

Working out possibilities together

After the floods: Settlement discussion paper



Acknowledgement of country

In the preparation of this Discussion Paper, Council acknowledges and pays respect to the Bundjalung of Byron Bay – Arakwal People as Traditional Custodians of the land within Byron Shire, and form part of the wider Aboriginal nation known as the Bundjalung. In addition, Council acknowledges and respects the Widjabal and Mindjungbul people as Traditional Custodians within the Byron Shire. Council acknowledges the Aboriginal and Torres Strait Islander people who now reside within this area.

CONTENT WARNING

For some people, the content of this document may be overwhelming.

Lifeline's crisis support service is available 24/7. Call 13 11 14.

13YARN is a national crisis line providing support for Indigenous Australians 24/7.

Contents

Introduction	1
Discussion paper context	2
Current planning & recovery context	4
Timeline of events & impacts	5
Current & future risks	7
Planning for future risks	8
Pillars for the future	9
Pillar 1: Build back better	10
Pillar 2: Build different	12
Pillar 3: Build elsewhere	14
Pillar 4: Build supporting infrastructure	16
What's next?	18
Further reading	19
Byron Shire Council information	19
NSW Government information	19
Other information	19

Introduction

The devastating flood events of early 2022 have necessitated a rethink of how our communities and their built environments exist and can grow in the future. This “Working out possibilities together” discussion paper is designed to inform that process and will ultimately provide Council with direction that is informed by the views of its local communities.

When Council reviews existing ‘settlement strategies’ on the back of the unprecedented 2022 flood events, it needs to not only respond to wider considerations of climate change and natural disaster management, but also to balance these with community resilience and expectations.

This high-level discussion paper sets out a framework for a land use and planning response that will result in guiding

principles / actions for the future. It also poses a series of key questions and asks the community to participate in informing and creating this framework.

What are “Settlement strategies”?

Council undertakes extensive planning for future population growth and community needs. Led by the overarching Local Strategic Planning Statement, these are broadly referred to as “settlement strategies”. For the Byron Shire, these are divided into three land use planning areas:

Rural Land Use Strategy

Business & Industrial Lands Strategy

Residential Strategy

These identify key issues facing the area and develop directions to address those issues and to manage the future growth.

Dalley Street, Mullumbimby

DISCUSSION PAPER PURPOSE

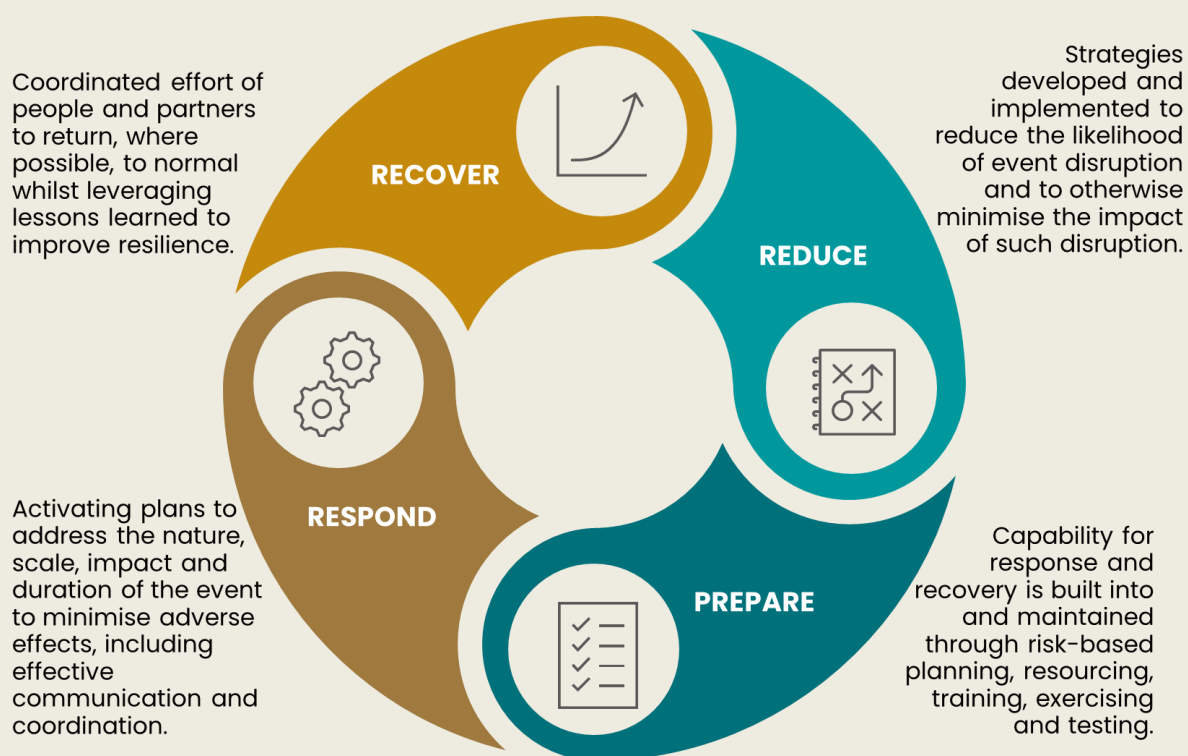
To start the discussion with the community about long-term planning for how and where people will live and work given the wider consideration of climate change and natural disaster management. This feedback will inform Council’s settlement strategies and other plans.

Discussion paper context

This discussion paper aims to be a catalyst to better understand what is needed for the Byron Shire community to build future resilience and recover from recent events. The project will ultimately establish actions and directions that recognise and integrate housing and employment needs of the future.

In doing so, the paper will assist Council in setting a framework that can help

communities prevent and prepare for disasters (particularly flood and storm events, as well as associated impacts such as landslips), safely respond to them, and to minimise impacts and therefore recover more quickly and effectively. This includes taking on the experiences and lessons being learnt from the 2022 flood events and preparing for other likely flood events in the future.



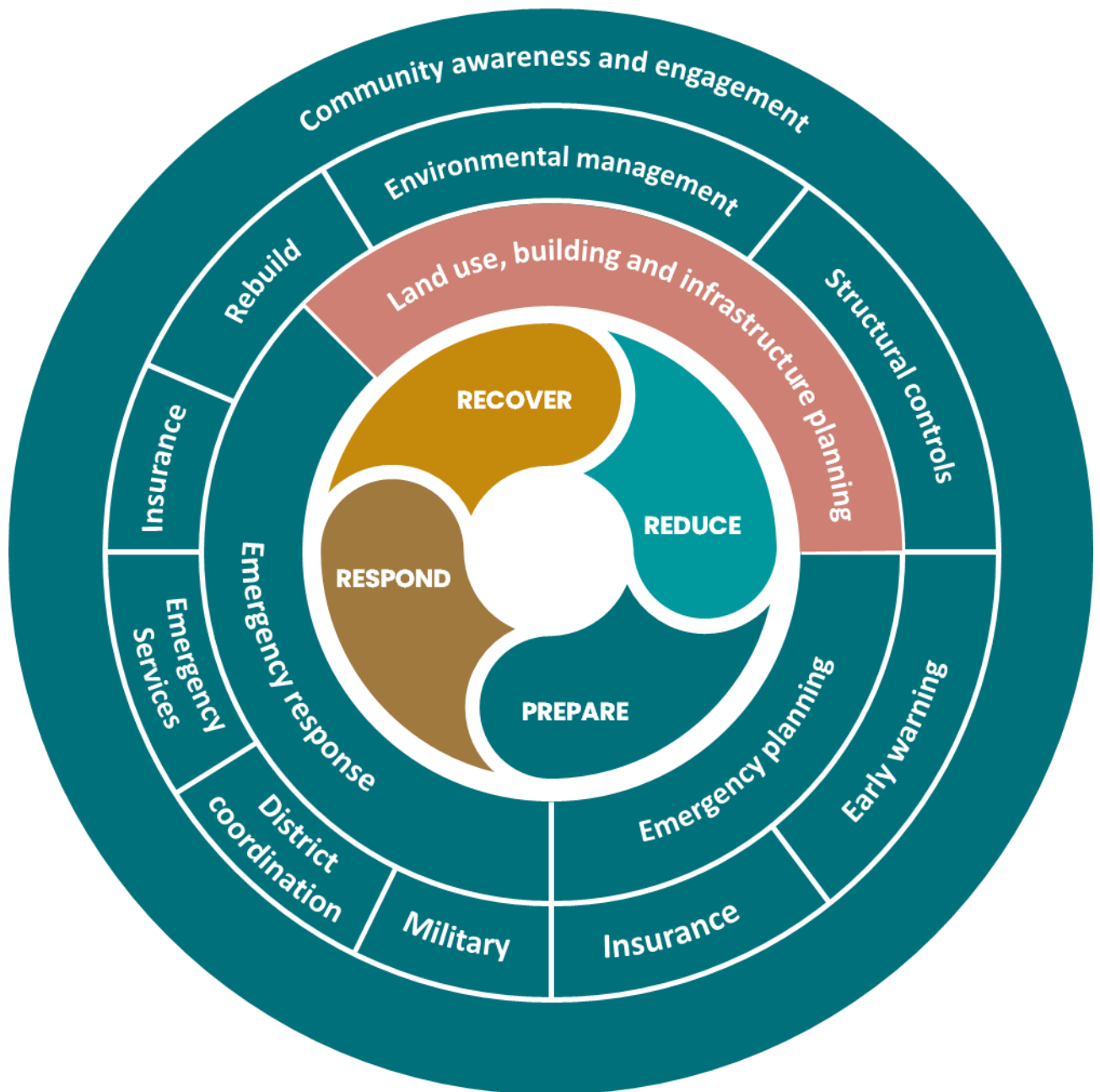
Based on the PPRR framework

The PPRR Framework is widely recognised within emergency management planning.

It provides a framework to understand and engage with the four key aspects of emergency work – **P**revent (reduce), **P**repare, **R**espond and **R**ecover.

While Council works across all four areas, the primary focus of this paper is on elements recovery and reduction, as highlighted in the diagram overleaf.

It is also important to recognise that land use, building and infrastructure planning is only a small part of the broader process of disaster resilience, as the National Land Use Planning Guidelines from the Planning Institute of Australia identify below.



Collaboration in Disaster Recovery

Derived from National Land Use Planning Guidelines -
Planning Institute of Australia.

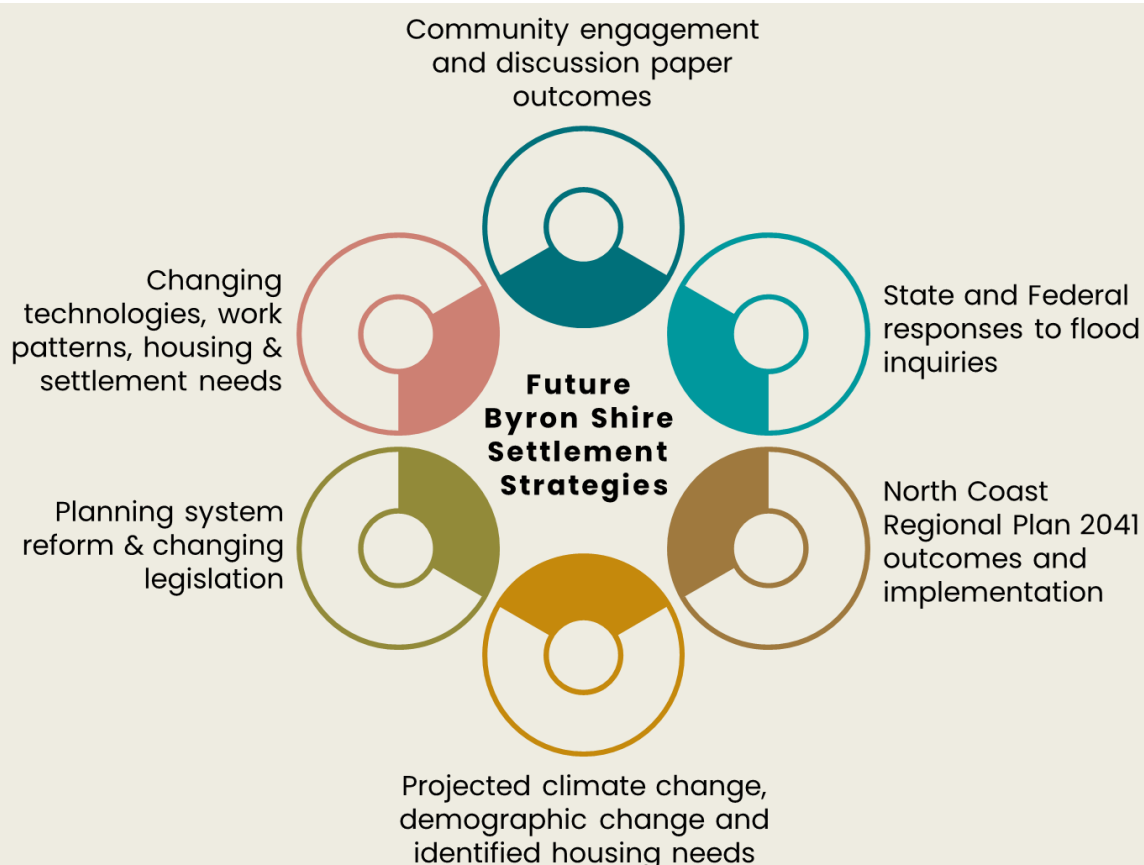
Current planning & recovery context

Planning and recovery are complex and can change week to week. There are several key variables that are not fully known at the current time. These include:

- 2022 NSW Flood Inquiry outcomes and formal Government responses at both the State and Federal level
- 2021 Census data and related demographic information and modelling

- Draft and final versions of the North Coast Regional Plan 2041

As this and other information becomes available, and together with insights and outcomes of this discussion paper process, it will inform Council's ongoing settlement strategy work and broader flood risk planning to be developed in coming months and years.



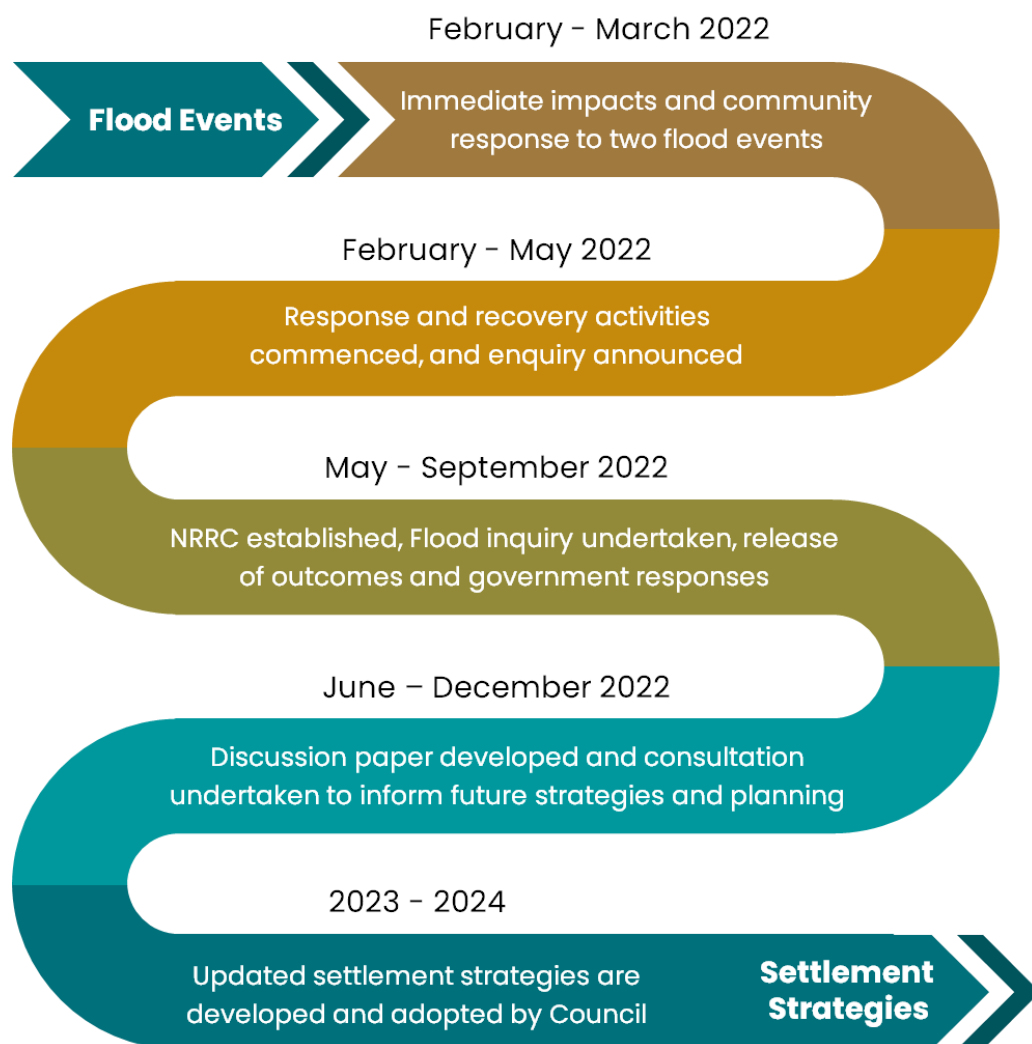
Council has been working with the State and Federal Governments to co-ordinate and respond to the current situation through its Local Recovery Committee. Council is progressing its Flood Action

Plan to address infrastructure works and this is to be rolled-out by Council as funding and resources become available. Council is also working closely with the Northern Rivers Reconstruction Corporation (NRRC) and the role that they have across the broader region.

Timeline of events & impacts

The impacts associated with the 2022 flood events have been devastating. In the Byron Shire, an estimated 1,434 homes have been damaged or lost, seven major and numerous minor landslides have occurred, and many roads have been washed away. More than 57 businesses have also been directly impacted and public infrastructure repair bills have totalled around \$180 million.

As at end of August 2022, an estimated 1,300 people still remain in emergency accommodation across the region, with many more staying with friends and family. These impacts have exacerbated already critical pressures on housing supply throughout the area.



STAY INFORMED ABOUT COUNCIL'S ONGOING RECOVERY EFFORTS

Regular updates on recovery actions are being provided through Council's Flood Recovery page - click [here](#)

Flooding from hinterland through to coastal communities, including landslips that cause significant access issues

Major flooding in Billinudgel, Ocean Shores, South Golden Beach and New Brighton areas in the Marshalls Creek catchment

Major flooding event in the Mullumbimby area, including significant inundation of the CBD

Flooding in Byron Bay and Suffolk Park followed prolonged rain above drainage capacity

2022 Flood impacts

Refer to the live map – click [here](#)

Current & future risks

The risks and impacts of disasters and events can differ greatly between localities in our Shire, particularly between our coastal towns and villages and the hinterland.

The Byron Shire comprises of four major floodplains:

- Tallow Creek Floodplain
- Belongil Creek Floodplain
- Brunswick River Floodplain
- Marshalls Creek Floodplain

Each area has its own characteristics
Further details on floodplains can be found - [here](#).

In terms of flooding, the risks and impacts can vary greatly depending on the depth and velocity of associated waters. High water depth and high velocities can result in almost unstoppable forces.

When storms and intensive or extended periods of rainfall occur, ground conditions can also become compromised, resulting in landslips (refer to further information on landslips - [here](#)).

Storms can also be associated with coastal lows and impacts on the coastal environment (refer to further information on Council's Coastal Management programs and projects - [here](#)).

In all these instances, buildings, trees and other built and natural assets are easily damaged, creating widespread impacts both directly and indirectly on the community.

In the context of a changing climate, there are numerous sources of information that predict more extreme impacts, more frequently. Whilst future risks are often discussed, the Flood Inquiry Report also notes that it is a complex topic and can be difficult to identify trends.

The North Coast Climate Change Snapshot provides an overview of the projections for the region, highlighting:



Projected temperature changes

Maximum temperatures are projected to increase in the near future by 0.4 – 1.0°C and in the far future by 1.5 – 2.4°C



Minimum temperatures are projected to increase in the near future by 0.5 – 1.0°C and in the far future by 1.6 – 2.5°C



The number of hot days will increase
The number of cold nights will decrease



Projected rainfall changes

Rainfall is projected to decrease in winter and to increase in autumn and spring



Projected Fire Index changes

Average and Severe fire weather days are projected to increase in summer and spring



FLOOD INQUIRY REPORT

It is incredibly challenging to identify trends and patterns in flood events due to complexities in pinpointing the causes of, and interplay between, the various factors that lead to flood.



Planning for future risks

In balancing the broad range of community needs, land use planning is increasingly taking a “risk-based” approach to defining and responding to natural disasters. Planning also seeks to take an “all-hazards” approach, looking to balance a range of risk factors and wide variety of hazards that are present throughout much of the Byron Shire area.

As identified within the Flood Inquiry Report:

“The Inquiry notes attempts have been made to adopt a risk-based approach to floodplain planning, the framework for which has been modified following flood several times over the last 70 years.

However, the need for land developments to house a growing population has unintentionally yet perversely embedded a ‘rinse and repeat’ approach to floodplain planning – with too much already built, being built or planned to be built in areas exposed to flood risk.

This tension between development and safety particularly affects those who cannot afford to live in suburbs out of the

floodplain. As a result, the 2022 floods disproportionately affected the most vulnerable.

A successful planning system should ensure that flood risk management goes hand-in-hand with the economic and social aspirations of the community, particularly the provision of more affordable housing located close to good facilities...”

Recognising the type of impacts that have occurred, and how future risks may be considered, is paramount to recognising this risk framework.

From a buyer perspective, and as identified in the Flood Inquiry Report:

Most landholders seem to have little idea if their property is at risk of disaster or has ever been affected previously by disaster. Given that house purchase is often an individual or family’s single biggest personal investment, it is important that they understand this risk before purchase.

More broadly, the CSIRO’s recently released “Our Future World” report (July 2022) highlights “adapting to a changing climate” as the first of seven megatrends that need to be addressed.



OUR FUTURE WORLD REPORT – CSIRO

Extreme and unprecedented weather events are increasing in their frequency and scale of impact. Current climate forecasts predict that we are likely to experience extreme weather conditions that exceed the bounds of historical norms and concurrent climate hazards are likely to compound the overall climate risk for sectors and regions. Adapting the healthcare system, critical infrastructure and settlement patterns to climate change and extreme weather conditions will become a growing reality for many countries in the years and decades to come. This megatrend speaks to the new ways of operating that organisations and communities will need to adapt to in the face of a changing climate.



Pillars for the future

To inform future planning for settlements in the Byron Shire, and to establish more effective approaches to prevention, preparation, response and recovery from events, four pillars have been identified

and which form the basis of this discussion paper. These pillars are outlined below and further detailed in the following pages.

Build Back Better

meaning to rebuild / reconstruct in a way that is more resilient to future events and the weather extremes expected from climate change



Build Different

meaning a rethink of our planning and building controls such as height and density, typology, form and materials to respond to changing climate and weather patterns



Build Elsewhere

meaning future proofing settlement locations through potential new greenfield areas to support local housing and business needs



Build supporting infrastructure

meaning to build infrastructure appropriate for local circumstances and proportionate to need and available resources





Pillar 1: Build back better

Build back better means rebuilding or reconstructing in a way that is more resilient to future events and the weather extremes from climate change.

There is an intrinsic link between where people live, land ownership and the desire for many to remain in their neighbourhood, even following natural disaster events.

However, when building back in the same location, various considerations need to be taken into account, in particular the risk of future flood, bushfire or other natural disasters and events and the subsequent impacts arising from these events.

By considering ways to do this early in the recovery process, building back in the same location can avoid the same issues arising time and again.

Examples of ways to build back better could include:

- Raising the height of floors within buildings to avoid flood waters
- Using materials and installing services in a way that can withstand inundation and/or be easily repaired
- Harnessing innovations such as designing dwellings that can lift with flood waters
- Taking a whole of site approach to ensuring “land resilience” during events

THOUGHT STARTER LOCALISED INFORMATION

Mullum Cares have been undertaking a [Flood Adaptation Project](#) that provides practical advice and direction for local communities. The Department of Planning & Environment have also developed a “Build Back Northern Rivers – Understanding development approvals to support our flood recovery” which steps through the planning process when rebuilding – see [here](#).

“

We need to look at how our building code can be amended to avoid flooded homes repeatedly being rebuilt like-for-like.

”



Sasha Mainsbridge
Mullum Cares Founder



CASE STUDY : FLOOD RESILIENT BUILDING GUIDANCE FOR QUEENSLAND HOMES

Recognising that Queensland is the most disaster impacted state in Australia, and that flooding is the highest risk to the community, the Queensland Government and local governments prepared a comprehensive guide to flood resilience in housing construction.

The guide recognises that you can't stop floods from occurring, but steps can be taken to reduce their impact. It establishes flood resilient design options for housing as one of the many ways to increase resilience.

The guide demonstrates how adapting the design, construction and materials incorporated into buildings can minimise damage and reduce the impost of recovery through reduced effort, cost and time to return people to their homes.

Qld reconstruction Authority – [Flood Resilient Building Guideline](#)



INQUIRY OUTCOME INDIGENOUS VOICES

Recommendation 27 of the Flood Inquiry Report identifies the opportunity to

maximise protection for the environment in and around floodplains through ensuring that Indigenous voices are well heard and that Aboriginal caring for Country and 'green' infrastructure is developed to build back resilience in nature and the community.

KEY DISCUSSION POINTS

1. Are you aware of practical and easy ways to build back better? If so, what are some examples?
2. What are the key barriers to building back better?
3. Where would you expect to find information to assist in building back better?
4. At what point, if any, should building in the same location no longer be considered possible?





Pillar 2: Build different

Build different means a rethink of our planning and building controls such as height and density, typology, form and materials to respond to a changing climate and weather patterns.

If rebuilding in flood impacted areas is limited, there may be a potential need to develop more housing in flood free areas. This means options for building differently may need to be further considered.

Traditionally, Council and its communities have resisted changes to planning controls that enable increases in height and/or density. With the current housing crisis, changing demographics and need to find new long-term solutions that are both safe and practical, now may be the right time to consider building differently.

Examples may include:

- Increased residential height and/or density in urban centres, resulting in an increase in apartment style development
- Review of controls over different housing types, including if and how appropriately serviced rural areas can play a role
- Revision of opportunities for micro-development or small lot housing

These options will always need to consider the unique circumstances of each town or village, whilst ensuring that future options respect existing character.



THOUGHT STARTER

HOW DO OUR PLANNING CONTROLS COMPARE?

The planning controls set by the current Byron Shire Local Environmental Plan generally allow buildings of up to 9m or two storeys in height only. The Byron Bay CBD has an area of 11.5m or three storeys, coinciding with a B2 – local centre zone. Density is further restricted by floor space ratio (FSR) controls, generally being 0.5:1, as well as minimum lot sizes for new subdivisions, generally 600m² minimum.

Areas such as Nambucca Heads (up to 20m), Woolgoolga (up to 15.5m), Yamba (up to 12m), Ballina (up to 18m), as well as Cabarita and Kingscliff (up to 13.6m) all have higher limits than the Byron Shire. For comparison, a Bangalow Palm can reach up to 25m.



INQUIRY OUTCOME

CHANGING PLANNING OUTCOMES TO AVOID FLOOD PRONE LAND

Recommendation 19 of the Flood Inquiry Report identifies the development of disaster adaptation plans for all towns. This is recommended to include a process to “prioritise and incentivise new development in safe areas....in appropriate density” and to include a “focus on redeveloping existing Government land in these locations”. Recommendation 21 identifies that strategic land use frameworks enable higher density flood resilient precincts to locate more development at or above flood planning levels.



CASE STUDY : MICRO HOMES

The WA Planning Commission developed a Position Statement on housing constructed on lots that are less than 100m² in size, much smaller than the 600m² sized block that is often seen in new subdivisions. The Commission identifies growing interest in this style of small or micro-housing, which can assist with addressing housing affordability, promote dwelling diversity and choice, and support ‘downsizing’ options. Subdivisions could be restricted to integrated approvals – both the house design and subdivision must be approved together, with design guidance to ensure Innovative and effective outcomes. See more - [here](#)



KEY DISCUSSION POINTS

5. Are ¼ acre blocks (~1,000m²) a thing of the past? How could we live differently in response to a changing climate?
6. If building heights or densities are increased to create more flood-free housing, where would this be most appropriate?
7. What places do you know where housing is provided differently that may suit the Byron Shire?
8. In what innovative ways do you think flood prone land could be used in the future?



That's a silver lining in this extraordinary unprecedented disaster – it has brought the community back together in many ways.



Dr Jean Renouf
Resilient Byron Founder & Chair



Pillar 3: Build elsewhere

Build elsewhere means future proofing settlement locations through potential new greenfield areas to support local housing and business needs.

This pillar explores the concept of reviewing and re-establishing where future urban growth can occur outside of the predicted flood impact areas. This includes securing new land for housing and to support our local economy.

Options include:

- Village expansion opportunities
- Identifying and developing key sites, such as the Mullum Hospital area
- Relying upon other councils (i.e. outside the Byron Shire) that have fewer constraints

Such future options will need to recognise that there are key issues to be overcome for new areas to be established. These often include:

- Balancing protection of high-quality agricultural land
- Restrictions on secondary dwellings or other new dwellings in rural areas
- Providing for safe evacuation routes, not just safe building areas
- Ensuring that integrated stormwater solutions are addressed at rezoning stage

THOUGHT STARTER RURAL VILLAGE EXPANSION

Many existing urban centres in the Byron Shire are bound by sensitive environments, constraining any outward growth. Rural and hinterland areas may therefore provide a more viable option for outward growth, though such areas still need to consider services and access, as well as agricultural and environmentally sensitive lands. Opportunities may exist to work with villages to explore opportunities for expansion, including with neighbouring LGAs and reconstruction authorities.

“

Much of the shire has been mapped as regionally significant farmland. As people who live there would know, some of this mapped land is really good farmland and some of it isn't and could be better utilised.

”



Mayor Michael Lyon
Byron Shire Council



CASE STUDY : BUY-BACK PROGRAMS

Property buy-backs differ from compulsory acquisition in that the property owner willingly sells their property, usually to the local or state government. These have been used extensively in parts of Queensland with variable levels of success. Examples include the Grantham area of the Lockyer Valley and areas around Brisbane. The Northern Rivers Reconstruction Corporation is also looking to facilitate these outcomes under its Resilient Land Program, as recommended by the Flood Inquiry Report. The Program aims to “unlock” more supply of suitable land for housing in the Northern Rivers region, including the Byron Shire. See details [here](#)



INQUIRY OUTCOME RELOCATING COMMUNITIES MOST AT RISK

Recommendation 22 of the Flood Inquiry Report identifies “*relocating communities most at risk with good homes and amenities*”. The NSW Government response provides in-principle support, and via the NRRC, will “*soon commence a process to support the relocation of people most at risk in certain areas. This includes commencing an expression of interest process to identify land suitable for housing development (including via land swaps)*”.

KEY DISCUSSION POINTS

9. Would you be prepared to see some farm or rural land used to accommodate flood-free housing? If so, where?
10. Under what circumstances is it appropriate to have more dwellings in rural areas?
11. How much risk is your community willing to tolerate with education and preparedness in place?
12. To what extent should other local government areas be relied on to accommodate Byron Shire’s housing needs?



Billinudgel



Ocean Shores



Pillar 4: Build supporting infrastructure

Build supporting infrastructure means to build infrastructure / services appropriate for local circumstances and proportionate to need and available resources.

Resilient communities of the future will need to be supported by infrastructure and services that are appropriate to local circumstances.

Since the events of early 2022, Council has prioritised the reinstatement of access for communities, and has continued to move into urgent and longer-term projects, with assistance from State and Federal funding. The cost and complexity of the task is such that works are expected to take up to five years to complete, and is highly reliant on funding opportunities presented by other levels of government.

Returning infrastructure is also being considered in the context of betterment. Projects and funding sources are seeking to value-add to like for like replacement. This can help to mitigate future impacts, but also recognises that it may not be feasible to build back all services and infrastructure and that at times, alternative options will need to be considered.

Some infrastructure is also maintained or provided by the NSW Government – such as State roads, electrical infrastructure, while telecommunication services are the responsibility of the Federal Government.

THOUGHT STARTER INFRASTRUCTURE RENEWAL

Council currently spends in the order of **\$15 million** per year on infrastructure renewal and maintenance. By comparison, the estimated infrastructure repair costs of the 2022 flood events is **\$180 million**, or the equivalent of 12 years' of Council's current budget allowances. Building back at this scale will clearly be influenced by how and where future settlements will be located.

“ We can't stop the rain, but we can be better prepared and I think that's more in people's minds than it has been in the past ”



Bec McNaught
South Golden Beach
Community Resilience
Team



FLOOD INQUIRY OUTCOME : IMPACT TO ESSENTIAL SERVICES

Recommendation 9 of the Flood Inquiry Report identifies essential services, including communication coverage and access to safe water supply and power, as a key issue for governments and their relevant power and telecommunications regulatory, policy and market bodies to ensure availability during flood events. The NSW Government response provides support for this recommendation, and that the NSW Government “*will work with the Commonwealth Government and essential services providers to minimise disruption to essential services.*”



CASE STUDY : FLOOD PLANNING IN TOOWOOMBA

Following floods in 2010/2011, Toowoomba Region Council

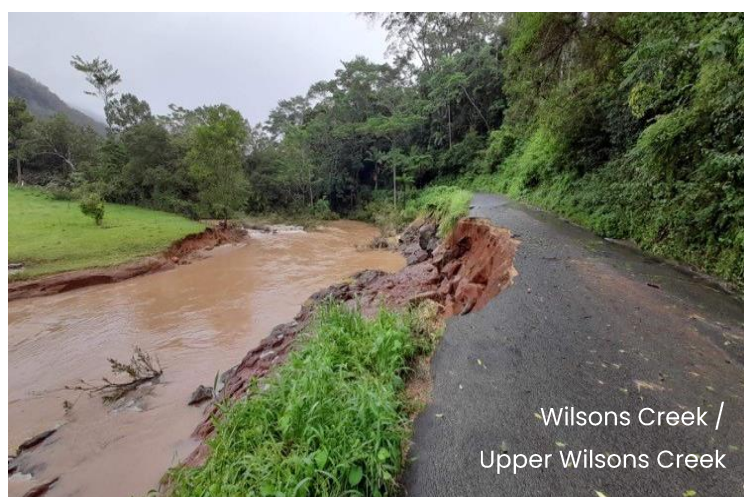
commenced a program to improve development outcomes in flood-affected areas, enhance flood management and increase community awareness of risks.

The process sought to understand specific community needs and tolerances, with 34 individual community plans developed. This also enabled a campaign of education and preparedness, enabling communities to be ready and able to respond. The result was a comprehensive approach to planning for both current and future communities. See more [here](#)



KEY DISCUSSION POINTS

13. What is the main priority in reinstating infrastructure following flood and storm events?
14. If it takes longer to reinstate infrastructure, how long is reasonable from your community's perspective?
15. What services are considered essential to help mitigate the impact of future flood and storm events?
16. What non-infrastructure needs are also critical to future communities, such as education, preparedness and other support structures?



What's next?

This discussion paper will be the subject of thorough consultation with the Byron Shire community during the exhibition period between 15 October 2022 and 18 November 2022. You can get involved by participating in or attending:

- An information stall at the Mullumbimby Community Markets on 15 October 2022 & New Brighton Farmers Markets on 18 October 2022
- Online information sessions on 19 & 21 October 2022
- Hosted kitchen table conversations on 27 & 28 October 2022
- Conversation cafes on 4 & 5 November 2022

Further details are available on Council's Your Say page [here](#).

Once the consultation process is complete, the project team will review the outcomes and a final paper will be reported to Council for endorsement, expected in December 2022. This will set the platform for ongoing review of Council's strategic land use planning framework, and will further guide Council's recovery and planning.

Regular updates on recovery actions are also being provided through Council's Flood Recovery page. For further information and to see previous updates, click [here](#)



REACH OUT FOR ASSISTANCE

If you require assistance, please contact:



Lifeline's crisis support service is available 24/7. Call 13 11 14.



13YARN is a national crisis line providing support for Indigenous Australians 24/7.

Further reading

Byron Shire Council information

[Local Environmental Plan 1998 and 2014](#): these plans set the height and density controls for the Byron Shire

[Development Control Plan 2010 and 2014](#): these plans set the rules for development in the Byron Shire

[Floodplain studies and plans](#): the technical studies and plans for floodplain planning in the Byron Shire

NSW Government information

[Regional Housing Taskforce](#): made recommendations about how to address the regional housing crisis

[North Coast Regional Plan 2036](#): sets the regional land use planning framework for the North Coast

[Draft North Coast Regional Plan 2041](#): sets the new regional land use planning framework for the North Coast

[2022 Flood Inquiry Report and Government Response](#): documents the findings and recommendation of the recent Flood Inquiry as well as the NSW Government response

[Northern Rivers Reconstruction Corporation](#): the new entity established by the NSW Government to lead the reconstruction of the Northern Rivers area

[Flood Prone Land Package](#): provides advice to councils on considering flooding in land-use planning

[Adapt NSW](#): provides advice to councils on climate change.

Other information

[Our Future World Report \(2022\) – CSIRO](#)

[Census data for 2021 – Australian Bureau of Statistics](#)

[Land Use Planning for Disaster Resilient Communities \(2020\) – Australian Institute of Disaster Recovery](#)

[Australian Disaster Resilience Knowledge Hub](#)