **additional \$50,000** would ensure that our modelling reflects the lessons we have learned from this record event.

Improving flood planning

Once Council has finalised its flood study, the next step is to revisit the Floodplain Risk Management Plans for Casino and the Mid Richmond and reconsider the building and development standards we will apply in flood-affected areas.

This will include updating flood hazard mapping and undertaking extensive consultation with the community on appropriate flood protection measures. The estimated cost of this project is \$150,000.

Improving urban drainage

The town drainage systems in Casino and Evans Head were designed by past generations in pre-climate change conditions.

With changing weather patterns, the Richmond Valley's urban areas are experiencing



increasing storm events, resulting in flash flooding, as well as prolonged rainfall events, resulting in riverine flooding, where water is unable to get away via the drainage network.

Although it is impossible to design urban drainage systems to cope with an event of the scale we have just experienced, Council believes it could improve its drainage network's performance in lesser flood events.

Work on a small scale study had begun prior to the 2022 event, however, we now realise that a full review of our urban drainage networks, with comprehensive engineering solutions to correct storm water issues will be required.

Council estimates the cost of this study would be **\$1m+** and currently does not have the funding to carry out this work.

Assistance from other levels of government to prepare these studies would greatly reduce the risk of flash flooding impacts for our urban communities.

Improving community preparedness

The Richmond Valley has just experienced its eighth natural disaster declaration in three years - including two major bushfires and six significant storm and flooding events.

This latest unprecedented event has brought home the need to ensure our community is disaster-ready and better prepared for the future.

In a changing climate, these events will become a way of life and our community needs to adapt.

Following the 2019 bushfires, the NSW Government provided funding to employ a community Recovery Officer to support bushfire affected communities and assist in the wider economic recovery of the region.

This funding was due to finish in June 2022. However, given the severity of the flood and the long-term recovery period our community now faces, Council has decided to continue to fund this position from its own limited resources for at least the next two years.

Support from State Government to re-instate funding for recovery officers would greatly assist our community to recover from this devastating event.

WHAT DO WE NEED?

- Support to recalibrate flood modelling - \$50,000
- Funding for improved Floodplain Risk Management Plans - \$150,000
- Assistance with a comprehensive review of urban drainage systems - \$1m+
- Extension of Recovery Officer funding support for an additional two years - \$300,000



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**Richmond
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