

From: [NSW Government](#)
To: [Flood Inquiry](#)
Subject: Floods Inquiry
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Attachments: [North Byron District Activation - State Flood Enquiry Submission @ FINAL.pdf](#)

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Submission details

I am making this submission as	A resident in a flood-affected area
Submission type	I am submitting on behalf of my organisation
Organisation making the submission (if applicable)	North Byron District Activation group
Your position in the organisation (if applicable)	Chair
Consent to make submission public	I give my consent for this submission to be made public

Share your experience or tell your story

Your story

Please see our District Submission attached representing 12,000 residents, 5,000 homes and 500 businesses.

More details from our aggregated Flood Impact Statement from 200 residents will be submitted by 27/5/22

Terms of Reference (optional)

The Inquiry welcomes submissions that address the particular matters identified in its [Terms of Reference](#)

Supporting documents or images

Attach files

- [North Byron District Activation - State Flood Enquiry Submission @ FINAL.pdf](#)
-



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North Byron District Activation

20 May 2022



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Introduction

“We are not mitigating against flooding, we are mitigating against climate change.”

The NSW villages of Ocean Shores, South Golden Beach, New Brighton, Brunswick Heads, Billinudgel, The Pocket, Yelgun and Wooyung all flooded on two occasions, a month apart, in early 2022. Some of these villages had also flooded in 2017, however this time, some of these villages flooded at a level 800mm higher than 5 years ago. Flooding inside houses was up to, and over, a metre high.

New Brighton might’ve been the worst hit village with over three quarters of their homes being inundated. Many homes in the towns of Ocean Shores and Brunswick Heads and the village of South Golden Beach also flooded for the first time in their respective histories. All flooding was at unprecedented levels and all villages in North Byron flooded twice. Both floods have caused widespread destruction to homes and damage to extensive infrastructure. The mental health of the community is also significantly harmed. Flood waters contained visible sewerage and other contaminants posing high health risks.

In response, the local community association of Ocean Shores (OSCA) has formed the North Byron District Activation group in order to unite the community flood co-ordination of the North Byron Shire. Two large public meetings have been held by OSCA – both events attracted community engagement from all towns and villages.

One of the outcomes from the first public meeting was to form a Community Flood Steering Committee. This has now been formed. It combines the technical and analytical resources of the Ocean Shores Community Association, the New Brighton Community Association and surrounding villages.

This submission describes the impacts of the 2022 floods for North Byron Shire and also includes a united plan for reducing flooding and its effects into the future. This submission is supported¹ by:-

- Ocean Shores Community Association
- New Brighton Community Association
- South Golden Beach Community Association
- North Byron Business Chamber

As a district submission, it represents almost 12,000² residents, 5,000 houses and approximately 500 businesses in the following villages. The population across the district is estimated as follows:-

- Ocean Shores 6,500

¹ See Letters of Support in *Appendix F*

² Based on 2016 Census figures with 5-10% increase per year since more current figures were not available

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- Brunswick Heads 2,500
- South Golden Beach 950
- New Brighton 500
- The Pocket 400
- Billinudgel 300
- Yelgun 150
- Wooyung 200 (1/2 in Byron Shire)

This accounts for almost 1/3 of Byron Shire's 36,000 population and 15,000 rate-able houses. With financial assistance, local people can 'build-back-better' their own villages, return to normality and live with safety in their homes.

The 8 key areas for action described in this submission, for which we are seeking financial assistance, include:-

1. Repair, Maintain and Update Existing Infrastructure
2. Update The Flood Study³ and Implement Mitigation Measures Required
3. Fast Track Development Approval for Flood Resilience Works
4. Review Town Planning Regime for Flood Resilience
5. Improve Communications
6. Insurance and Other Funding Support
7. Develop Flood Resilient Housing Crisis Response
8. Develop Master Town Plan

³ WMA North Byron FloodPlain Risk Management Study & Plan – October 2020

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Part 1. DISTRICT SUMMARY

Summary of Flood Experiences

Population affected

The North Byron District is defined as the Northern most aspect of Byron Shire Council and encompasses the suburbs of Ocean Shores, Brunswick Heads, South Golden Beach, New Brighton, Billinudgel, The Pocket, Yelgun and half of Wooyung. This comprises a total of about 12,000 residents, 5,000 houses and represents a third of Byron Shire.

This area was severely impacted by both flood events on 28th February and 28th March 2022. We believe that between 1,000 and 2,000 houses were inundated. We estimate around 250 businesses were also impacted of a total of 500 businesses. Some villages such as New Brighton suffered flooding to 88% of their homes. Accurate figures are challenging to ascertain, however, we estimate the following numbers as a starting point:-

- 88% of homes were flooded in New Brighton
- 66% of homes were flooded in South Golden Beach
- 47% of homes were flooded in Billinudgel
- 90% of mobile homes in the caravan park

Our region was flooded from both the North and the South via two river catchments – the Marshalls creek/Brunswick River and Burringbar/Yelgun Creek systems. Pumps didn't function, drains clogged, storm pipes failed, sewer pipes collapsed, sewerage pumps and household systems failed and discharged raw sewerage and the district became a veritable soupy bathtub of E. coli, pesticides, fuel, oil and other contaminants from nearby farming precincts within a 30-50km radius. A map is attached in *Appendix A* to show the inundation areas in the North Byron District. To worsen the situation, flood waters took days to recede (up to a week on some villages). Most of the estuaries and waterways still contain high water levels at time of writing.

Flooding severity and impact

Houses were inundated internally with between half a metre and one metre on average. This was enough to destroy most people's entire contents and cause significant damage to homes.

Fortunately, no lives were lost in the area during the flood event itself, but the community suffered trauma as people waded in waist or chest deep sewerage-laden water to save what they could for

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themselves and neighbours. In most cases, people had lifted possessions to above the previously worst flood levels or moved their cars to previously safe conditions. Residents were then witness to flood waters which rose to levels well past previous, engulfing their homes, possessions and vehicles. Many people lost all possessions. The velocity of the floodwaters at their peak was severe enough to cause further damage, especially to vehicles caught and unable to be moved to higher grounds. Many new residents had no idea their cars needed to be moved to higher ground.

The only way to escape from many areas was by boat, and many people were distressed over the decision to leave or defend. They could only save what they could carry. Dangerous situations arose when gas bottles dislodged and severed their connections, discharging large quantities of gas. Fortunately no explosions occurred.

Immediately after the flood, people had to confront the loss of their property and personal treasures. The community rallied together to clean up, but even those insured lost many sentimental possessions that money could not compensate for. Communications were non-existent with mobile networks and internet out for over a week. Getting supplies for basic needs like water, food and cleaning supplies was impossible for days as the highways were cut in both directions for an extended period – we were cut off from the rest of the world in every way.

Even now, more than 2 months after the flood, many residents are:-

- Displaced and unable to find a new home, living between motel rooms or houses of friends
- Living in their homes in mouldy conditions
- Surrounded by a contaminated environment with not just E. coli, but also pesticides, fuel, oils and other contaminants which have been discharged into the flood waters and inundated all homes – seeping into walls, floors and furnishings
- Sleeping in sleeping bags and in tents in their backyards
- Forced to relocate out of the area
- Lucky enough to find an alternative rental, averaging at \$1,500 per week unfurnished, for a standard three bedroom two bathroom home in a standard suburban area (the most so far reported is \$1600 per week for a regular suburban house)
- Finding that agencies are increasing rental prices because housing stock is in short supply after a flood – rent gauging is rife
- Contending with poor water quality for both drinking and swimming
- Being visited by Council every day to pump raw sewerage out
- Have no car and no mode of transport because we have no buses or trains in our area – relying on neighbours to take them shopping or to run errands and unable to get to work
- Trying to repair homes to make them habitable where possible, but are limited by the shortage of supplies, tradespeople and the glacial response of insurers

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Social impact

Other significant issues still are persisting at time of writing:-

- Homelessness is rife
- Anxiety is high and mental health issues have escalated
- Many have been unable to work
- Many express they are still suffering severe trauma from either having to emergency evacuate or losing their homes and contents, or both
- Majority are suffering confusion and feel a deep sense of hopelessness about the future
- Majority report feeling disenfranchised with the rescue response, communications and recovery
- The portion of the population who suffer a disability or mental health issues express an exacerbation of their challenges
- Stress about property values plummeting due to flooding

Evacuation

As the first SES warning in our district was issued at 5.30am, most did not receive the warning with mobile phones switched off overnight. Only a rare few households with a landline were alerted to evacuate early enough:-

- This meant that late leavers were making dangerous evacuations
- Many were stuck at home and hoping for the best
- Evacuation centre locations were not clear or were inaccessible
- When people tried to leave, there were no options as roads were flooded

Rescue

There was a range of rescue types in both flood events. Many were in time to evacuate, however many were not:-

- There were not enough boats to evacuate everybody
- Many streets were not checked as water levels continued to rise overnight
- It was impossible to get information from SES about to what degree streets were flooded
- SES were under resourced with only 1 truck servicing the whole of North Byron
- SES had no 'official boats'
- As rescue helicopters and SES were not available, residents were left to manage their own evacuations in the following forms:-
 - A substantial number were rescued by boats operated by neighbours
 - Kayaks were also used

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- Those with high enough vehicles or vehicles with sorkels evacuated by driving through high flood waters
- Many walked out with no possessions
- Many pets were left behind

The army

It took far too long for the community to receive any help at all from any services, let alone manpower to help. It was over a week until the Army arrived. The Army was not activated immediately during our emergency and recovery periods.

Sandbags

During the first flood it was impossible to get sandbags. We were advised to go to Murwillumbah for sandbags – this is a 1hr 20 min round trip and also not conducive during storm weather.

During the second flood we were advised to go to a different town for sandbags, Mullumbimby. Again, this was an unrealistic expectation in storm conditions. And since both Murwillumbah and Mullumbimby were flooding themselves, this was dangerous advice.

We needed sandbag services available locally in our district.

Evacuation centres

The Ocean Shores Country Club was the designated evacuation centre. Issues included:-

- It was a struggle to feed over 200 people
- Some people couldn't reach the designated evacuation centre in time
- The 7th Day Adventist Church acted as a pop-up evacuation centre however this was not widely known
- Formal resources were unable, for example, Red Cross
- Families were cut off from each other and couldn't find out their safety or whereabouts

Temporary accommodation

The lucky ones were those who could get to a friend's house on higher ground or who were early enough to evacuate there. Many were not so lucky:-

- Evacuation centres were available however only the 'early leavers' were able to utilise these
- Many evacuation centres were inaccessible once flood waters reached a certain height (and evacuation centres were in accessible long before flood waters reached their peak)
- Many slept in cars and vans
- Some are still sleeping in vans and cars

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- Some were trapped in their vehicles on highways until flood waters subsided
- Others fled north to the Gold Coast and Brisbane or south towards and beyond Coffs Harbour

Communications & power

Power failed in most areas in the North Byron District by 10am on Monday 28th February 2022. There was also a complete failure of both the internet and phone signal.

The immediate impact of loss of power and communications during these events was significant:-

- Weather updates and incoming rain was not able to be communicated, forewarning of incoming storms was thus unavailable
- Signaling to neighbours and other residents was impossible
- Advising family and loved ones of own safety was not possible
- Internet was not available to find addresses of evacuation centres
- Weather updates were not accurate from the BOM often lagging by 24 hours – this was dangerous with out of date road data showing in accessible roads as being open when they were in fact impassable

These affects continued after the flooding events:-

- Significant food spoilage
- Fans could not be used to dry out inside homes
- Shortages of cleaning supplies, equipment and building materials for repair
- Internet was not available to seek accommodation, source supplies or to reassure family members outside of the area of their safety

At time of writing, a significant number of homes are still disconnected from both power and internet.

Insurance

Insurance has also been another significant stressor on all affected residents:-

- Most report they are either uninsured or underinsured
- All are experiencing severe delays with insurance processing
 - At time of writing, the Insurance Council of Australia has advised that \$2.32 billion has been claimed so far for the 2022 Floods across both Qld and NSW
 - This comprises of 168,000 claims (and counting)
 - Of these, there are still 159,000 claims outstanding which means that 95% of insurance claims remain unresolved even 2.5 months after the event
- At time of writing, many have not had a single contact from their insurer

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- Those that have had contact still have not seen a scope of works or quotes
- Some have had 'make safe' teams enter their homes to strip out walls – in these cases – such houses have been stripped bare
- The houses which have not been 'stripped out' are unlivable due to the large-scale mould infestation on walls and floors
- Those who are up to the negotiation stage with their insurer are finding grave challenges with covering the full 'scope of works' – insurers are 'under scoping' the flood damage
- High risk of insurance premiums going up, or not being able to be insured

Trauma

The trauma across the community is significantly noticeable, including:-

- Folks reporting they have not slept since the night of the flood
- Some describing persistent nightmares
- Many feeling too overwhelmed to work or function
- Most describing a reduction in mental health, fatigue and lack of resilience
- Hopelessness
- New health issues
- New stress
- Many people now triggered by rain and even the sound of the shower
- Depression from the persistent rain which has not ceased since the floods

Financial stress

The North Byron District has suffered mostly 'major losses' with the financial impact ranging between \$100,000 and \$900,000. The median cost of damage is \$300,000 to \$500,000 per household. Since the majority of houses are either under insured or uninsured, this has plunged many households into significant financial distress.

To exacerbate the lack of insurance coverage, government payments have been also slow and processing has been onerous:-

- Eligibility criteria is strict which means that many people fall through the cracks
 - For example, if your studio or garage flooded where you work, but your house was not flooded, you don't qualify
 - If the road to your home where you live or work washed away, but your house was not flooded, you don't qualify

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- Validation documents required are extensive which means that some household are unable to apply due to lack of documentation (most flooded homes also lost their paperwork kept in boxes in their garages – almost all garages flooded, even if houses didn't)
- Those who are eligible and are able to successfully make a submission, are still waiting for funds – at time of writing, payments on most grants are still outstanding
- Funds are being granted for specific reasons, however, there are no grants to cover generic incidental expenses
 - these unforeseen expenses accumulate and cause further financial duress

Financial impact

We estimate there will be up to 2,000 claims originating from North Byron District. The total sum of these claims, together with the budget required to repair and future-proof our district, could be valued in the order of \$1 Billion. Insurance companies are informing that this Flood event has yielded the largest number of claims in their respective histories.

However, the value of these insurance claims does not include:-

- Losses to business, employment, mental health, community and education – these will all be a hidden cost, unquantifiable, and will take years to recuperate from
- Paying the highest market price for furniture and other household wares as items need to be replaced urgently
- 18 month long waits for new cars to replaced a car which was lost – cars are in high demand, and are now a premium price
- Shortage of second hand cars, also at a premium price
- Loss of property value for suburbs which have never flooded before, that have now flooded

There's also the added financial burden for households that are not insured:-

- Having to cover the cost of repairs as an out of pocket expense – most folks don't have lump excess funds surplus to need
- Relying on govt grants which have a narrow criteria and are slow to pay

Businesses

- Businesses have suffered with loss of trade
- Some businesses have lost premises and stock
- One of the biggest impacts is the inability for the sole trader to continue to work due to their own trauma, fatigue and lack of focus to recover and repair
- We estimate about 250 businesses have been affected across the district (approx 50% of businesses)

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- Even for businesses which did not flood, many business owners were unable to get to their workplace for a week or more
- Some faced a week of not being able to trade, even though they didn't flood, due to access, and no internet connection or EFTPOS
- Many businesses owners have had their both their homes and businesses flooded

Farming

Billinudgel and surrounds is a significant farming precinct and is heavily impacted after every flood, this flood was no different:-

- After every flood it takes up to 9 months for pasture to dry out
- Council have neglected drains, and after a flood, these drains become dams
- This means the viability of grazing land reduces rapidly per flood event for a significant portion of the following year
- Different grass species have also replaced fodder which has starved out cattle and other animals

Education

The impact on children and students has also been challenging:-

- Some schools shut down for over a week
- Multiple schools were combined into one central hub which meant children were displaced and confused
- School lessons were missed
- Households and routines were disrupted
- Children still feel unsettled and confused
- Teachers are worried
- Bus companies shut down to minimise children being stranded at schools with no way home

Pets & animals

- Many animals have been abandoned
- Many pets have gone missing
- Many animals are unaccounted for
- Pet owners who have lost their homes are struggling to find pet friendly accommodation
- Local Wildlife have died – *for example a dead wallaby floated into an Ocean Shores home last week*

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Quality of life & continuity

Most households have found it to be extremely challenging to establish continuity and quality of life.

This has been compounded by:-

- Unavailability of furniture for months
- Unavailability of pool pumps (a muddy pool being a constant reminder of the trauma)
- Unavailability of cleaning products and general household items

Events venues

North Byron Parklands at Yelgun is a significant music and events venue. The flood impact has been catastrophic:-

- This 660 acre cultural arts and music events venue has lost fencing, roads, drains, infrastructure, tanks and ablution facilities
- Cleanup has been in progress for two months and is still ongoing at time of writing
- The effect of loss on the rest of the community as a major employer is significant
- This venue hosts one large annual music event 'Splendour in the Grass' – this event draws 50k people per day and it is uncertain if the venue will be repaired in time for the next event in July 2022

Farmers markets

New Brighton Farmers Market was impacted. This local market is home to more than 30 farmers and food producers who offer the region's best and freshest produce. Their livelihood was lost for weeks and folks missed out on healthy farm produce. Repairs to the grounds are also needed.

Recreational fields

Recreational fields were flood affected:-

- Shores United Soccer Club was also under water and suffered infrastructure damage
- The soccer club and the farmers market both use the same storage unit at New Brighton Oval which was also affected
- All the playgrounds' soft-fall areas washed away in the floods
- Low lying sports areas were affected by drainage corridors and water bodies which have limited their functionality

National parks

There is almost 1,000 hectares of National Parks in the North Byron District including:-

- Billinudgel Nature Reserve (789 hectares)

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- Marshalls Creek Nature Reserve (152 hectares)

These have all been affected due to poor drainage rendering them all unusable. This would also impact:-

- Flora and fauna
- Fire trail access

Swimming

After the floods, beaches were closed due to high levels of E. coli being tested and other contaminants in the water. Beach-goers suffered 'acid burns' to different parts of their bodies including their eyes from contaminants on the beach sand and in the water.

Summary of Community Views

The North Byron District has been plunged into third world conditions with anger and depression prevalent across the community. The vast majority feel that all systems at all levels have failed them catastrophically.

Infrastructure failures

The combination of infrastructure failures in the North Byron District was unprecedented:-

- Flood pumps failing
- The majority of storm water drains, already clogged, did not cope with the additional significant deluge
- Sewerage pipes failed, resulting in sewerage bubbling up in suburban backyards
- Sewerage systems failed which meant Council had to attend houses to pump out raw sewerage daily
- In three suburbs the house drains on kerbs also failed
- Potholes in newly tarred roads reopened
- River gauges failed at Billinudgel during both flood events which meant residents could not plan their evacuation safely

Lack of maintenance

The North Byron District has been largely ignored in both capital works programs and maintenance programs – this has persisted for decades. The result of this lack of care for the district has meant that drains did not flow, pumps failed, pipes collapsed and potholes re-appeared. There is a widespread view

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across the community that if the infrastructure had been of a sound status, that the flooding would not have been as catastrophic and would not have reached as many houses.

It is thus a widely held view that both local and state government have failed in their maintenance of vital infrastructure which could have avoided flooding in some houses and/or reduced the severity of inundation:-

- Many residents report their drains have not been cleaned in decades
- Some streets have had collapsed sewerage pipes for years, these failed completely during the flooding events and are still leaking raw sewerage in suburban backyards at time of writing
- Roads which were already badly potholed have become an obstacle course of giant puddles
- Failed river gauges require attention
- The lack of council maintenance on drains has resulted in rural farming changing from prime cattle country into swamp
 - After a flood it takes months for grazing land to dry out
 - The ground cover has also changed to inedible species, starving out cattle and making farming unviable and unsustainable

Poor facilities

- The pumps which are used to funnel water out of the streets don't have a backup power source, have their electricals located at the bottom and also redirect water back into the creek which overtops back into the streets
 - These pumps are currently manually operated – an upgrade to automatic or remote operation is needed
 - Backup power is needed
 - Water needs to be pumped into the ocean not back into the creek
 - There are 3 of these pumps across South Golden Beach and Ocean Shores
- The drains at the front of houses are not connected to each other nor to adjoining canals
 - This means that water collects in these drains but doesn't flow anywhere
 - These unconnected drains are located across South Golden Beach and New Brighton
- Houses have been built with materials which do not withstand flooding, such as gyprock walls and chipboard floors

DA delays

Stress is further accumulating in households where houses need to be elevated or rebuilt:-

- Byron Shire Council has a poor track record of lengthy DA processing times – the additional number of DA's to be processed due to flood rebuilds/elevations will serve to add significant extra pressure to Council staff causing further delays

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- Town planning consultants currently advise a wait of 6-9 months just to achieve an approval to lift a house
- Approval by way of complying development is in many cases not possible as most properties in our district are in close proximity to the marine park or a national park
- Statutory requirements dictate that preferential treatment cannot be given to one DA over another – this means that non-essential DA's such as driveways, pools and commercial are being processed ahead of DA's which encompass essential housing and quality of life

It didn't have to be this bad

There is a strong and widespread feeling throughout the community that these floods were worse than they needed to be. Topics of discussion in the local community include:-

- Inundation of houses at South Golden Beach didn't occur until the flood pumps failed. Could inundation have been avoided altogether in this village?
- If the South Golden Beach flood pumps had flowed out to the ocean, would this have helped New Brighton and Ocean Shores, not just South Golden Beach?
- People in South Golden Beach and New Brighton witnessed flood waters trying to escape to ocean outlets which were closed previously by developers. Locals are questioning whether reinstating the natural ocean outfalls would make a difference, while being careful to avoid creating a new hazard from the ocean
- The most recent flood study clearly indicates that only a PMF event would cause this much damage – this has proven to be untrue in the latest flood event

Part 2. EIGHT VITAL PROJECTS RECOMMENDED FOR THE NORTH BYRON DISTRICT

There are eight key areas for remedial works required for the recovery and future proofing of the North Byron District.

1. Repair, Maintain and Update Existing Infrastructure

There is unilateral agreement across the community that if maintenance had been upheld in our district, that we either may not have flooded, not as badly or not as widespread. Repairs, maintenance and upgrading of infrastructure required to mitigate future flooding includes:-

1. Storm water pipes – clean and fix all
2. Sewerage pipes at Ocean Shores (which collapsed) – replace all

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3. Ensure adequate supply of parts for sewerage pump out systems in New Brighton to cope with demand in emergencies
4. House drains in South Golden Beach, New Brighton and Ocean Shores – clean, repair and connect
5. Flood drainage channels in Billinudgel – clean out and maintain
6. Farm drains in Billinudgel – clean out and maintain
7. Ocean Shores Country Club pump house, lakes and weirs – repair and maintain
8. Ongoing and future capital works programs – a minimum of 30% of all Byron Shire’s major works funding need to be utilised in the North Byron district being 30% of the population and rate-able houses
9. Current major capital works program – North Byron district to be included for a minimum of 30%
10. Singapore Daisy weed needs to be removed from all waterways as it chokes and impedes the natural flow of water
11. Maintain, repair and service river gauges on a regular basis
12. Update/introduce environmental pollution monitoring systems so that the community knows when it's safe to swim

2. Update the Flood Study and Implement Mitigation Measures

The North Byron Floodplain Risk Management Study (the Flood Study), commissioned by Byron Shire Council, was completed in October 2020. This study suggests that the following number of houses would be expected to flood in a 1/100 flooding event:-

- Billinudgel: 45 houses
- South Golden Beach: 0 houses
- New Brighton: 100+ houses

Flood data is still to be calibrated however there are early signs that these 2022 floods were not a 1/100 event and yet hundreds more houses flooded compared to the figures above.

This means that some of the findings of this 2020 Flood Study have proven to be inconsistent with the lived experience of the local community. The following additional flaws have also been discovered in the 2020 Flood Study:-

- The 2020 model doesn't pick up the current water flow from the North via Redgate Road
- The study itself stops just north of South Golden Beach, however, the flooding issues for the whole district extend to interconnecting drainage issues further north into the catchment

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- The 2020 Flood Study used 2017 flood date – the modelling clearly needs to be updated to consider the latest events and to address these errors in the modeling assumptions. See Figures 32 & 33 in *Appendix C* which show these modelling and assumption flaws
- Previous flood studies have focused on assessing specific engineering options proposed including dredging, ocean outflows, removal of rock walls and levees. The community believes that any new hydrologic studies need to initially focus on the strategies available to reduce flooding (divert, store or dispose of floodwater at strategic locations) as well as the removal of water from the floodplain. These new studies also need to assess the outcomes of these measures and also identify which strategies will have a meaningful impact

It is thus widely accepted across the community that:-

- We have a complex drainage issue which renders our district into a series of interconnecting bathtubs
- We want the water to be removed from the floodplain before it gets to us (further north and further south)
- Strategies to mitigate flooding should be based on the natural flows of water on the floodplain
- We need to be mitigating the impacts which have already resulted from urban development
- We need a team of hydraulic experts to review/audit/model the solutions we need
- We need significant funding to achieve this

Thus once a strategy is identified as having potential, the engineering options which could achieve those strategies need to be investigated and costed to prepare an ROI on any works options. Any potential negative impacts of engineering solutions should also be considered.

Appendix B includes a summary of a document prepared by local scientists from the New Brighton Village Association. This study highlights the historical changes in the floodplain as a result of urban development. This document also outlines the likely impact of flooding waters flowing from Marshalls Creek.

Appendix G also outlines the perspective of a South Golden Beach resident and marine life activist.

The people of coastal North Byron have been calling for a systematic strategy which will allow the floodwaters to get out back to the ocean.

- We believe that a review of the WMA North Byron Floodplain Risk Management Plan needs to be undertaken which addresses the issues raised in this submission
- Many of the issues raised are already addressed in the 2020 Flood Study, while others need assessment
- We have provided an extract from the 2020 Flood Study which details a schedule of proposed works and strategies (see *Appendix D*) which require new evaluation

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Also, we are not just mitigating against flood impact, we are also mitigating the impacts of climate change. Thus actions required in relation to the 2020 Flood Study include:-

13. The North Byron Floodplain Risk Management Study needs to be updated to:-
 - Reflect *the lived experience* of 2022 flood levels
 - Assess which modelling and data can be re-used from the 2020 report to expedite the review
 - Ascertain whether the experienced flood levels were accurately predicted by the models used to produce the 2020 Plan
 - Fast track the strategies within the 2020 report which outline the works for better storm water channel maintenance, flood proofing and retrofitting houses, as well as better emergency response – the community calls for these more general measures to be actioned immediately as urgent flood response
 - Consider the impact of higher flood levels due to climate change
 - Consider the historical natural flood flows and how these have been altered by development to identify strategies to mitigate the impacts of flooding
 - Identify which strategies in particular can have the greatest success in reducing future flooding and its impact (divert, store or dispose of floodwaters at specific locations)
 - Focus on scoping solutions
 - Evaluate the various engineering options which could achieve these strategies
 - Evaluate the costs of selected options and outline their impacts on community

High impact measures flowing from updating the Flood Study could include:-

14. Evaluation of strategies which consider historic natural flood flows to ensure that water is removed from the floodplain, and instead, either disposed directly into the ocean or stored in various locations across the floodplain. These strategies should not be tied to any particular engineering option to deliver those strategies
15. Evaluation of potential engineering options to deliver these strategies, including scoping the costings to deliver specific reductions in flood impacts and potential negative impacts
16. Solution studies into the upgrade of the pumps at South Golden Beach and at Balemo Drive in Ocean Shores – these pumps need to be rediverted so that water is being funneled to the ocean, not into the canals, for both minor and major flood events
17. A review needs to be conducted of the merits of activities such as dredging at Marshalls Creek and Capricornia Canal, creating flood storage structures, flood pumps, both natural and engineered outlets, removing rock walls and the effectiveness of existing levees
18. Communication and education of strategies and engineering options is required in an understandable form to ensure the community is engaged meaningfully
19. Creation of more accessible evacuation centres and a greater number of these are required in a range of locations across the district

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20. Education about the locations of evacuation centres, especially for newcomers to the area
21. Quantify the requirements for generators and batteries for use in flood events where electricity supply is cut

3. Fast Track Development Approval for Flood Resilience Works

There are two immediate actions which would have a direct effect on reducing flood impact in our district – raising some houses above the flood level and retrofitting existing houses with flood resilient materials. However, funding of these works and approvals by Council, are significant impediments.

Meaningful actions would include:-

22. Enabling fast track development approval for flood resilience works using the existing Complying Development Certificate regime instead of Development Applications (changes to the LEP/DCP may be needed)
23. Making public funding widely available for house lifting
24. Extending public funding to finance the repair and retrofitting of houses with flood resilient materials such as marine ply or concrete sheeting on walls, hardwood or concrete for floors, waterproof grout and glue and removable corrugated lower walls
25. Introducing a moratorium for illegal builds and under-house usage to be regularised and allowing these houses to be kept instead of being demolished – this helps to maintain the current housing pool rather than reducing it as the housing shortage is an emergency
26. Engaging appropriate personnel to implement measures relating to maintenance and flood mitigation

4. Review Town Planning Regime for Flood Resilience

The town planning regime and other Council processes need to be reviewed to incorporate flood resilience requirements such as:-

27. New minimum floor heights above the relevant level
28. Flood resilient building materials
29. Improved natural drainage per block and per street
30. Minimum pervious land per block to avoid excessive water run off to one block from another
31. Local community membership on, and effectiveness of, the Council Flood Committee
32. Flood resilient master planning for the North Byron villages
33. Direct council email created just for North Byron District

5. Improve Communications

Improvements to communication can assist in reducing the impact of flood in the future, such as:-

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34. 'Air raid' sirens in each village to alert residents of imminent danger, such as a flood or a tsunami
35. A database maintained by Byron Shire Council for SMS contact with all residents during an emergency
36. Starlink satellite internet connections installed on household rooves as well as on community buildings and surf life saving towers
37. Education and enhancement of river height monitoring data delivered through BOM, including education about interpretation
38. Endorsement of the use of far more accurate apps such as 'Higgins Storm Chasing' and 'The Weather Company' instead of BOM which is routinely out of date by up to 24 hours
39. UHF radios at key locations run by volunteers for close communications up to 5kms
40. Review and reinstate HF radio sets at local emergency centres and village communities

6. Insurance and Other Funding Support

Changes to the way in which houses are insured, and the extent to which households are supported financially, would make a significant improvement to Flood Response for our community:-

41. Flood coverage needs to be automatically covered in all housing insurance as a mandatory inclusion
42. Insurance subsidies for households so that nobody remain uninsured or underinsured as insurance policies are mostly over \$6,000 and up to \$30,000 per annum
43. Working with the insurance council to accelerate resolution of claims
44. Increasing rental support from key government agencies to reflect exorbitant local Northern Rivers rentals prices
45. Forced freezing rental prices after a flood to minimise price gauging
46. Government funding for households to repair and retrofit their homes with flood resilient building materials
47. Government funding made widely available for voluntary raising of houses
48. Exploring acquisition of selected houses in very high risk locations at PRE-FLOOD Market Value
49. Speeding up payments through Service NSW and Services Australia and cutting the red tape – most folks are not getting funds fast enough and/or validation documents have been lost in the floods – some folks are thus become unable to complete their claims
50. Ensure that flood grants are not taxable

7. Develop Flood Resilient Housing Crisis Response

Houses which are built in the floodplain would benefit from being elevated and retrofitted with waterproof materials:-

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- 51. When higher floor heights are being evaluated, consider that the WMA assumptions are incorrect regarding villages not flooding (or minimal flooding) during a 1/100 – floor heights thus need to be elevated in the DCP/LEP
- 52. Consider flooring materials such as concrete, tiles (with waterproof grout and glue) and hard wood which is lacquered on both sides – floors need to be robust enough to be hosed out after a flood event
- 53. Consider wall materials which are removable sheets such as marine ply, concrete sheeting and corrugated iron – ideally walls need to be assembled as detachable sheets which can be removed and hosed behind after an event (to avoid mould and to remove contaminants)

8. Develop Master Town Plan

The town of Ocean Shores and surrounding villages have never had a Master Town Plan. The District of North Byron would benefit from a Master Plan. This would not only outline a design for the infrastructure needed, but it would also encompass a plan for upgraded drainage requirements. Without a Town Plan, our infrastructure has become neglected:-

- 54. Funding is required to develop a Master town Plan including drainage requirements to help future proof and flood proof the North Byron District

Part 3. PROJECT COSTINGS

The following key projects are not only vital to repair, rehabilitate and minimise future flooding impacts the North Byron District, but are also integral to mitigating the future effects of climate change:-

Project	Financial Impact
Further solution studies	
Hydrological studies	<i>Budget subject to further investigation</i>
Water level/Floor height investigation	<i>Budget subject to further investigation</i>
Water Quality testing	<i>Budget subject to further investigation</i>
Detailed report showing the water quality throughout the wetlands	<i>Budget subject to further investigation</i>
Master Town Planning	<i>Budget subject to further investigation</i>
Tweed + Byron Council Flood Plan	<i>Budget subject to further investigation</i>

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Solution studies for outlets, breakwalls, dredging	<i>Budget subject to further investigation</i>
House remediation	
Houses needing waterproofing	<i>Budget subject to further investigation</i>
Houses needing elevation	<i>Budget subject to further investigation</i>
Houses needing rebuilding	<i>Budget subject to further investigation</i>
Houses needing buyback at pre-flood MV	<i>Budget subject to further investigation</i>
Houses needing mould removal	<i>Budget subject to further investigation</i>
Household support	
Insurance subsidies	<i>Budget subject to further investigation</i>
Temporary housing	<i>Budget subject to further investigation</i>
Extending rental support scheme	<i>Budget subject to further investigation</i>
Backup generators per household	<i>Budget subject to further investigation</i>
Council Rate Relief	<i>Budget subject to further investigation</i>
Ensuring flood grants are not taxable	<i>Budget subject to further investigation</i>
Community support	
Mental Health/social support	<i>Budget subject to further investigation</i>
Earlier army deployment to assist	<i>Budget subject to further investigation</i>
Sandbags locally available in our district	<i>Budget subject to further investigation</i>
Infrastructure capital works	
Pump upgrades	<i>Budget subject to further investigation</i>
Sewerage pipe + septic man hole repairs	<i>Budget subject to further investigation</i>
Storm water pipe repairs	<i>Budget subject to further investigation</i>
Drains clearing – urban	<i>Budget subject to further investigation</i>
Drains clearing – rural/farming	<i>Budget subject to further investigation</i>
Repair and maintain river gauges	<i>Budget subject to further investigation</i>
Dredging (if the reviews recommend this measure)	<i>Budget subject to further investigation</i>
Opening outlets (if the reviews recommend this measure)	<i>Budget subject to further investigation</i>
Council remove tree roots from sewer and storm pipes	<i>Budget subject to further investigation</i>
Country Club repairs	<i>Budget subject to further investigation</i>
Battery hubs in each village	<i>Budget subject to further investigation</i>
Public events venue repair	<i>Budget subject to further investigation</i>
Recreational parks and fields repairs and drainage works	<i>Budget subject to further investigation</i>
National Parks drainage works and remediation	<i>Budget subject to further investigation</i>
Water pollution/contamination testing	<i>Budget subject to further investigation</i>

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Communications	
Starlink satellites dishes on community buildings & surf life saving towers	<i>Budget subject to further investigation</i>
Community engagement	<i>Budget subject to further investigation</i>
Council SMS database	<i>Budget subject to further investigation</i>
Council staff to manage a dedicated email address for North Byron District	<i>Budget subject to further investigation</i>
Education about evacuation centres available and addresses via SMS	<i>Budget subject to further investigation</i>
Service NSW communication about temporary accommodation	<i>Budget subject to further investigation</i>
UHF radio sets per 5kms radius	
HF radio sets at local emergency centres and village communities	
Foghorns ('air raid' sirens) per village	<i>Budget subject to further investigation</i>
Regulatory	
DA fast tracking – additional council staff	<i>Budget subject to further investigation</i>
Complying Development instead of DA	<i>Budget subject to further investigation</i>
Council Risk Register – staff	<i>Budget subject to further investigation</i>
Moratorium on regularising illegal builds and under house usage	<i>Budget subject to further investigation</i>
Develop a Master Town Plan together with community including drainage requirements	<i>Budget subject to further investigation</i>
Engage floodplain implementation personnel	<i>Budget subject to further investigation</i>
Additional Council maintenance staff for North Byron District	<i>Budget subject to further investigation</i>

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Part 4. AGGREGATED FLOOD IMPACT STATEMENTS

Data Source & Approach

Community engagement

Two large 'city hall' style community meetings were conducted which engaged members of Council as well as both State and Federal government members and candidates:-

- Over 200 people attended each gathering with meeting rooms 'packed to the rafters' both times
- From these meetings, households were issued with a template and encouraged to provide a 'Flood Impact Story' – these were collected via email and are being used with permission
- Flyers were letterbox dropped to over 1,500 homes before both meetings
- Flyers were also left on counter tops, shop noticeboards and delivered into all PO boxes in the district
- Social media was used extensively to raise awareness of these meetings
- Email addresses were used to help spread the word about the meetings as well as the data collection we needed for this submission
- Press releases were also extensively engaged
- Media interviews (radio and newspaper) were also used to widely publicise these events
- Crews went door knocking in neighbourhoods to spread the word

Data set

Of the 1000-2000 houses which we believe were inundated, we have received approximately 200 Flood Impact Statements. We believe the lack of Flood Impact Statements is due to:-

- Fear that providing data will negatively impact their insurance claim
- Fear that providing data will prejudice their illegal build or illegal use under-house (if the house or usage is not Council approved)
- The majority of folks being too traumatised to think about their flooding experience
- Most folks feeling too tired and overwhelmed to divert any energy towards assisting a regional enquiry
- Many folks being still without internet at time of writing and thus have missed the social media
- Many folks not living in their flooded homes and so flyers are not being received

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Government involvement

Council members, State government and Federal government were all invited to both meetings.

Attendees to each meeting included:-

Community-Council Meeting 26th April 2022

- Tamara Smith – State member for Ballina
- Byron Shire Mayor, Deputy Mayor and Councillors
- Federal candidates for Richmond (David Wirth and Kimberley Hone)
- A meeting recording is available on YouTube with all speakers timestamped
https://youtu.be/iP_oobJErgc

Community-Council Meeting 10th May 2022

- Hon Justine Elliot MP – Federal member for Richmond
- NSW Deputy Police Commissioner Mal Lanyon
- Byron Shire Mayor and Councillors
- Federal candidates for Richmond (David Wirth, Kimberley Hone and Mandy Nolan)
- A meeting recording is available on YouTube with all speakers timestamped
<https://youtu.be/f5CJJeYJ9n4>

Publicity

Our group's activities have received significant media attention over the past 2 months:-

- **Northern Rivers Review** on page 13
https://issuu.com/heartlandmagazineus/docs/the_northern_rivers_times_newspaper_edition_95
- **Northern Star** <https://www.dailytelegraph.com.au/news/nsw/byron-shire/south-golden-beach-ocean-shores-residents-fight-for-flood-change/news-story/20b9ac601f1da43f8f8dc3249957b893>
- **The Echo** on page 4
<https://issuu.com/echopublications/docs/byronecho3649/45?fr=sZmZiNjQ5NzQ2NTU>
- **ABC Breakfast program** with Joanna Shoebridge from 8.29s to 14.15s
<https://www.abc.net.au/radio/northcoast/programs/breakfast/breakfast/13852140>
- **ABC News** with Hannah Ross
<https://www.abc.net.au/radio/northcoast/programs/abc-north-coast-local-news/abc-north-coast-local->

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[news/13852144?fbclid=IwAR1zgwfyBvcETXK8ofwAxVw8ZkFmWkMgf1ZKiKn-DEthJiMK4Mgl0gc1h0k](https://www.facebook.com/news/13852144?fbclid=IwAR1zgwfyBvcETXK8ofwAxVw8ZkFmWkMgf1ZKiKn-DEthJiMK4Mgl0gc1h0k)

- **This is Byron** www.thisisbyron.com.au
- **The Echo Byron** on Page 2 <https://www.echo.net.au/2022/05/flooding-northern-byron-shire-community-groups-call-meetings/>

Detailed Findings

A full set of data as provided by the community has been provided in *Appendix E* and is summarised as follows.

The majority of the 12,000 residents in North Byron Shire have been affected by the 2022 floods:-

- New Brighton flooded up to 800mms higher than the 2017 floods
- Many houses in Ocean Shores, South Golden Beach and Brunswick Heads flooded for the first time in recorded history
- Some houses can be repaired, some need to be demolished, some elevated and some would benefit from waterproofing

Water heights

Of the 5,000 homes in the North Byron District, we believe the following percentages were flooded:-

- New Brighton 88% of homes
- South Golden Beach 66% of homes
- Billinudgel 47% homes
- Ocean Shores 16% of homes
- Brunswick Heads 3%
- Caravan Parks 90% of homes
- Yelgun, Wooyung, The Pocket – *data unavailable as yet*

Flood heights range from 200mms to over 1 metre within the home. Outside heights in garages, sheds and studios are much higher than this.

Property impacts

The following property damage has been sustained across the district:-

- Majority of flooded houses have been stripped bare – all walls and floors removed, kitchen and bathrooms removed

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- Many houses have partial rooms stripped out – some areas are being habited
- A portion of houses need to be demolished and rebuilt
- A significant number of house require waterproofing measures and elevation

Financial impact

The minimum damage sustained has been around \$100k. The most is around \$900k including demolition and rebuild. Thus all damage can be categorised as ‘major loss’ (over \$100k).

However, these figures only represent property damage and does not include the cost of:-

- Contents
- Loss of work
- Loss of business
- Loss of place of work
- Loss of rent
- Mental health
- Health issues
- Decontamination of the house environment
- Pet losses
- Farm losses
- Road losses

We estimate a ballpark figure of reparation for our district to be in the order of \$1 Billion.

Personal impact

Mental health issues are significant across the community, including:-

- Trauma, PTSD
- Inability to sleep (*some have not slept since 28th February*)
- Difficulties eating
- Marital problems arising
- Family discord
- Children unsettled and missing school
- Children unable to do school work
- Stress
- Inability to work
- Overwhelm
- Hopelessness about the unknown

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- Nervousness about recovery times (*will it be months, years or decades?*)
- Challenges with insurance company delays, lack of contact with insurer, insurer unwilling to cover the event, lack of scope of works and scopes of works minimised
- Insurance only covering a portion of the temporary accommodation (*usually 6-12 months however displaced families may not be back in their homes for 2-3 years*)
- Stress about the Council DA process and delays
- Significant out-of-pocket expenses until key govt agency payments are received where many payments have been delayed
- Stress from sleeping at various friends' houses
- Stress from not having a permanent home and being out of own home
- Stress from paying a mortgage as well as paying rent in a temporary rental – paying for accommodation twice
- Out of normal routine
- moving out of the area
- Additional pressure on those in the community with disabilities and mental health issues – further confusion and difficulties are caused from lack of stability and lack of a home base
- Lack of a sense of security in the home, no feeling of safety
- Loss of a sense of peace and joy
- Stress from not knowing if the house needs to be demolished, waterproofed or elevated – and how this will all be paid for
- Confusion, short term memory loss, inability to focus or settle

Flood photos

A range of flood photos from across the North Byron District are attached in a separate file. Here is a sample below:-



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Conclusion

North Byron Shire is hurting. This has been exacerbated by the fact that the district has been largely ignored for decades when it comes to maintenance and capital works. It is a widely held view across the community that the poorly maintained infrastructure has potentially worsened a flood event which could have been otherwise minimised or avoided if infrastructure maintenance had been regularly upheld.

We now have a catastrophe on our hands with a repair and rebuild cost in the order of \$1 Billion for the North Byron District alone. Structural changes are needed to not only infrastructure but also to the way we communicate before, during and after a flood, how we engage the community in flood response and how we ensure that appropriate support is received by all members of the community, not just financially, but also psychologically. The task of flood mitigation during the months and years ahead is not just a hydrological issue, but it will also be a complex social issue. Our community has activated in a significant and meaningful way and is currently engaged in conversations with a large concentration of local residents with extraordinary technical skills.

The focus of our community dialogue is the return to safe living in our homes – we now call for all levels of government to support our district to achieve this with sensitivity, importance and urgency.

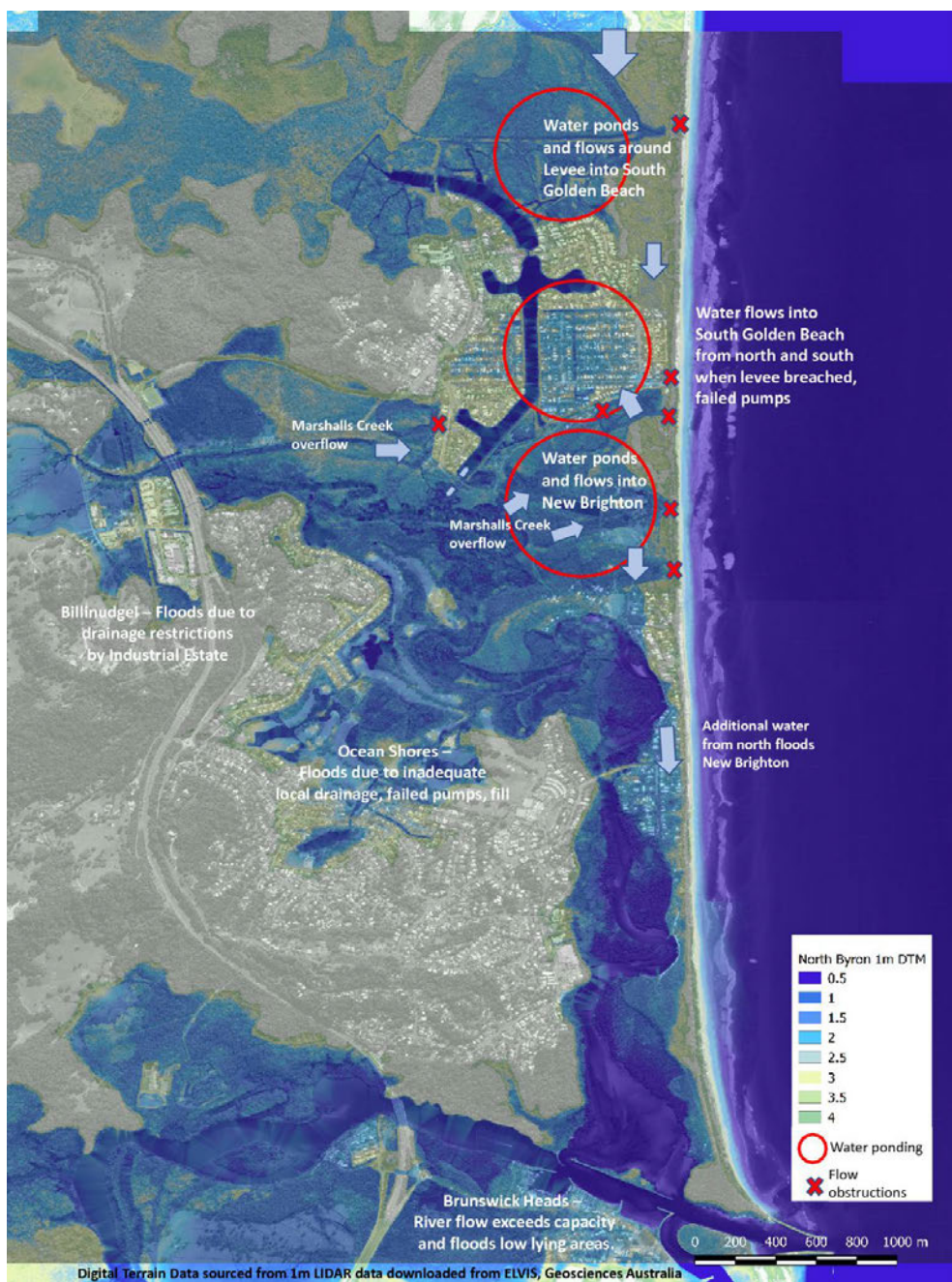
Thank you

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Appendix A – North Byron District Inundation Map

The areas in blue indicate where flood waters pooled into a series of interconnecting bath tubs across our region. With water trapped and not being able to escape, water pooled in some villages for over a week.



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Appendix B – Solution Study Suggestions from New Brighton Village Association

The following is a summary from the scientists at the New Brighton Village Association.

including long term development planning failures

The flooding in some areas can be traced back to development decisions in the past, and attempts to mitigate the flood impacts from those decisions.

In particular, the decisions from the past which could have accentuated the flooding impacts include:-

- Development of the industrial estate in Billinudgel, and the inadequate capacity of the designed flow bypasses to carry the required quantity of water on flooding in Billinudgel
- Fill that was put into the Ocean Shores golf course which could have impacted flooding levels on low lying areas of Ocean Shores
- Restrictions of overflow channels, construction of the levees and the closure of ocean outfalls with the development of South Golden Beach and sandmining could have caused some flooding. This is because the flood waters from the overflow channels from Marshalls Creek which used to flow to the ocean, now ponds water behind the levee at South Golden Beach. This then pushes the flood water back into Marshalls Creek which now floods New Brighton
- Inadequate levee design and pump out capacity failed to protect South Golden Beach from flooding – this was made worse by putting pumped water back into the source of the water (Yelgun creek) that flooded the village
- Closure of the man-made ocean outflow to the north of South Golden Beach – this has an impact on how flood water flows around the levee and into South Golden Beach from the north
- Potential impacts on channel silting by rock walls and the restrictions of outflows into Brunswick River

High impact measures which could be considered are:-

- The water pumped out of South Golden Beach needs to be diverted to the ocean, not back into the creek
- Diverting flood flows past Billinudgel village through the industrial estate, or in Ocean Shores around Waterlily Park and Balemo Drive
- Storing water in locations in various locations across the floodplain, eg. to the west of Billinudgel, area adjacent to the Shara Boulevard soccer fields and to the north of New Brighton

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- Preventing inflows into urban areas by diversion banks and levees, eg. levees around Billinudgel, increased levee around South Golden Beach
- Removing flood water from floodplain to the north of South Golden Beach, and between South Golden Beach and New Brighton
- Increasing the discharge of water at the river mouth

Considerations could include:-

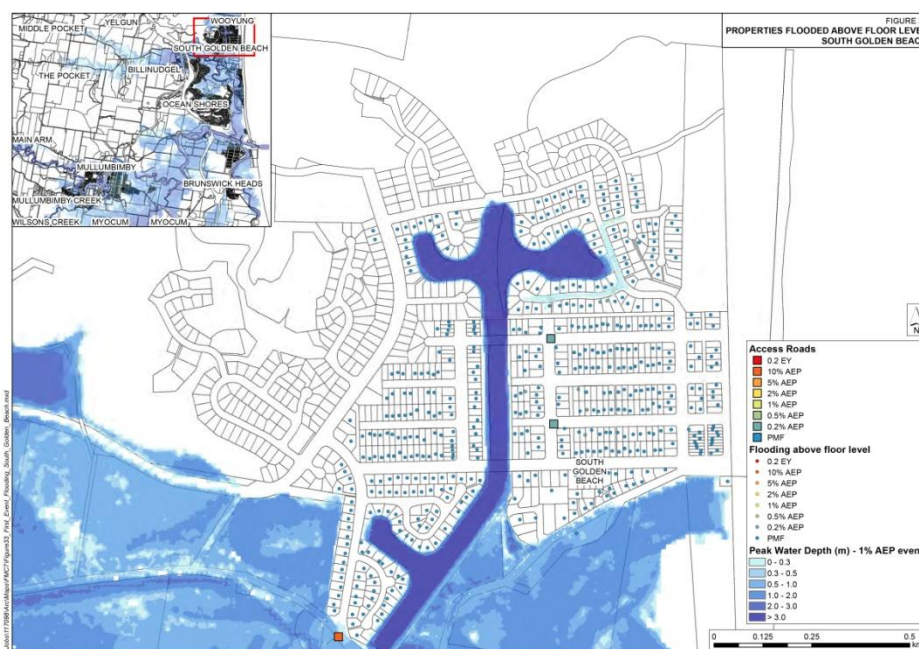
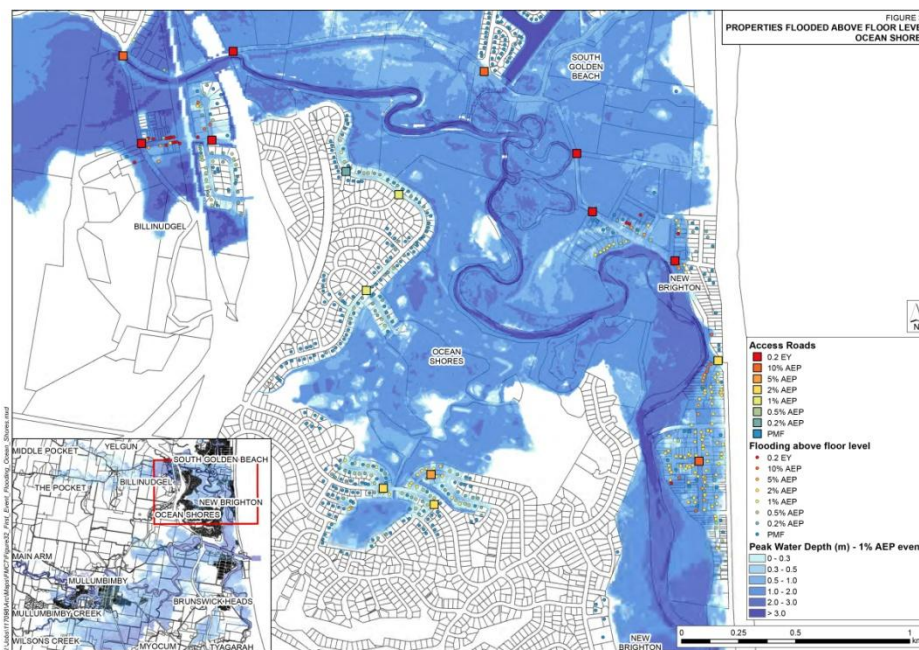
- If diversion or increasing the throughput of channels is shown to be able to reduce flooding, options to achieve this such as increased drainage capacity through regular maintenance, increased channels or pumps can be evaluated
- If removing water from the flood plain is shown to be capable of reducing flooding, options to achieve this such as pumping, natural or constructed outflows, discharge pipes or culverts could be evaluated
- If increased discharge at the mouth of the river is shown to reduce flooding, options such as removal of the rock walls and dredging could be evaluated

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Appendix C – WMA Floodplain Report – figures 32 & 33

These figures suggest that minimal houses would flood in a major flood event. However, the 2022 floods have proven otherwise. The validity of the assumptions of the 2020 Flood Study are thus called into question.



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Appendix D – WMA Floodplain Report – schedule of 24 recommendations

Here are the 24 recommendations included in the 2020 Flood Study. It is the suggestion of our submission that these recommendations below be reviewed and furthered to reflect the calibration of 2022 flood data. However, there are some maintenance works included in this schedule below which could commence immediately and which would greatly assist with flood mitigation in the North Byron District – these should be undertaken as a matter of urgency.

Table 1: Assessment of Floodplain Risk Management Options

ID	Section	Option	Total Score	Overall Rank
PM04	11.6.4	Flood Planning Levels revised based on the recommendations of the FRMS.	20	1
PM09	11.6.9	Section 10.7 (5) certificates to provide further detail of flood behaviour. Consideration to providing property-level flood information via an online GIS platform.	18	2
RM02	11.5.2	Byron Shire Council and SES to consider the findings and recommendations of the FRMS in the development of the Flood Warning Network for North Byron.	18	2
RM05	11.5.5	Identify key roads and implement automatic warning signs and depth indicators.	16	4
PM06, PM07, PM08 (part), PM10	11.6.6, 11.6.7, 11.6.8, 11.6.10	Council consider updating the DCP to incorporate the recommendations detailed in the FRMS; Provide more detailed guidance on the principles of wet proofing, appropriate design and materials, with direct reference to available guidelines; include a requirement for an assessment of property level protection as part of the DCP2014 planning matrix criteria FL4; Implement the recommendations regarding appropriate fill areas in the DCP2014.	16	4
CDM	11.4.6	Development a whole of catchment drainage model and overland flow path investigation.	16	4
PM08 (part)	11.6.8	Undertake more detailed assessment of properties which may benefit from property level protection	16	4
FDC	11.4.6	Implement debris control measures for Federation Bridge and Billinudgel Railway Bridge.	16	4
RM07	11.5.7	Undertake an Evacuation Assessment for Mullumbimby.	16	4
PM03	11.6.3	Changes to land use zoning should consider flood compatibility based on the recommendations of the FRMS.	16	4
PM01	11.6.1	Further investigate raising eligible residential properties to reduce flood damages.	15	11
SC	12.1.4	Further detailed assessment of Saltwater Creek upgrade assessment and mitigation options for Mullumbimby.	15	11
IC	12.3.2	Form a committee, comprising council, state, emergency services and community member representatives to oversee the implementation of the FRMP.	15	11
RM01	11.5.1	Council and the SES to update the Local Flood Plan based on findings of the FRMS.	15	11



North Byron Floodplain Risk Management Study and Draft Plan

PM05	11.6.5	Revise the Flood Planning Area based on the recommendations of the FRMS.	14	15
RM06	11.5.6	Engage with the community to prepare an ongoing flood education program, with appropriate evaluation by Council and SES following implementation.	14	15
AC	12.1.3	Further consideration of Avocado Court drainage modification.	14	15
PM11	11.6.1	Byron Shire Council compliance team investigate illegal builds south of North Heads Road.	14	15
RW02	11.4.3	Develop a sediment transport model to investigate modification to the rock walls, as part of the Coastal Management Program for the Brunswick Estuary.	14	15
BM	12.1.2	Further consideration of Billinudgel infrastructure improvements.	13	20
WFG	11.4.4	Develop guidance on the design and installation of fencing traversing waterways and channels.	13	20
PM02	11.6.2	Consider establishing a Voluntary House Purchase scheme for eligible properties.	13	20
RM03	11.5.4	More detailed assessment of potential raising of River Street to provide improved flood immunity and evacuation.	11	23
SGBA	11.4.1	Implement the recommendations of the South Golden Beach levee audit.	7	24
NCD	11.4.5	Further consider viable options to implement the recommendations of the New City Road drainage assessment.	4	25

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Appendix E – Flood Impact Statements (Detail)

(A compilation of Flood Impact Statements from approximately 200 residents is currently being aggregated. A combined statement from the North Byron District will be available within a week by 27/5/22).

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Appendix F – Letters of Support

New Brighton Village Association

New Brighton Village Association Inc.

LETTER OF SUPPORT – NORTH BYRON DISTRICT ACTIVATION

STATE FLOOD ENQUIRY SUBMISSION
19th May 2022

The Northern New South Wales villages of Ocean Shores, New Brighton, South Golden Beach, New Brunswick Heads, The Pocket, Billinudgel, Yelgun and Wooyung were flooded twice during February and March 2022. Approximately 87% of homes in New Brighton were inundated.

In response, the local Community Association of Ocean Shores formed the North Byron District Activation Group. The purpose of this group is to coordinate a united community response to the floods. The major areas of focus are:


1. **Before floods** – preparation
2. **During floods** – communications, minimising property damage and saving lives
3. **After floods** – communications, rental issues and housing shortage
4. **Future flood mitigation** – sustainable and technical solutions

The State Flood Enquiry Submission is based on feedback from all of the communities in the northern part of the Byron Shire.

The New Brighton Village Association (NBVA) combined with and supports the North Byron District Activation. The NBVA executive is represented on the North Byron District Activation steering committee.

NBVA fully endorses and supports the submission prepared by the North Byron District Flood Activation.

Yours sincerely
NBVA Executive.


Robert Crossley
Mick Sherington
Robyn Bolden

North Byron District Activation May 2022 State Flood Enquiry Submission

South Golden Beach Village Association

SOUTH GOLDEN BEACH COMMUNITY ASSOCIATION INC.

Ph:

email:



19th May 2022

Re: North Byron District Activation May 2022 State Flood Enquiry Submission

To whom it may concern

South Golden Beach Community Association writes in support of the North Byron District Activation May 2022 State Flood Enquiry Submission.

South Golden Beach and surrounding villages have recently experienced two devastating floods in March 2022. Thousands of homes and businesses were severely impacted by the flood waters and will take months to recover. The emotional trauma will reverberate for months and years to come.

Residents felt abandoned due to the failing of internet and phone connections, limited power, food and petrol shortages, lack of emergency services and more. Poorly maintained drainage infrastructure by Byron Shire Council exacerbated the crisis.

We urge authorities to invest in master planning and capital investments to upgrade services to North Byron and to limit the devastating impacts of future flooding in the north of Byron Shire.

Yours sincerely



Angela Dunlop
Secretary, SGBCA

North Byron District Activation May 2022 State Flood Enquiry Submission

North Byron Business Chamber



17th May 2022

To whom it may concern,

This letter is to support the documentation of flood data in the *North Byron District Activation May 2022 State Flood Enquiry Submission*, which was compiled by Francesca Esposito.

North Byron villages of Ocean Shores, [North and South], South Golden Beach, New Brighton, Billinudgel, Yelgun, The Pocket and surrounding areas of Wooyung and Brunswick Heads, all suffered major impacts during the March 2022 floods. Many homes and businesses have experienced major flood damage. The community is traumatised and felt abandoned during the emergency event and recovery process. The area suffered with limited resources during the evacuation and recovery processes, including no internet access for a week, limited power, food and petrol shortages, lack of manpower, lack of emergency services and failing infrastructure and more.

There is a history of poor drainage and flooding in North Byron which has not been properly addressed by council and nor has infrastructure been properly maintained or upgraded as the area developed. North Byron has suffered from a lack of a Masterplan. We urge authorities to invest in master planning and capital investments to upgrade services to North Byron and to limit the devastating impacts of flooding.

The submission aims to summarise the major issues and impacts related to the flood events as indicated above. The submission provides views of the community via a collaborative process, poses recommendations, and provides supporting statements and relative data.

Having reviewed the submission, and provided feedback on data, the North Byron Business Chamber fully supports this submission.

Yours sincerely,

A handwritten signature in brown ink on a light brown rectangular background. The signature appears to read "Carolyn Parker".

Carolyn Parker MBA, GradDipStratLeadership, GAICD, CMC, JP

Larelar Court, Ocean Shores 2483

Ph

- Vice Chair: North Coast Community Housing
- Non- Executive Director: National Trust Australia Queensland
- Non-Executive Director: Regional Development Australia-Northern Rivers
- Non- Executive Director: North Byron Business Chamber [Former President]
- Director/ Owner: Universal and Image Investments, trading

North Byron District Activation

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Appendix G – Input from Marine Protection

The following is the flood Impact Story and notes shared from Howie Cooke, Artist, Activist for Surfers for Cetaceans and long term resident of South Golden Beach...

including a South Golden Beach perspective

The flooding issues of South Golden Beach are uniquely different to those of riverine and valley situations. The water impacting the village is essentially arriving from the (Wooyung) floodplains to the north. It arrives as rain which can start pooling very quickly and created a 'bathtub' as a result of the enclosing levee banks protecting South Golden Beach from the Capricornia canal system (and from the Marshall Creek system just south of the village, fed by the water shed from The Pocket valley).

Many other factors which are significant include:-

- *The bund at north end of the canal*
- *The impact of the Fern Beach development*
- *The filling in of 5 billabongs which used to be very effective catchments with drainage to the Nature Reserve littoral zone*
- *The hard surfaces created by all the new houses and road infrastructure that itself sits at a higher level than the road level of South Golden Beach and therefore in heavy rain can drain not just into the canal, but instead cascades directly into South Golden Beach village*
- *The large levee pipes which have lids attached on the canal side – these pipes worked against us a month after the main flood in that the lids had floated up and gradually resettled, not shut firmly, but ajar atop debris that had amassed during the principal flood and then allowed the rising canal to pour into the cul de sac corridor*
- *The canal edges which have become so overgrown and in need of massive tree and branches removal and opening up to help maintain the levee bank/pipes*
- *The pipes needing to be permanently sealed and the pumping system streamlined into efficiency*
- *This issue of the levee pipes being ajar creating a second flooding (exacerbated by 36 hours of virtually constant rain) and highlighting another huge issue*
- *The so called 'deep end' of South Golden Beach which runs SSE to NNW parallel to the canal and levee bank was unnecessarily inundated all over again as rising canal water was able to move up through the pipes and pour into this cul de sac flooding corridor while the rest of the village was not affected . So all that work of cleaning up, gurnieing and drying out the lower areas was savaged again over 2 consecutive nights – a smaller but double flooding a month after the first event. This is extremely frustrating and tiresome to have to deal with more damage and muddy water all over again*

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- *And being the lowest house on my street, I suffered four days of raw sewage out-flowing from my main (and only) outside drain before which also left me without power for over a week*
- *The flooding corridor is created by the village not being level on its East West axis – this is easily demonstrated in the event by standing on the Beach road up to one’s ankles or shins*
- *The issue of the pump is a hot potato not only because of certain inexplicable engineering aspects but also that it is an expensive (\$700K) apparatus that has never performed to its potential on any of floodings since its inception – during this major flood it simply stopped when it was most needed, when the electricity in the whole village was shut down – this begs the question yet again “why doesn’t it have a diesel generator backup?”*
- *The perpetual issue of the easements failing to feed water to the pump efficiently because of drains being clogged with overgrowth of vegetation grass and weeds and rubbish*
- *Moreover although clearly there is not a lot of wiggle room, the easements need to be more noticeably inclined toward the pump – a few more degrees would be of significant benefit*
- *The array of sink traps (\$4K each) that were put in along roadside verges, are not designed to go down through soil and clay. They are also not interconnected and draining to the easements as they should which is very odd. What exactly they achieve is a mystery to most of us and they are known unaffectionately but accurately as the ‘Mosquito Traps’*
- *In summary the LEVEE is a good thing in that the idea is for it to allow water coming off the Wooyung floodplain to sweep past the village. However, its downside is that we can quite rapidly, particularly in the flooding corridor, become a swimming pool*
- *The PUMP is a good thing but it was turned off and stayed off during the time when we most needed it. During the second flooding it stayed on but water was steadily making its way back into the cul de sac corridor defeating the whole exercise – the pumps really need to pump into the ocean*
- *Then there’s the issue of farmers still using barbed wire and as a consequence cows and horse swept across paddocks or downstream to be entangled in barbed wire fences*
- *Then there’s also the idea that surfcraft and surfskis which can be added to inland flood prone and riverine regional SES depots as part of immediate assistance able to be offered in an emergency*
- *General local registers of local boatees – these boatees arriving with tinnies and jetskis arriving to help as a matter of lifesaving urgency need to be able to quickly sign off on waivers/disclaimers*
- *Air-raid sirens as a fixture for warning and waking residents to an evacuation flood or fire – it is interesting to note that Lismore has this, but apparently that system failed to operate*
- *It was also noted that drivers exiting a community for higher ground should honk their horns as they head out, to alert people who may be asleep or even undecided on the urgency of the situation*

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- *Any outside/govt assistance, like the Army, arriving in the village to assist, even if somewhat late, should've been informed by Council to check on the levee pipes and should actually arrive not so much in uniforms they to want to keep clean, but in appropriate muck-in clothing, wetsuits included*
- *In watching all the news helicopters that hovered overhead to get their photos of our catastrophe – they should also be taking supplies (food, water, first aid, tools) as well to much needed areas*

Howie Cooke, 19 May 2022

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Authorship

Report Prepared & District Flood Impact Statements Aggregated by

- **Francesca Esposito** – OSCA member and Chair North Byron District Activation group & Steering Committee (Community Flood Response), Board member North Byron Business Chamber, *former president* Byron Hinterland Collective, *former head* NSW Approved Accommodation Accord, *former member* Byron Shire Council Tourism Board, Bachelor Information Technology (Sydney) *resident South Golden Beach*

Contributors/Reviewers

- **Ziwar Sattouf** – Senior Development Consultant with Civil Engineering background, *resident Ocean Shores*
- **Robert Crossley** – President New Brighton Village Association, Natural Resource Scientist with modeling and topography background, *resident New Brighton*
- **Robyn Bolden** – Executive New Brighton Village Association, *former member* Byron Council Flood committee, *resident New Brighton*
- **Michael Sherington** – Consulting Geologist, *resident New Brighton*
- **Mark Grant** – Background in Finance & Feasibility, *resident New Brighton*
- **Jan Mangleson** – President Ocean Shores Community Association, *resident Ocean Shores*
- **Carolyn Parker** – Non-Executive Director North Byron Business Chamber, *resident Ocean Shores*
- **Ian Wills** – President North Byron Business Chamber, *resident Ocean Shores*
- **Phil Brewin** – Business Owner Billinudgel, *resident Ocean Shores*
- **Deahan Hayes** – Business Owner Billinudgel, *resident Billinudgel*
- **Sue Stirton** – *Resident Brunswick Heads*
- **Kathy Norley-Farmer** – President South Golden Beach Community Association, *resident South Golden Beach*
- **Richard Whitling** – Background in Coastal Management, *resident South Golden Beach*
- **Gina Brough** – Farmer, *resident Billinudgel*
- **Howie Cooke** – Artist and marine activist, *resident South Golden Beach*

Image Credits

- **Appendix A** – Robert Crossley from New Brighton Village Association
- **Appendix C & D** – WMAwater Pty Ltd “The 2020 Flood Study”
- **Flood Photos** – The community of North Byron District