QRA QUEENSLAND RECONSTRUCTION AUTHORITY

2021–22 Southern Queensland Floods

State Recovery and Resilience Plan 2022–24
State Recovery Coordinator
July 2022

Queensland Government

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Contents

Images: (Opp. page) Brisbane. Courtesy RAW.Exposed.
(Above) SRC and Deputy Premier in Milton.

Message from the Premier and Minister for the Olympics

The repeated and devastating flooding across many Queensland communities is a hallmark of the 2021–22 summer.

In November, as summer arrived, heavy rainfall brought devastating flooding across parts of southern and western Queensland. As the new year arrived, the townships of Maryborough and Gympie suffered major inundation. The rains continued and in late February, Brisbane and surrounds faced flooding not seen at such a scale since the devastating summer of 2011. May saw unseasonable rain and more flooding, with some communities being impacted for the fourth time across the season.

Thousands of Queenslanders, families, small businesses, not-for-profit organisations and primary producers have felt the impacts of these events and tragically, too many lives were lost. The damage was widespread, with Queensland facing one of the biggest recovery operations in its history, spanning 39 of Queensland's 77 local government areas.

I would like to extend my appreciation to the many personnel and volunteers from State Emergency Services, Queensland Fire and Emergency Services, Queensland Police Services and Australian Defence Force, along with local council staff for their role in responding to these events and helping keep our communities safe.

Having met with affected residents and seen the impacts on the ground, on 8 March 2022 I appointed Major General Jake Ellwood, one of the Australian Defence Force's most respected leaders, as the State Recovery Coordinator to oversee and inform our recovery efforts.

Major General Ellwood, supported by the Queensland Reconstruction Authority and the Functional Recovery Groups, has met with local leaders, industry and communities to gather valuable insights into their experiences and understand their recovery priorities and challenges.

Building upon Queensland's nation-leading approach to disaster management, recovery and mitigation which are engrained into our ways of working, this *State Recovery and Resilience Plan 2022-2024* goes beyond this to provide a blueprint for all levels of government, industry, and communities to work together to not only recover Queensland from the 2021–22 summer of flooding, but to make our communities safer and stronger in the face of future floods.

Spearheading our approach to resilience in impacted areas is the $741 million Resilient Homes Fund, established by the Queensland Government and jointly funded with the Commonwealth under the Disaster Recovery Funding Arrangements.

Through this program, we will help ensure affected Queensland homeowners understand their flood risk and work with them to improve their resilience through retrofitting or raising their home with flood-resilient design, or voluntary buy-back of homes in severe cases.

This game changing program will build our resilience to future flooding and improve the lives of those who have been so devastated by the natural disasters over recent times.

I thank Major General Ellwood, his team, the Queensland Reconstruction Authority and Functional Recovery Groups for their dedication to Queensland's recovery and in delivering this blueprint to guide our way to more flood-resilient communities.

Message from the Deputy Premier and Minister for State Development, Infrastructure, Local Government and Planning and Minister Assisting the Premier on Olympics Infrastructure

Never has Queensland experienced such a prolonged and devastating sequence of disaster events as those experienced from November 2021 – May 2022.

Communities from Bundaberg, west to Goondiwindi and south to the Gold Coast all experienced more than their share of rainfall and as the sodden landscape welcomed the new year, the rain and flooding that escalated in February across the South East was certainly not predicted.

In particular, the South East Queensland Rainfall and Flooding event (22 February – 5 April 2022) was unlike anything we'd ever experienced before, with Brisbane recording its highest six-day rainfall total in recorded history, leading to not only riverine flooding but also flash flooding of creeks and overland flooding in areas not seen in the region's latest major flood in 2011. In Gympie, the Mary River peaked at almost 23 metres, breaking records that had stood for a century and causing major flooding in the region.

In the 11 years since the devastating floods of 2011, significant work has taken place to better understand flood risk in the Brisbane River catchment and enhance our resilience as a community. The Brisbane River Catchment Flood Study, released in May 2017, was the most comprehensive of its kind ever undertaken in Australia, incorporating 170 years of historical rainfall data and helped us better prepare for, understand and predict impacts to the catchment as the 2022 event progressed.

While significant projects, including the $18 million relocation of homes in Grantham in the Lockyer Valley to higher ground, the $145 million Brisbane Riverwalk and Brisbane Ferry Terminal upgrades and the $25 million Toowoomba flood mitigation works helped keep our communities safe during the 2022 flooding, this event reaffirmed to us that no two floods within the catchment are the same.

We know we can't stop floods from occurring, but we can take steps to reduce their impact.

Since its inception following the 2011 event, the Queensland Reconstruction Authority has helped Queensland respond to 97 natural disaster events. Across Queensland's emergency response and recovery systems, the lessons learned over the past decade have allowed Queensland's Disaster Management Arrangements to become the strongest in the country and we continue to explore ways to build back better and stronger as the frequency and severity of disaster events increase.

Extensive consultation with local communities by Major General Ellwood as part of the development of this State Recovery and Resilience Plan 2022-2024 has identified a range of key areas of focus, and opportunities, for all levels of government, industry, and communities to work together to build a more resilient Queensland. We will focus on building the resilience of residential properties, small businesses, primary producer and the economy more broadly, and of course our community and public infrastructure.

Together, we look forward to working with key stakeholders to build a more resilient Queensland.

Message from the State Recovery Coordinator

Eleven years after the 2011 flooding event that devastated so many communities, one could be drawn into a comparison of this latest disaster. Just as in 2011, parallels were drawn to the floods of 1974. While there is always utility in learning from past events, it is vitally important to acknowledge that each disaster affects communities differently.

During my community engagements across all affected local government areas, it was clear to me that while some impacted areas were similar to previous flooding events, there were also communities that had been immune to flooding before this particular event.

One flood victim I met had lived in the same town and in the same house for 80 years and had never witnessed flooding on his property. So too, the impacts across different parts of the community differed greatly. Some communities suffered inundations, others suffered isolation. Some lost all of their belongings, some lost their crops, some lost their livelihoods, and tragically, some lost their lives.

Disasters of this nature are invariably tragic, but they can also be a catalyst for growth. It is clear to me that this state has worked hard not to squander the opportunity to rise from disaster stronger and more resilient. In the immediate wake of the flooding, communities and their leaders quickly bonded together and cleaned up the mountains of soaking debris that littered houses and streets. Within a fortnight the scars of flooding were quickly healing. Since then, many families and businesses have managed to get back on their feet and continue on, albeit slightly battered and bruised from the experience. However, there are many within communities, both rural and urban, who are still reeling from the disaster.

This plan seeks to set a pathway for the continued recovery of those impacted by the floods alongside continued growth in Queensland's disaster resilience. Efforts to enhance our communities' level of immunity to severe weather events has never been more important. They must be proportionate to the increasing frequency and scale of significant events. We must avoid the temptation to fixate on inoculating ourselves against a specific disaster, as disasters rarely repeat. Rather, we must take this opportunity to strengthen and reinforce in areas that will give our people the broadest protection against a range of threats. It is the protection of our communities, and those within them, that must be the focus of all that we do.

Major General Justin (Jake) Ellwood
State Recovery Coordinator
2021–22 Southern Queensland Floods

We acknowledge the Traditional Owners and Custodians of this Country.

We recognise and honour their ancient cultures, and their connection to land, sea and community.

Image: Jake Ellwood, ADF and QRA staff boarding flight to St George.

Overview

The flooding experienced across the state during the 2021–22 high-risk weather season has been devastating for so many Queenslanders. The cumulative and compounding effects of repeated natural disasters cannot be underestimated – for people, business and governments, the repeated clean-up and restoration is a burden.

We know these floods have been life-changing for some Queenslanders, and on the back of two years of pandemic, it has taken a toll on people. Inundation of homes caused significant detriment, with families displaced and belongings destroyed. The ongoing effects of such inundation will be felt for years to come.

Immediately following the floods, strategies were put in place to address the impacts felt by both urban and rural communities. Community Recovery Hubs and the Recovery Hotline offer a one-stop shop to help community members access the support they need. Additional mental health and wellbeing services are being rolled out in impacted communities.

To date, more than $90 million in grant funding, jointly funded by the Queensland and Commonwealth governments, has been provided to individuals, small businesses, primary producers and not-for-profit organisations to provide relief and aid recovery.

A major concern raised by residents in rural locations was isolation caused by damage to the road and transport network. In these regions, the road network is not only important for the mobility of residents, but also for the movement of produce and livestock – critical for the livelihoods of primary producers. Emergency works to the transport network have made roads safe, allowing the majority of roads to re-open.

The Queensland and Commonwealth governments have committed to more than $2 billion in extraordinary circumstances funding to allow communities to recover from the 2021-22 Southern Queensland Floods and build future resilience. The recovery and resilience program addresses priorities identified by local governments and is the basis of this State Recovery and Resilience Plan.

The recovery and resilience program, which has been fully resourced with unprecedented level of investment, will be supported by an evolution of policies and practices, that together will ensure affected communities not only recover from, but emerge stronger and more resilient in the wake of this recent disaster.

Image: Flooding, Brisbane, 2022. Courtesy RAW.Exposed.

Following the immediate response and recovery from the devastating floods of 2011, the Queensland Government has had a resolute focus on risk reduction and community resilience across the state. There are some clear indications that this work has resulted in resilient infrastructure and rapid recovery. These are showcased throughout this Plan.

The Queensland and Commonwealth governments' jointly funded $741 million Resilient Homes Fund is a flagship program which will ensure homes inundated in 2021–22 can be made more resilient to future floods. It is the largest program of its kind to be funded in Australia.

As well, $150 million joint investment in the Betterment Program will enable damaged public infrastructure to be 'built back better' to withstand the impacts of future disasters.

This two-year State Recovery and Resilience Plan provides an opportunity to identify what needs to be done to 'recover', and what we can do so that next time disaster strikes, the impacts may not be so severe, and we may be able to recover more swiftly.

The efforts of many over recent months and years have put Queensland in good stead to recover from a devastating disaster season. Some key areas to build community capacity in recovery and resilience over the coming years are set out below.

Land use planning and construction

Across the severe weather events of 2021–22, almost 9,000 houses and commercial properties suffered damage from flooding, with more almost 5,000 deemed moderately or severely damaged, or totally destroyed.

Communities risk facing more intense and/or more frequent weather events. This, along with population growth and urban expansion are likely to increase the exposure and risk to Queensland communities.

The Resilient Homes Fund will play a significant part in addressing risks that have grown over time in certain residential areas. Along with increasing resilience to flood prone properties, the Resilient Homes Fund will facilitate the development of property level flood information and improving community understanding of flood risk.

Local and state governments will continue to evolve their existing land use planning regulations and processes to further scrutinise what can and cannot be built on floodplains with a view to reducing the risk of future impacts to habitable development. Where properties are purchased as part of the voluntary buy-back under the Resilient Homes Fund, land use zoning will be changed to prevent any future dwelling construction as a matter of course.

This will ensure that the important work undertaken as part of the Resilient Homes Fund results in lasting change, ensuring future housing developments are more resilient to flooding.

It is not only important where we build, but how and what we build.

Additionally, Queensland Development Code MP3.5 – Construction in flood hazard areas will continue to be reviewed to ensure it remains contemporary, increases community resilience to floods and contributes to a more rapid recovery.

Flood risk information

An essential part of disaster preparedness is understanding your risk. In order to reduce this risk, it is important that relevant flood risk information is provided to potential property owners and tenants as a matter of course.

Property flood information systems in flood prone local government areas will be developed under the Resilient Homes Fund, which will enable property owners, tenants and communities to access property level flood information. Work is currently underway to explore how to best disseminate this information to potential property owners and tenants.

Vulnerable populations

Vulnerable individuals and populations are potentially exposed to greater risks during natural disasters.

Queensland Government and local councils can assist in ensuring preparedness messaging targets vulnerable people, and that evacuation processes and facilities take into account the needs of their vulnerable residents.

A project is underway to co-design Get Ready Queensland preparedness resources to ensure they are inclusive and accessible across different populations. These resources will be available for councils to share with their communities.

Insurance and industry support for getting people back in their homes

A code of practice that prioritises the supply of building materials and tradespeople to areas impacted by natural disasters addresses the need to get people back into their homes as quickly as possible.

Excellent collaboration has occurred between the Commonwealth, Queensland and New South Wales governments in developing this code of practice. In Queensland, this practice is already occurring. It will undoubtedly prove to be of increasing utility as it evolves over time.

Policy in relation to in-stream structures

The February-March flooding saw the destruction of hundreds of pontoons and other in-stream structures. Pontoon debris has been found as far away as K'gari causing environmental hazards to marine animals, birds and riverine species. These structures are often made of polystyrene which disintegrates into Styrofoam balls that are ingested by marine life and wash up on beaches. The damaged pontoons are also hazardous for recreational watercraft.

An inter-agency working group has been established to investigate improved flood-resilient engineering standards for pontoons including composition and construction to mitigate possible impacts at times of severe flooding.

Early warning and monitoring systems

Early warning systems save lives.

Across Queensland, flood warning infrastructure has evolved over many years. The Queensland Government will continue to work with the Commonwealth to develop a flood warning infrastructure network that complies with best practice. There are opportunities to both harness new technology and integrate older systems to achieve a more consolidated view.

The Office of the Inspector-General Emergency Management is currently undertaking a review of the February – April South East Queensland Rainfall and Flooding event which will assess the timing and effectiveness of emergency alerts issued to the community, and the relative effectiveness of different operating systems at a national, state and local level.

In addition, Queensland Fire and Emergency Services is leading implementation of the Australian Warning System in Queensland, which will ensure national consistency in messaging relating to natural disasters.

Image: Milton bikeway.

Why a State Recovery and Resilience Plan?

In recognition of the significance of the rainfall and flooding events across the 2021–22 season, this State Recovery and Resilience Plan (this Plan) aims to inform decision-makers and the public of the role the state government, local governments and communities will play in recovery from the events, and outline improved resilience outcomes for the people who live in the region.

The State Recovery Coordinator was appointed to support recovery following the South East Queensland Rainfall and Flooding event in February – April 2022 (SEQ Rainfall and Flooding). However, recovery from any event cannot happen in isolation from the contemporary circumstances in which the event occurs.

Townships across the Darling Downs were inundated during November – December 2021 and townships across the Mary River and Burnett regions were inundated in December – January. Some towns were impacted again at the end of February and again in May.

This meant that some people had been underway with their clean-up and recovery of their homes and businesses, only to be subsequently flooded. This of course comes on the back of two years of the COVID-19 pandemic.

This Plan captures recovery and resilience activities for the most significant impacts across the four significant disasters of the season.

It documents local activities, regional recovery and resilience priorities, and state and Commonwealth government initiatives and funding to provide a single coherent pathway to recovery.

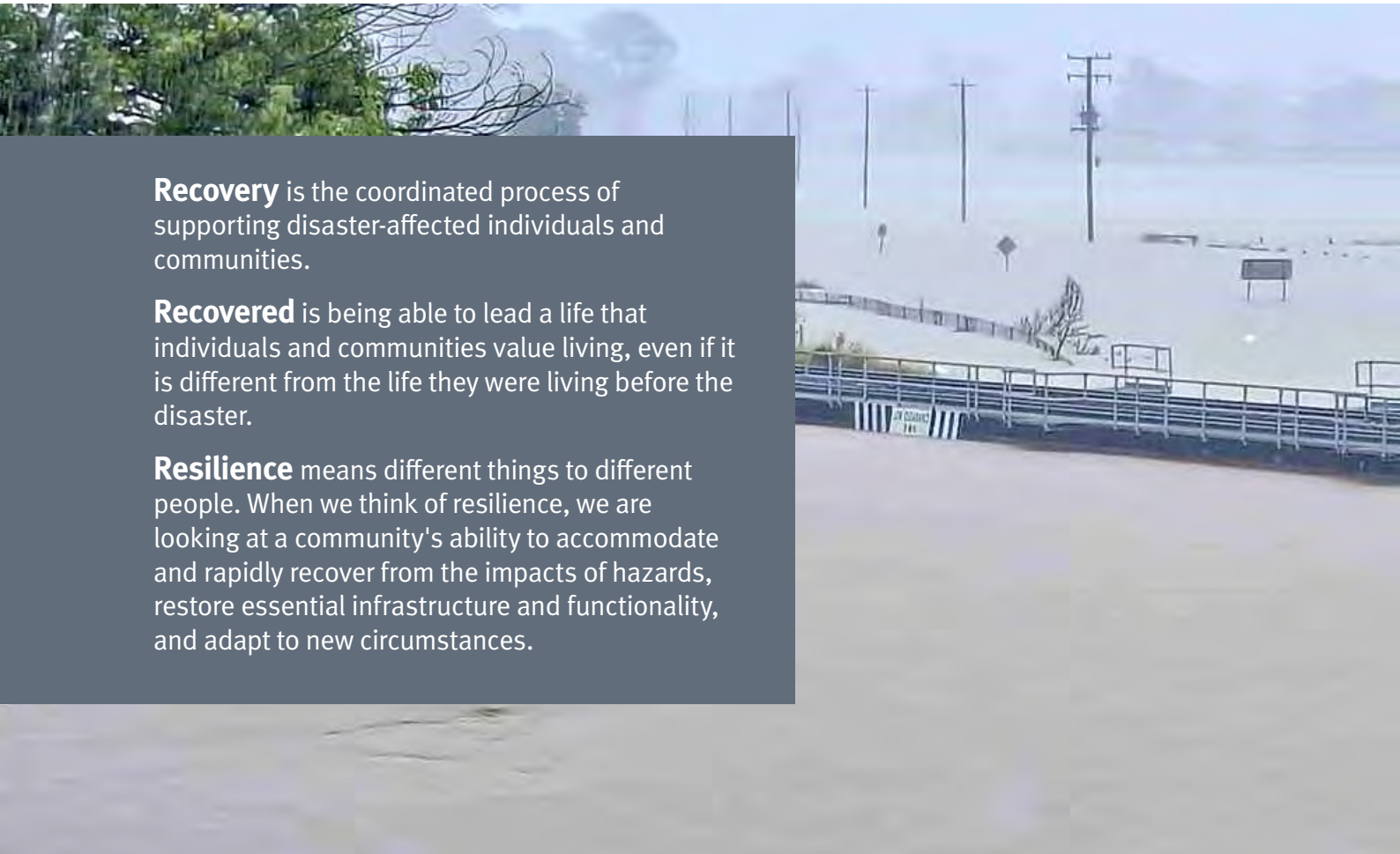
There are three key questions to consider in order to support community recovery and build resilience.

How does Queensland recover, rebuild and reconnect communities across the southern part of the state devastated by these natural disasters?

Which people, industries and critical infrastructure need support to recover and what support will be most effective?

How can we leverage the identified regional resilience priorities to foster increased resilience from future natural disasters?

This Plan will, in execution, ensure a strong recovery from the 2021–22 Southern Queensland Floods, and enhance immunity to the effects of natural disasters into the future.



Recovery is the coordinated process of supporting disaster-affected individuals and communities.

Recovered is being able to lead a life that individuals and communities value living, even if it is different from the life they were living before the disaster.

Resilience means different things to different people. When we think of resilience, we are looking at a community's ability to accommodate and rapidly recover from the impacts of hazards, restore essential infrastructure and functionality, and adapt to new circumstances.

Building Queensland's resilience

Following the floods of 2011, significant effort has been made in building resilience of our communities and our infrastructure.

The Queensland Government, in partnership with Seqwater and the four local governments of Brisbane, Ipswich, Somerset and Lockyer Valley, undertook the largest flood study in Australia. The Brisbane River Catchment Flood Study and the Strategic Floodplain Management Plan have guided how we prepare for and manage flood events at a regional level, focusing on flooding events downstream of Wivenhoe Dam. The information garnered from the flood study is applied to planning schemes and development applications as appropriate.

The Queensland Government also undertook state wide floodplain mapping post-2011. Flood studies were completed in more than 172 flood-prone towns across 53 LGAs to support better emergency management and land use planning decision-making.

Since 2016, the Queensland Government has secured $15.85 million in joint funding with the Commonwealth for flood gauges and other flood warning infrastructure across Queensland. New cameras will improve the ability for flood waters to be monitored remotely in real-time and allow the community to be better prepared in the future. Improving flood warning systems is an important way to limit the damage of future disasters – these cameras will give locals more time to respond as threats emerge.

Images of the flash flooding through Toowoomba's central business district became one of the iconic memories of the 2011 floods. In 2015, Toowoomba Regional Council completed $25 million worth of flood mitigation projects, jointly funded by local, state and federal governments. Major works were undertaken on East Creek, including new detention basins and culverts and channel works to increase creek capacity.

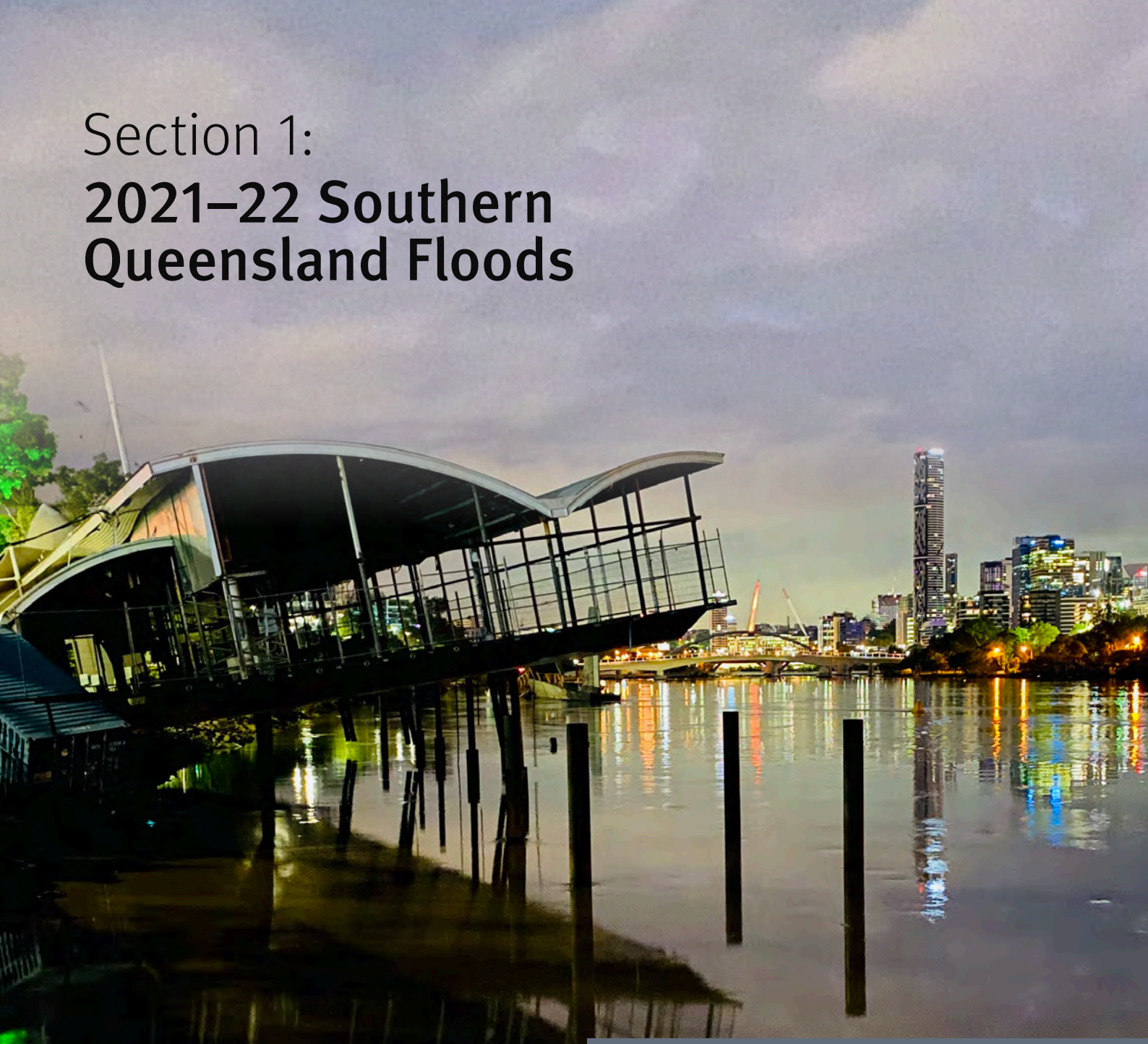
Despite levee construction works in 2008 to protect Charleville from the Warrego River during times of flood, the town was still exposed to significant flooding risk. Following the floods in Charleville in 2011, a $14.3 million project for mitigation works to Bradleys Gully, jointly delivered by the Department of Transport and Main Roads and Murweh Shire Council. The mitigation efforts flowed to local communities in August 2013 when Suncorp Insurance announced to customers in Charleville they would see average home and contents premiums fall by $400.

In March 2019 the $26.5 million Roma flood mitigation project was unveiled consisting of a 5.2 kilometre earthen levee preventing flood waters entering the town, extending just north of the Roma Airport, crossing the Carnarvon Highway, and then along the western side of Bungil Creek into Roma. The levee gives protection to over 500 homes in Roma above floor flooding and has seen Suncorp Insurance cut property premiums in the town by an average of 45 per cent.

Other resilience projects are showcased throughout this Plan as case studies.

Image: Grantham Railway bridge underwater.

Section 1:
2021–22 Southern Queensland Floods



State Recovery Coordinator observation

I have been exceptionally impressed with community leaders at the local level. They possess a detailed knowledge of their community and the challenges they are facing and have a clear understanding of their needs. So too, it has been heartening to see a bipartisan approach to supporting response, relief and recovery efforts at all levels of government. Positive leadership in times of disaster is vital in helping those who have been affected to find their path forward, rather than fixate on regrets or frustrations of the past.

Introduction

Queenslanders are no strangers to natural disasters. Since the establishment of the Queensland Reconstruction Authority (QRA) following the significant flooding events of 2010-11, Queensland has been impacted by 97 significant natural disasters. Every LGA in Queensland has felt the effects of natural disasters on multiple occasions.

In late November 2021 the Bureau of Meteorology declared a La Niña event for the 2021–22 summer, with the likelihood of above average rainfall for the eastern states, resulting in elevated flood risks.

Across the season, 66 of Queensland's 77 LGAs were activated for funding assistance under the Commonwealth/state Disaster Recovery Funding Arrangements (DRFA) following nine significant natural disaster events. Of those 66 LGAs, 39 were impacted by more than one event.

Over the season, four rainfall and flooding events had major impacts on infrastructure and on the wider community. Homes were inundated, with some properties uninhabitable or completely destroyed. Primary producers, small businesses and not-for-profit organisations saw damage to property and loss of stock which resulted in an inability to trade. Roads were decimated, resulting in communities being cut off, some for significant periods of time. Community infrastructure such as parks, sporting grounds and bikeways were damaged.

These four events are the subject of this Plan, and together are referred to as the 2021-22 Southern Queensland Floods. The four events are:

- Central, Southern and Western Rainfall and Flooding, 10 November – 3 December 2021
- Ex-Tropical Cyclone Seth, 29 December 2021 – 10 January 2022
- South East Queensland Rainfall and Flooding, 22 February 2022 – 5 April 2022
- Southern Queensland Flooding, 6 – 20 May 2022

The rainfall and flooding events had unusual characteristics, in particular they were all slow-moving events, and the quantum of rain falling was extensive and unexpected.

The events led to the Premier appointing two State Recovery Coordinators – Mr Paul de Jersey AC, CVO, QC for the Ex-Tropical Cyclone Seth event in January 2022, and Major General Justin (Jake) Ellwood for the SEQ Rainfall and Flooding event in February –April 2022.

Image: (Opp. page) Drift Restaurant, Brisbane River. (Above) Mt Crosby Weir Bridge.

Central, Southern and Western Rainfall and Flooding, 10 November – 3 December 2021 (CSW Rainfall and Flooding)

Rainfall started in mid-November, with large parts of central, southern and western Queensland experiencing heavy rainfall and flooding between 10 November and 3 December. Inglewood, Texas and surrounds in the Goondiwindi Regional Council area were most significantly impacted – the township of Inglewood was evacuated on the night of 30 November, followed by Yelarbon and Texas in the following days. State highways were closed, and the railway line damaged, interrupting access to processing facilities for agricultural produce. The agricultural sector suffered significant impacts, particularly in the Goondiwindi region, with damage to around 20 per cent of the value of production. 25 LGAs across the regions were activated for assistance under the DRFA, with 11 activated for primary producer assistance. Goondiwindi LGA was also activated for personal hardship and small business assistance. Two lives were lost during this event.

Ex-Tropical Cyclone Seth, 29 December 2021 – 10 January 2022 (Ex-TC Seth)

A low-pressure system formed in the Gulf of Carpentaria on 28 December 2021 and moved across Cape York Peninsula and down the northeast coast of Queensland, where it developed into a tropical cyclone on new year's eve. The system deteriorated to a subtropical low on 3 January 2022, and continued down the south east coast, bringing strong winds, heavy rain and hazardous waves. The intense rainfall and riverine flooding resulted in inundation of commercial and residential properties, isolated communities and damage to highways and hundreds of local roads. The townships of Maryborough (Fraser Coast), Gympie (Gympie) and Dallarnil (North Burnett) were some of the most significantly impacted.

A total of nine LGAs were activated for financial assistance under DRFA, with five activated for primary producer, small business and not-for-profit assistance. The three hardest hit regions were also activated for personal hardship assistance. Four of the LGAs were recovering from impacts from the CSW Rainfall and Flooding event just four weeks prior. Two lives were lost and one person is missing following this event.

South East Queensland Rainfall and Flooding, 22 February 2022 – 5 April 2022 (SEQ Rainfall and Flooding)

From 22 February – 5 April 2022, South East Queensland (SEQ) experienced unprecedented rainfall and subsequent flooding as a result of a slow-moving low-pressure system.

The widespread nature of the rainfall saturated the catchment and led to significant run-off. Most of the inland waterways rapidly filled and caused flooding throughout inland parts of the state, severely affecting communities through most LGAs across the south and central parts of Queensland.

Public transport services including trains, buses and ferries were shut down for several days. Major highways including the Bruce Highway, the Warrego Highway and the Ipswich Motorway were closed, with the whole road network significantly affected.

At the peak of the weather event in Queensland, 54,000 homes and businesses were without power, and 980 schools were closed. Tragically, 13 lives were lost over the duration of the floods.

As a result of the event, 23 LGAs in Queensland were activated for DRFA assistance. Of these, 15 were activated for personal hardship assistance, 21 for primary producer assistance and 20 for small business and not-for-profit assistance. Of the LGAs impacted during this event, 16 were recovering from impacts from the previous events, with four LGAs impacted across all three of the events. All LGAs with significant impacts from previous events were re-impacted during this event.

This event is described in more detail in the following pages.

Southern Queensland Flooding, 6 – 20 May 2022 (SQ Flooding)

Unseasonably late rainfall across parts of the state in May filled already saturated catchments in the southeast, resulting in more flooding in the region. The township of Gympie flooded for the third time in 2022 - some homes affected in this most recent event had already been damaged earlier in the year and were not inhabited. The townships of Warwick in the Southern Downs and Laidley in the Lockyer Valley were also inundated, with some residents in both communities evacuated.

Twenty (20) LGAs were activated for DRFA assistance, with five of those activated for personal hardship assistance.

State Recovery Coordinator observation

The Queensland Fire and Emergency Services, Queensland Police, Australian Defence Force, community volunteers and councils have yet again been pivotal in helping flood affected communities in the midst of chaos and disaster. Their efforts were instrumental in not only preserving life, property and livelihoods, but also in assisting communities to transition swiftly from the immediate response to the recovery phase of operations.

Image: Gympie. Courtesy Gympie Regional Council.

Impacted local government areas

39 of the state's 77 local government areas have been activated for DRFA assistance across the four significant events of the 2021–22 season

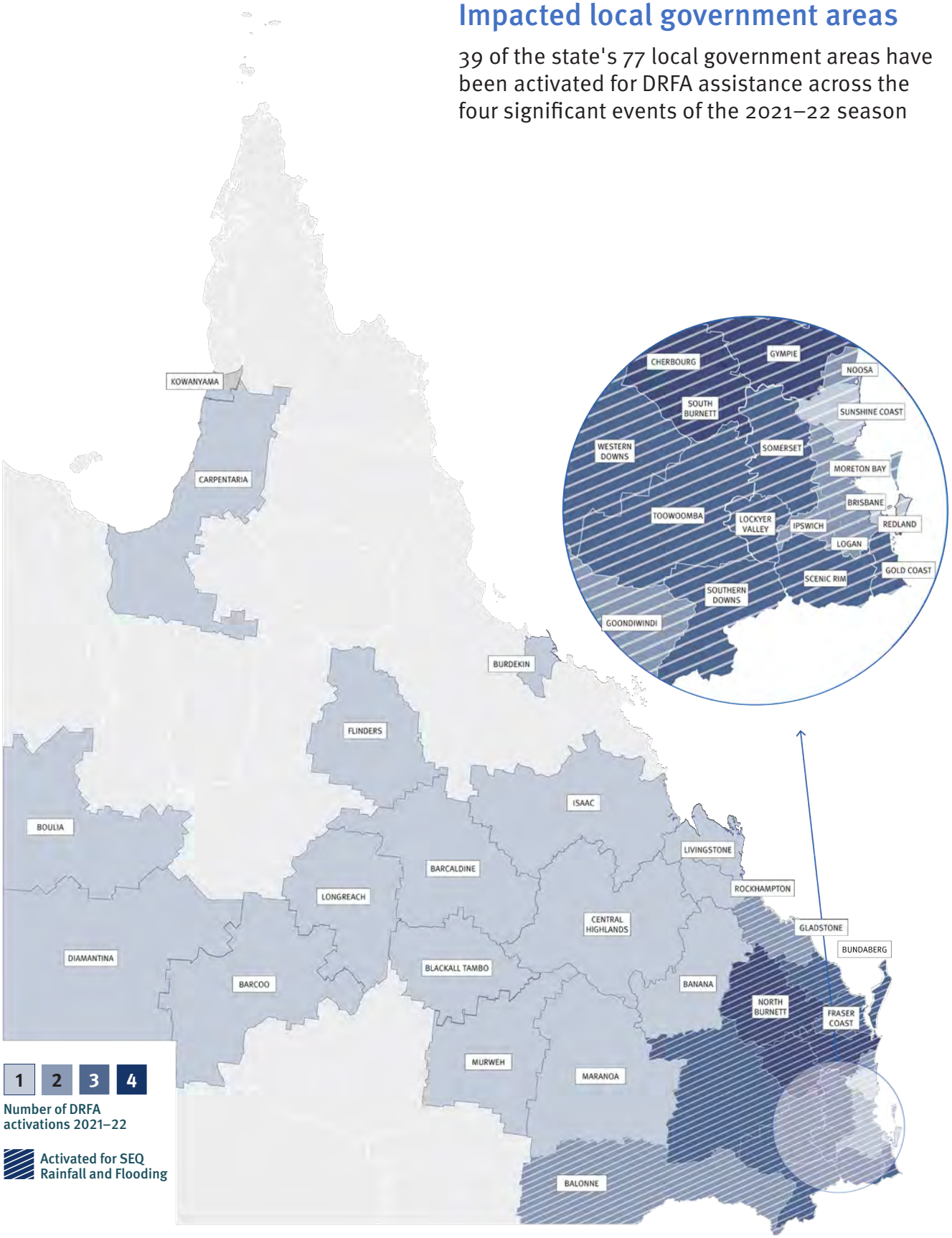
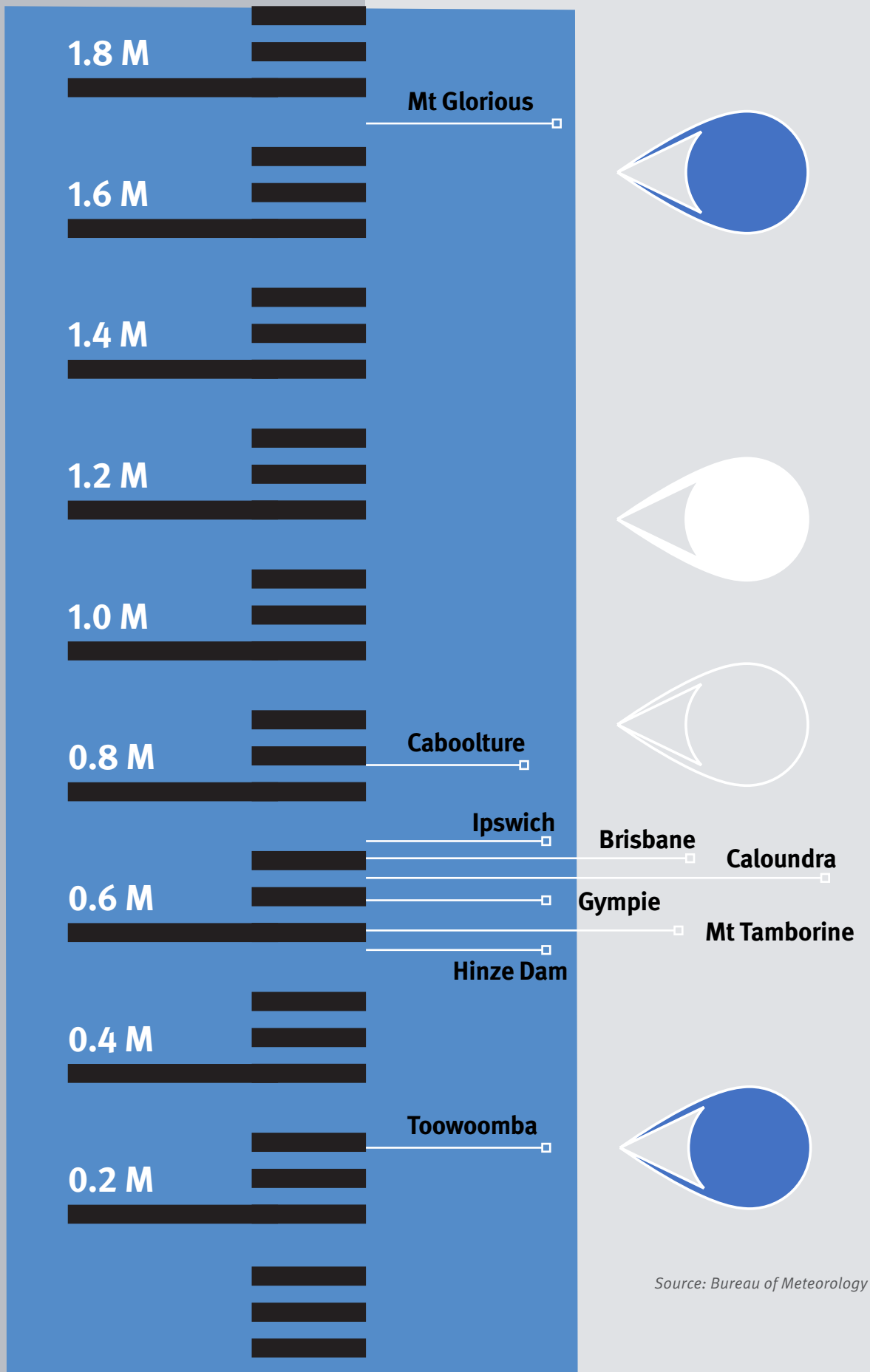


Image: Baffle Creek, Gladstone.

Rainfall recorded during the SEQ Rainfall and Flooding event



Source: Bureau of Meteorology

Impacts from SEQ Rainfall and Flooding, 22 February - 5 April 2022

Date range for information 22 February to 31 May 2022

HUMAN AND SOCIAL

13 lives lost

180k+ customers lost power

Hundreds of community events cancelled or postponed

613 education facilities impacted

ECONOMIC

146 businesses closed at Toombul Shopping Centre

$1.38B insurance claims (98,000+)

Crop and livestock losses

estimated impact on small business **$328M+**

ENVIRONMENT

Pontoons and other debris across waterways and beaches

Seagrass pasture losses

56 national parks impacted

50M tonnes of sediment moved through catchments

BUILDING

1,600+ sport and recreation facilities impacted

2,357 social housing properties damaged (at 21 April)

50,000+ social housing properties in affected area

88 schools damaged

6 schools unable to fully reopen

ROADS AND TRANSPORT

25 Brisbane City Cat terminals sustained damage

1,700+ km state-controlled roads closed or under restricted access

60 navigational aids damaged

21,500+
calls to SES

46,000+
calls to community recovery hotline (at 20 May)

9,000+
homes and businesses damaged

4,700+
moderate, severe or destroyed

17,300+
people contacts in community recovery hubs

4,834
responses to small business survey

estimated lost agriculture production
$253M

4,200+
jobs impacted

2,250+
primary producers affected

Odour impacts from flood waste

Invasive species spread (weeds, feral pigs)

Mosquito borne disease

Endangered turtle, cod and lungfish species impacted

57,000+
customers without electricity at any one time

633
downed powerlines

$12-17M
est. cost of repair (Energy QLD)

Lost power supply
Gympie Water Treatment Plant

$350M
estimated damage to state roads

Train derailment on Nambour to Gympie line

Noosa North Shore terminal damaged

State Recovery Coordinator observation

I have met far too many individuals and families, both tenants and home owners who were unaware of the flood risk they were living with. One individual I met, flanked by his severely disabled brother had rented a house without understanding the risk that surrounded them. All of their belongings, including the equipment he needed for his work, were damaged. He had no idea what the future held for him and his brother. We need to proactively assist people in understanding their risk.

The estimated financial cost of impacts and recovery

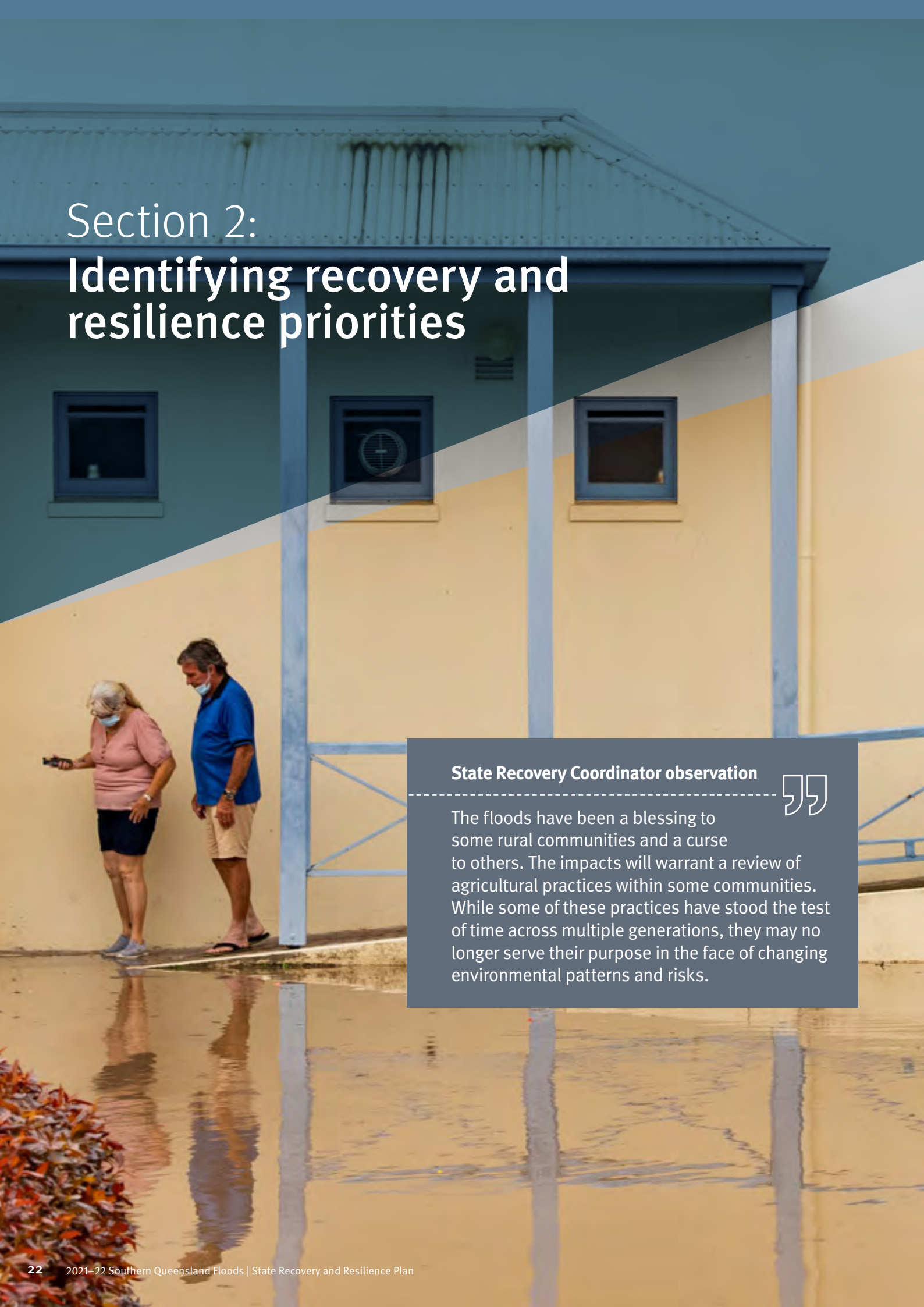
Health, social and community impacts	$4.5B
Lost agricultural production	$254M
Lost economic activity	$324M
Residential and commercial damage	$2.0B
Public infrastructure damage	$492M
Emergency response and clean-up	$65M

TOTAL $7.7B

Source: The social and economic costs of the 2022 South East Queensland Rainfall and Flooding Event (Deloitte Access Economics)

Image: (Opp. page) Swollen Mary River, Fraser Coast.
(Above) Resident of Enid Street, Goodna.

Section 2:
Identifying recovery and resilience priorities



State Recovery Coordinator observation

The floods have been a blessing to some rural communities and a curse to others. The impacts will warrant a review of agricultural practices within some communities. While some of these practices have stood the test of time across multiple generations, they may no longer serve their purpose in the face of changing environmental patterns and risks.

A regional approach

This Plan has adopted a regional approach to the analysis and planning for recovery and resilience measures following the 2021–22 Southern Queensland Floods.

Geographically, these regions lie within river catchments, and demographically, the people of these regions recognise commonalities with their neighbours. Each of the regions is made up of a number of LGAs.

The regions are the same used for the *Regional Resilience Strategies* which have been developed through a co-design process with government and community. The Regional Resilience Strategies harness local expertise to champion a holistic approach to disaster resilience.

Two of the LGAs impacted in these recent flooding events (Gladstone and Balonne) were the only LGAs impacted in their respective regions. In this instance, we have included them with their neighbouring resilience region.

The already agreed regional strategic pathways for resilience are included in this Plan, ensuring the locally identified priorities are at the forefront of decision making.

The resilience priorities identified for each region in this Plan are a high level summary of local priorities and needs representing projects and initiatives that can be delivered to improve resilience locally.

All regions (except SEQ) have detailed local resilience action plans that contain possible initiatives to be implemented over time using local, state and Commonwealth funding resources.

In Queensland, disaster recovery is implemented across the five functional lines of recovery – human and social, economic, environment, building, and roads and transport. Each functional line of recovery is supported by a Functional Recovery Group, led by the relevant Queensland Government agency.

In developing this Plan, themes across the functional lines of resilience and recovery have been identified. While each community has its own issues to be addressed and priorities to focus on, there are significant similarities in their recovery and resilience needs.

These themes were identified through analysis of information provided by local and district recovery groups, event specific recovery plans developed by local governments, recovery plans developed by state agency functional recovery groups, and information collected during extensive community engagement with the State Recovery Coordinator, his team and the Queensland Reconstruction Authority across regions impacted by the Southern Queensland Floods.

The Plan leverages the knowledge, resources, skilled employees and community connectedness that local governments have to lead recovery. This recognises the importance of communities being actively involved in their own recovery.

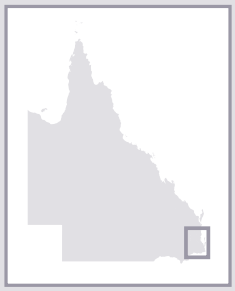
Recovery planning is the responsibility of local governments, and is led by the local recovery coordinators, with support from the Queensland Reconstruction Authority.

Councils use local recovery planning to identify priorities and support to communities in their recovery. Each council can form recovery groups that sit under the five functional lines of recovery, or they can combine one or more to form a combined group, eg, Building, and Roads and Transport combined to form an Infrastructure Recovery Group.

The following pages outline recovery priorities identified by local governments. Local governments will report on progress against these local priorities as part of reporting on this Plan.

The local government event specific recovery plans, and the state government functional recovery group action plans are included in a companion document to this Plan.

Image: (Opp. page and above) Maryborough. Courtesy Aaron Skuse.



SOUTH EAST QUEENSLAND REGION

19,214 km²
across 9 LGAs

3,232,161
2020 population

$273.72 B
Gross Regional Product

$889 M
Cost of reconstruction of essential public assets since 2011

Traditional Custodians

The Yugambeh language people are the traditional custodians of land in south-east Queensland, now within Logan, Gold Coast, Redland, Scenic Rim, and the Tweed in New South Wales.

To the northeast, Quandamooka country comprises the waters and lands around the Moreton and Stradbroke island groups, and on the mainland from the mouth of the Brisbane River to the Logan River within the Redland, Brisbane and Logan regions.

Moreton Bay and Somerset regions are also home to the Jinibara and Kabi Kabi people.

In the Ipswich and Lockyer Valley regions, the Yuggera Ugarapul people have an active Native Title claim.

The Greater Brisbane area including parts of Ipswich, Logan, Redland and Moreton Bay has a number of Aboriginal parties that have asserted traditional association over time.

Profile

Nine LGAs in the SEQ region were impacted by the SEQ Rainfall and Flooding event in February and March. Those LGAs are Brisbane, Gold Coast, Ipswich, Lockyer Valley, Logan, Moreton Bay, Redland, Scenic Rim and Somerset. Some were also impacted during the other events of the season.

The southeast corner is the most densely populated region of Queensland, and one of the fastest growing regions in the country. Population density is highest in the urban areas of Brisbane, Gold Coast, Logan, Redland, Moreton Bay and Ipswich, whereas the regions of Scenic Rim, Lockyer Valley and Somerset are predominantly rural settings with more dispersed communities.

The SEQ region covers almost 20,000 km² and is home to more than 3.2 million people. The region encompasses only around one per cent of Queensland's land mass, but houses around 62 per cent of its population.

Brisbane is the third largest capital city in Australia, and along with the cities of the Gold Coast, Logan and Ipswich, has seen significant population growth over recent years, including from domestic migration during the pandemic.

The Moreton Bay region is Australia's fifth fastest-growing urban region and is the third largest LGA by population in the country. The Moreton Bay region is a diverse area which includes rural townships, urban centres, coastal villages and thriving business precincts.

SEQ is home to many of the state's important health, education and research clusters with several world-class universities linked to high-quality research and development facilities, organisations specialising in commercial innovation, as well as education and training institutes.

Ipswich has a strong reputation for preserving heritage and environmental spaces, with 7,500 heritage-protected places and about 600 parks and reserves across the city. The Ipswich community is relatively young, ever aspirational and continues to welcome both population and investment growth as one of the top ten fastest growing cities in Australia.

As well as bustling urban communities, the region is home to the sprawling beaches of the Gold Coast, the pristine islands of Moreton Bay, the dynamic mountainous hinterland, and the productive lands of the Scenic Rim, Lockyer Valley and Somerset.

Characterised by an extinct volcanic mountain range in the east and flat, low-lying farmlands in the central and western corridors, the Scenic Rim is one of Queensland's most popular getaway locations, located within an hour from both Brisbane and the Gold Coast.

The Lockyer Valley is rated among the top ten most fertile farming areas in the world and has been positioned as a leading agricultural production zone in Australia, affectionately known as the SEQ food bowl. The Lockyer Valley boasts spectacular national parks, reserves, creeks, lakes and parks, including many water ways and green open spaces.

The Somerset region is surrounded by breathtaking mountain scenery and has 40 protected areas including national parks, state forests and forest reserves, as well as 11 nature reserves, which form a vital part of the region's environmental assets. The region also includes major water resources and recreational assets such as Wivenhoe and Somerset dams.

With Brisbane winning the 2032 Olympic bid, infrastructure, services, amenities and broader investment in the region is going to increase over the coming decade.

SEQ has a long history of floods and this has been influential in the decision to develop large scale infrastructure such as Wivenhoe Dam following the 1974 floods. The 2010-11 floods were the start of the most recent period of flooding history in the region, which has resulted in work to gain a better understanding of how the flood events can occur and what more could be done in anticipation of future events.

Image: Maryborough. Courtesy Fraser Coast Regional Council.

Rainfall and flooding

During the SEQ Rainfall and Flooding event, Brisbane city was impacted by a significant surge of floodwaters caused by sustained heavy rainfall. The 2022 flood event was markedly different to the 2011 flood event insofar that much of the flooding was due to river and creek flooding, as well as overland flow.

Nearly three quarters of the city's annual rainfall, some 677 mm fell across just three days. Multiple suburbs, essential industry and services were affected.

Rocklea and Milton in particular were severely damaged, including the complete submerging of the Rocklea Markets and adjacent Oxley Common floodplain. Further damages were recorded throughout a variety of infrastructure bordering the Brisbane River, notably the pontoon restaurant Drift, which dislodged and crashed onto an adjacent bike-path. Additionally, public infrastructure such as railway lines, local and state roads, natural areas and community infrastructure were damaged due to inundation.

The Moreton Bay region received some of the highest rainfall and many of the region's flood gauges recorded the highest or second-highest water levels on record. Mt Glorious alone received over 1.7 m of rainfall during this period, with 764mm in one day. At the peak, 229 local roads and 13 major state roads and highways closed. Along with the suspension of rail and public transport services, this effectively stopped all movement within the region.

Seven Evacuation Centres and 10 Places of Refuge were activated to support 217 evacuees and numerous pets.

Damage assessments in the Moreton Bay region identified inundation in 735 residential properties and 42 businesses. All 94 suburbs of Moreton Bay were impacted by either inundation, flooding, road closures or power loss during the disaster event.

Over 10 days in February and March, the Redland region received almost 850 mm of total rainfall. Fortunately the region avoided widespread flooding however a small number of residents, sport clubs and community groups were significantly impacted. During the event, the council provided over 18,500 sandbags to the community.

Within the Ipswich region, the convergence of the Brisbane and Bremer Rivers resulted in significant inundation to low lying areas. Flood damage disproportionately impacted Goodna, Bundamba and North Booval. More than 500 homes were inundated resulting in at least 400 people seeking shelter in an evacuation centre. Over 145 km of road and more than a dozen community and sporting facilities were damaged. Close to 300 businesses were significantly impacted by floodwaters along with countless waterways, conservation estates and recreation areas.

Across the Logan region, flash flooding and inundation occurred along the Logan and Albert River corridors with Yarrabilba Estate, Chambers Flat and Jimboomba particularly impacted. The excessive volume of floodwaters inundated 265 residential houses, with 33 sustaining major damages and three properties destroyed. The commercial industry was heavily impacted, forcing 265 temporary business closures and damaging 275. The agricultural industry was also impacted with 22 farming operations within the region damaged. With the floodwaters damaging over 200 major thoroughfares and overwhelming public roads, recovery and lifeline hotlines were essential to support individuals suffering with emotional distress caused by the event.

Further south on the Gold Coast, the Tallebudgera and Currumbin Creeks both experienced flash flooding. Flash flooding impacted households and businesses, while the riverine flooding resulted in inundation in the suburbs of Alberton and Stapylton. Over 60 landslips occurred in the Gold Coast hinterland, whilst on the beaches, scouring and erosion as well as dangerous surf conditions and water quality concerns closed beaches.

Extreme rainfall and widespread flooding caused significant damage to the transport network in the Scenic Rim region as well as multiple landslips, the most severe occurring at Tamborine Mountain and Canungra.

The region's key agricultural sector suffered substantial economic impacts through loss of livestock and damage to crops and topsoil.

With some locations across the Scenic Rim being isolated for five days, other industries endured interruptions to normal business activities and supply chain disruptions, while tourism operators experienced both cancellations of bookings and scheduled events.

The Lockyer catchment and low lying areas were affected by record breaking rainfall and associated flooding. Significant damage was sustained to the road network throughout the Lockyer Valley and residents were isolated. Approximately 116 homes were inundated with almost 50 sustaining moderate to severe levels of damage. The agricultural sector has sustained significant losses to crops, topsoil, machinery and infrastructure which will have a flow on effect to the greater community. The region was further impacted in the May flooding event, affecting additional areas and compounding losses to those already damaged.

The Somerset region was impacted by the flooding resulting from the rainfall as well as riverine flooding of the Brisbane and Lockyer Rivers. The releases from Wivenhoe Dam resulted in over 90 local road closures, isolating areas to the east of the Brisbane River. Access closures inadvertently caused supply issues in addition to cutting off access to tourist experiences such as the Brisbane Valley Rail Trail, as well as three national parks. Reports further indicated that damage to 33 residential properties and 38 businesses, in tandem with power losses to over 7,610 regional customers, significantly impacted local communities.

Impacts

The event had extensive impact across the SEQ region. Impacts differed markedly according to location, business and way of life.

A major issue for the SEQ region is access to affordable and available accommodation. The constrained housing market compounded the challenge of finding people suitable medium to long-term accommodation within a reasonable distance of their impacted place of residence. General migration to the south east corner of the state from interstate has inflated house prices and driven down vacancy rates.

In Ipswich, the housing vacancy rate was already extremely low in some areas (1 per cent) prior to this event. Legacy housing shortages were exacerbated by the Halloween hailstorm in 2020 which impacted over 1,700 homes in SEQ, some of which are still undergoing repairs or remain uninhabitable.

Supply chain disruptions are being experienced due to ongoing impacts of the pandemic and geopolitical instability, further inflating prices and increasing timeframes for retrofitting, resilient builds and recovery. Significant damage to the agricultural industry will have a flow on effect to the greater community impacting availability and prices of produce.

Contamination of property and buildings with mould presents a public health hazard along with the threat of an increase in mosquito borne diseases.

Flood debris, including household waste caused significant waste collection and disposal issues throughout the region. Pontoon debris caused environmental and public safety concerns in the Brisbane River and north along the east coast.

The SEQ region also covers rural and semi-rural communities where impacts centred around loss of services, restricted access and isolation, flooding, and environmental damage such as topsoil loss, stream pollution and crop losses which undermines capacity to earn an independent income.

Many hundreds of jobs have been lost across the region due to businesses being directly and indirectly impacted by the flooding.

Some individuals and communities in the SEQ region are showing evidence of heavy financial and psychological distress as homes and businesses were inundated, material losses were sustained, and isolated communities faced disruptions to essential services.

While experience with repeated natural disasters can increase resilience, it can also lower resilience for residents and businesses that sustain damage during repeated events. This is evident in urban and rural settings, particularly when circumstances mean people have little capacity to relocate away from a vulnerable location.

CASE STUDY

Brisbane Riverwalk

The first iteration of the Brisbane Riverwalk between New Farm and the Howard Smith Wharves was established in 2003. During the 2011 floods, one of the most iconic and defining events was when the entire Riverwalk was destroyed and washed down the Brisbane River. Following those floods, the Queensland Reconstruction Authority secured $75 million in joint state and Commonwealth funding to replace the walk.

Designed to withstand significant flooding, the new Riverwalk was built to last 100 years. Instead of the floating design used previously, the replacement is anchored to the bottom of the Brisbane River through a total of 37 concrete piles and designed to reduce the impact of floodwaters or debris. At 870 metres long and 6 metres wide, the Riverwalk took just over a year to build with the works being completed in 2014. The Riverwalk is not just a scenic walk – over 2,500 people walk or ride along the pathway each day as part of an active commuter transport strategy.

Whilst the Riverwalk was overtopped during the February–March 2022 event, the design of the new structure ensured it could withstand the forces of the Brisbane River flooding during the peak of the event. To minimise forces from the river flow and reduce potential impact of floating debris, the alignment of the new walkway is parallel with the shoreline and the rotating opening span is located at the downstream end of the walkway. Whilst some cosmetic damage was sustained, the Riverwalk re-opened for public use on 12 March 2022, just two weeks after the flood event.

Image: Brisbane Riverwalk. Credit: Shutterstock.

State Recovery Coordinator observation

It is clear that those who had planned what to do in the case of flooding were able to respond to the disaster in a more organised fashion. They knew what needed to be spared and what could be sacrificed and they knew exactly what they would do after the event. Their ability to control their reaction to events that unfolded also seemed to have positive follow on effects as they were able to swiftly transition to recovery. Programs like Get Ready Queensland have yet again proven their worth.

Image: Lake Entrance Boulevard Noosaville.

Recovery and resilience priorities for SEQ region

These priorities are a composition of those identified by each of the local councils across the region. For ease of reference these priorities are grouped against the five agreed lines of recovery.

Human and Social line of recovery	
Impact assessment	Identify human and social impacts on residents and communities
Financial support for individuals	Ensure community members access support for essential recovery needs
Essential services and supplies	Ensure community members can meet their basic needs (food, medical, safe drinking water)
Community wellbeing	Monitor community wellbeing and ensure the community has access to immediate psychosocial support services
Accommodation services	Ensure community has access to accommodation services (emergency housing, homeless support services, temporary longer-term housing) and establish processes to enable residents to return to permanent residences
Residential insurance	Ensure the Insurance Council of Australia has representation at community hubs and in the most impacted areas
Community support services and resources	Ensure community support services are easily accessible and meet the need of community members Address the issues relating to pets and essential belongings not being allowed into relief centres Identify opportunities to increase disaster resilience through creating additional capacity in volunteer organisations Assist local community groups, non-government organisations and local governments by delivering state-led case coordination
Information sharing	Ensure the community has access to coordinated, accurate and up-to-date information about the event, support services and recovery status, tailored to audience
Community-led preparedness, recovery and resilience building	Enable community-led preparedness, recovery and resilience building through access to: • Flexible Funding Grants • Psychosocial wellbeing community education • Financial Resilience • Education and resources to support service industry business disruption, and continuity plans and arrangements

Economic line of recovery	
Impact assessment	Identify business and industry impacts and issues
Financial support	Ensure businesses, primary producers, agricultural industry and not-for-profit organisations have access to immediate financial support services for clean-up, restoration and rebuilding to ensure they can re-open
Stimulate tourism	Stimulate tourism across the region
Stimulate economic activity	Work with local councils and chambers of commerce to identify need and develop strategies for economic recovery to ensure local business are open
Business and industry support services and resources	Ensure business and industry support services and resources are easily accessible and meet the need of community members
Business and industry resilience	Build business and industry resilience to ensure business and industry continuity
Business and industry insurance	Advocate to resolve insurance issues experienced by business and industry
Land use planning	Ensure flood maps are current and available Review flood prone area policy and ensure zoning identifies flood acceptance As far as possible, ensure local planning scheme mitigates future hardship through comprehensive consideration of natural disaster planning

Environment line of recovery	
Impact assessment	Identify environmental impacts and issues
Waste management services	Ensure waste management services are provided to enable clean-up and waste disposal from affected properties and environments, balanced with landfill capacity and waste recovery Rapid removal of debris to reduce psychological impact on affected people (soft skips) Assess opportunities to reduce potential contamination and pollution in natural areas and waterways
Public health and safety	Ensure public health and safety including water for hygienic use, sewerage treatment plants operational, disease and mosquito management and control, and prevention of mould and Japanese Encephalitis virus
Recreational assets	Restoring and reconnecting people with recreational assets (rail trails, fire trails, parks and gardens)
Flood debris	Remove flood debris from natural environments and restore public and private infrastructure
Weeds and pests	Ensure environmental restoration and protection through monitoring the prevention and spread of weeds and pests
Green environment	Ensure restoration, protection and monitoring of the green environment, natural amenities, heritage places, soil quality, flora, fauna and fish/aquatic systems
Agricultural land	Support environmental restoration and protection on agricultural land
Waterways	Ensure restoration, protection and monitoring of riparian, riverbanks, creek beds, tributaries and waterways and clarify riverine management and maintenance roles and responsibilities Investigate policy responses to improve flood-resilience of coastal structures (i.e. pontoons)
Animal welfare	Ensure animal welfare (livestock and wildlife) concerns are identified and addressed

Building line of recovery	
Impact assessment	Identify damage to built assets (private, state and council)
Council and community assets	Ensure council and community assets (buildings, facilities, fleet services, energy and water supply including sewerage services, fencing and gates, recreational assets, rail trail, parks and gardens) are cleaned, repaired, restored and operational
Resilient community infrastructure	Seek opportunities for improved infrastructure and betterment for council and community assets to alleviate future supply issues
Resilient homes	Support individuals and families to undertake repairs, retrofitting or reconstruction of homes
Flood mitigation	Seek opportunities to support sustainable flood mitigation programs

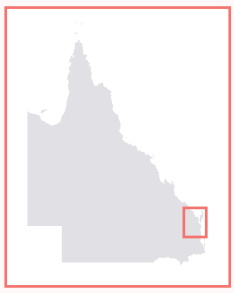
Roads and Transport line of recovery	
Impact assessment	Identify damage to road and transport assets (state and council)
Road and transport networks - repairs and safe access	Ensure make safe works are undertaken and roads re-opened Ensure road and transport networks (local and state) are repaired and restored for use Identify, make safe and repair landslips on public land
Betterment	Maximise opportunities to reconstruct road and transport assets to a more resilient standard

Resilience pathways

Government, communities, businesses and not-for-profit organisations have been building flood resilience in SEQ for many years, particularly since the 2011 floods.

There is more to be done to anticipate future stressors and shocks to our lifestyles and livelihoods – building safe and connected communities, supporting Queenslanders, delivering resilient infrastructure, stimulating economic growth, ensuring sustainable management of natural resources and enabling responsible development. SEQ local governments are encouraged to develop local resilience action plans to identify and prioritise local resilience actions for funding and delivery, drawing upon the diverse array of resilience planning work already completed locally.

Understanding risk	**Supporting continuous community awareness and education efforts** • Increase volunteering in disaster response and community preparedness • Conduct continued and ongoing community awareness program across all sections of community	**Improving hazard modelling and mapping** • Continuing to improve flood models and studies across the affected areas • Enhance hazard prediction capabilities at local and state levels	**Understanding and avoiding repeated or cascading risks** • Undertake investigations on the long term impacts of multiple hazards on settlements across the region – via integrated multi-hazard assessments
Working together	**Encouraging knowledge and information sharing** • Improve public availability and awareness of hazard mapping • Increase 'open sourcing' of state and local level datasets • Promote and support communities of practice	**Work collaboratively across sectors, disciplines and levels of government** • Work in partnership with insurance companies, not-for- profit organisations and community groups to harness existing capabilities in 'on the ground' resilience building	
Seeking new opportunities	**Supporting resilient infrastructure provision to enhance connectivity and supply chain resilience** • Incorporate betterment and resilience objectives and outcomes into the future regional infrastructure planning • Continue to identify and address repeated road impact hotspots via betterment funding	**Pursuing sustainability and resilience as business as usual** • Utilise new region-building investment initiatives such as the City Deal to 'build in' resilience and sustainability as business as usual – particularly digital connectivity, and resilient landscapes • Continue hazard mitigation investigation and investment, including levees, back-flow valves, buy-backs, bushfire management and fuel reduction	**Leaving a resilient and sustainable legacy** • Utilise the transformative impact of the 2032 Olympics to leave the region with a prosperous legacy • Advocating for local Resilient Business Networks to embed disaster resilience and business continuity best-practice in key business operators across Queensland regions
Continuous improvement	**Learning from previous events** • Develop lessons learned and change management practices in disaster management and settlement planning to ensure knowledge of impact is retained and utilised in the future • Increase funding for disaster management personnel and equipment • Pilot a resilience impact monitoring and improvement program to examine benefits realisation for previous events	**Building on existing work** • Continue establishing and implementing floodplain management plans in SEQ catchments, like the Brisbane River Strategic Floodplain Management Plan • Continue flood warning infrastructure network improvements and warning coordination across the region – including examining flash flooding • Transform practices developed in bushfire recovery to flood recovery and embed capacity and capability	**Advancing resilience in long term regional planning** • Re-calibrate land supply, growth projections and infrastructure planning in the SEQ Regional Plan based on outcomes from local floodplain management planning processes underway



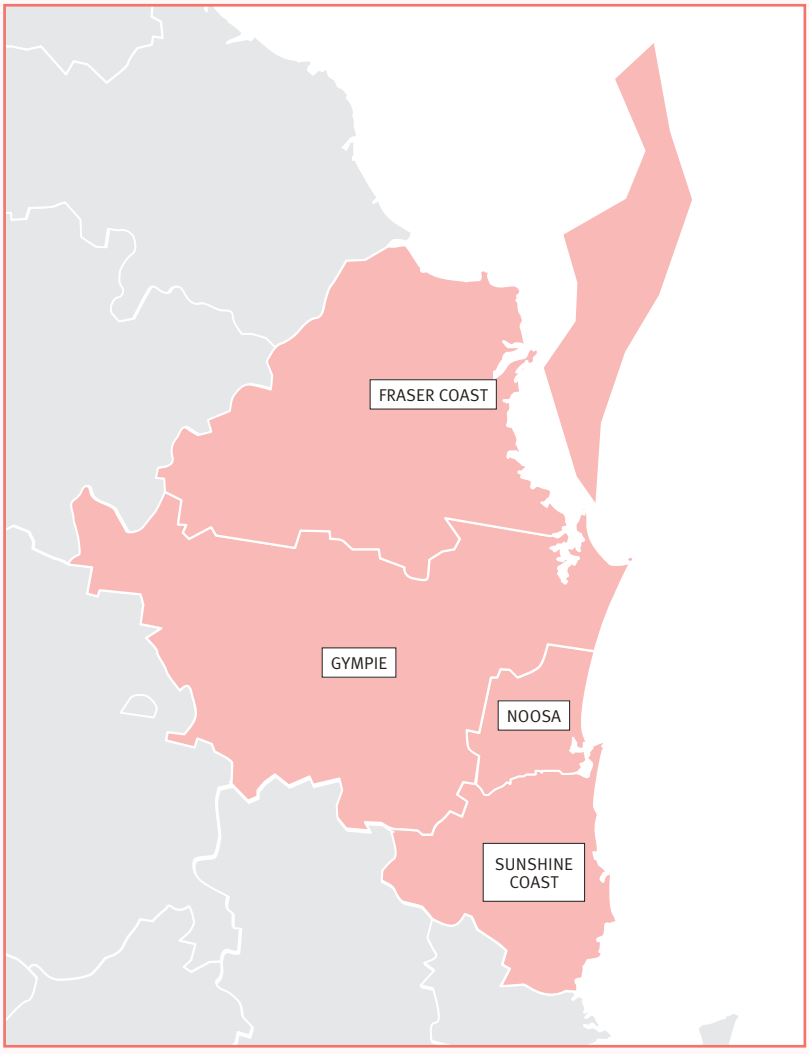
MARY RIVER REGION

17,177 km²
across 4 LGAs

554,187
2020 population

$27.79 B
Gross Regional Product

$112 M
Cost of reconstruction of essential public assets since 2011



Traditional Custodians

The traditional lands of the Kabi Kabi people span the four local government areas of this region. Wakka Wakka country is to the west of Kabi Kabi country, in the Gympie region.

Butchulla country, within the Fraser Coast region, comprises K'gari and the adjacent mainland, from around Double Island Point in the south to the mouth of the Burrum River in the north, and west to Bauple Mountain.

Further south lies Jinibara country stretching south from the Sunshine Coast region.

Profile

The Mary River emanates from the southern Conondale Ranges, Maleny and Jimna and flows north through Kenilworth toward Gympie, and on to Maryborough.

The Mary River is joined by tributaries that flow east from around Goomeri, and west from around Cooroy. Major tributaries include the Obi Obi, Little Yabba, Six Mile, Amamoor, Kandanga, Tinana, Deep, Munna and Wide Bay creeks.

The Mary River catchment collects rainfall and flood water, discharging into the Great Sandy Strait at River Heads – north-east of Maryborough and south-east of Hervey Bay.

Coupling both topography and rainfall patterns, the streamflow of the Mary River is highly variable with large areas of the catchment exposed to flash flooding.

Clear topographical characteristics in the western area of the catchment and beyond support increased storm activity in specific locations across the region. As a fertile region, the Mary River region also supports a thriving agricultural industry, with grazing land and crops often impacted by various weather and hazard events.

Much of the upper reaches, or headwaters, of the catchment comprise national parks, bushland reserves and forestry plantations and these locations can be susceptible to bushfire and landslip.

The Fraser Coast area is 250 km north of Brisbane. It is famous for whale-watching off Hervey Bay. Many of its inland towns lie on the banks of the Mary River or its tributaries.

Further south, the Gympie region includes Queensland's first gold mining town. The town of Gympie is on the Mary River, and the outer-lying areas of Kilkivan, Goomeri, Kandanga and the Mary Valley showcase the breathtaking Mary River, which is home to many unique and endangered species.

Noosa is situated at the northern tip of the Sunshine Coast and around thirty-five per cent of the shire is protected as either national park, reserve or conservation area.

The Sunshine Coast area is located about 100 km north of the Brisbane CBD. It is a rapidly growing residential and tourist area which over three million people visit annually.

State Recovery Coordinator observation

In the wake of a major disaster, recovery relies upon focused support from all levels of Government, the building industry and insurance companies. If all work together and focus on supporting affected communities, the capacity to recover is magnified. Together, with the right priorities set, there is an ability to come out of the grips of disaster stronger and more resilient than ever.

Rainfall and flooding

All four events of the 2021–22 season had significant impacts on the region – Gympie and Noosa were first impacted in early December, then Gympie and the Fraser Coast had significant impacts from Ex-TC Seth in early January, before all four LGAs were impacted by the SEQ Rainfall and Flooding event. The May rains once again resulted in flooding in parts of Gympie and Noosa (during the SQ Flooding event).

The SEQ Rainfall and Flooding event caused widespread flooding within the Fraser Coast region. The snowballing quantity of flood waters caused notable damage to a multitude of industry, commercial, recreation and residential structures. Damage to the region included 89 industrial and commercial buildings, forcing 49 businesses to close temporarily. Over 186 residential premises were identified as damaged by the event, isolating 1,760 people at the peak in the towns of Glenwood and Granville. This was just two months after the flooding that devastated Maryborough in January.

To the south, the Gympie region was subject to three consecutive disaster events (Ex-TC Seth, SEQ Rainfall and Flooding, and SQ Flooding) and some individuals and businesses were yet to recover from the initial event in January before the subsequent event occurred at the end of February. Parts of Gympie were flooded again in May, and houses and commercial properties were once again inundated. Houses impacted in May were vacant at the time, as they were uninhabitable following the earlier floods. Cumulative effects of these events, in addition to the ongoing COVID-19 impacts, has caused fatigue and increased mental health issues across the community. Out of 829 rapid damage assessments conducted in the Gympie region, over 200 premises recorded severe damage.

The Noosa region was directly impacted by the February event with areas such as Pomona receiving record-breaking amounts of rain – over 780 mm within 72 hours. Secondary impacts were also felt in Noosa with debris from the Brisbane River flowing to and landing on the beaches throughout the region including numerous large pontoons which required novel solutions to remove and remediate the surrounds. More than 1,000 residents of the Noosa region submitted insurance claims. Noosa LGA experienced landslips and damage to community infrastructure. Noosa was also re-impacted in May.

A total of 443 damage assessments were undertaken across the Sunshine Coast, which identified 154 damaged properties (six that had sustained severe damage, 23 with moderate damage and 125 with minor levels of damage). More than 170 road closures occurred across the LGA with 76 landslips impacting the road network, 10 of which required detailed geotechnical investigations.

Significant rainfall resulted in flooding of the Maroochy and Mooloolah Rivers as well as Coochin Creek. The rainfall also caused key routes including the Bruce Highway and Sunshine Motorway to be cut-off. The storms experienced later in the event resulted in over 80 fallen powerlines and damage to telecommunications towers, which restricted communications.

Impacts

The people of the Mary River region understand that limiting the impact of disasters now and in the future requires a coordinated effort across land use planning, infrastructure, environment management, social policy, agriculture, education, health and community development.

Following the repeated flooding across 2021–22 , the prosperity of the Mary region remains affected by residential and business damage impacting tourism and the local economies of towns and villages. Landslides, road closures, culvert failures and extensive erosion continue to delay return to a normal commute for residents and visitors across the entire region. Roads damaged by consecutive flooding events result in a cycle of damage and repair, raising community concerns about safe standards of roads. Significant damage to local amenities, regional tourist attractions, retail and commercial precincts, and hotel accommodation are having a direct and immediate impact on the economic health across the region.

Council stormwater infrastructure and networks in built up areas require assessment and betterment to improve drainage, prevent sewerage plant failure and extensive outlet erosion in future. More flood-resistant town water supplies could improve the access to clean drinking water after an event and is critical to public health and disaster recovery.

The Mary River catchment discharges into the sensitive Great Sandy Strait, which also suffers the second and third order effects of debris disgorged from the rivers of the southeast region eventually drifting north. This pollutes the maritime and littoral environments. Significant coastal erosion, deposition on beaches (both organic and inorganic), marine and estuary ecosystem damage and contamination is being experienced.

Endangered fauna is likely to have been significantly impacted by this season's rainfall and the extensive riparian erosion and loss of habitat.

The Mary region has registered an increase in social disharmony stemming from family and community disruption, decline in physical and mental health, decline in community capacity, threat to community cohesion, connectivity and confidence caused by the flooding. Youth have been highlighted as being particularly vulnerable to rising psychological distress.

There is a heightened need for psychological support with several complex cases being presented and local services struggling to keep up with demand.

Damage to critical telecommunications infrastructure resulting in loss of internet and phone connection has delayed access to emergency services, family, medical and support services when needed. Damage to critical water infrastructure with some water treatment plants in the Gympie region unable to process the dirty water during the flooding events, resulted in drinking water being airlifted into townships of the Mary valley.

The councils of the region are invested in improving leadership in a crisis at the local level. Access to counter-disaster skills trainers, planners and facilitators to better equip community leaders and volunteers is highly sought after.

Image: Landslip at Black Mountain. Courtesy Noosa Shire Council.

Recovery and resilience priorities for Mary River region

These priorities are a composition of those identified by each of the local councils across the region. For ease of reference these priorities are grouped against the five agreed lines of recovery.

Human and Social line of recovery	
Impact assessment	Identify human and social impacts on residents and communities
Financial support for individuals	Ensure those community members who need to, are accessing immediate and ongoing financial support services including emergency hardship grants
Essential services and supplies	Ensure the community has access to essential services (power, water, waste and telecommunications), essential supplies (food and household) and community services (schools, day care and early childhood centres) Improvements to water infrastructure (eg, reservoirs) to ensure safe drinking water supply Introduce a sustainability program and encourage use of water tanks
Community wellbeing	Ensure community members are accessing immediate and ongoing health and wellbeing services and re-establish community and sporting events to support community connection, mental health, wellbeing and resilience Connect residents with each other during and post disaster Conduct outreach home visits to assess longer term recovery needs, identify residents requiring referrals to other agencies and follow established referral guidelines (not just about financial needs) Social inclusion/mental health projects and training opportunities be made available to community members and groups to empower and increase capacity within the community Engage and work with lead volunteering agencies to support our most vulnerable and at-risk residents during a crisis and post-disaster
Accommodation services	Ensure those who were displaced as a result of damage to residential property are either returned safely to their homes or are settled into emergency and/or transitional housing
Residential insurance	Enable access to the "Disaster Proof Your Finances" toolkit Ensure the Insurance Council of Australia has representation at community hubs and in the most impacted areas
Community support services and resources	Ensure community support services are easily accessible and meet the need of community members Link with other key agencies and set up recovery hubs that residents can access and provide information and assistance and facilitate access to other relevant services
Information sharing	Ensure community members are provided information on what assistance is available, and how to access it Manage community expectations about what government can and cannot do, who is responsible for leading the recovery effort, and what communities can expect in terms of recovery assistance
Community-led preparedness, recovery and resilience building	Reinforce disaster preparedness and resilience across the region, including vulnerable communities (disability, aged care, youth, linguistically diverse) and through training for local recovery groups

Economic line of recovery	
Impact assessment	Identify business and industry impacts and issues
Financial support	Ensure businesses, primary producers, agricultural industry and not-for-profit organisations have access to immediate financial support services for clean-up, restoration and rebuilding to ensure they can re-open
Stimulate tourism	Work with tourism and recreation networks to identify need and strategies for economic development Restore and build confidence in the tourism market in affected areas (eg, camping, retreats etc) to support a return of tourists to the region
Stimulate economic activity	Work with local councils and chambers of commerce to identify need and strategies for economic recovery and development and ensure local businesses are open Encourage local spend through Buy Local/Holiday Local campaigns
Business and industry support services and resources	Local Community Recovery Disaster Preparedness Network meeting regularly
Business and industry resilience	Empower small business, tourism and industry and improve their resilience Design and deliver a range of outreach resilience programs Support emergency relief organisations with business continuity planning and capacity building, accessible funding programs and relevant training to assist in disaster recovery
Business and industry insurance	Advocate to resolve insurance issues experienced by business and industry
Land use planning	As far as possible, ensure local planning scheme mitigates future hardship through comprehensive consideration of natural disaster planning Ensure flood mapping is updated and available

Environment line of recovery	
Impact assessment	Undertake environmental impact assessment and identify flood impacts on vegetation, waterways and fauna
Waste management services	Ensure waste management services are provided and implement sustainable solutions for waste disposal (consider soft skips)
Public health and safety	Monitor and address public health issues arising from flood contamination and waste disposal
Flood debris	Remove flood debris from natural assets including waterways, conservation areas and open space/recreational areas
Weeds and pests	Ensure environmental restoration, protection and monitoring through the prevention and spread of weeds and pest
Green environment	Support environmental recovery and resilience projects for vegetation rehabilitation
Waterways	Support environmental recovery and resilience projects for rehabilitation to impacted creeks, waterways, estuaries and coastal environments Investigate policy responses to improve flood-resilience of in-stream structures (eg. pontoons)
Animal welfare	Support environmental recovery and resilience projects for fauna habitat rehabilitation

Building line of recovery	
Impact assessment	Undertake damage assessments of damaged property, public infrastructure and telecommunication assets, including weather monitoring
Council and community assets	Restoration of community facilities and streetscape to key commercial precincts Prioritise restoration work to public infrastructure and telecommunications
Resilient community infrastructure	Build more disaster resilient public infrastructure, telecommunications and weather monitoring assets and build community resilience through amplifying sustainability and climate adaptation
Resilient homes	Build community resilience through amplifying sustainability and climate adaptation
Flood mitigation	Develop and implement systems for improved flood forecasting, flood response and flood resilience Functionality of Burpengary levee to be reviewed

Roads and Transport line of recovery	
Impact assessment	Undertake impact assessment of road and transport network
Road and transport networks - repair and safe access	Ensure make safe works are undertaken and roads re-opened Prioritise recovery works and undertake reconstruction works to ensure road and transport network is repaired and re-opened (seek funding, execute reconstruction works within time and budget) Ensure policy for pontoon structure and construction is updated and enforced

Resilience pathways

The *Mary Regional Resilience Strategy* has informed the resilience priorities for this region. The priorities below are a summary of the resilience pathways and actions in that strategy.

Understanding risk	• Continuing investment in flood modelling, mapping, and risk management studies	• Developing land holder land management awareness programs – particularly for lifestyle residential blocks	• Developing community awareness programs to support resilience to isolation and changing nature of risks
Working together	• Supporting local small business enterprise by making it easy to establish and conduct business in rural towns, supporting local needs and providing local service	• Recognising the value of the hinterland and coastal environments and maintaining/enhancing protections	• Encouraging local volunteerism by working across organisations and employers to make it easier for community members to volunteer
Seeking new opportunities	• Renovation of existing or construction of new Local Disaster Coordination Centres and places of refuge	• Identification of properties that are at repeated flood impact for possible remediation or buy back	
Continuous improvement	• Increasing levels of infrastructure redundancy including back-up generators sufficient to run the basic power requirements for essential facilities	• Building tourism industry resilience as a core driver of the region's economic and social prosperity	

CASE STUDY

Resilient buildings in Gympie

Gympie Regional Council amended its planning scheme in 2013 to require that development in a flood overlay area met enhanced performance standards to mitigate the consequences of flood events.

These planning requirements were followed when the new changeroom and amenities facilities at One Mile Sports Complex and Albert Park were built.

These buildings were designed in response to the periodic flood inundation these sites are likely to experience during their life cycle.

Some of the resilient design features in the building include using, where possible, internal and external metal sheeting and metal posts and frames. The corrugations on the sheeting run vertical to enable water to drain out of the walls, aided by the horizontal internal supports which have holes punched in them so as to allow to drain from the 'C' channels and no internal walls have been placed in the service corridor.

Each building was designed to withstand a minimum of 2 metres per second flow from upstream waters, and gas hot water heaters with plug in power were installed to allow quick removal.

Gympie Regional Council has already identified pathways to continue to build on these initiatives.

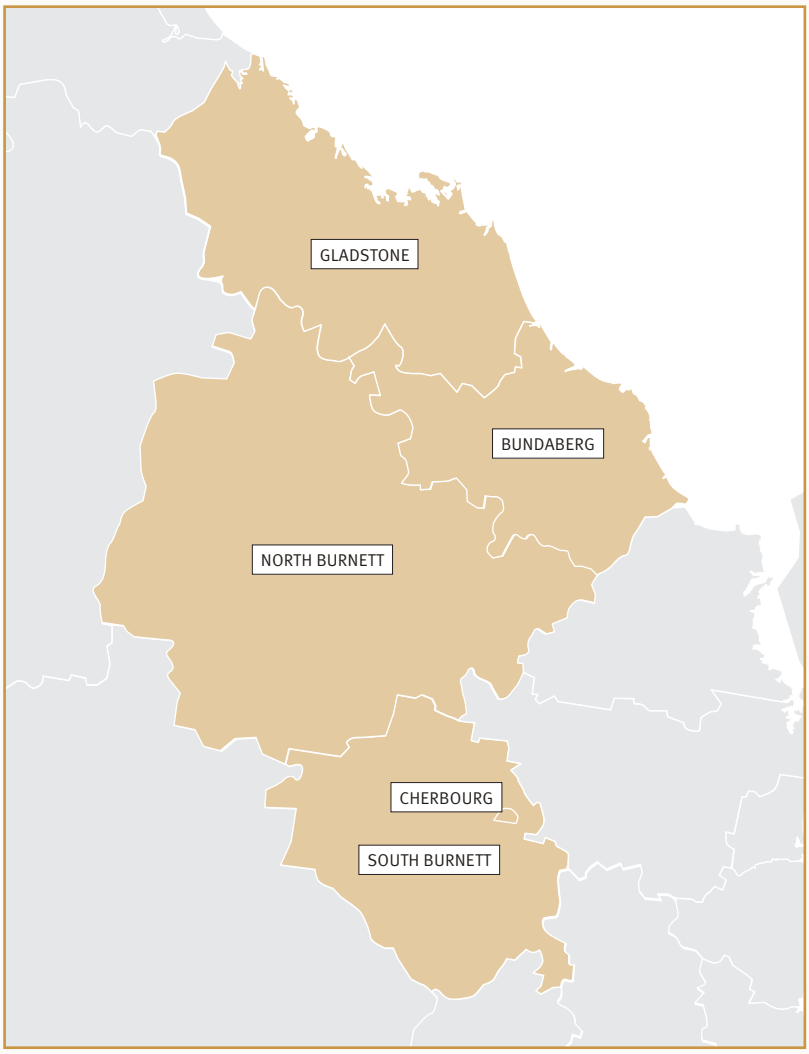
BURNETT AND FITZROY REGION

44,549 km²
across 5 LGAs

204,848
2020 population

$22.72 B
Gross Regional Product

$595 M
Cost of reconstruction of essential public assets since 2011



Traditional Custodians

The traditional lands of the Gurang, Gooreng Gooreng, Bailai and Taribelang Bunda groups spans from the coast in the Gladstone and Bundaberg regions, to the North Burnett in the west.

Wakka Wakka country includes land within the Bundaberg, Cherbourg, North Burnett and South Burnett regions, spreading south to Gympie.

The Bundaberg region is also home to Kabi Kabi and Butchulla people.

Wulli Wulli country spans across the North Burnett and South Burnett regions, with the North Burnett region also being home to the Auburn Hawkwood people.

Profile

LGAs impacted in this region are Bundaberg, Cherbourg, North Burnett, South Burnett (the Burnett catchment) and Gladstone (the Fitzroy catchment).

The Burnett region has endured several severe weather events in recent years, from the devastating floods of 2013 to local flooding from heavy rainfall and significant property damage from severe thunderstorms.

Major floods have been recorded in Bundaberg since 1875 and for Gayndah, Queensland's oldest town, since 1864. In Gayndah there have been more than 15 events exceeding the 10-m level and seven events over 15 m.

The Burnett region can be characterised by two distinct areas in terms of typical flooding. The mid and lower catchments across the coastal plains generally see slow moving flooding where some warning and forecasting of flooding is possible. In contrast, the upper catchment across the hinterland areas sees a fast rate of rise and overland flow.

South Burnett is about 200 km north-west of the Brisbane CBD. Surrounded by the majestic Bunya Mountains, South Burnett is home to one of Queensland's oldest towns, Nanango, the largest wine region, and biggest inland waterways.

Cherbourg is in the South Burnett, adjacent to the Bjelke-Petersen Dam. Its history stems from the relocation of Indigenous peoples from all over Queensland and northern New South Wales, which in turn created a newly formed government reserve in 1904.

To the north, the North Burnett covers 19,700 km² of diverse countryside, shared amongst six main townships: Biggenden, Eidsvold, Gayndah, Monto, Mt Perry, Mundubbera, and an additional 25 villages and farming catchments.

Heading east, the historic sugar cane city of Bundaberg is located just a 4.5-hour drive north of Brisbane, nestled at the northern end of the Wide Bay region and the southern-most tip of the Great Barrier Reef. The region is home to notable turtle nurseries.

Gladstone is a coastal region home to Queensland's largest multi-commodity port, aided by its idyllic location, nestled next to the Coral Sea towards it's north-east. The region is further notable for the year-round pristine swimming conditions and access to the coastal lifestyle. Part of the Fitzroy region is within the Gladstone LGA.

Floods are a common occurrence in the Fitzroy region. This vast catchment is one of Australia's largest river systems, taking in the Isaac, Nogoa, Connors, Comet, Mackenzie and Dawson rivers and the mighty Fitzroy River itself. The people who call the region home rely on this landscape for their social and economic wellbeing, as do all people of Queensland – whether it be through agriculture, mining, manufacturing or energy. For the Fitzroy Basin, resilience is fundamentally about understanding risk. The vast basin has a long history of flooding in all its sub-basins and townships.

Image: Mountain Creek Bridge, North Burnett.

Rainfall and flooding

The North Burnett and South Burnett areas have felt the impacts of four separate events across the 2021–22 summer season, most significantly from Ex-TC Seth. This is on the back of a five-year drought and almost two years of COVID-19 disruptions. During Ex-TC Seth, Dallarnil was the epicentre of the damage in the North Burnett, with 12 dwellings impacted. Some residents were not able to return to their homes in the short term, due to structural issues with house stumps.

Ex-TC Seth also resulted in widespread damage to primary production and the agricultural sector across the Burnett region. This saw erosion damage and a loss of topsoil, damage to waterways and waterlogging and crop losses. Infrastructure such as fencing, irrigation and pumping equipment, dams, roads, powerlines and sheds were destroyed or damaged. Livestock was swept away in floodwaters and wandering stock was lost. Forestry enterprises including mills and harvesting operations were impacted.

Additionally, large amounts of fencing were damaged during the SEQ Rainfall and Flooding event and the damage sustained to the road network also restricted the ability for primary producers to get goods to market.

During the SEQ Rainfall and Flooding event, South Burnett, particularly downstream of the Bjelke-Petersen Dam and across the Barambah catchment, saw significant flooding. The Bunya and Burnett Highways were cut which impacted medical patient transfers around Cherbourg as well as causing broader supply chain issues.

Cherbourg was primarily impacted by road closures cutting off access. Despite the isolation, no damage to housing or industry were recorded.

The SEQ Rainfall and Flooding event caused minor impacts to the Bundaberg's population, predominately impacting local roads. Both the Cordalba State Forest and Burrum Coast National Park were impacted due to excessive saturation of their respective districts.

Damage in the Gladstone region was isolated to four business and four residential buildings. The damage recorded includes the loss of stock and flood waters impacting lower-level flooring and foundations within residences. The most notable point of flooding in the area was in the vicinity of Baffle Creek. Due to flooding, three regional roads were cut during the event.

Impacts

The repetitive nature of the summer rainfall damage has proven a capacity and morale challenge for the councils of the region. They have endured a decade of multi-hazard pressures on people, businesses, local government and the environment. Resilience is at a low ebb, making mental health and wellbeing, particularly amongst rural workers, a major concern for this community. Anecdotal reports are that farmers living in rural areas are more likely to suffer from depression caused by financial pressure and isolation attributable to the impact of recent weather events. Suicide rates are reported 50 per cent higher in rural communities compared to rates in major cities and poor mental health continues to weigh down farming communities such as those in the Burnett and Fitzroy.

The key matter in the human and social space that the recent event has highlighted is a low level of council capacity compared to large community need. This has manifested in the form of shortages in psychological first aid qualified personnel, poor data collection for personal hardship assistance claims and lack of access to temporary accommodation in the local area. There is a strong need for community education in insurance and risk profiles of properties and businesses, individual preparation for disasters and general increase in resilient infrastructure, processes and mindset.

Access is essential for connectedness and business viability, and in North and South Burnett, with overlapping events councils have had challenges managing the resources to undertake emergency works as well as meeting various funding obligations and deadlines for the delivery of externally funded projects.

There is also an identified need for debris removal from waterways. Successive flooding events have washed farming equipment, chemicals and other debris down these rivers and it extends into numerous regions requiring a united approach to identification and removal.

Pest management affects production in this region and recently public health, agricultural production and the environment are concurrently suffering the impact of parthenium weed. During the latest weather events, the weed has increased by 80 per cent causing increases in allergic reactions to the pollen and plant dust by humans. The long-term effect of parthenium weed on the soil seed bank results in displacement of several native species.

Image: Dallarnil, North Burnett.

Recovery and resilience priorities for Burnett and Fitzroy region

These priorities are a composition of those identified by each of the local councils across the region. For ease of reference these priorities are grouped against the five agreed lines of recovery.

Human and Social line of recovery	
Impact assessment	Capture data on human and social impacts on residents and communities in a timely and appropriate manner Investigate alternative ways of collecting impact assessment data when damage is located within a vast landscape
Financial support for individuals	Financial support is available to impacted individuals
Essential services and supplies	Ensure power, water, waste and telecommunications services are repaired and restored
Community wellbeing	Psychosocial support services required as trauma and psychosocial/psychological impacts compounded by multiple events and COVID-19 Psychosocial support to take into consideration micro-isolation
Accommodation services	Housing and accommodation – as temporary accommodation arrangements cease, residents have access to homelessness support services and transitional longer-term accomodation. There is a severe lack of temporary housing/rentals in the local area – people do not want to be too far from their homes. The goal is for all displaced households to be repatriated
Residential insurance	Enable access to the "Disaster Proof Your Finances" toolkit
Community support services and resources	Implement mechanisms to ensure support services are available to communities Build capacity of local support services, networks and community organisations to prepare for and manage short and long term impacts
Information sharing	Ensure flood preparation education is in schools and available at other community facilities
Community-led preparedness, recovery and resilience building	Need to build capacity within the community, possibly within community groups (Psychological First Aid Training and Evacuation Centre Management training) Human and social resilience building so that communities can bounce back in the future Regional (across LGAs) programs to increase resilience Priority will be long-term housing solutions for Dallarnil (North Burnett)

Economic line of recovery	
Impact assessment	Identify business and industry impacts and issues
Financial support	Ensure businesses, primary producers, agricultural industry and not-for-profit organisations have access to immediate financial support services for clean-up, restoration and rebuilding to ensure they can re-open
Stimulate tourism	Work with local tourism and recreation networks to identify need and strategies for economic recovery and development Restore and build confidence in the tourism market in affected areas
Stimulate economic activity	Ensure community events are rescheduled
Business and industry support services and resources	Ensure business and industry support services and resources are easily accessible and meet the need of community members
Business and industry resilience	Build business and industry resilience to ensure business and industry continuity
Business and industry insurance	Advocate to resolve insurance issues experienced by business and industry
Land use planning	Update overland flow and general flood mapping and make available

Environment line of recovery	
Impact assessment	Identify impacts and priority recovery/resilience areas Encourage the use of the Department of Agriculture and Fisheries Natural Disaster Impact Survey to capture damage within the agriculture sector
Waste management services	Consider resilience options for waste management services following on from the successful elevation of the Biggenden waste management station after 2013 floods (North Burnett) Skip bins and fees waived at transfer stations (Gladstone) Development of business continuity planning for waste services/waste facilities during future events
Public health and safety	Mitigate immediate public health and safety risks and manage any long-term impacts
Recreational assets	Ensure recreational assets are restored in a timely manner to allow communities to return to normal as soon as possible
Flood debris	Consider options for addressing clogged waterways from compounding flood events. Debris from 2011 and 2013 has created a damming effect causing the flow of water to change causing more significant impact to property
Weeds and pests	Explore a solution for weed control is needed as spray units are no longer used due to health concerns and ongoing maintenance costs
Agricultural land	Provide training to the agricultural sector on flood resilient farming practices to ensure future impacts are reduced Provide training in soil management in primary production to support the management of flooded soil syndrome
Waterways	Explore a solution for clogged waterways is needed as emergent works are not resolving the issues (debris from this event and previous events – 2011 and 2013

Building line of recovery	
Impact assessment	Identify impacts and prioritise community needs
Council and community assets	Ensure community assets are restored in a timely manner
Resilient community infrastructure	Explore solutions for telecommunication and private water and sewerage issues are required
Resilient homes	Insured/under insured people – explore options through the Resilient Homes Fund
Flood mitigation	Level 3 flood modelling required to be undertaken

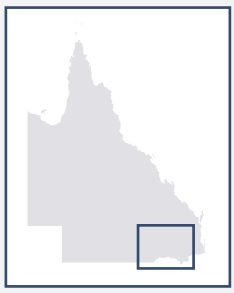
Roads and Transport line of recovery	
Impact assessment	Undertake impact assessment of road and transport network
Road and transport networks - repair and safe access	Ensure make safe works are undertaken and roads re-opened Prioritise recovery works and undertake reconstruction works to ensure road and transport network is repaired (seek funding, execute reconstruction works within time and budget) Priority access infrastructure to be repaired including a number of recent works completed sites repaired after Ex-TC Seth that have been re-damaged
Betterment	Maximise opportunities to reconstruct road and transport assets to a more resilient standard Improve resilience of key transport routes

Image: (Opp. page) Shopping centre underwater, Gympie.

Resilience pathways

The *Burnett Catchment Flood Resilience Strategy* and the *Fitzroy Resilience Strategy (Flood)* have both informed these resilience pathways.

Understanding risk	• Continued improvements to deliver catchment scale best practice flood warning infrastructure	• Enhancing context for data and warnings by communicating information simply and visually	
Working together	• Continued delivery of existing environmental, socio-economic capacity building initiatives of local and regional bodies such as the Red Earth Community Foundation, Burnett Inland Economic Development Organisation (BIEDO) and the Burnett Mary Regional Group	• Connecting risk assessments and disaster management needs into land use planning	• Ensuring business continuity planning becomes business as usual across the region
Seeking new opportunities	• Commitment to and investment in flood mitigation initiatives (e.g. the Bundaberg East levee)	• Advancing sustainable land management practices	• Making sustained improvements in infrastructure resilience over time to support economic growth and community mobility
Continuous improvement	• Developing a program of road betterment at key river/floodway crossings, hotspots and networks	• Improving telecommunications infrastructure and redundancy across the region	• Taking opportunities to improve asset resilience in upgrade and renewal processes



DARLING DOWNS AND SOUTH-WEST REGION

108,430 km²
across 5 LGAs

255,536
2020 population

$22.25 B
Gross Regional Product

$702 M
Cost of reconstruction of essential public assets since 2011

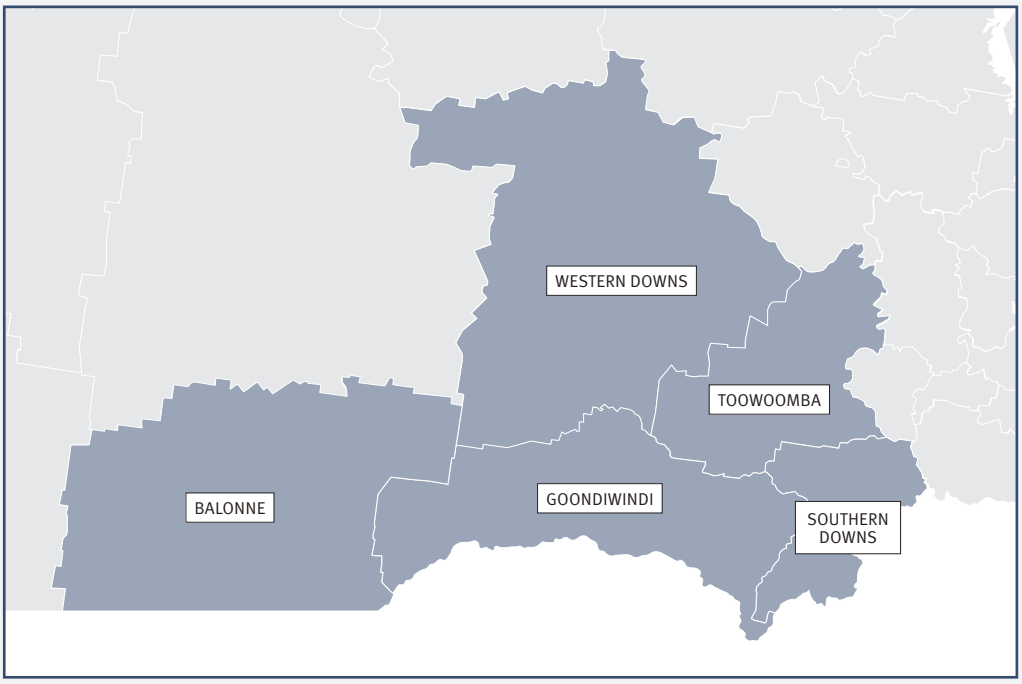
Traditional Custodians

The Toowoomba region is home to the Western Wakka Wakka, Gaibul and Jarrowair. Jarrowair country is in the north, towards and including the Bunya Mountains area in the Toowoomba and Western Downs region.

The traditional lands of the Barunggam people is to the west of Dalby and Iman (Yiman) country is around the Wandoan area.

The Githabul and Kambuwal people are the traditional custodians of lands in the Southern Downs. Country to the west, across Goondiwindi and in the Western Downs region near Tara, is the land of the Bigambul people.

The Balonne region is home to the Yuwaalaraay/ Euahlayi, Bigambul, Mandandanji, Gunggari, Kooma, and Gamilaraay peoples.



Profile

LGAs impacted in this region are Goondiwindi, Southern Downs, Toowoomba, Western Downs (Darling Downs) and Balonne (South -West).

The Darling Downs is a farming region on the western slopes of the Great Dividing Range. The region has a diverse agricultural industry, along with robust manufacturing and mining industries.

Resilience in the Darling Downs is driven by the historic connection to the land through agricultural and pastoral roots, with strong community and family ties in the region.

Living within a flood prone landscape, residents of the Downs are no strangers to periods of isolation. However, connection is not just about connection within the region – the communities of the Darling Downs play an important role in delivering food to the plates of all Australians. A resilient Darling Downs is reliant on the maintenance of strong links that span beyond the region.

The region is vast and comprised of a tapestry of unique landscapes and settlements. Common challenges are expressed in different ways depending on the landscape. This means that being resilient in Stanthorpe is different from being resilient in Tara.

The southern edge of the Goondiwindi LGA follows the Macintyre River, which is also the Queensland/New South Wales border. This of course, raises its own set of challenges when disaster strikes – managing events across jurisdictional and state boundaries is a critical aspect of resilience in the region.

The Southern Downs region, located around 160 km south-west of the Brisbane CBD, is a popular tourist destination notable for its renowned wineries and hiking trails.

To the north, Toowoomba is Australia's second largest inland city, approximately 90 minutes' drive from the Brisbane CBD over the Great Dividing Range.

Heading west about 2.5 hours' drive from Brisbane, the Western Downs has a diverse economy that is largely anchored by the agriculture sector. With an average age of 37, the Western Down's population is relatively young by Australian standards with liveability being a major driver attracting people to the region.

The Balonne shire is home to St George, known as the gateway to Queensland's outback. It is over 500 km from Brisbane and is part of the South-West region of Queensland. The town of St George is on the banks of the Balonne River and is home to around 3,000 people.

Image: Swollen Bremer River, Ipswich.

Rainfall and flooding

All five of the LGAs in this region were impacted during the CSW Rainfall and Flooding event in November-December 2021, and again in February-March during the SEQ Rainfall and Flooding event. Three of the LGAs suffered damage again in May during the SQ Flooding.

While the damage to the region from the SEQ Rainfall and Flooding event was not as significant as the previous CSW event, the cumulative and compounding impacts caused substantial distress to residents, primary producers and business owners.

The CSW Rainfall and Flooding event affected 25 LGAs across the state, with townships in the Goondiwindi region bearing much of the brunt of the flooding. Inglewood was evacuated in the middle of the night, with subsequent evacuations in Yelarbon and Texas in the following days.

The rail line and multiple state highways including the Cunningham closed, some for almost three weeks.

The railway line which links the region to the port was damaged, which interrupted the export of agricultural produce. The agricultural sector was particularly hard hit in the Goondiwindi region, with an estimated loss of around 20 per cent of the value of production.

To the east, the Southern Downs region was not directly impacted by the SEQ Rainfall and Flooding event, however the saturated catchments caused by this event resulted in later rainfall events caused moderate flooding of the Condamine River at Warwick and major flooding at Pratten. Of benefit, this rainfall event has brought the Leslie Dam to capacity following prolonged low levels caused by drought. The Southern Downs once again suffered damage in the May flooding event, with parts of Warwick being inundated and some residents evacuated.

The Southern Downs was also experiencing lasting effects of severe drought, the 2019 bushfire and the COVID-19 pandemic.

The SEQ Rainfall and Flooding event saturated the Toowoomba region causing localised flooding to over 65 major roads, forcing two notable landslides, 45 properties impacted, 40 of those inundated with sewage water. The severity of the event also included the damaging of 57 businesses, causing stock and structural damages. Additionally, reports further indicated irregular periodic losses of power to some residents due to interference with powerlines.

In each of the events this season, the Gore Highway has closed, creating supply chain and logistic impacts to primary producers. The Condamine River cuts off Millmerran and Cecil Plains to the east and to Dalby to the west, and at various points in between.

Since January 2020, the Western Downs has been subject to three flooding events. The most recent event in February – March 2022, impacted the east of the region with Dalby, Chinchilla and Tara all impacted as well as Wandoan in the north. Communities were subjected to localised flooding, road closures and general disruption to amenities.

In February-March 2022, Balonne was subjected to flooding as local creeks and catchments were saturated. The disaster impacted residents by cutting off major local and state roads, as well as causing minor damages to local businesses.

Impacts

This region is experiencing cumulative psychosocial and economic impacts in the community as a result of a series of natural hazards and COVID-19. Exacerbated by the flooding, communities in the Darling Downs and Balonne are noting flood related job losses, increased financial stress, increased living expenses, loss of access, services and community connections which are vital to their overall resilience and wellbeing.

Housing availability and affordability is also a major issue, resulting in people moving further from main centres, and not understanding their isolation or inundation risk.

Community impacts suffered following the flooding include a loss of community connectedness due to the cancellation / postponement of community meetings and events, sports and recreation events, health services, aged care and nursing home outings, programs and activities, and gatherings for religious worship.

Access to council and public facilities such as libraries, the aquatic centre, public swimming pools and sporting fields have been restricted in some towns. Connectedness is impacted by numerous roads which were closed due to damage and flood waters. Immediate emergency works were hampered for several weeks with ongoing wet weather interrupting works and delaying basic access being restored. Several towns in the region were isolated for multiple days with no road access in and out of these locations.

Response and recovery preparedness, planning and evacuation operations and communication to the community of the flood risk were undermined at times by an unreliable flood warning network. Communities and responding agencies' confidence in the flood gauges and the flood forecasting and warning system in general is being questioned based on experiences in the three most recent flooding events.

Recovery and resilience priorities for Darling Downs and South West region

These priorities are a composition of those identified by each of the local councils across the region. For ease of reference these priorities are grouped against the five agreed lines of recovery.

Human and Social line of recovery	
Financial support for individuals	Immediate response and recovery to ensure communities have access to financial support services
Essential services and supplies	Residents of affected areas have access to flood mitigation provisions (sand and sandbags) Immediate response and recovery activities to ensure communities have access to essential services (power) and essential supplies (groceries and medications)
Community wellbeing	Immediate response and ongoing recovery activities ensure communities have access to immediate and ongoing psychosocial support services Community members and visitors have the opportunity to participate in sports, recreational activities, events and gatherings in a safe manner to support community wellbeing and connectedness
Accommodation services	Ensure community has access to homelessness support services and transitional longer-term accommodation, and establish processes to enable residents to return to permanent residences
Residential insurance	Address issues relating to equitable access to residential insurance
Community support services and resources	Ensure the community has access to immediate and ongoing support services during response and recovery
Information sharing	Access to accurate and up-to-date information regarding flood impacted areas and road and bridge closures Community engagement to enhance awareness and understanding of flood warnings, disaster management plans and processes and accurate and up-to-date information is available in preparedness for future events
Community-led preparedness, recovery and resilience building	The community is enabled to identify and access grant programs to develop locally-led social resilience initiatives which may include developing local plans and arrangements to support isolated communities Update response, evacuation and recovery plans to ensure lessons learnt are incorporated into future activities Advocate for local priority actions and issues with the Recovery Group Locally led arrangements are in place to address isolated communities during disaster events (i.e. Mungindi)

Economic line of recovery	
Impact assessment	Identify business and industry impacts and issues including up-to-date information sharing regarding flood impacted areas and roads and bridge closures
Financial support	Immediate response and recovery activities ensure businesses, primary producers, community organisations and not-for-profit organisations have access to financial support services to restore/rebuild businesses Develop a funding strategy to appropriately resource recovery initiatives across the region
Stimulate tourism	Support the visitor economy by promoting the region as open and ready to receive travellers and visitors Promote funding opportunities to stimulate tourism and recreation industries across the region
Stimulate economic activity	Ensure primary producers are back up and running, as they are key to economic prosperity in the region
Business and industry support services and resources	Ensure small businesses, agriculture and primary producers, agriculture support businesses, tourism, retail, accommodation and food service providers have access to support services to restore/rebuild businesses Funding streams to support community organisations and not-for-profits to deliver sustainable support programs
Business and industry resilience	Increased levels of sophistication of business planning leading to regional economic resilience Address logistical/supply chain barriers (the region is a major logistics corridor)
Business and industry insurance	Ensure the community has access to financial advice with regards to the financial and insurance implications of dealing with flood recovery

Image: (Opp. page) flooded yard, Dalby.

Environment line of recovery	
Impact assessment	Undertake damage assessments to ascertain impacts across natural environments
Waste management services	Assess potential land slip impact/risk to waste water treatment facilities
Public health and safety	Implement processes to address public health concerns (Japanese Encephalitis) Implement water quality regimes to monitor and improve water quality on drinking water sources (eg, storage dams)
Recreational assets	Identify and stabilise areas of landslips to ensure safety and protection of public assets in urban areas and throughout the recreational trail network
Weeds and pests	Implement and progressively monitor prevention of spread of weeds and pests (fogging) and revegetation
Green environment	Environmental restoration and protection (unique flora and fauna endemic to the region) program Identify and stabilise areas of landslips to ensure safety and protection the natural environment
Agricultural land	Environmental restoration, soil conservation and reinstatement of displaced soil on agricultural land
Waterways	Environmental restoration of natural waterways and watercourses to improve bank stability and minimise future erosion Work to ensure water security
Animal welfare	Implement processes to address animal welfare concerns (Japanese Encephalitis)

Building line of recovery	
Council and community assets	Implement effective and efficient processes to enable council-owned facilities, sporting facilities and recreational areas to be cleaned, repaired or replaced to enable re-opening and ensuring the community has access to all forms of infrastructure
Resilient community infrastructure	Maximise opportunities to reconstruct council and community assets to a more resilient standard Identify opportunities for building the resilience of critical infrastructure (eg, early warning software and processes) Update, expand and network flood gauge infrastructure
Resilient homes	Identify properties for Resilient Homes Fund (ie, resilient housing, buy back) Address flood-related building scour
Flood mitigation	Funding opportunities to strengthen the region's recovery and resilience capability and mitigate future potential public safety risks for future disaster events Ensure flood modelling, warnings and classifications are reviewed and updated where required, and include local knowledge inputs Funding opportunities to purchase and implement early warning notification software and processes to enable the Local Disaster Management Group to provide community with early and accurate disaster warning information

Roads and Transport line of recovery	
Impact assessment	Undertake initial assessment to ascertain damage to roads and transport network
Road and transport networks - repair and safe access	Ensure make safe works are undertaken and roads re-opened Prioritise recovery works and undertake reconstruction works to ensure road and transport network is repaired (seek funding, execute reconstruction works within time and budget) including sites that have been re-damaged Collaboration, agreement and coordination between councils and the Department of Transport and Main Roads (DTMR) regarding road closures/reopening (particularly where road goes across more than one LGA or there are bridges involved)
Betterment	Maximise opportunities to reconstruct road and transport assets to a more resilient standard Resilient transport networks to maintain community and supply chain connectivity during disaster events

Resilience pathways

The *Darling Downs Regional Resilience Strategy* and the *South West Regional Resilience Strategy* (both currently being finalised) have informed the resilience priorities for this region.

Understanding risk	• Continued investment in flood studies and risk management plans for at-risk towns	• Enhancing flood warning infrastructure and river classifications	• Practical support for small business continuity and enterprise risk management to better withstand long term stresses (e.g. drought) and shocks (e.g. floods and bushfires)	
Working together	• Supporting ongoing provision of baseline services such as health, education, and wellbeing	• Developing a five-year Get Ready strategy to guide Get Ready Queensland activities and messaging across stakeholders	• Continue long term implementation of resilience strategy through local government strategies and business as usual practice	• Continuing to enhance cross border disaster management operations and responsibilities
Seeking new opportunities	• Increasing disaster management resourcing support, including additional Disaster Management Officers and equipment	• Investigate and deliver increased flood immunity and road access to key infrastructure such as water treatment plants, road infrastructure and asset management upgrades	• Encouraging and catalysing continued economic diversification to support long term prosperity – including rail line viability investigations, wild dog fencing programs and new industries.	• Improving proactive and sustained treatment of pests and weeds, including mosquitoes
Continuous improvement	• Development of a program of road betterment at key river/floodway crossings, hotspots and networks	• Improved telecommunications infrastructure and redundancy across the region		

CASE STUDY

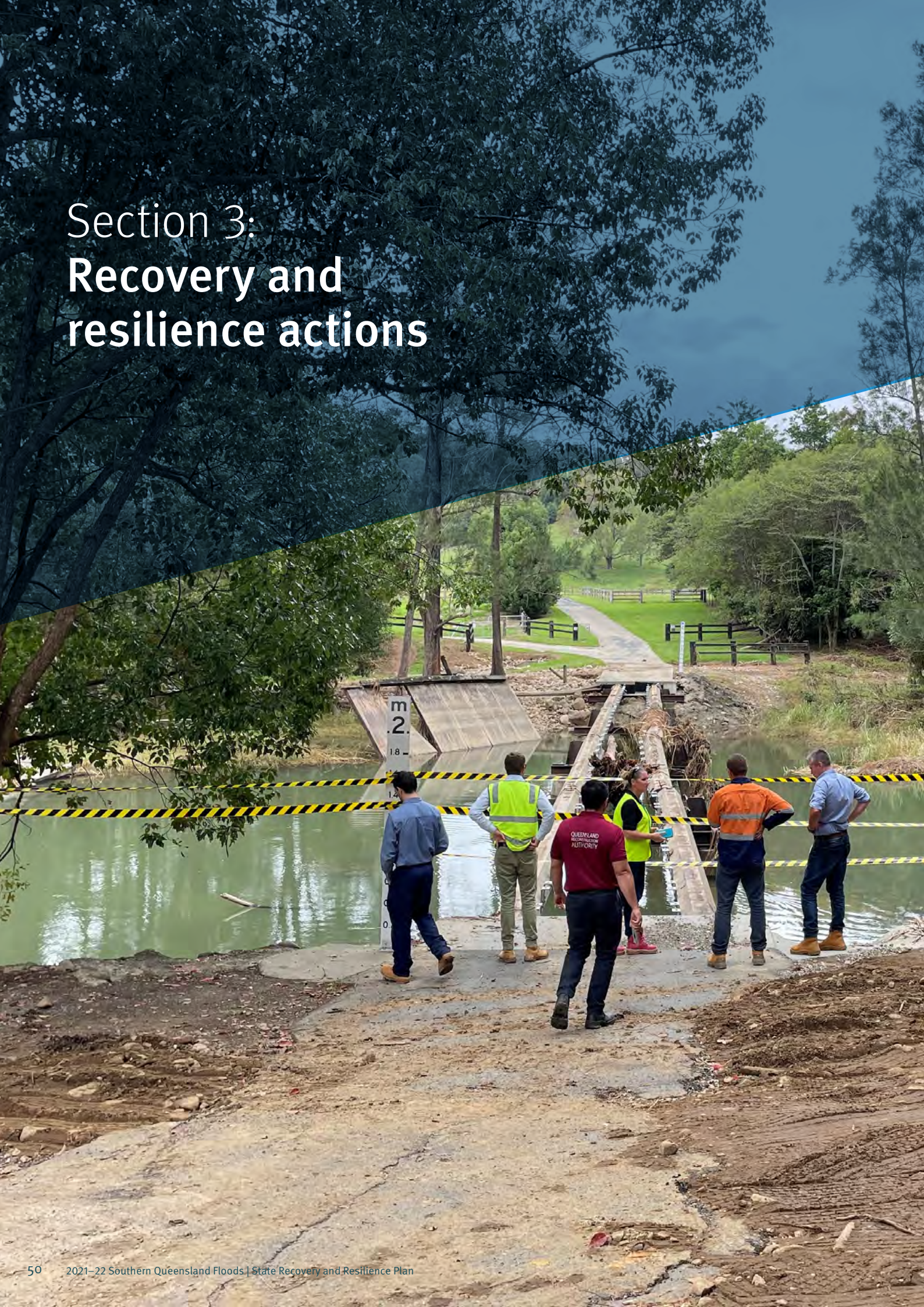
Generational resilience in Goondiwindi

The town of Goondiwindi is nestled on the banks of the Macintyre River in the fertile country of the Darling Downs. Historically, the river would regularly break its banks, inundating the town with floodwater. Following three successive floods in 1956, the local council constructed a levee, initially stretching 11 km through the town. The levee was designed to prevent floodwaters from entering the township in floods up to 11 metres, which it has successfully achieved for much of the subsequent 65 years.

In the years since the levee was first constructed, it has seen minor breaches and a series of improvements – it now extends almost 30 km in length. While it has sustained damage over the years, additional 'betterment' investment has ensured it continues to protect the town from flooding. Once again, during the recent events, the levee kept the floodwaters at bay.

The Goondiwindi levee is an engineering feat that has provided generational resilience. The local council recognises that community resilience is a journey that never ends. Rather, it evolves with the threat, but the levee ensures a strong resilience baseline exists for the region.

Section 3:
Recovery and resilience actions



This section of the Plan outlines the actions to address the regional priorities identified in the previous section. It provides the blueprint for the state government, local governments and communities to support recovery from the 2021–22 natural disaster events, and outlines opportunities for improved resilience outcomes for the people who live in the region.

The Queensland Government will work with local governments and community organisations to facilitate the delivery of local recovery initiatives, focus on community connectedness and support community development in order to recover and build resilience following the impacts of the 2021-22 natural disaster events.

Reporting

Recovery progress will be monitored against the measures of performance and other key metrics identified with state agencies, through regular reporting undertaken six monthly for the duration of this Plan (to July 2024).

Local governments will also be required to report against their recovery priorities, as identified in their event specific local recovery plans.

The State Recovery Policy and Planning Coordinator (the Chief Executive Officer of the Queensland Reconstruction Authority) will report on recovery progress to the Premier.

These reports will be developed by the Queensland Reconstruction Authority and informed by input from Functional Recovery Groups and local governments and will be published on the Queensland Reconstruction Authority's website.

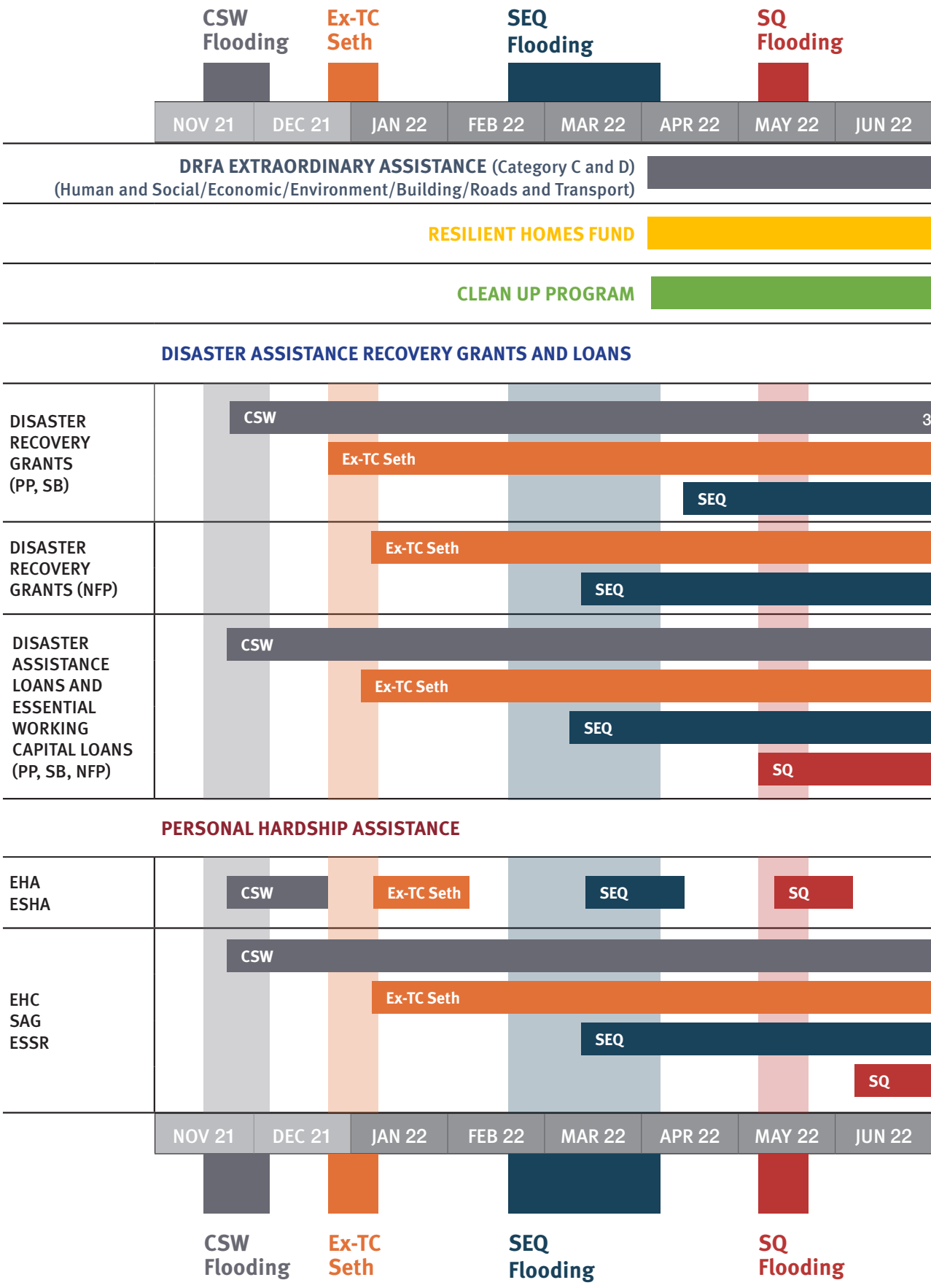
Measures of performance and effectiveness

This Plan has included measures of performance and effectiveness. The measures of performance to measure progress towards achieving actions essential for recovery and resilience building prior to the next event.

Measures of effectiveness, which are a subjective judgement based on the weight of evidence, observations, data collected, analysis and comparison between historical events and the most recent event, can only be completed after a future flooding incident.

Therefore, the measures of effectiveness in the recovery and resilience action tables in this section are offered for consideration post the next event. There is no expectation that they will be reported on like measures of performance in the period of this Plan (2022 – 2024). Measuring the effectiveness of actions is critically important to ensuring recovery actions and resilience pathways are making long term progress.

Image: (Opp. page) Tallebudgera Creek Road.
(Above) Gympie. Courtesy Gympie Regional Council.


CSW Flooding
Ex-TC Seth
SEQ Flooding
SQ Flooding
NOV 21
DEC 21
JAN 22
FEB 22
MAR 22
APR 22
MAY 22
JUN 22
DRFA EXTRAORDINARY ASSISTANCE (Category C and D)
(Human and Social/Economic/Environment/Building/Roads and Transport)
RESILIENT HOMES FUND
CLEAN UP PROGRAM
DISASTER ASSISTANCE RECOVERY GRANTS AND LOANS
DISASTER RECOVERY GRANTS (PP, SB)
CSW
Ex-TC Seth
SEQ
DISASTER RECOVERY GRANTS (NFP)
Ex-TC Seth
SEQ
DISASTER ASSISTANCE LOANS AND ESSENTIAL WORKING CAPITAL LOANS (PP, SB, NFP)
CSW
Ex-TC Seth
SEQ
SQ
PERSONAL HARDSHIP ASSISTANCE
EHA
ESHA
CSW
Ex-TC Seth
SEQ
SQ
EHC
SAG
ESSR
CSW
Ex-TC Seth
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CSW Flooding
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SEQ Flooding
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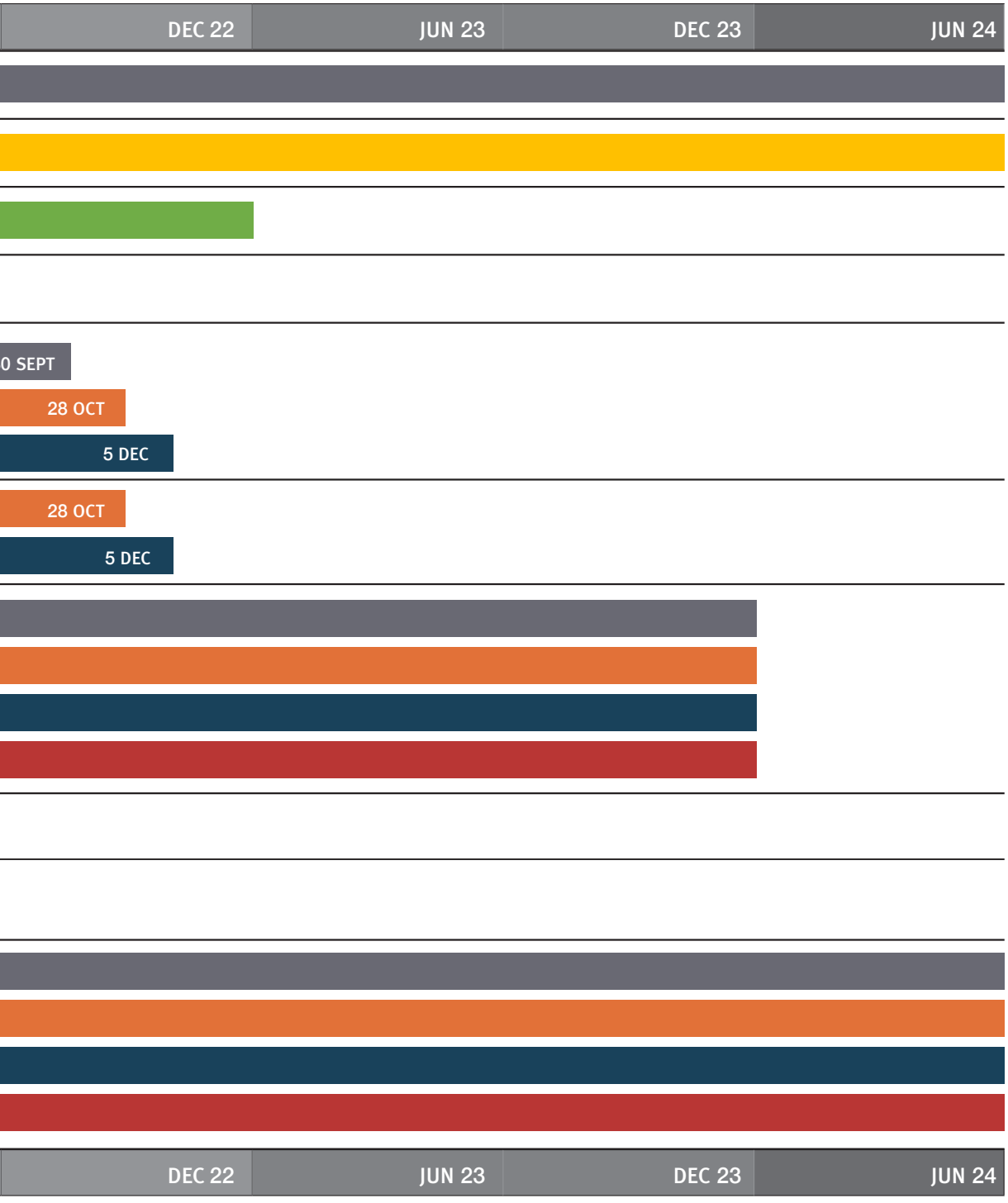


PP – Primary Producer
SB – Small Business
NFP – Not-for-profit
EHA – Emergency Hardship Assistance
EHC – Essential Household Contents
ESHA – Essential Services Hardship Assistance
SAG – Structural Assistance Grants
ESSR – Essential Services Safety and Reconnection

Our programs are helping Queenslanders recover from the cumulative and consecutive impacts of recent disasters, including this year's flood events and the COVID-19 pandemic.

Supporting the mental health and wellbeing of Queenslanders who have been impacted by recent disasters is one of our highest priorities.

Our programs are also helping to address some of the additional challenges Queenslanders are facing during their recovery, including the current timeframes and costs involved with the repair and rebuilding of homes, cost of living pressures and pressures in the housing and rental markets.

Additionally, our emergency housing response and funded Specialist Homelessness Services and Community Housing Providers are assisting impacted vulnerable people and families access safe emergency housing in the aftermath of disasters.

We are also providing a range of assistance to meet the short to medium term housing needs of impacted renters and homeowners.

These programs complement the Resilient Homes Fund, which will assist with re-building and provide other longer-term solutions for individuals and families impacted by disasters

Clare O'Connor
Director-General

Department of Communities, Housing and Digital Economy
Chair, Human and Social Functional Recovery Group

Human and Social

Human and Social impact assessment	
Actions	**Agency**
• Undertake residential damage assessments (RDA)	QFES
Measure of performance	**Measure of effectiveness**
• Number of damage assessments conducted	• Damage assessments accurately reflect extent of the flood damage

CASE STUDY

Community disaster volunteers

A network of almost 50 community disaster volunteers (CDVs) is helping to boost community resilience to natural disasters in the Scenic Rim. The CDV program harnesses the power of local leaders and residents, who are already established at the heart of their communities, to increase the region's resilience and assist during all stages of disasters, from preparedness to response and recovery. As a vast region of more than 4,000 km², many areas within the Scenic Rim region can become isolated in times of disaster. Local CDVs play a crucial role in monitoring and reporting on the situation in isolated areas, as well as opening Places of Refuge.

During the flood event that impacted SEQ in February 2022, the township of Tamborine was isolated for three days, which meant Council and other partners, including Red Cross, could not physically reach the community. Three local CDVs opened a Place of Refuge on behalf of Council and supported a number of families impacted by the rising floodwaters. Improving community grass-roots knowledge and networking has led to a positive and sustainable change in the region, with the community taking greater ownership of their disaster preparedness and overall resilience.

"Thanks to the support of the Queensland Reconstruction Authority, the CDV program has continued to grow and evolve since its inception in 2020. It will continue to be rolled out across the region to help build resilience and the community's capacity to respond to, and recover from, disasters."

Debra Moore, Community and Culture Manager, Scenic Rim Regional Council

Image: (Opp. page) Volunteers clean up, Ipswich. (Above) Community Hub officer.

Financial support services for individuals | Access to essential services, essential supplies and community services	
Actions	**Agency**
• Personal Hardship Assistance Grants • Essential Services Safety and Reconnection Grants	DCHDE
• Relief Grants • Bereavement Grants	NGOs
• Australian Government Disaster Relief Payment (AGDRP) • Disaster Recovery Allowance (DRA)	Services Australia
• Financial assistance or practical products to support the clean-up effort through emergency relief, donated goods, corporate offers and Queensland Flood Appeal	NGOs
• Financial assistance to meet shortfalls in insurance (particularly for people not eligible for government grants)	NGOs
• Financial assistance grants and loans for eligible not-for-profit organisations	QRIDA
• No Interest Loan Scheme (NILS) to assist individuals and families on a low-income to access to safe, fair and affordable credit • Financial literacy services (financial support workers, financial counselling, advocacy and resilience)	Multiple agencies
• Funds to engage a suite of time limited Flood Specific SAG Case Manager/Service Navigator	DCHDE
• Practical and financial assistance for disaster affected people with no other means to meet immediate basic needs, including vouchers for groceries, pharmacy, fuel and clothing, eVouchers and material goods	NGOs
• Purchasing of extraordinary disaster recovery services to supplement local service system capacity (e.g. Neighbourhood Centres, Red Cross, Lifeline, Chaplains)	DCHDE
• Prioritise re-opening of all state and non-state schools	DoE
• Prioritise health service resumption – additional staff, alternate services (such as telehealth) and rescheduling	QH

Measure of performance	Measure of effectiveness
• Number of instances of financial and practical assistance provided • Value of financial and practical assistance provided • Number of schools unable to re-open • Personnel in need referred to NGOs	• People have access to financial advice at their point of need • Schools where flood resilient measures were incorporated are able to re-open quickly • Percentage of EHA survey respondents who record that their needs were met by grants

Image: Community recovery officers.

Community wellbeing ensuring access to psychological support services

Actions	Agency
• Pastoral and chaplaincy support to impacted community members	NGOs
• Psychosocial resources to affected DoE staff and students • Comprehensive wellbeing frameworks, programs and support services for staff and students to manage psychosocial impacts	DoE
• Pillowcase Program workshops – school-based program for ages 8-10 • Continuous needs and strengths assessment to track recovery progress, with an emphasis on psychosocial impacts • Resources to assist communities in addressing disaster psychosocial impacts	NGOs
• Psychological first aid at evacuation centres, recovery hub, outreach (including virtual outreach) and from community based service outlets, including referrals and follow-up service to displaced individuals • Psychological first aid, SPR, case management services, debriefing for front line and first responders • Farmer to Farmer support service • Individuals with more complex mental health concerns appropriately supported through Queensland Health and disaster recovery clinicians • Referrals to other programs such as financial counselling, National Debt Helpline, Escaping Violence Program, DV Connect	NGOs
• Mental health clinicians to evacuation centres and recovery hubs • Mental health disaster recovery services • Provision of Integrated Fact sheets and referral pathways • Promote mental health resources such as the QH MH 1300 call service • Promote Birdies tree recovery resources for psychosocial impacts presented in children • Community-based psycho-educational programs • Boost PHN-commissioned mental health providers to meet demand for services including psychological therapies • Support for local headspace services	QH mental health clinicians PHN
• Provision of mental health services to disaster impacted community members • Provision of funds to deliver psychosocial community education and training	DCHDE QH

Measure of performance	Measure of effectiveness
• Number of instances of chaplaincy/pastoral services provided • Number of instances of psychological first aid services provided • Number of psychosocial education sessions provided	• People in flood affected areas report they received the mental health and well-being support they needed at the time • Individuals and communities report feeling more prepared for and more resilient to psychosocial impacts of flood event • People with complex mental health needs supported and referred to the appropriate agency

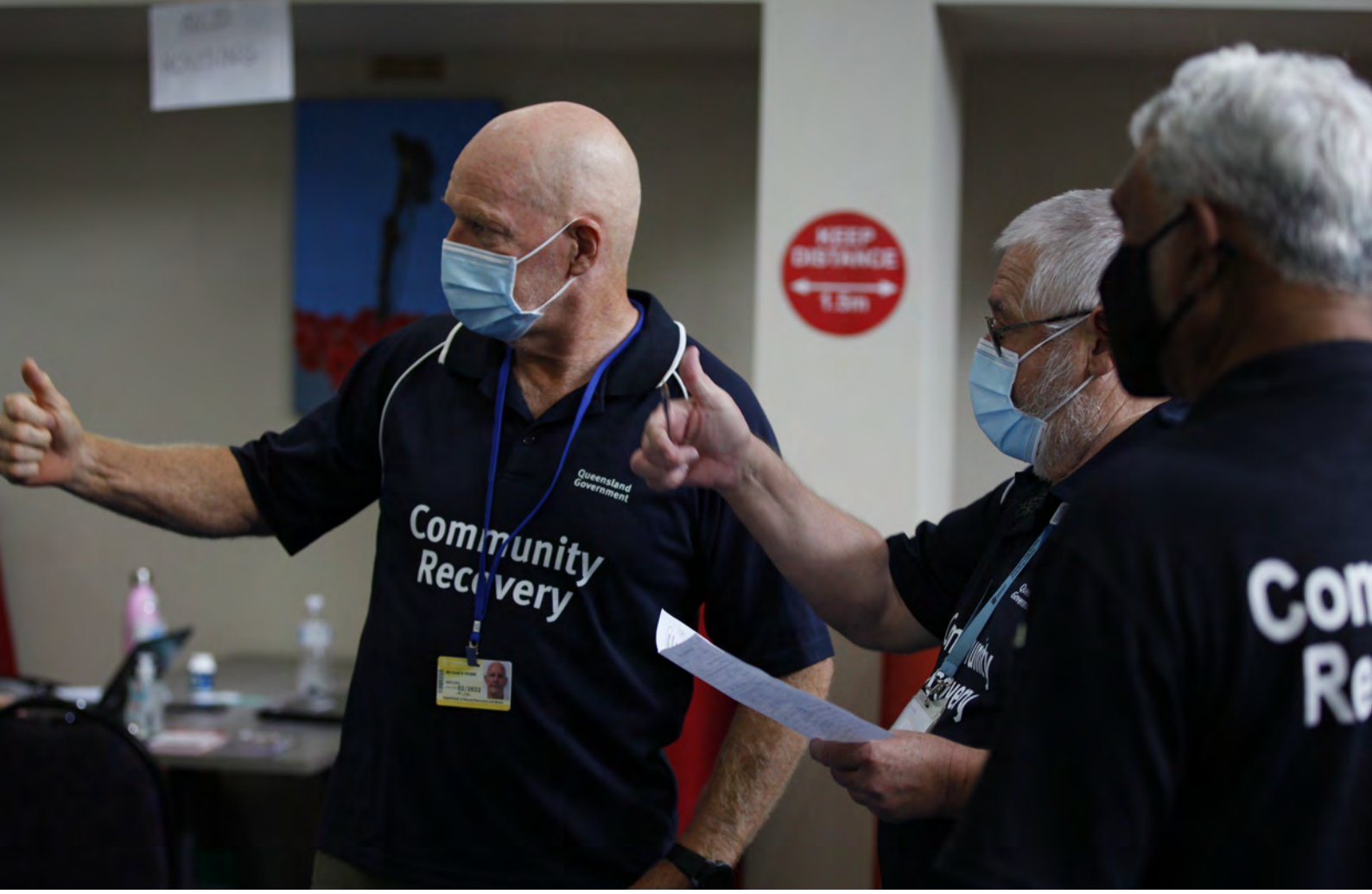
Image: QRA and QFES staff carrying out damage assessments.

Accommodation services (emergency housing, homeless support services) and enabling residents to return to permanent residences

Actions	Agency
• Administer Structural Assistance Grants including define scope of works cost estimate to repair uninsured homes to a safe and habitable status • Complete social housing damage assessments and coordinate repairs, with a focus on tenants displaced from their homes	DCHDE QBuild QBCC
• Financial or practical assistance to meet shortfalls in labour or materials required to make the home safe and habitable or to assist with replacement of defined essential household grants	NGOs
• Emergency housing assistance while exploring medium and long-term housing needs (could include hotel/motel) • Medium-term housing assistance in some locations where long-term needs require time to respond • Coordinating accommodation supply - social housing (vacancies, new construction), head leasing from private market	DCHDE NGOs
• Specialist homelessness services to support people while in temporary accommodation and with other essential items (Rapid Housing Response Package)	DCHDE
• Provision of information, advocacy and advice to private rental tenants	Tenants Queensland
• People can access emergency relief financial assistance for temporary accommodation	NGOs
• People are assisted to navigate/access housing and homelessness service providers	NGOs
• Accommodation package for displaced individuals and families ($121.1 M)	DCHDE

Measure of performance	Measure of effectiveness
• Confirm people are receiving access to safe, secure and habitable accommodation • Report on Structural Assistance Grants • Report on number of Social Housing damage / assessments • Report on rapid housing response package • Report on accommodation package	• Policy, procedures and funding to provide financial assistance to support access to safe, secure and habitable accommodation have been developed and rehearsed

Image: Water lapping apartment block, Fraser Coast. Courtesy Fraser Coast Council.



Residential insurance	
Actions	**Agency**
• Continue to promote 'Disaster Proof Your Finances' toolkit	DCHDE
• Continue to promote residential insurance through Get Ready Queensland	QRA
Measure of performance	**Measure of effectiveness**
• Nil	• Nil

Community support services meet the need of community members	
Actions	**Agency**
• Advisory and linking activities conducted by Community Connector Advisor	DCYJMA NGOs
• Information, support and referral for individuals and families from refugee and asylum seeker backgrounds	NGOs
• Information, advice and referral for mainstream and specialist services (eg with insurers)	NGOs ICA
• Co-design Get Ready Queensland preparedness resources to ensure they are inclusive and accessible for different populations, including CALD, First Nations, people with a disability and youth communities	QRA
Measure of performance	**Measure of effectiveness**
• Confirm community has access to referral pathways	• Affected people report they were provided suitable advice on agencies which could assist them through flood recovery

Image: Community recovery officers.

Information sharing and education to ensure the community has access to coordinated, accurate and up-to-date information	
Actions	**Agency**
• Resources to support financial resilience such as the Disaster Proof Your Finances Toolkit and the Smart Saving website (concessions and rebates)	NGOs DCHDE
• Promote CSIA Community Recovery Resources and Service Provider Guide	CSIA DCHDE
• Information on recovery support and assistance measures available • Information provided to social housing tenants, retirement villages, residential services and residential parks • Information available through Community Recovery Hotline, disaster management community support franchise, workshops, human service networks, peak bodies, eblasts, posters, newsletters	DCHDE and partner agencies
• Public health communication strategy – clean-up, mould, tetanus, wound infection, impacted recreational water, mosquito outbreaks, disaster messaging for CALD communities • Staffing support to PHN to ensure continuity of primary health care services where services have been disrupted	QH
• Raise awareness of school closures and alternate education continuity arrangements • Prioritise the availability of alternate education arrangements	DoE
• Promote responsible donation practices • Promote, train and educate stakeholders on the role of GIVIT	GIVIT
• Promote responsible volunteering and volunteer management practices • Promote availability of EVCREW and CARE ARMY volunteers	VQ

Measure of performance	Measure of effectiveness
• Public health communication strategy was executed • Alternate education arrangements identified early and communicated to public • Report donation management through GIVIT • Number of GIVIT training sessions • Number and value of donations requested and delivered • Number of campaigns, strategies implemented to promote responsible donation practices and volunteering practices	• Education and training continued with minimal impact from disaster event • Donations were effectively administered

Image: Community recovery officer with Grantham resident.

Ensure community has access to holistic community-led disaster preparedness, recovery and resilience initiatives	
Actions	**Agency**
• Capacity building to equip recovery stakeholders to address long-term psychosocial impacts, support resilience, navigate the recovery context including psychological first aid training to community members and service providers • Support establishment of local resilience teams leveraging existing community resilience capacities • Supporting the Supporters workshops to ensure the wellbeing of support people	NGOs DCHDE QH
• Provision of funds to procure Community Development Officers support local recovery and resilience (community engagement and capacity building) in worst affected areas ($12.08 M) • Provision of Flexible Funding Grant program to support locally led recovery and resilience initiatives ($20 M)	DCHDE
• Advocate for recognition of psychosocial impacts at local, district and state disaster management and recovery forums • Support councils to develop recovery plans • Area-specific needs assessments to identify community strengths, assets, capacities, skills and knowledge • Evacuation Centre Management Training • Host the Disaster Recovery Advisors and Mentors Australia (DRAMA) initiative	NGOs
• Promote inclusive approaches to disaster management planning and responses including promote the Disability Inclusive Disaster Risk Reduction (DIDRR) framework, toolkits and collaboration resources, Person Centred Emergency Plans and resources currently under development for homeless people	DCHDE with partners such as CSIA , QDN and USyd
• Work with peak bodies, advocacy groups and NDIA to understand, monitor and escalate systemic issues and needs of people with disability	DSDSATSIP
• Business continuity planning with community organisations • Promote CSIA Disaster Management and Recovery Resources for Community Organisations	DCHDE CSIA

Measure of performance	Measure of effectiveness
• Confirm local recovery and resilience supported by Community Development Officers and funding grants • Report on Flexible Funding Grants • Psychosocial impacts addressed at local, district and state disaster management and recovery forums. Training is provided. • DIDRR is promoted • Promotion of CSIA Disaster Management and Recovery Resources for Community organisations • Non-government organisations assisted with business continuity planning • Report on psychosocial education/training delivered • Report on sector capability activities	• CDO and FFG funds are accessed by communities • DIDRR framework, toolkits and collaboration resources available and accessed • CSIA Business Continuity for NGOs toolkits and collaboration resources are available and accessed

Image: Community Recovery Hub.

The 2022 SEQ Rainfall and Flooding event caused significant direct damage to commercial premises, stock and equipment. Disruptions caused by road closures also resulted in significant losses to businesses. Agricultural production and the tourism industry have also been significantly impacted.

The economic recovery priority is focused on providing immediate and ongoing financial support packages to impacted business, primary producers, the agricultural industry, not-for-profit organisations and local governments to facilitate relief, recovery and resilience activities.

In addition to financial support packages, a range of support initiatives have been identified to strengthen business and industry resilience, ensuring commercial continuity while building flood resilience. The tourism industry remains a focus for driving economic recovery across the region. Short-term recovery initiatives focusing on promoting tourism opportunities in conjunction with longer-term initiatives to develop and diversify tourism offerings by developing resilient infrastructure, will enable the industry to become more resilient in times of natural disaster.

Mike Kaiser
Director-General
Department of State Development, Infrastructure and Local Government
Chair, Economic Functional Recovery Group

Image: Brisbane. Courtesy RAW.Exposed.

Economic

Business and industry impact assessment

Actions	Agency
• Undertake business and industry impact assessment • Small business survey (event specific) and publish on Business Queensland • DESBT staff to reach out to impacted businesses to promote grants and provide information • Engage with councils and chambers of commerce in the impacted areas to better understand the impacts to businesses	DESBT

Measure of performance	Measure of effectiveness
• Small business surveys completed and published • Consultation with Chambers of commerce and impacted businesses to better understand the impacts to businesses and need for assistance	• Impacted businesses received funding through appropriate grants

Immediate and on-going financial support for businesses, primary producers, agricultural industry and not-for-profit organisations

Actions	Agency
• Disaster Assistance Loans of up to $250,000 for up to 10 years • Essential Working Capital Loans of up $100,000 for up to 10 years • Extraordinary Disaster Assistance Recovery Grants of up to $75,000 • Business Recovery Hub/s in highly impacted localities	DESBT DAF QRIDA
• Skilling Queenslanders for Work (SQW): funding for community based organisations in flood affected areas to undertake recovery-related projects	QRA DESBT
• Rural Landholder Recovery Grants: funding to support the extraordinary clean up and reinstatement of rural landholder properties (lifestyle blocks) impacted	QRA QRIDA
• Medium to Large Business Recovery Loans: support medium to large business including primary producers related agricultural supply chain businesses and other businesses critical to their supply chain	QRIDA

Measure of performance	Measure of effectiveness
• Businesses, primary producers, agricultural industry and not-for-profit organisations informed of funding available • Assistance with applications provided where needed	• Funding provided and accessed

Image: Milton Ferry Terminal, Brisbane.

Stimulate tourism across the region	
Actions	**Agency**
• Postponed events are rescheduled	Tourism operators
• Promote the re-opening of the region for tourists • Peak tourism bodies such as Queensland Tourism Industry Council, TEQ and Regional Tourism Organisations in impacted areas encouraged to promote access to existing supporting funding programs	DTIS

Measure of performance	Measure of effectiveness
• Promote the re-opening of the region for tourists • Engage with stakeholders to promote tourism opportunities	• Tourism to flood affected areas returns to pre-flood levels

Stimulate economic activity across the region	
Actions	**Agency**
• Buy Local/Go Local campaign: encourage consumers to shop and visit locally within disaster impacted communities	DESBT

Measure of performance	Measure of effectiveness
• Economic stimulus plan being developed area by area	• Economic activity returns to pre-flood levels

Business and industry support services and resources meet the need of community members	Agency
Actions	**Agency**
• Agricultural supply chains are open and operating effectively to manage ongoing supply • eHub to provide information about recovery to primary producers • Employees for agricultural enterprises through the Pacific Labour Scheme / Seasonal Worker Program	DAF
• Small Business Support Service ($2.0 M): – Part of the $14.5 M Small Business Support Package - dedicated to flood-affected small business owners providing free, independent case management with a strong focus on mental health support	QRA DESBT

Measure of performance	Measure of effectiveness
• Relevant information about recovery identified and uploaded to eHub • eHub promoted to primary producers and small business • Option of establishing a small business recovery centre is investigated • Promotion of employment in agricultural enterprises through the Seasonal work program and Pacific Labour scheme • Small businesses support package available • Identify points of breakdown of supply chain • Report the participation in the "Skilling Queenslanders for Work" package	• Refinement of policies/ procedures to support agricultural enterprises employees • Agricultural supply chains reopened • Primary producers can access labour through multiple sources • Number of small businesses that accessed funding package • Supply chains are re-established and businesses can return to normal • Increase in the skills and qualifications of Queenslanders for work

Image: Kookaburra Queen entrance underwater, Brisbane.

Business and industry resilience to ensure business and industry continuity

Actions	Agency
• Business resilience program including Small Business Disaster Hub on Business Queensland • Community education initiatives to build flood resilience	DESBT
• Industry Recovery and Resilience Officers (IRROs): support for primary producers for short, medium and longer term recovery needs, including to develop industry specific, risk-based, on farm flood management plans	DAF
• Tourism Recovery Package ($7 M): – Building Resilient Tourism Infrastructure – grant program for impacted tourism businesses to build their resistance and aid their response to flooding and natural disasters through innovative solutions and bespoke engineering solutions – Regional Tourism Product, Experience and Infrastructure Platform: To diversify the tourism offering in impacted areas by mapping existing tourism products, experiences and infrastructure against natural disaster metrics and identifying gaps for development to make the local industry more resilient in times of natural disaster – Tourism Business Resilience Program: To help tourism businesses respond to the unique challenges and help them plan for and recover from natural disasters – Solving Disaster Resilience Challenges with Open Innovation: to find solutions for disaster risk and resilience issues likely to impact the tourism industry in regions activated in 2021–22, to identify shared disaster risk and resilience issues and innovative solutions	DTIS
• Local Recovery and Resilience Grant: grants to local governments to undertake relief, recovery and resilience activities	QRA
• Temporary arrangements are in place for a person to apply for a temporary use license to change or vary existing development approval conditions or operating constraints which may prevent them from operating during the applicable event *(note: at the time of publication of this Plan, the applicable event has ended)* • Deliver workshops to support tender capability and strengthen local supply chain capability	DSDILGP

Measure of performance	Measure of effectiveness
• Business resilience programs implemented • Businesses assisted to develop individual business resilience plans • Number of community education initiatives developed and implemented • Employment of Industry Resilience and Recovery Officers (IRRO) achieved • Tourism recovery package delivered • Number of applications for temporary use licences	• Local business can pivot faster than previously to respond to hazards and change • Tourism industry is more resilient to flooding impacts • Tourism industry is more sustainable

Land use planning

Actions	Agency
• Continue to support local governments in undertaking plan-making changes which ensure local planning schemes mitigate future hardship through comprehensive consideration of natural disaster planning including lessons learned from past events and relevant climate change assumptions • In combination with the voluntary buy back component of the Resilient Homes Fund, review existing zoned land at both a state (urban footprint) and local government level to ensure land is appropriately zoned given reflect recent flood events. Where homes have been purchased through the buy back, land use zoning will be changed to prevent any future dwelling construction as a matter of course • Develop a guideline for local government that outlines the tools under the planning framework that can be used in emergency situations, for example exemptions from development offences where an emergency causes safety concerns and the ability for temporary uses of land.	DSDILGP

Measure of performance	Measure of effectiveness
• Continued engagement with council and state agencies to support and promote future • land use planning controls which effectively consider natural disaster planning and accord with disaster mitigation principles	• Change in land use planning approvals on floodplains

The rainfall and flooding caused extensive impacts to the environment associated with the degradation of riverine systems and agricultural lands, sediment and contaminant releases, vast amounts of flood debris and waste management challenges, threats to vulnerable wildlife species, and damage to national park assets along with privately managed assets with natural and historical heritage values.

Key recovery priorities are to return the environment to its pre-event state as quickly as possible, particularly in relation to the collection of marine debris and rehabilitation of vulnerable wildlife, and to rebuild river banks and catchments to a standard that will withstand future events.

Jamie Merrick
Director-General
Department of Environment and Science
Chair, Environment Functional Recovery Group

Environment

Environmental impact assessment

Actions	Agency
• Systematic damage and safety assessments of campgrounds, day use areas, short walking trails and roads, remote and longer walking tracks and fire line network on the national protected area estate • Engaging with and inspecting local government and other licensed operators to assess impacts to high-risk operations and the receiving environment • Data analysis to assist with the identification of emergent issues and planning for long-term recovery (waste quantities, environmental asset site impacts, ambient water quality, riverbank surveys, and sediment plume modelling) • Prioritise advice and environmental approvals or exemptions that support road, port and coastal infrastructure rebuilding	DES

Measure of performance	Measure of effectiveness
• Number of damage and safety assessments (recreational areas and other) completed • Updated risk assessment of environmentally relevant activity of the damaged areas • Report surveys of infrastructure (fire) for prioritisation of repair • Partnering with natural resource management organisations to identify impacts	• Priority areas for recovery operations are quickly identified • Emergency services have a good understanding of the operational status of critical fire infrastructure • Potential funding opportunities are identified in a timely manner

Waste management services to enable clean-up and waste disposal

Actions	Agency
• Messaging to protect public health when handling waste and flood debris • Supporting local government and other organisations to identify debris issues and undertake clean-up, including for hazardous wastes • Waste levy exemptions for waste originating from flood impacted local government areas • Rapid resolution of waste management issues, including legal collection, community advice, temporary waste storage and emissions, landfill operations and capacity • Work with councils to reduce the potential for contamination and hazardous waste from severe weather events • Swanbank – enhanced monitoring and compliance programs to address water and odour issues impacting community	DES QH

Measure of performance	Measure of effectiveness
• Public health notifications are released • Number of LGAs requesting waste levy exemptions • Number of temporary waste storage and emissions options promulgated to the public & LGAs • Report the progress of the Swanbank water and odour issue	• Rapid resolution of waste management issues • Enhanced monitoring and compliance at Swanbank for the community

Images: (Opp. page and above) Sir John Chandler Park riverbank erosion.

Public health and safety (safe drinking water, sewerage treatment plants operational, hazardous facilities management, disease and mosquito-control)

Actions	Agency
• Rapid resolution of actual and threatened contaminated releases including through the application of strict temporary measures at hazardous facilities • Assisting plant operators with management of deteriorated raw water intake and low drinking water supplies through conservation measures • Ambient water quality monitoring downstream • Information to operators about the support available and to the public on clean-up options and cautions	DRDMW DES QFES QHealth

Measure of performance	Measure of effectiveness
• Number of applications of temporary measures to deal with contaminated releases • Education delivered to plant operators • Record changes in water quality and response • Enact conservation measures to improve supply of potable water	• Time for resolving contaminated releases is reduced • Improvement in water quality and availability during and post disaster

Recreational assets (rail trails, fire trails, parks and gardens)

Actions	Agency
• Messaging to visitors and users about the closure status of national parks and visitor centres • Work with First Nations rangers and volunteers to clear debris and repair damage to make the locations safe for public use • Reopening of camping areas and trails where safe to do so • Assess, prioritise and restore damaged infrastructure on national parks • Reinstate fire management infrastructure for effective fire hazard reduction and firefighting measures, including on local government bushland and natural areas	DES
• Survey impacts to unallocated state land access tracks and fire lines to prioritise maintenance	Resources
• Environmental Recovery Program: – Environmental assets – Weed and pest management	DES
• Community and Recreational Asset and Resilience Program ($150M) - clean-up and repair, and where economical, improve the resilience of community and recreational assets	QRA

Measure of performance	Measure of effectiveness
• Report closures of national parks and visitors centres • Report damaged infrastructure in national parks • Report fire management infrastructure is reinstated • Reporting on the Environmental Recovery Program • Reporting on the Community and Recreational asset recovery and resilience program	• Reduction in time before facilities back online • Emergency services have a good understanding of the operational status of critical fire infrastructure

Image: Scarborough, Moreton Bay.

Flood debris removed from natural environments

Actions	Agency
• Survey and debris recovery operations in Brisbane River and greater Moreton Bay • Water quality guidance to Navy divers assisting with recovery and inspection work in Brisbane River • Repair/rebuild coastal structures, with investigations into improved flood-resilient engineering standards for pontoons including revised materials to address polystyrene pollution, with the aim of presenting a long-term solution to mitigate the vulnerability to future weather events	MSQ/TMR DES QH DSDILGP
• Address the large quantity of debris in waterways, and from Brisbane and Logan Rivers washing up on beaches in marine parks	DES MSQ/TMR
• Clean Up Package ($30 M) - focus of assistance is clean-up, removal and disposal of flood related debris	QRA

Measure of performance	Measure of effectiveness
• Number of debris collection plans completed • Review engineering standards for pontoons • Report on the conduct of the Clean-up package	• Clean up, removal and disposal of flood related debris is well orchestrated and timely • Engineering standards for pontoons reduce the amount of flood debris from pontoons impacting the natural environment at next flood event

Prevention of spread of weeds and pests

Actions	Agency
• Exemption for vegetation clearing in a declared disaster area to prevent or minimise damage or loss to people, property or the environment • Natural resource managers to implement weed and pest management programs that aim to prevent introduction, or detect and treat spread of priority and environmental land and water weeds • National approach to human health and industry focused responses to the threat of mosquito infestations and spread of Japanese Encephalitis	DES DSDILGP DAF
• Natural resource managers to implement control of young wild pigs in the lower channel country before breeding age	DES DAF
• Environmental Recovery Package -– weed and pest management	DES

Measure of performance	Measure of effectiveness
• Report an increase in programs to prevent spread of pests and weeds • Access to national funding to manage mosquito borne diseases including Japanese Encephalitis • Report on Environmental Recovery Program - weeds and pests	• Weed and pest impact from flooding is reduced • Early detection and reporting of weeds and pests in regions is improved

Image: SRC with residents, inspecting pontoon debris, Noosa.

Green environment (natural amenities, heritage places, soil quality, flora and fauna) restoration and protection	
Actions	**Agency**
• Fast-track advice and approvals to repair and stabilise heritage places and nature refuges where needed • Expand grant rounds that support disaster recovery activities • Early-stage replanting in koala habitat restoration areas on floodplains impacted and requiring management intervention to prevent significant loss of trees • Management of pests and weed spread within national protected area estate	DAF DSDILGP DES
• Environmental Recovery Program ($28.9 M) - environmental assets	DES

Measure of performance	Measure of effectiveness
• Report on Environmental Recovery Program - environmental assets	• Restoration of heritage places is achieved

Agricultural land	
Actions	**Agency**
• Industry Recovery and Resilience Officers Program - industry recovery and resilience officers to work directly with impacted primary producers to assist with farm resilience planning, funding assistance and workshops DRFA (Cat C) • Encourage landholders to maintain recovery works (wet season spelling in recovery zones, long term stock exclusion strategies, or extended irrigation regimes for revegetation in dry seasons) • Coordination of primary producer recovery and preparation for events, ensuring continued supply of products, food and related services to market	DAF

Measure of performance	Measure of effectiveness
• Report on Industry Recovery and Resilience Officers Program	• IRROs assist business continuity planning and risk management for producers faced with a flooding event

Waterways (riparian, riverbanks, creek beds and tributaries) restoration and protection	
Actions	**Agency**
• Natural resource managers to work with local governments to identify impacts and remediate damage to riverine environments and reduce further impacts to communities	DES
• Environmental Recovery Program - riverine recovery	DES
• Flood Risk Management: funding for councils to undertake key activities to support evidence based response, mitigation and resilience strategies to manage their river, creek and overland flood risk	QRA

Measure of performance	Measure of effectiveness
• Report on the Environmental Recovery Program - riverine recovery • Report on flood mitigation projects	• Improvements to riverine environments post-flood • Introduction of more flood mitigation tools in regions • Reduction in sediment and nutrients entering waterways

Image: Landslip at D'Aguilar National Park.

Animal welfare (livestock and wildlife)	
Actions	**Agency**
• Wildlife response initiatives linked to SEQ Wildlife Hospital Network and volunteer wildlife carer network • Salvaging of wildlife habitats and nest sites, and longer-term monitoring regimes and threat mitigation measures for riverine and marine species	DES
• Environmental Recovery Program - biodiversity conservation	DES

Measure of performance	Measure of effectiveness
• Report on Environmental Recovery Program - biodiversity conservation	• Biodiversity is conserved

CASE STUDY

Improving waste removal practices

The City of Gold Coast has partnered with Handel Group to deliver FLEXiSKIP®, an on-demand kerbside collection service. Where most councils impacted by recent floods relied upon manual kerbside collection or traditional skip bins for the collection of damaged items during the response phase, residents of the Gold Coast were able to make use of FLEXiSKIP®, which proved a valuable tool for efficient removal of waste. The value of the FLEXiSKIP® concept is that there is a significantly reduced wait time for the delivery of a skip bin to an affected resident following a disaster.

Traditional waste removal is time and resource intensive process, and following a natural disaster, individuals and communities find it difficult to progress to recovery when flood damaged items are piled outside homes awaiting collection. Whilst some delays may still be experienced during collection, limiting the double and in some instances, triple handling of damaged items is an important move towards more efficient waste removal. A possible future concept could see flexible skip bins available for collection at the same location as sandbag filling stations.

Image: Gympie. Courtesy Gympie Regional Council.

The Building Recovery Group acknowledges the key focus resides in building back with resilience at the forefront and working with industry to best tackle the material, supply and labour shortages.

Paul Martyn
Director-General
Department of Energy and Public Works
Chair, Building Functional Recovery Group

Building

Building and infrastructure impact assessment	
Actions	**Agency**
• Damage assessments in impacted areas (housing, commercial properties, state infrastructure and council infrastructure)	QFES

Measure of performance	Measure of effectiveness
• Damage assessments completed	• Timely completion of assessments

Council and community assets (buildings, facilities, fleet services, energy and water supply, fencing and gates, recreational assets, rail trail, parks and gardens)	
Actions	**Agency**
• Assess magnitude of material and labour supply shortages	DEPW
• Key working groups within industry to prioritise catastrophic to moderate completion of works	HIA
• Maintain consultation with built environment stakeholders, peak industry bodies and industry to support local led recovery	MBA
• Align infrastructure development programs and activities to complement economic reconstruction priorities	MPA
• Industry engagement to assess extent of mould presentation and determine effective mould treatment strategies and availability of mould resistant materials	MEA ICA

Measure of performance	Measure of effectiveness
• Working groups conducted • Stakeholders consulted	• Significant and priority works completed in a timely manner using relevant funding

State Recovery Coordinator observation

I have met many families that purchased houses in flood prone areas due to their convenient location or affordable price or both who were subsequently catastrophically inundated. I have met others who, as a result of council regulations had to raise their living structures while renovating to levels higher than they would have liked, that avoided inundation in these recent floods and were grateful for Council's intervention in retrospect.

Images: (Opp. page) Milton State School. (Above): Houses underwater, Toowong.

Resilient community infrastructure and betterment

Actions	Agency
• Building design/regulation enhancement • Enhance community and industry understanding of flood resilient building materials and practices • Existing exemption arrangements may be used to carry out emergency development or work that is necessary to ensure buildings damaged during the event are able to operate as intended and do not endanger a person's safety • Restoration of affected assets (government building infrastructure) with flood resilient materials and resilient building practices	DEPW HIA MBA MPA MEA ICA DSDILGP
• Community and Recreational Asset Recovery and Resilience Program ($150 M) - clean-up and repair, and where economical, improve the resilience of community and recreational assets	QRA DTIS

Measure of performance	Measure of effectiveness
• Building design guidelines and regulations reviewed • Policy and legislation developed and updated • Eligible community and recreation assets identified for betterment opportunities • Labour and material supply shortages identified	• Community infrastructure more resilient to natural hazards • Efficient remediation of labour and material shortages in order to achieve reconstruction in a timely manner

Resilient homes

Actions	Agency
• Facilitate community access to independent building repair advice	QBCC
• Resilient Housing Fund ($741 M): – Industry and community education program – Resilient household rebuild program – Home raising program – Buyback of properties in locations deemed unsuitable for habitation – Property level flood information portal	QRA EPW
• The Queensland Government to give consideration to the costs and benefits of amending the Queensland Development Code MP3.5 – Construction in flood hazard areas, to ensure it remains contemporary, increases community resilience to flood events, and contributes to a more rapid recovery. • The Queensland Government will continue to work with the Australian Building Codes Board regarding building resilience and the adequacy of the National Construction Code to address future extreme weather events and climate risks.	EPW

Measure of performance	Measure of effectiveness
• Number of buy backs approved • Number of re-builds approved • Number of home-raising approved • Number of community and industry engagement opportunities	• Reduced number of houses significantly damaged by rainfall and flooding event • Increased number of resilient houses • Eligible communities are well-informed and educated on the Resilient Homes Fund and application process

Image: Home in Oxley.

Flood mitigation	
Actions	**Agency**
• Flood Mitigation Package ($28 M) • Develop the capability for a property level flood information portal, to be made available to flood prone LGAs • With relevant stakeholders, explore options for ensuring flood risk information is provided to residents and tenants as a matter of course • Implement findings of flood management studies and plans • Develop and enhance our flood warning capability and capacity • In collaboration with the Commonwealth, continue to develop a flood warning infrastructure network that complies with best practice • Encourage the adoption of best practice guidelines by relevant stakeholders • Engagement through existing programs such as Get Ready Queensland, to improve community preparedness and understanding of flood risk, including accessing property level flood information	QRA

Measure of performance	Measure of effectiveness
• Report on progress to the Queensland Reconstruction Authority Board, Queensland Flood Warning Consultative Committee and the Queensland Resilience Coordination Committee	• Nil

CASE STUDY

Mount Crosby water treatment plant

The Mount Crosby Water Treatment Plants are a critical part of the SEQ Water Grid and produce about half of South East Queensland's drinking water supply. The Mount Crosby East Bank Water Treatment Plant alone produces up to one-third of the region's drinking water supply, making it the most critical Water Treatment Plant in the network.

Since 2011, Seqwater has been working to identify and mitigate flood risk to the Mount Crosby water treatment plants and has invested heavily in the vital assets in this precinct. The multi-million-dollar East Bank Flood Resilience program is currently underway.

Key initiatives in this program include the replacement and relocation of the existing electrical substation to higher ground, critical electrical upgrades to the East Bank Pump Station and the construction of a new vehicle bridge over the Brisbane River. The new vehicle bridge will improve the flow of traffic for the growing community, will be more flood resilient, and designed to meet current safety and engineering design standards. The existing Mount Crosby Weir bridge is being repurposed for use by pedestrians and cyclists.

Most recently, Seqwater completed a $35 million filtration upgrade at the East Bank Water Treatment Plant, which involved replacing 20 sand filters to help purify the region's drinking water. The project included major improvements to the plant's filter design and controls, significantly improving the water supply security of our region.

This filtration upgrade has also improved the plant's capability to treat water with high levels of turbidity or sediment, which can result from floodwaters washing soil and debris into the creeks and waterways that flow into the treatment plant.

Image: Resilient home design, Paddington.

Recovery priorities for the Roads and Transport Functional Recovery Group include assessing damage to the state road network and undertaking emergency works to make damaged roads safe until full reconstruction can be completed.

With extensive marine impacts from this event in Brisbane River and to Port of Brisbane operations as well, assessing damage to maritime infrastructure, removal of debris, conducting hydrographic surveys and detailed planning for ship movements for recommencement of port and river operations was essential.

Reopening critical road, maritime and transport networks assists individuals, communities, business and industry with recovery and resupply. The other important priority is maximising opportunities to enhance roads, maritime and transport network resilience by building back better.

Neil Scales
Director-General
Department of Transport and Main Roads
Chair, Roads and Transport Functional Recovery Group

Roads and Transport

Road and transport network impact assessment (state)	
Actions	**Agency**
• Damage assessment	TMR
Measure of performance	**Measure of effectiveness**
• Damage assessments completed	• Timely completion of damage assessments

Road and transport network (state and council roads, transport) and repair and safe access	
Actions	**Agency**
• Emergency works to reinstate access for the community and businesses • Review existing Queensland Transport and Roads Investment Program (QTRIP) capital works plans to accommodate the Natural Disaster Program • Identify, scope and undertake reconstruction program of works • Develop a Flood Recovery Action Plan for securing floating pontoons and structures	TMR
Measure of performance	**Measure of effectiveness**
• Number of km of state roads damaged • Number of km of state roads under reconstruction • Number of km of state roads reconstructed • Number of earthworks and batter locations damaged • Number of earthworks and batter locations under reconstruction • Number of earthworks and batter locations reconstructed • Number of structure locations damaged • Number of structure locations under reconstruction • Number of structure locations reconstructed	• Reconstruction works completed in line with DRFA eligibility criteria and timeframes

Image: (Opp. page) Booyal-Dallarnil Road near Dallarnil.
(Above) USS Frank Cable pulling into Brisbane.

Betterment opportunities to roads and transport infrastructure are identified and implemented	
Actions	**Agency**
• Develop and implement a Roads Betterment Program ($150 M)	TMR Local councils
• Convene an inter-agency working group to collaborate in relation to floating pontoons and structures in Queensland waterways, with the aim of presenting a long-term solution to mitigate the vulnerability to future weather events	TMR

Measure of performance	Measure of effectiveness
• Number of betterment opportunities identified for funding • Betterment program funded and delivered • Flood Recovery Action Plan for securing floating pontoons and structures developed • Inter-agency working group to collaborate in relation to floating pontoons and structures in Queensland Waterways convened	• Reduced reconstruction costs at betterment sites following future disaster events • Reduced days of lost access to properties and services at betterment sites • New design and construction standards for pontoons established • New pontoons installed compliant with any new design standards

CASE STUDY

A better transport network

Flooding in 2011 and 2013 saw significant damage to the bridges and causeways throughout the Somerset region. The damage caused important transport infrastructure to be offline for months.

Somerset Regional Council has embarked on a campaign of betterment to enhance the resilience of the more than 1,500 km of roads, footpaths and kerbs and channels.

Examples include the George Bell Crossing on Ivory Creek Road and the Ted Skinner Crossing on Esk Crows Nest Road, where Council replaced sections of the causeways with bridges, at a cost of around $3.2 million. Other betterment activities in the region have included upgrading bridges from vulnerable timber structures to prestressed concrete bridges.

During the 2021-22 rainfall and flooding events, instead of being faced with completely destroyed causeways, restricting movement for months, Council was able to rapidly restore access to these roads. Once silt and debris had been cleared, the roads and underlying structures were inspected and found to have withstood this major flood event.

CASE STUDY

Laidley Creek flood resilience

A 10 kilometre master plan stabilisation strategy for Laidley Creek is underway, with four km of bank remediation work already complete. Works, including a rock structure and pile field built into the stream, were undertaken in 2018 to stop creek bed erosion. The area was chosen for these works having previously suffered destabilisation and damage following floods in 2011, 2013 and 2017 and has been identified as a major contributor to sediment being deposited into Moreton Bay. The area withstood the latest flood with limited impacts, which shows that being proactive in stabilising our stream banks and revegetating can build resilience in our landscape.

These outcomes were achieved with an active collaboration with many partners, including Port of Brisbane, Queensland Urban Utilities, Mulgowie Farming Company and adjacent landholders. Building on the success of these initial works, new works are being delivered as part of a joint project between Port of Brisbane and Healthy Land and Water.

Images: Works along Laidley Creek.

Section 4:
Investment in recovery and resilience

Community recovery from a natural disaster can be a lengthy and complex process. It requires individual engagement and a multi-agency approach across the three levels of government.

The recovery journey delivers a prime opportunity to build community resilience.

Since its establishment in 2011, the Queensland Reconstruction Authority has committed to strengthening disaster resilience, underpinned by four objectives.

Queenslanders are disaster resilient when...

The Queensland Strategy for Disaster Resilience (QSDR) and its implementation plan, *Resilient Queensland* are the frameworks used to strengthen disaster resilience in Queensland.

Queensland's disaster resilience is built through collaborative approaches that are locally led, regionally coordinated and supported with state resources. These are guided by local leadership, flexibility and adaptation, shared responsibility and prioritisation, with a view to resilience becoming business as usual.

Over the past decade, Queensland's disaster risk management practices have evolved, and significant investment has been made in disaster risk reduction through annual funding packages.

One of the key funding mechanisms for response and recovery following a natural disaster is the joint Commonwealth/state government Disaster Recovery Funding Arrangements (DRFA). Under these arrangements, the state, in collaboration with local governments, determines the type of assistance available to individuals and communities.

Through the DRFA, funding can be made available for individuals, local governments, state agencies, small businesses, primary producers and not-for-profit organisations directly impacted by an event.

Where communities have experienced significant damage, community recovery funds and other extraordinary circumstances funding measures may be available.

Funding packages made available under the DRFA following the 2021–22 Southern Queensland Floods are identified in the following pages.

Image: (Opp. page) flooding at Quinalow Hotel. (Above) Rocklea.

Resilient Homes Fund

A total of $741 million has been allocated for the Resilient Homes Fund (RHF), on a 50:50 cost share basis between the Queensland and Commonwealth governments under the DRFA.

The Fund was established following the 2021–22 high-risk weather season, which saw thousands of homes inundated across the south of the state following the significant flooding events.

The RHF is a nation-leading program never before delivered on this scale within Australia. It has the potential to significantly enhance Queensland's household resilience to flooding, which poses the greatest risk to the state.

For eligible homeowners, the RHF will consider options specific to circumstances that could help improve resilience to future flooding. These options include repair and retrofitting using flood-resilient design options, house raising, or in some cases the voluntary buy-back of high-risk properties where no other viable flood resilient measures or alternative exists.

The Department of Energy and Public Works is leading the rollout of the resilient household rebuild and raising programs and will liaise directly with homeowners regarding the rollout of these programs.

The Queensland Reconstruction Authority is leading the voluntary home buy-back program, in consultation with local governments and the Department of State Development, Infrastructure, Local Government and Planning.

Local councils will play an important role in implementing the RHF, given their profound understanding of their communities and the intrinsic risks faced by some residents.

The RHF will be a gamechanger for homeowners and communities and will leave a legacy of resilience and reduced risk for future generations of Queenslanders.

More information on the RHF can be found on the *Queensland Government website* and the *Queensland Reconstruction Authority website*.

Image: Resilient home design.

CASE STUDY

Rebuilding Grantham

Following the devastating flash flood that impacted almost every home on the floodplain in Grantham in early 2011, a voluntary land swap resulted in more than 130 houses being relocated on higher ground in an effort to protect the town from future disasters. The land swap was funded by the Lockyer Valley Regional Council and Queensland and Commonwealth governments.

Grantham was once again subject to flooding in the SEQ Rainfall and Flooding event in February–March 2022. Those homes that had been relocated to the new site were not directly impacted by the floodwaters, however those homes that remained in the lower area were again subject to flooding, with some homeowners requiring evacuation from rooftops.

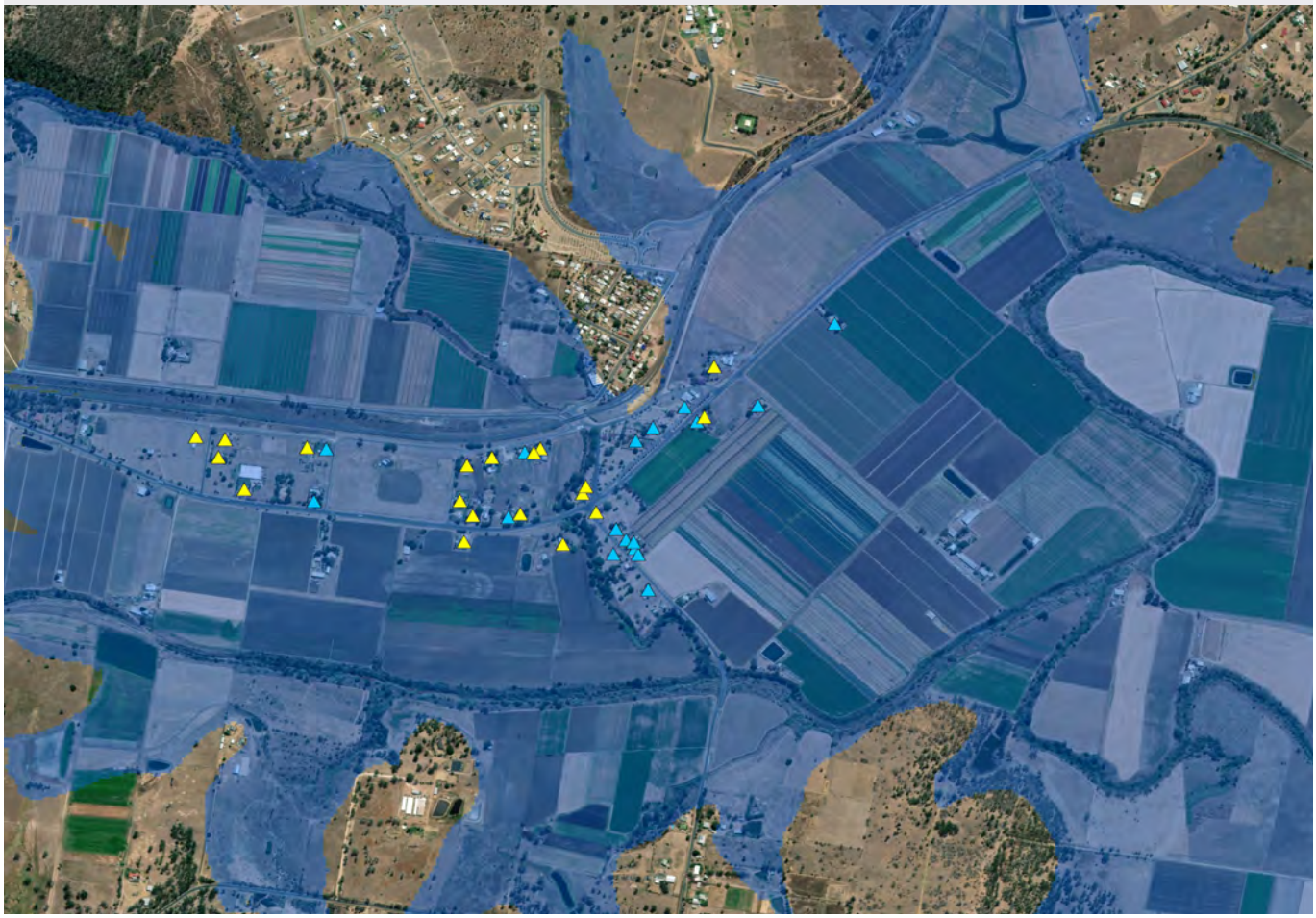


Image: Grantham showing flood levels and damage assessments.

Building back better

Betterment

Queensland leads the nation in building resilience in its communities through flagship *betterment programs*.

Betterment allows local governments and state agencies to rebuild damaged essential public assets to a more resilient standard to help them withstand the impacts of future natural disasters.

Since the first Queensland betterment fund in 2013, $240 million has been invested to build back better more than 480 public assets. As at July 2021, 334 projects have been subsequently impacted by natural disasters. In total, there have been 683 impacts to betterment sites from 33 events, with 85 per cent suffering no damage or only minor or superficial damage.

Of the betterment projects that have been re-impacted, an investment of $110 million has generated approximately more than $250 million in savings or avoided costs.

While there's plenty more to be done to build our resilience, our experience with betterment shows that an upfront investment in rebuilding impacted assets to be more resilient saves money for all levels of government in future disasters.

As well a cost savings, when essential infrastructure withstands weather events, it improves the lives of those in disaster-affected communities as communities remain connected or return to functionality quickly in the immediate aftermath of a disaster.

A $150 million betterment fund has been jointly funded under the DRFA to build the resilience of damaged public assets.

Community and recreational assets

The recent flooding events have caused devastating and widespread damage to community and recreational assets such as public parks, reserves, playgrounds, and sporting and community facilities. A total of $150 million in Queensland and Commonwealth government joint funding will support the repair, restoration and in some cases build resilience of community and recreational assets.

Sport and recreation facilities are often located in low-lying flood prone areas, and many are owned by local governments and leased to non-profit organisations to deliver activities in the community. These facilities play a critical role in helping communities return to normal patterns of life following significant disaster events and can help accelerate mental health and recovery outcomes. While sporting facilities are not in use, they are not able to generate their usual operational revenue and typically will suffer losses of membership.

Additionally, the recent rainfall and flooding events have resulted in a large amount of damage to nature-based recreation and fire management infrastructure within the Queensland National Parks and State Forests. Critical infrastructure, including roads, tracks and creek crossings have been impacted, disrupting visitor's use of areas for nature-based activities, as well as degrading fire management lines which are critical for the bushfire season and planned burns to be undertaken in 2022.

Repairing damaged recreational facilities will help restore social and community networks, which is an important component of disaster recovery. It will also help the economic recovery of local communities that rely on these assets for tourism and visitor numbers.

CASE STUDY

Brisbane River Ferry Terminal – Resilient Infrastructure Case Study

Brisbane City Council operates the ferry terminals stretching along the Brisbane River between the University of Queensland campus at St Lucia through to the Northshore Terminal in Hamilton. Servicing over 10,000 trips each day, the ferry network provides an important link in the wider Brisbane transport system.

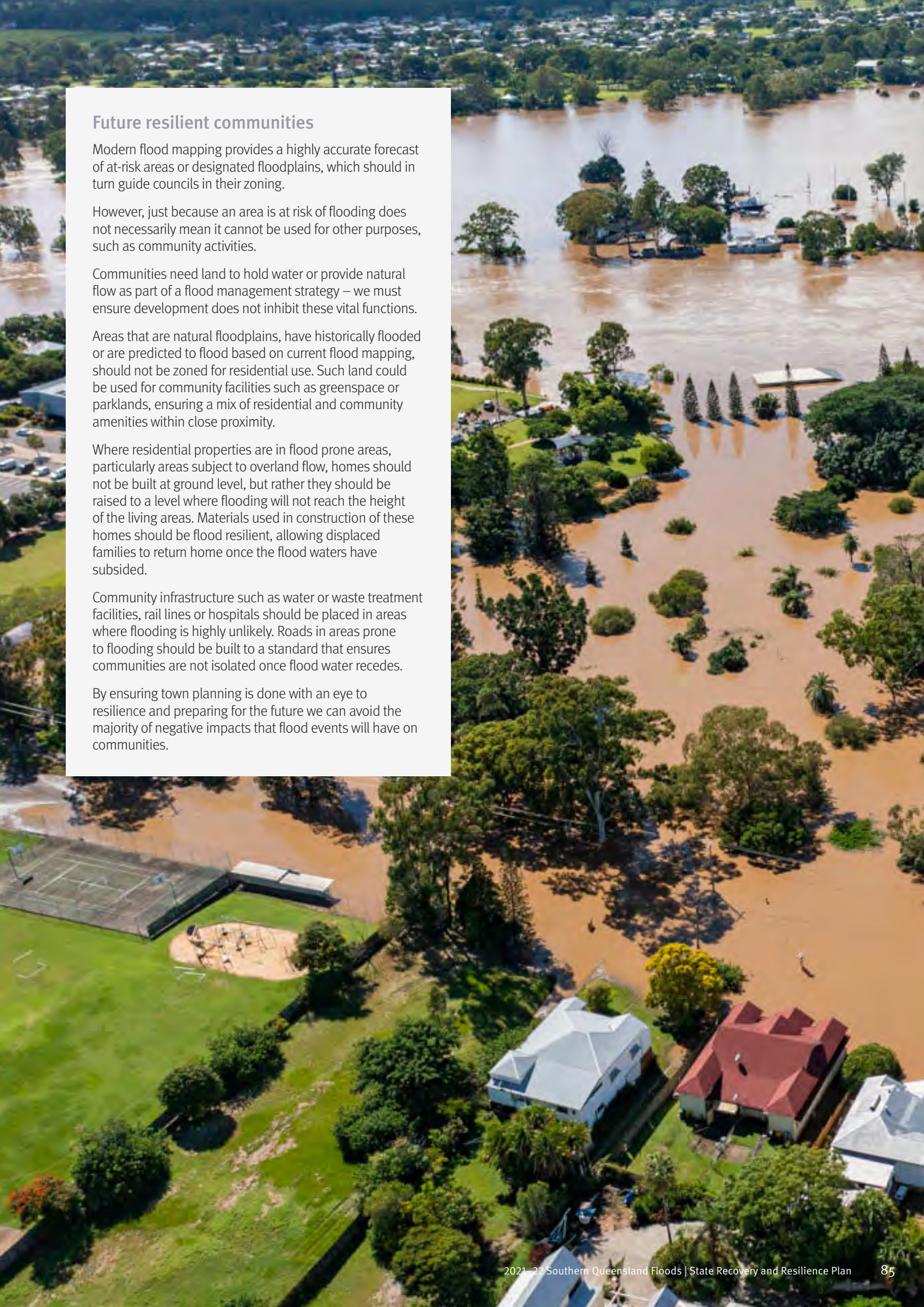
In the 2011 floods, all terminals were heavily impacted with seven largely destroyed. At a cost of $70 million, the terminals were reconstructed with a more flood resilient design. The ferry network did not return to normal service until late 2015.

The terminals were again subjected to significant flooding in 2022, albeit with a lower peak than in 2011. Dislodged private pontoons again presented a significant risk to the terminal infrastructure as did the routine flood debris such as trees. In the assessments following the flood, Brisbane City Council identified that the damage sustained to the Regatta Terminal was the most severe, and that the terminals at Holman Street, Queensland University of Technology, Milton and University of Queensland all performed as expected with the swinging gangways preventing worse damage.

Brisbane City Council estimates that the costs to repair the damage sustained during the 2022 event will be $20 million, compared to what would have otherwise been a clean-up bill of up to $120 million had the terminals been reconstructed to the same standard in 2011. Importantly, disruption to the ferry system was reduced, with the network returning to operation in a matter of months following the 2022 event. Of the 19 council-owned ferry terminals, constructed or upgraded after 2011, six required major repairs, six moderate and seven required minor repair. Of those, 16 were effective and withstood substantial structural damage despite inundation and striking from debris.

It is important to identify that any infrastructure developed in a flood zone will always be at risk of damage, particularly with infrastructure such as ferry terminals which are required to be located at river level. The continual review of performance following events and inclusion of resilient designs during reconstruction will reduce costs incurred during future events.

Image: (Opp. page) Mary River.



Future resilient communities

Modern flood mapping provides a highly accurate forecast of at-risk areas or designated floodplains, which should in turn guide councils in their zoning.

However, just because an area is at risk of flooding does not necessarily mean it cannot be used for other purposes, such as community activities.

Communities need land to hold water or provide natural flow as part of a flood management strategy – we must ensure development does not inhibit these vital functions.

Areas that are natural floodplains, have historically flooded or are predicted to flood based on current flood mapping, should not be zoned for residential use. Such land could be used for community facilities such as greenspace or parklands, ensuring a mix of residential and community amenities within close proximity.

Where residential properties are in flood prone areas, particularly areas subject to overland flow, homes should not be built at ground level, but rather they should be raised to a level where flooding will not reach the height of the living areas. Materials used in construction of these homes should be flood resilient, allowing displaced families to return home once the flood waters have subsided.

Community infrastructure such as water or waste treatment facilities, rail lines or hospitals should be placed in areas where flooding is highly unlikely. Roads in areas prone to flooding should be built to a standard that ensures communities are not isolated once flood water recedes.

By ensuring town planning is done with an eye to resilience and preparing for the future we can avoid the majority of negative impacts that flood events will have on communities.

Flood resilience

Flooding is the number one disaster risk in Queensland. Ongoing flood events, such as those recently seen in the 2021–22 season, continue to remind us about the need for catchment-based solutions.

Building flood resilience is an inter-agency effort, requiring support from all levels of government.

In Queensland, building flood resilience is based on a collaborative model with shared roles and responsibilities across a broad range of stakeholders.

Flood risk management

The Queensland Flood Risk Management Framework (released in 2021) sets the direction for flood risk management in Queensland, providing clarity around expectations, roles and responsibilities of stakeholders and guides decision-making by councils.

A key priority action to better understand the flood risk in Queensland is to undertake a state wide flood risk assessment which for the first time, will assess flood risk across all local government areas. It will be used to identify priority areas for investment in preparation, management and flood mitigation activities. It will also feed into the 10-year investment plan for flood risk management.

Community education

Building on the Get Ready Queensland brand, targeted information and education campaigns will enhance the disaster preparedness and resilience of communities. The campaign will ensure individuals, businesses and communities are aware of their flood risk and the information and services available to manage their risks. Local councils will be supported in educating their communities through the supply of communication and engagement resources. Community education will also focus on person-centred emergency planning and business continuity for community organisations and service providers, particularly those who support people with increased likelihood of experiencing vulnerability.

Understanding the creek systems

A current gap in knowledge in Queensland is a thorough understanding of creek systems and their impact on catchment flooding. Catchment flooding is the accumulation of water from rivers, creeks, other watercourses, overland flow paths, groundwater systems and coastal influences (tidal or storm-driven).

Creek systems in Queensland are regularly subjected to flash flood – short and sudden local flooding with substantial volume. The most frequent cause of creek flooding in Queensland typically arises from slow-moving thunderstorms. Storm systems can deposit extraordinary amounts of water over a small area in a very short time, causing localised flooding that can rise rapidly in a matter of minutes, often catching people off-guard and posing a risk to the community. Due to the limited warning time available, many of Queensland's creek systems are not currently covered by a formal Bureau of Meteorology flood warning service.

The effective management of creek flooding in an urban footprint requires consideration of:

- improvements to forecasting and warning
- the appropriate combination of structural and non-structural measures for flood management, and
- the roles and responsibilities of both government and the community with ongoing awareness and education, preparation, prevention and responding strategies and actions to mitigate the hazard.

The Queensland Reconstruction Authority is currently investigating issues and opportunities relating to flood warning infrastructure in creek systems which have the potential to impact the urban footprint. This work will look to determine the scale of further investment needed and identify innovative and locally relevant solutions to support flood risk management in our creek catchments.

State Recovery Coordinator observation

Development in floodplains is still possible, provided risk to people and the environment is minimised. Sporting fields and other community areas that were designed to withstand complete inundation have continued to be used by the community after flood waters receded. I saw sporting and other events held within days of this disaster hitting the community. It provided a much needed outlet to many in the wake of such a significant event.

Image: (Opp. page) flood warning infrastructure.

CASE STUDY

Flood warning infrastructure planning

Around 44 percent of the nation's flood warning infrastructure is in Queensland. The Bureau of Meteorology uses data from more than 3,400 rainfall and river gauges in Queensland, owned and operated by more than 50 entities.

Since 2016, the Queensland Reconstruction Authority has been working with local governments to develop Flood Warning Gauge Network Investment Plans. These identify improvements to flood warning systems and networks, including priority locations for additional infrastructure such as rainfall and stream flow gauges, and cameras on bridges.

The Plans provide Queensland catchments with a strategic direction for new and improved flood gauge asset management on a local and catchment scale. Future network improvements will be of a standard approved by the Bureau of Meteorology, related transmission of data will be suitable for use by the Bureau, and there will be real-time visibility of data relevant to local governments, the State Disaster Coordination Centre and the Bureau.

This is a significant undertaking, given the extensive and complex nature of the flood warning network in Queensland.

Funding to support recovery and resilience

Following the four significant flooding events over the season, impacted LGAs have been activated for assistance under the DRFA. The type and quantum of funding available in each LGA is dependent on the level of impacts. Disaster recovery grants and loans are available to impacted individuals, primary producers, small businesses and not-for-profit organisations. Payments to date are set out below:

CSW RAINFALL AND FLOODING	
FINANCIAL ASSISTANCE *(Emergency Hardship, Essential Household Contents, Essential Service Safety and Reconnection, Structural Assistance)* $0.21M benefiting 766 people*	**EXTRAORDINARY DISASTER ASSISTANCE RECOVERY GRANT – $4.47M **** Primary Producers - 295 grants ($4.39M) Small Businesses – 9 grants ($0.08M)
EX-TC SETH	
FINANCIAL ASSISTANCE *(Emergency Hardship, Essential Household Contents, Essential Service Safety and Reconnection, Structural Assistance)* $0.79M benefiting 2,230 people *	**EXTRAORDINARY DISASTER ASSISTANCE RECOVERY GRANT – $6.13M**** Primary Producers - 416 grants ($5.20M) Small Businesses – 78 grants ($0.86M) Not-for-profits – 8 grants ($0.07M)
SEQ RAINFALL AND FLOODING	
FINANCIAL ASSISTANCE *(Emergency Hardship, Essential Household Contents, Essential Services Hardship, Essential Service Safety and Reconnection, Structural Assistance)* $30.61M benefiting 98,785 people *	**EXTRAORDINARY DISASTER ASSISTANCE RECOVERY GRANT – $47.29M **** Primary Producers - 915 grants ($14.1M) Small Businesses – 2,030 grants ($30.86M) Not-for-profits – 179 grants ($2.33M) **DISASTER ASSISTANCE LOANS AND WORKING CAPITAL LOANS – $3.59M **** Primary Producers – 4 loans ($0.58M) Small Businesses – 22 loans ($2.91M) Not-for-profits – 1 loan ($0.10M)
SOUTHERN QUEENSLAND FLOODING	
FINANCIAL ASSISTANCE $0.92M benefiting 4,678 people *	

*at 20 July

**at 1 July

Extraordinary assistance packages (DRFA Categories C and D)	Value ($M)
HUMAN AND SOCIAL	**177.71**
Flexible Funding Grants	20.00
Community Health and Wellbeing	24.53
Accommodation Support	121.10
Community Development	12.08
ECONOMIC	**50.00**
Industry Recovery and Resilience officers	2.50
Small Business Recovery and Resilience Package	14.50
Tourism Recovery and Resilience Package	7.00
Rural Landholder Recovery Grants	3.00
Local Recovery and Resilience Grants	23.00
ENVIRONMENT	**86.90**
Clean-up Package	30.00
Environmental Recovery	28.90
Flood Risk Mitigation	28.00
BUILDING	**891.00**
Resilient Homes Fund	741.00
Community and Recreational Assets (inc. sport, council parks, national parks)	150.00
ROADS AND TRANSPORT	**150.00**
Betterment	150.00
MONITORING AND EVALUATION	**5.00**
Monitoring and Evaluation	5.00

State Recovery Coordinator observation

The primary producer grant is an important support mechanism for rural communities. Uncertainty in industry stability due to drought, COVID and floods has necessitated many to pursue a diverse portfolio that goes beyond primary production. Evolving guidelines to meet the changing needs of primary producers would be a very welcome development.

Monitoring and evaluation

The extraordinary assistance packages (DRFA Categories C and D) for the 21–22 Southern Queensland Floods included $5 million allocated to monitoring and evaluation.

A requirement of the DRFA is to conduct an evaluation of the programs for the purpose of improving the effectiveness of disaster recovery programs through the documentation of learnings that can be incorporated into the design and implementation of future disaster recovery programs.

In January 2022, QRA commissioned Deloitte to develop an over-arching evaluative framework that can be applied to the planning and evaluation of disaster recovery programs in Queensland. It leverages off the national *A Monitoring and Evaluation Framework for Disaster Recovery Programs*.

The evaluation examines the effectiveness, efficiency, appropriateness and implementation of the program and considers whether the program supported disaster affected communities to become more sustainable and resilient.

This framework will be used to undertake the monitoring and evaluation of the disaster recovery programs approved under the extraordinary assistance packaged for the 2021–22 events, in accordance with the requirements under the DRFA.

Image: (Opp. page) Summerholm Road.
(Above) Brisbane. Courtesy RAW.Exposed.

Beyond the Plan - Keys to survive and thrive

The following section provides insights from the State Recovery Coordinator. It recognises that preparation is key when it comes to natural disasters, and the risk is different for everyone depending on their circumstances. Every Queenslander plays a role in their own preparedness, and Get Ready Queensland can help, whether you are a resident, a business operator or both.

This section also identifies some priority areas for local, state and Commonwealth governments – an acknowledgement that working together in times of disaster is essential. The Queensland Government will consider these insights, along with any recommendations from the Office of the Inspector-General Emergency Management's review into the February – April South East Queensland Rainfall and Flooding event, which is currently underway, with a view to rebuilding a more resilient Queensland.

Observations and insights from the State Recovery Coordinator

This plan articulates how Queensland will recover from the disastrous 2021-22 Southern Queensland Floods and provides a blueprint to enable the state to emerge stronger in its wake. I believe this is unique. We have been very deliberate in focussing our attention on the future resilience of Queensland while still setting the conditions for ongoing recovery and reconstruction.

The significant Commonwealth and state funding support will enable communities to rebuild stronger. It enables a comprehensive approach to support recovery and resilience of not just bricks and mortar, but most importantly, communities and individuals. People are at the heart of all that we do.

I have been struck by the remarkable levels of resilience both across and within communities. It is clear that through focus and effort, Queensland has become a national leader in disaster resilience. During my travels across several hundred flood impacted areas, and through discussions with hundreds of flood impacted residents and community leaders at all levels I have observed there are common threads to assist enhancing the resilience of communities. Accordingly, I offer these insights for consideration.

For residents

Ultimately it is the individual that is impacted the most in these events. From the disruption to one's self, family and business, it is the individual that bears the brunt of nature's force. For the individual, preparation is a vital ingredient to survive and thrive. There are several important facets to this preparation.

Understand the risk: Homes and businesses have a quantifiable risk profile that should be understood by the individual. Those who were aware of their exposure to flood risk were more prepared for the recent flood event and were also better placed to self-assess the warnings being provided by different levels of government. Additionally, those who already understood their risks were better prepared to cope mentally and respond physically to the event and its aftermath.

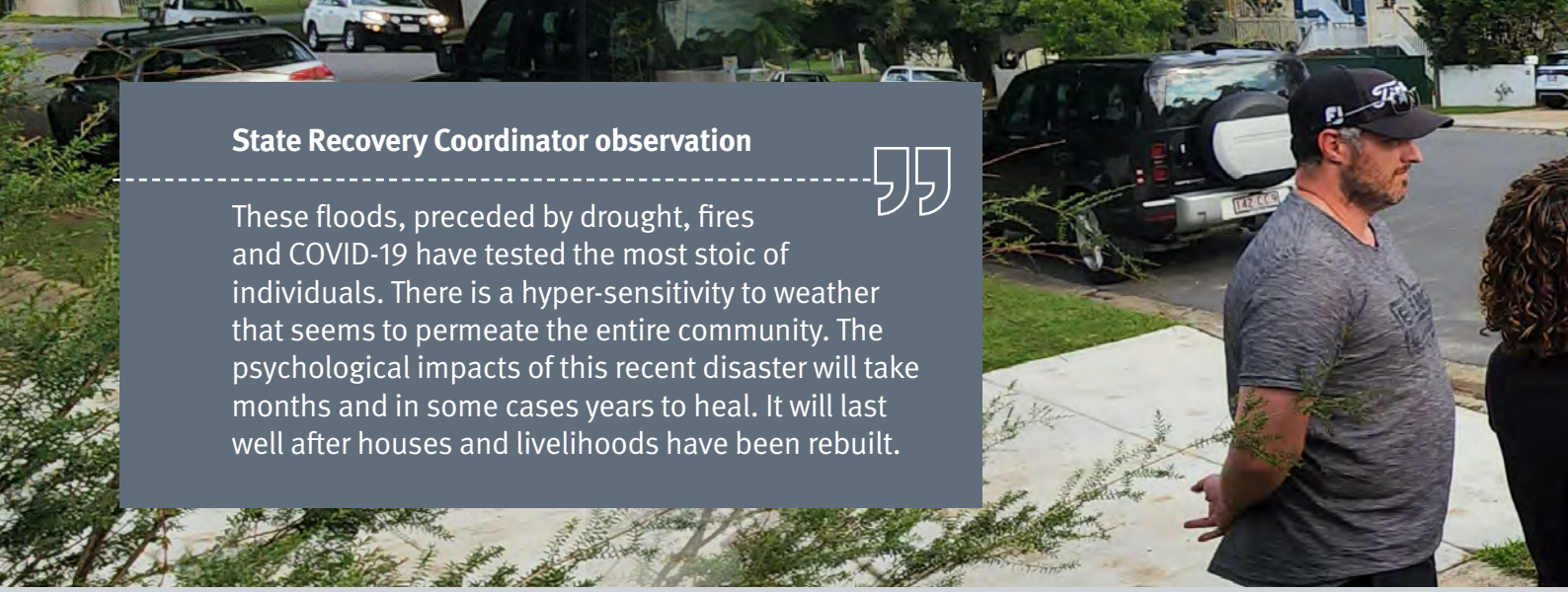
Get Ready Queensland and other resources available through local councils and the Queensland Reconstruction Authority allow individuals to better understand the likely impact of flooding and other risks more broadly. Of course, each weather event will cause different impacts, which may not necessarily be accurately forecast, however, being better prepared enables people to amend their plans to the situation rather than create a plan under significant pressure.

Have a plan: Excellent resources are available to assist residents in developing a personalised plan, including putting together an emergency kit and preparing the home for the high risk weather season. I have observed that those who were prepared are often ready to start moving forward in the immediate aftermath of a disaster. A plan allows an individual to know what first steps must be taken, despite the significant mental pressure they will be under.

Rehearse: Plans work best if they are understood and practiced by those they are designed for. Rehearsals help identify critical junctures in the plan such as understanding the set of circumstances that will trigger action, such as moving to another location. Alternate routes, in case roads or paths are closed, can be identified as part of the plan or rehearsal.

Engage: Communicating with your council, neighbours and community before an event can help ensure that good ideas are shared. It also assists in building awareness of what will happen in the event of a flood or other emergency. It is important to note that emergency services are likely to be very busy in the middle of an event and may not be able to respond to every unfolding situation. It is important to understand that ultimately, safety is one's own responsibility. The ability to interact with others in the wake of an event is also vitally important. This may be through visiting a community recovery hub, phoning the community recovery hotline or reaching out to neighbours, friends and family. Often engaging with others in a similar situation can be quite therapeutic, allowing those with shared experiences to share their stories.

Image: (Opp. page) Brisbane River.
(Above) SRC with Indooroopilly resident.



State Recovery Coordinator observation

These floods, preceded by drought, fires and COVID-19 have tested the most stoic of individuals. There is a hyper-sensitivity to weather that seems to permeate the entire community. The psychological impacts of this recent disaster will take months and in some cases years to heal. It will last well after houses and livelihoods have been rebuilt.

For businesses and industries

Depending on your circumstances, the impact of a flooding event or other disaster can have long-term impacts on a business. Sound preparation can improve a business' ability to survive and thrive in the wake of a disaster.

Understand the risk: Commercial real estate is often established in flood prone areas. It is important for business owners to consult councils and flood mapping to understand the risks. Flood modelling is constantly being updated and includes industrial areas. Councils will also have information on other potential natural disaster risks in their jurisdiction. Access to this information allows business owners to assess their risk and make preparations accordingly.

Have a plan: While commercial areas may be more prone to flooding, simple steps can be taken to strengthen a business' resilience. Identifying alternate locations for machinery, the placement of office functions and sensitive equipment on the second floor (if available), identifying transport assets for short notice stock relocation along with dry locations to move the stock to, while also keeping stock holdings to a minimum during the high-risk weather season are all options that may be worthy of consideration. Where there is a conglomeration of businesses, it may be advantageous to come together and discuss how, as a community of stakeholders businesses could work together to support one another in a time of crisis.

For councils

I would like to acknowledge the phenomenal job councils do before, during and after natural disasters. Councils are on the frontline in terms of keeping communities safe and reconnecting them as soon as possible after disaster strikes. Affected community members often look to councils for leadership, resources and support during and after an event. Indeed, they are often the first place people turn to when an event is underway. It is quite common for people to arrive at evacuation centres with nothing but the clothes on their back. Council preparation is critical in helping their communities survive and thrive in the face of a disaster.

Engage: Understanding the demographics of the region is vitally important in formulating a plan to support the safety and security of the community. Ensuring available resources and advice is tailored, particularly for vulnerable residents with difficulty communicating in English, will increase the effectiveness of a disaster response and recovery plan. While residents will be looking for leadership in times of crisis, they will seek out those they trust. Trust is built over time, so in many ways engaging with communities before an event will be critical in setting the conditions for effective leadership during and after an event. The relationships established before an event will assist residents and communities access appropriate and relevant resources.

Have a plan: Locations of community facilities are as important as the functions they contain. Councils should understand the potential impact of flooding or other disaster events by area, population and infrastructure. The ability to visualise events and having in-depth knowledge of plans will allow all those with a role to broadly understand what they are being called upon to do while also allowing emergency services and other supporting agencies to formulate their own plans.

Rehearse: Rehearsals will allow councils to understand where to focus effort during a crisis, identify any deficiencies in their plan, and allow everyone to see what they need to do and prepare accordingly. The understanding gained through rehearsals allows broader preparations to be made. Ideally, residents within the community should understand council disaster management and recovery plans. Their input during rehearsals may also strengthen a council's plan through raising issues that may not have been considered.

Communicate: Disaster management and recovery plans should be communicated both into the community as well as neighbouring councils. Once established, these communication channels can be used to spread messages quickly in times of crisis. Community demographics will often influence the most effective means of communication. Diversity of media is often the best method to enable outreach to all corners of the community. Communicating with neighbouring councils will identify synergies between councils.

For all levels government

It is clear to see that governments at all levels are focused on ensuring Queensland's successful recovery from this event and setting it up to emerge more resilient to the next natural disaster. Agencies such as Queensland Fire and Emergency Services, Queensland Police Services and the Australian Defence Force worked hand in glove with local councils and community volunteers to support immediate response efforts. This made for a swift transition from response to recovery. Unprecedented levels of funding, the unflinching work of the Queensland Reconstruction Authority, and deft community leadership have positioned the state to emerge stronger than ever. These efforts set a benchmark for the future.

Recovery efforts in the aftermath of disasters of this magnitude have required a concerted and coordinated effort across government and delivery partners. The Department of Communities, Housing and the Digital Economy, are on the ground delivering integrated social recovery services. The Department of Environment and Science has acted swiftly in assessing flood impacts across the environment, prioritising collecting flood debris, rehabilitating habitat and riverbanks, and re-opening recreational assets. They have been supported in debris removal by the Department of Transport and

Main Roads, which has also been focused on repairing the road network to safely reconnect communities. The Department of Energy and Public Works, while working to deliver the Resilient Homes Fund, is also tackling the supply and labour shortages that will no doubt impact on our recovery efforts. The Department of State Development, Infrastructure, Local Government and Planning has been focused in the short term on providing financial support to businesses, primary producers and not-for-profit organisations, while turning to economic recovery and resilience for the future. These efforts should be applauded. Of course, with an event of this scale, there is much work to be done, both to enable recovery, and to enhance resilience into the future. The work that is currently underway across agencies will support this.

Policy: The evolution of policy to align with the changing environment and needs of the community will be an ongoing focus. Issues such as waterway management and the associated pontoon pollution have highlighted the need to continue the active management of risk mitigation policy to deal with emergent issues. So too the need to actively manage what can and cannot be built on flood plains is in stark relief. Policy to reduce risk will need to be bold, timely and enforced.

Early warning and monitoring: There is no doubt that enhanced early warning can reduce the risk to lives and livelihoods. The array of flood gauges purchased over many years has, by necessity, resulted in a wide array of standalone systems. As technology emerges there will be increasing opportunities to upgrade and network these systems.

Access to support: The Commonwealth and Queensland governments have provided unprecedented levels of financial and other community support in the wake of these floods. As communities change and challenges evolve it will be important to continue to focus on ensuring the excellent levels of support on offer are accurately targeting the needs of flood impacted communities and councils. The Community Recovery Hubs and Hotline have yet again proven their worth in this crisis and should be sustained. Their design as a one-stop shop for disaster affected members of the community reduces the burden on individuals, that are in many cases overcome with emotion and anxiety. Their physical positioning should consistently be reviewed to make sure they reflect the geographic footprint of the affected community and the location of the threat.

Communicate: Communication upwards and outward between all levels of government and the broader community is absolutely essential. Multiple modes of communication are vital to meet the needs of all community members. This constant communication is important both during disaster response but also in the recovery phase, to ensure all members of the community are aware of available support.

While not exhaustive, the observations and insights above provide considerations for all elements of the community in preparing for future events. Nature is throwing more intense events, and some of these are arriving with greater frequency as was the case in the 2021-22 Southern Queensland Floods. While much has been done and is being done in government, communities and within households to recover from this recent disaster, it is vital that Queenslanders strive to enhance their resilience at every opportunity. Indeed, a disaster of the magnitude of the recent flooding events would be made more tragic if we missed the opportunity to grow from it. Although, if history is any guide, Queenslanders invariably rise from the shadows of a disaster stronger and more determined than ever.

Preparation is Queensland's key to survive and thrive.

Major General Justin (Jake) Ellwood
State Recovery Coordinator
2021–22 Southern Queensland Floods

Image: SRC with residents, Auchenflower, Brisbane.

References

Disaster management in Queensland is undertaken in accordance with relevant legislation. There is also a range of other documentation that supports disaster recovery.

Legislation:

Queensland Disaster Management Act 2003

Queensland Disaster Management Regulation 2014

Queensland Reconstruction Authority Act 2011

Plans:

Queensland State Disaster Management Plan

Queensland Recovery Plan (a sub-plan to the Queensland State Disaster Management Plan)

Temporary Emergency Accommodation Plan

Queensland Climate Adaption Strategy: Emergency Management Sector Adaption Plan for Climate Change

Guidelines:

Prevention, Preparedness, Response and Recovery Disaster Management Guideline

Disaster Recovery Funding Arrangements 2018

Queensland Disaster Funding Guidelines 2021

Policy and Strategies:

Queensland Disaster Management 2016 Strategic Policy Statement

Queensland Strategy for Disaster Resilience

Queensland Policy for Offers for Assistance

Frameworks:

National Monitoring and Evaluation Framework for Disaster Recovery *Programs, May 2018*

Emergency Management Assurance Framework

National Risk Reduction Framework

Australian Government Crisis Management Framework (AGCMF)

Image: ADF clearing debris at Kedron Brook.
(Back cover) Gympie.

Acronyms

ADF	Australian Defence Force
AGDRP	Australian Government Disaster Relief Payment
BOM	Bureau of Meteorology
BRG	State Building Recovery Group
CBD	Central Business District
CDO	Counter Disaster Operations
CDV	Community Disaster Volunteer
CEO	Chief Executive Officer
COVID-19	Coronavirus disease
CSW	Central Southern Western
CSIA	Community Services Industry Alliance
DA	Damage Assessment
DAF	Department of Agriculture and Fisheries
DCHDE	Department of Communities, Housing and Digital Economy
DCYJMA	Department of Children, Youth Justice and Multicultural Affairs
DDMG	District Disaster Management Group
DESBT	Department of Employment, Small Business and Training
DEPW	Department of Energy and Public Works
DES	Department of Environment and Science
DHS	Department of Human Services
DIDRR	Disability Inclusive Disaster Risk Reduction
DOE	Department of Education
DRA	Disaster Recovery Allowance
DRAMA	Disaster Recovery Advisors and Mentors Australia
DRDMW	Department of Regional Development, Manufacturing and Water
DRFA	Disaster Recovery Funding Arrangements
DSDILGP	Department of State Development, Infrastructure, Local Government and Planning
DSDSATSIP	Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships
DSRC	Deputy State Recovery Coordinator
DTIS	Department of Tourism, Innovation and Sport
DTMR	Department of Transport and Main Roads
EHA	Emergency Hardship Assistance
EHCG	Essential Household Contents Grants
EMA	Emergency Management Australia
ESSRS	Essential Services Safety and Reconnection Scheme
FFG	Flexible Funding Grants
FRG	Functional Recovery Group
GRQ	Get Ready Queensland
HIA	Housing Industry Association
ICA	Insurance Council of Australia
IRRO	Industry Recovery and Resilience Officers
LDMG	Local Disaster Management Group
LGA	Local Government Area
LGAQ	Local Government Association of Queensland
LRG	Local Recovery Group
MBA	Master Builders Australia
MEA	Master Electricians Australia
MPA	Master Plumbers Australia
MSQ	Maritime Safety Queensland
NGO	Non-Government Organisation
NILS	No Interest Loan Scheme
NRM	Natural Resource Management
NRRA	National Recovery and Resilience Agency
PHAS	Personal Hardship Assistance Scheme
PHN	Primary Health Networks
QBCC	Queensland Building and Construction Commission
QDMC	Queensland Disaster Management Committee
QDRF	Queensland Disaster Resilience Fund
QDN	Queenslanders with Disability Network
QFES	Queensland Fire and Emergency Services
QFF	Queensland Farmers' Federation
QH	Queensland Health
QMHC	Queensland Mental Health Commission
QPS	Queensland Police Service
QRA	Queensland Reconstruction Authority
QRIDA	Queensland Rural and Industry Development Authority
QTRIP	Queensland Transport and Roads Investment Program
REPA	Reconstruction of Essential Public Assets
RHF	Resilient Homes Fund
SAG	Structural Assistance Grants
SES	State Emergency Service
SEQ	South East Queensland
SQW	Skilling Queenslanders for Work
SRC	State Recovery Coordinator
SRPPC	State Recovery Policy and Planning Coordinator
SRRP	State Recovery and Resilience Plan
TC	Tropical Cyclone
VQ	Volunteering Queensland

www.qra.qld.gov.au/recovery

Queensland Government