



# Resilient Queensland in Action

*Queenslanders working together to ensure  
disaster resilience is embedded  
in our decisions and actions*

**Progress update**  
February 2020



#### Document details

Security classification	Public
Date of review of security classification	February 2020
Authority	Queensland Reconstruction Authority
Document status	Final
Version	1.0
QRA Reference	QRA1636

#### Copyright

This publication is protected by the *Copyright Act 1968*.  
© The State of Queensland (Queensland Reconstruction Authority), February 2020.

#### Licence



This work is licensed by State of Queensland (Queensland Reconstruction Authority) under a Creative Commons Attribution (CC BY) 4.0 International licence.

To view a copy of this licence, visit [www.creativecommons.org/licenses/by/4.0/](http://www.creativecommons.org/licenses/by/4.0/).  
In essence, you are free to copy, communicate and adapt this annual report, as long as you attribute the work to the State of Queensland (Queensland Reconstruction Authority).

**Resilient Queensland is a shared responsibility. Resilient Queensland in Action has been developed in consultation with, and contributions from the following state agencies:**

Department of Agriculture and Fisheries (DAF)  
Department of Communities, Disability Services and Seniors (CDSS)  
Department of Education (DET)  
Department of Employment, Small Business and Training (DESBT)  
Department of Environment and Science (DES)  
Department of Housing and Public Works (HPW)  
Department of Local Government, Racing and Multicultural Affairs (DLGRMA)  
Department of Natural Resources, Mines and Energy (DNRME)  
Office of the Inspector-General Emergency Management (IGEM)  
Queensland Fire and Emergency Services (QFES)  
Queensland Health (QH)  
Queensland Rural and Industry Development Authority (QRIDA)  
Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP)  
Department of Transport and Main Roads (DTMR)

#### Interpreter



The Queensland Government is committed to providing accessible services to Queenslanders from all culturally and linguistically diverse backgrounds. If you have difficulty in understanding this report, you can access the Translating and Interpreting Services via [www.qld.gov.au/languages](http://www.qld.gov.au/languages) or by phoning 13 14 50.

#### Disclaimer

While every care has been taken in preparing this publication, the State of Queensland accepts no responsibility for decisions or actions taken as a result of any data, information, statement or advice, expressed or implied, contained within.

To the best of our knowledge, the content was correct at the time of publishing.

#### Copies

Copies of this publication are available on our website at [www.qra.qld.gov.au/resilient-queensland](http://www.qra.qld.gov.au/resilient-queensland). Further copies are available upon request to:

Queensland Reconstruction Authority  
PO Box 15428  
City East QLD 4002  
Phone (07) 3008 7200  
[info@qra.qld.gov.au](mailto:info@qra.qld.gov.au)  
[www.qra.qld.gov.au](http://www.qra.qld.gov.au)

*Cover images: Top (left to right) Aerial of Townsville during 2019 North & Far North Queensland Monsoon Trough, Cloncurry Flood Warning Infrastructure Network workshop September 2019, and a team of QFES and QRA officers conducting Monsoon Trough rapid damage assessments 2019.*

*Bottom (left to right): Community Recovery team in Townsville, sandbagging prior to the 2019 Monsoon Trough, and the big map for the North West Queensland Flood Warning Infrastructure Network workshop.*

*Image above: Townsville flooding, 2019.*





## Message from the Minister

Queensland is the most disaster-affected state in Australia, having been hit by more than 80 significant natural disaster events in the past decade.

The impacts of these disasters are significant, long term and complex, which is why our government is committed to making Queensland the most disaster-resilient state in Australia.

On 31 May 2018, in a nationwide first for disaster recovery and resilience, the Queensland Government launched Resilient Queensland, a statewide plan to strengthen Queensland's resilience to natural disasters and to deliver on the Queensland Strategy for Disaster Resilience 2017.

The strategy focuses on understanding potential risk, better managing risk, seeking new opportunities to reduce risk, and continually improving how we prepare for, respond to and recover from natural disasters.

Resilient Queensland in Action 2019 is a progress update from the past 18 months and includes case studies and initiatives showcasing the important work happening around Queensland to improve disaster resilience.

It highlights achievements by our state agencies, local governments and communities, and incorporates climate change risk to deliver a comprehensive, all-hazards approach to building disaster resilience throughout Queensland.

Resilience can be thought of as our collective ability to understand, anticipate and quickly 'bounce back better' from disaster events. It's a shared responsibility – individuals, communities and businesses taking responsibility to be safe and to minimise personal and property impact.

The Queensland Government has made a commitment that by 2022 every local government in Queensland will be part of a regional resilience strategy that clearly identifies and prioritises actions to strengthen disaster resilience over time.

We'll do this using an approach that is locally led, regionally coordinated and state supported, delivering measures and activities that anticipate and adapt to our changing environment.

By working together and embedding resilience in our thinking and decision-making, we can empower all Queenslanders to become disaster resilient.

A handwritten signature in blue ink, appearing to read 'Cameron Dick', with a long horizontal line extending to the right.

Cameron Dick

Minister for State Development, Manufacturing,  
Infrastructure and Planning



# Resilient Queensland

Is about creating disaster resilient communities through working together to understand, **recognise** and manage the disaster **risks**. We need to **rethink** the way we are currently operating because **research** tells us that Queensland is experiencing the effects of the changing climate through an increase in the frequency and intensity of natural hazards.

Resilience is a shared and collaborative **responsibility** for all sectors of society, including all levels of government, business, the non-government sector and individuals.

A disaster resilient community is **ready** with comprehensive local information about hazards and risks, including who is exposed and who is most vulnerable. They take action to prepare for disasters and are adaptive and flexible to **respond** appropriately during emergencies.

People have taken steps to anticipate disasters, **reduce risks** and have robust conversations and prepare a plan to protect themselves, their assets and their livelihoods, including their homes and possessions, cultural heritage and economic capital.

They have committed the necessary **resources** and are capable of organising themselves before, during and after disasters which helps to **restore** social, institutional and economic activity.

People work in partnership with and **respect** emergency services, their local authorities and other relevant organisations and volunteers before, during and after emergencies.

These **relationships** ensure community resilience activities are informed by local knowledge, can be undertaken safely, and complement the work of emergency service agencies.

Our leaders **regularly revise** emergency management and regional resilience plans to ensure they are **resilience-based** and integrated with strategic planning of government and communities, considering risks and risk treatments across the social, built, economic and natural environments. Action-based resilience planning **revitalises** local capacity and capability, with greater emphasis on community engagement and a better understanding of the diversity, needs, strengths and vulnerabilities within communities. Our leaders in communities, governments and other organisations consider and recommend **resilient results** when making decisions, investments, and developing core services, products, policies, infrastructure and mitigation.

Following disasters our leaders and communities **review and reflect** to continually improve how we prepare for, respond to and recover from disasters, knowing that the more resilient our communities are the more rapidly they can **recover**.





# Contents

<b>Message from the Minister</b>	<b>3</b>
<b>Context</b>	<b>7</b>
<b>Progress and case studies 2018-19</b>	<b>11</b>
<b>Objective 1 – We understand the potential disaster risks we face</b>	<b>16</b>
<b>Objective 2 – We work together to better manage disaster risk</b>	<b>29</b>
<b>Objective 3 – We seek new opportunities to reduce disaster risk</b>	<b>44</b>
<b>Objective 4 – We continually improve how we prepare for, respond to and recover from disasters</b>	<b>56</b>

*Images: (Left) Bullo, flooding, April 2019, (right) Flinders Highway, bridge damage following the 2019 Monsoon Trough.*



# Context

## Resilient Queensland in Action

The objectives of the *Queensland Strategy for Disaster Resilience* (QSDR) are being delivered through the *Resilient Queensland 2018 – 2021* engagement and implementation plan to achieve the Queensland Government's vision of making Queensland the most disaster resilient state in Australia.

The four objectives of the *Queensland Strategy for Disaster Resilience* are:

- **Objective 1** – We understand the potential disaster risks we face
- **Objective 2** – We work together to better manage disaster risk
- **Objective 3** – We seek new opportunities to reduce disaster risk
- **Objective 4** – We continually improve how we prepare for, respond to and recover from disasters.

*Resilient Queensland in Action* showcases learnings and good practice, demonstrating some of the great work happening throughout Queensland to improve disaster resilience. It recognises factors driving the need to strengthen Queensland's disaster resilience:

- natural hazards are more frequent and intense
- essential services are interconnected and interdependent
- people and assets are more exposed and vulnerable
- disaster impacts are long term and complex
- momentum is building to address financial impacts of a changing climate.



Video: Learn more about Resilient Queensland at:  
<https://www.qra.qld.gov.au/resilient-queensland>

Disaster resilience means different things to different people. We look at what disaster resilience is, examples of what it looks like in Queensland, and our approach under the headings of the four objectives of the QSDR.

*Resilient Queensland in Action* includes case studies of successes, learnings and benefits including:

- collaborative approaches as a means to strengthen our shared understanding across a wide and varied landscape
- increased knowledge and understanding of the issues and challenges facing our communities will support better informed decisions
- expanding resilience conversations beyond traditional partnerships and across a range of disciplines.

Resilient Queensland is shared responsibility. It is about working together and bringing together people from all professions, across all sectors and in all communities to build our resilience to disasters. Benefits of working together are that we:

- prioritise resilience actions over time
- collaborate to seek shared funding opportunities rather than competing
- share resources to reduce duplication of effort
- better coordinate our approaches to resilience activities across Queensland
- share ideas that improves our collective knowledge
- embed resilience into our decision making and investments
- reach out to one another when help is needed.

*Resilient Queensland in Action* shows progress to date under each of the four objectives of Resilient Queensland, outlining what has been delivered, work currently underway and future actions.

Images: (Left) Bloomsbury, Central Queensland Bushfires, November 2018, (right) Central Queensland Bushfires 22 November – 6 December 2018.





## Resilient Queensland – Quotes

*It's important to recognise systems resilience in resilience building. Our communities are reliant on a range of interconnected systems that contribute to an individual's resilience, and all parts of the system are dependent on one another.*

**Andrew Bryant**

Regional Resilience Coordinator  
Wide Bay Burnett Regional Organisation of Councils

*Resilient Queensland is multidisciplinary and calls on individuals, professionals, business owners, community organisations and governments to work together to make Queensland the most disaster resilient state in Australia.*

**Alexis Coutts**

Organisational Safety Manager  
Isaac Regional Council

*Many Queensland communities are experiencing prolonged chronic, as well as periodic, stresses. These include regional population loss or pressures associated with growth, ageing populations, ongoing challenges associated with the inability to attract professionals into communities for key service provision, drought conditions, etc. What underpins how a community can get through a shock, is its ability to be resilient in the first place.*

**Brendan Guy**

Disaster Management Officer  
Fraser Coast Regional Council

*Two key characteristics that disaster resilient individuals, organisations and communities have in common are: the ability to effectively activate and harness the strengths already existing in themselves and their networks when required, and the capacity to sustain and grow life in the midst of trauma and adversity.*

**Selena Gomersall**

CEO, Outback Futures

*Resilience is a shared responsibility. One of the greatest challenges for Resilient Queensland is to challenge the notion that disaster resilience is the responsibility of any one particular sector, but rather to help our communities to embrace resilience as an integral part of our daily lives and decision making.*

**Craig Neuendorf**

Disaster Management Officer  
Longreach Disaster District

*Building resilience is a key driver to ensure the safety of our community. With noticeable changes and variability in climate and weather patterns, disasters are occurring more frequently and on a larger scale than ever before. As a community we must be more aware of hazards and risks, and be proactive in our response.*

*Our essential services and assets can be vulnerable to a disaster, so as a community we need to be aware that disasters are complex and can be long term. Economic losses caused by a disaster effect the whole of the country, which is why it is imperative we need to build our capability and resilience through proactive measures.*

**Cr Bill Ludwig**

Mayor, Livingstone Shire Council

*A resilient society recognises and lives comfortably with the prospect of disasters as a part of life. To do that, the community must first attain a level of understanding and empowerment to drive their own local solutions to common problems.*

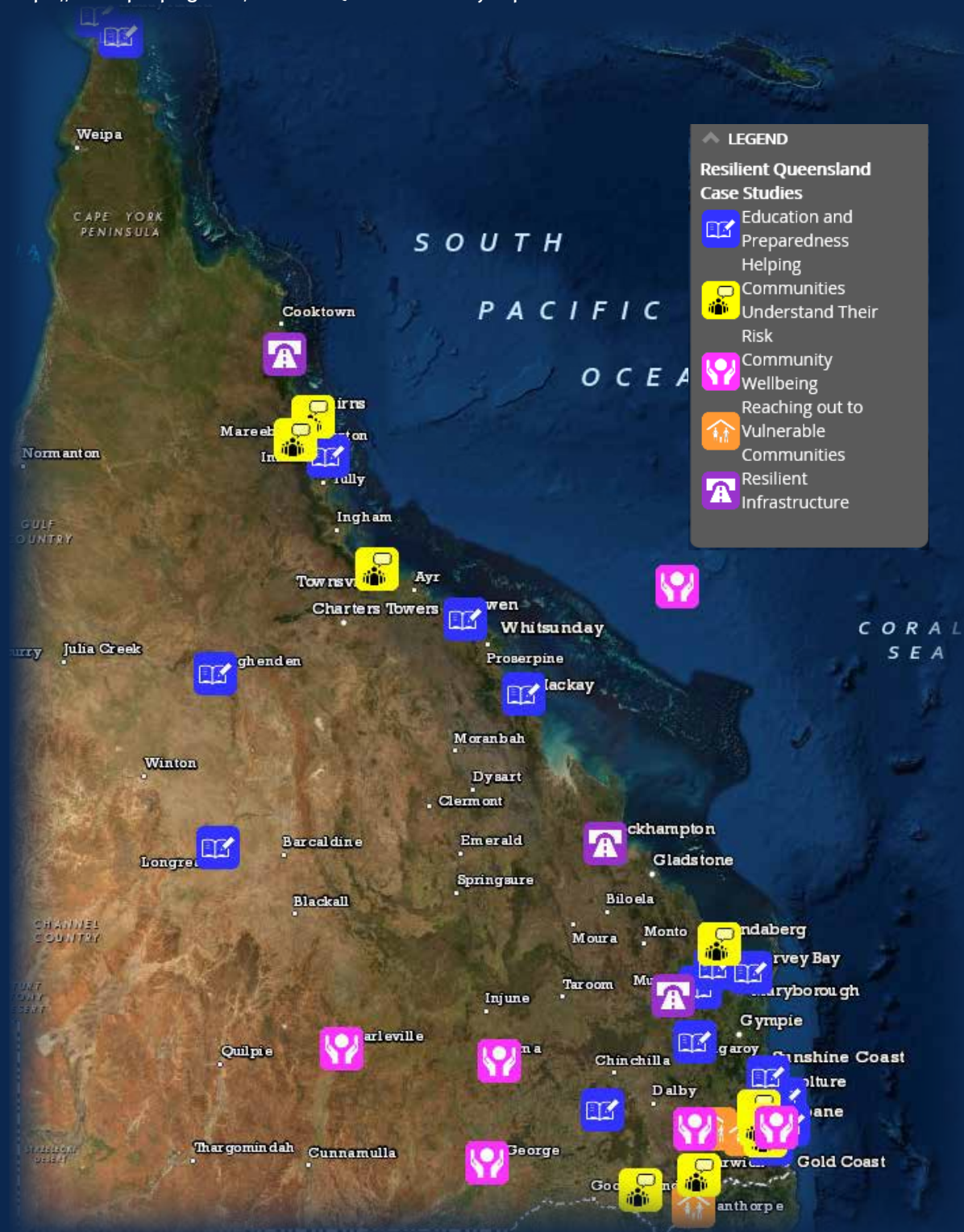
**Matthew Pinder**

Emergency Management and Sustainability Manager  
City of Ipswich



# Resilient Queensland Storymap

<https://www.qra.qld.gov.au/Resilient-Queensland-Storymap>



The aim of the Resilient Queensland Storymap is to gradually build a showcase of resilience stories from across the state.

Helping Queenslanders strengthen their resilience to disasters is a key focus for governments and community organisations.

Engaging the community in meaningful ways can be a challenge, particularly if a disaster has not occurred in recent times.

The Resilient Queensland Storymap provides examples of how different communities are being encouraged to learn about local disaster risks and take positive steps to be prepared and stay safe.

The stories are grouped into five categories:

- Education and preparedness
- Vulnerable communities
- Communicating risk
- Community wellbeing
- Resilient infrastructure.

<https://www.qra.qld.gov.au/Resilient-Queensland-Storymap>





A firefighter in a yellow protective suit and helmet stands in a forest, looking towards a fire. The ground is covered in dark, charred debris, and several small fires are visible in the distance. The background is filled with smoke and the silhouettes of trees.

# Resilient Queensland 2018-21

*Delivering the Queensland Strategy for Disaster Resilience*

## Progress and case studies 2018-19

# Resilient Queensland 2018-21

## Delivering the Queensland Strategy for Disaster Resilience

### Objective 1 – We understand the potential disaster risks we face

#### Describing success

**Having a clearer understanding of potential risks empowers us to make informed decisions so that we can better prepare and respond.**

**We are resilient when:**

- we have access to real-time information about disaster impacts
- we find ways to engage with hard-to-reach and vulnerable people such as those from non-English speaking backgrounds
- our community understands and is involved in disaster risk management.

#### Strategy commitments

- C1.1** Drive attitudinal, cultural and behavioural change across the state, enabling Queenslanders to anticipate, respond and adapt to disaster impacts
- C1.2** Understand the risks associated with a warming climate with improved coastal management
- C1.3** Increase community awareness and preparedness for all hazards through community engagement
- C1.4** Initiate research and evaluation projects to promote the positive trajectory of building resilience in Queensland.

#### Delivered

- ✓ Queensland Emergency Risk Management Framework QERMF (QFES)
- ✓ Queensland State Natural Hazard Risk Assessment 2017 (QFES)
- ✓ Queensland Climate Adaptation Strategy 2017-30 (DES)
- ✓ Queensland Climate Transition Strategy 2017 (DES)
- ✓ Get Ready Queensland grants program for councils (QRA)
- ✓ Preparing Your Business for Natural Disasters 2016 (DESBT)
- ✓ Cohesive communities: an action plan for Queensland 2016-18 (DCDSS)
- ✓ Evaluation and improvement of Get Ready Queensland program 2019 (QRA)
- ✓ Get Ready Queensland website and brand refresh, and 2019 ambassador Johnathan Thurston (QRA)
- ✓ Get Ready Week 13-19 October 2019 included a media launch to coincide with the release of Bureau of Meteorology's Severe Weather Outlook (QRA)
- ✓ Queensland Language Services Policy (DLGRMA)
- ✓ Statewide capture of resilience activities, strategies and plans 2019 (QRA)
- ✓ On 3 April 2019, the importance of disaster resilience was recognised in Queensland legislation through the Queensland Reconstruction Authority Act 2011 (QRA)
- ✓ Queensland Flood Mapping Program and FloodCheck online map (DNRME)
- ✓ State Heatwave Risk Assessment 2019 (QFES)
- ✓ State Earthquake Risk Assessment 2019 (QFES)
- ✓ Tsunami Guide for Queensland 2019 (QFES)
- ✓ Agriculture Sector Adaptation Plan 2017 (DES)
- ✓ Built Environment and Infrastructure Sector Adaptation Plan 2017 (DES)
- ✓ Queensland Tourism Climate Change Sector Adaptation Plan 2018 (DES)
- ✓ Emergency Management Sector Adaptation Plan for Climate Change 2018 (QFES)
- ✓ Birdie's Tree resources help young children understand severe weather events (Health)
- ✓ Climate Week QLD 2019 (DES)

#### Delivering

- ✓ Ready and Resilient Working Group - supports the coordination of Queensland Government's key resilience communications and engagement activities (QRA)
- ✓ The Get Ready Queensland program is a year-round, all-hazards, resilience building initiative to help communities prepare for natural disasters. The Get Ready Queensland program provides \$2 million in state funding each year to help local governments improve their communities' resilience (QRA)
- ✓ Flood Classifications Step-by-Step Guide (QRA)
- ✓ Operation Community Connect (QFES)
- ✓ Small and Medium Enterprise Sector Adaptation Plan (DES)
- ✓ Biodiversity and Ecosystems Climate Adaptation Plan 2018 (DES)
- ✓ Human Health and Wellbeing Climate Change Adaptation Plan 2018 (DES)
- ✓ Industry and Resources Sector Adaptation Plan (DES)
- ✓ Severe Wind Hazard Assessment for Queensland (QFES)
- ✓ Queensland Emergency Risk Management Framework - ongoing (QFES)
- ✓ Volunteerism Strategy (QFES)
- ✓ State Disaster Risk Register (QFES)

#### Future actions

- National Disaster Risk Reduction Framework - Queensland activities under the National Action Plan
- State Disaster Risk Report 2020 (QFES)
- Evaluate effectiveness of Get Ready Queensland general awareness, monsoon trough and bushfire advertising campaigns (QRA)
- Evaluate recognition of Johnathan Thurston as Get Ready Queensland Ambassador (QRA)
- Investigate options for Get Ready Queensland program partners to help Queenslanders be better prepared for natural disasters (QRA)



## Objective 2 – We work together to better manage disaster risk

### Describing success

**By understanding what people value most we can better coordinate and concentrate our efforts.**

**We are resilient when:**

- our community is involved in disaster preparedness activities that meet local needs
- evidence of local vulnerability and risk is used to inform our decision making
- we encourage, promote, and facilitate shared responsibility for all Queenslanders in building disaster resilience
- everyone understands the role they play in contributing to the resilience of our community.

### Strategy commitments

- C2.1** Build partnerships across community, industry, research organisations and government to improve the health of waterways and marine areas
- C2.2** Provide opportunities for community-based solutions to the impacts of disasters
- C2.3** Develop and implement a strategic framework for flood risk management.

### Delivered

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>✓ Queensland Emergency Risk Management Framework QERMF (QFES)</li> <li>✓ Queensland Regional Natural Resource Management Investment Program 2013-2018 (DNRME)</li> <li>✓ Strategic Policy Framework for Riverine Flood Risk Management and Community Resilience 2017 (QRA)</li> <li>✓ Indigenous Land and Sea Ranger Program 2017 (DES)</li> <li>✓ Queensland Recovery Plan 2017 (QRA)</li> <li>✓ Resilience activity analysis to identify opportunities and priorities (QRA)</li> <li>✓ Queensland Critical Infrastructure Working Group (QRA)</li> <li>✓ Brisbane River Catchment Flood Study 2017 (QRA)</li> <li>✓ Brisbane River Strategic Floodplain Management Plan 2019 (QRA and project partners)</li> <li>✓ Burnett Catchment Flood Resilience Strategy 2018 (QRA)</li> <li>✓ People with vulnerabilities in disasters: A framework for an effective local response, and toolkit (DCCSDS)</li> <li>✓ Drought and Climate Adaptation Program (DAF)</li> <li>✓ Money Ready Toolkit: disaster-proof your finances (Good Shepherd Microfinance and Queensland Government)</li> <li>✓ Toolkit - Community-based organisations (CBOs) Disaster management and recovery toolkit, developed by the Community Services Industry Alliance in partnership with the Queensland Government</li> </ul> | <ul style="list-style-type: none"> <li>✓ Toolkit - ACROSS Resilient Community Organisations developed by and for the community sector to help organisations measure and improve their resilience to disasters and emergencies (Australian Government)</li> <li>✓ Queensland Disaster Management Arrangements Participants Guide 2018 (QFES)</li> <li>✓ Queensland Public Cyclone Shelter Maintenance Guideline - update 2018 (HPW)</li> <li>✓ Disaster Management documentation - suite updates 2018 including Training Framework and Handbook, PPRR DM Guideline (QFES)</li> <li>✓ Queensland Evacuation Centre Management Handbook and Planning Toolkit - updates 2018 (Red Cross and Queensland Government)</li> <li>✓ Disability Inclusive Disaster Risk Reduction Framework and Toolkit 2019 (DCDSS)</li> <li>✓ Queensland Disaster Management Data Coordination Initiative (QFES)</li> <li>✓ Local and District Disaster Management Plans - annual delivery</li> <li>✓ Queensland Disaster Management Arrangements Sharing Group (QFES)</li> <li>✓ QERMF Risk Assessment Tool (QFES)</li> <li>✓ Queensland Future Climate Dashboard (DES)</li> <li>✓ QDMA Situational Awareness Platforms (QFES)</li> </ul> |
|--|---|

### Delivering

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>✓ Resilience Community of Practice (QRA)</li> <li>✓ Resilient Queensland Storymap (QRA)</li> <li>✓ Pilot and evaluate regional resilience models across a range of communities -Brisbane River, Burnett, Mary, Fitzroy, Central West (QRA)</li> <li>✓ Disaster Management Officers' Network (IGEM)</li> <li>✓ Research Community of Practice (IGEM)</li> <li>✓ Research Advisory Panel (IGEM)</li> <li>✓ Central West Regional Resilience Strategy (QRA)</li> <li>✓ Mary River Regional Resilience Strategy (QRA)</li> </ul> | <ul style="list-style-type: none"> <li>✓ Fitzroy Regional Resilience Strategy (QRA)</li> <li>✓ Brisbane River Strategic Floodplain Management Plan – 34 of the 52 recommended actions are with Queensland Government (QRA)</li> <li>✓ Resilient Queensland Collaboration Guide (QRA)</li> <li>✓ Queensland Climate Resilient Councils (QCRC)</li> <li>✓ Resilient Queensland Body of Knowledge (QRA)</li> <li>✓ Mass Evacuation Plan - Working Group (QFES, QPS)</li> <li>✓ Queensland Disaster Management Data Coordination Initiative - intelligence function (SDCC, QFES)</li> <li>✓ Volunteerism Strategy Implementation Plan (QFES)</li> </ul> |
|---|---|

### Future actions

- Burdekin and Haughton Catchment Resilience Strategy Project (QRA)
- Statewide delivery of co-developed regional resilience models - by 2022, every local government in Queensland will be part of a regional resilience strategy that clearly identifies and prioritises actions to strengthen disaster resilience over time (QRA)
- Develop and implement a strategic framework for flood risk management (QRA)
- Collaborate with the insurance industry to share the most current floodplain risk management information (DNRME)

# Resilient Queensland 2018-21

## Delivering the Queensland Strategy for Disaster Resilience

### Objective 3 – We seek new opportunities to reduce disaster risk

#### Describing success

**Having a big picture view will help us identify opportunities for making our communities, infrastructure and environment stronger and more adaptable to future stresses.**

**We are resilient when:**

- we incorporate resilience into everyday activities
- we take a proactive approach to resilience building, rather than a reactive one
- we understand how to link policy and funding to prioritised actions
- we focus on long-term risk reduction and resilience to plan for future generations, the economy and the environment.

#### Strategy commitments

- C3.1** Deliver more resilient infrastructure and transport systems
- C3.2** Support the ability of our natural assets to serve as protective buffers against disaster impacts
- C3.3** Promote the incorporation of risk reduction in all planning and development
- C3.4** Encourage innovation in urban area design for living with the impacts of floods and droughts
- C3.5** Further the understanding and management of natural landscapes to reduce the impacts and effects of floods and bushfires
- C3.6** Build greater business resilience and preparedness
- C3.7** Minimise disaster impacts through flexible and adaptive planning.

#### Delivered

- ✓ Queensland Betterment Fund 2013, 2015 and 2017 (QRA)
- ✓ State Planning Policy 2017 and supporting guidance (DSDMIP)
- ✓ Prevention, Preparedness, Response and Recovery Disaster Management Guidelines 2018 (QFES)
- ✓ State Disaster Management Plan 2018 (QDMC)
- ✓ Queensland Resilience Coordination Committee (QRA)
- ✓ Natural Disaster Resilience Program 2017-2018 (QRA)
- ✓ State Infrastructure Plan, Program - 2019 update (DSDMIP)
- ✓ Building our Regions, Rounds 1-4 (DSDMIP)
- ✓ Queensland Disaster Resilience and Mitigation Investment Framework (QRA)
- ✓ Queensland's Flood Warning Infrastructure Network and Flood Gauge Network Investment Plans for local governments, the Queensland Gauge Asset Review, and the Queensland Flood Forecast Location Review (QRA)
- ✓ QCoast2100 – Queensland Local Government Coastal Hazard Adaptation Program (LGAQ and Queensland Government)
- ✓ QERMF - Identification of risk mitigation opportunities and potential links to funding opportunities (QFES)
- ✓ Funding guidance for risk mitigation projects (QFES)
- ✓ Natural hazards, risk and resilience – Bushfire: State Planning Policy – state interest guidance material 2019 (QFES)
- ✓ Bushfire Resilient Communities - Technical Reference Guide for the State Planning Policy (QFES)

#### Delivering

- ✓ Analysis of Queensland's investment in resilience (QRA)
- ✓ Local Resilience Action and Investment Tool (QRA)
- ✓ Repeat Event and Dollar Index (REDI) mapping project enhancements (QRA)
- ✓ Get Ready Queensland Resilient Australia Awards (QRA)
- ✓ Queensland Disaster Resilience Fund 2018-19 has 62 successful projects (QRA)
- ✓ Resilient infrastructure – \$100 million joint State / Commonwealth Betterment Fund following the Monsoon Trough (QRA)
- ✓ Building our Regions, 2019 Round 5 (DSDMIP)
- ✓ Flood Warning Infrastructure Network Project following the Monsoon Trough (QRA)
- ✓ Queensland Disaster Resilience Fund 2018-19 (QRA)
- ✓ Implementing the Gender and Emergency Management Guidelines in Queensland (IGEM)
- ✓ Building local food-related disaster resilience (IGEM)
- ✓ Local Government Grants and Subsidies Program 2019–21 (DLGRMA)
- ✓ Works for Queensland program 2019-21 (DLGRMA)
- ✓ Small Business Recovery Advisory Council and Small Business Recovery and Resilience Champion (DESBT)

#### Future actions

- Queensland Resilience, Adaptation Pathways and Transformation Assessment Framework (QRA)
- Co-hosting the 2020 Asia-Pacific Ministerial Conference on Disaster Risk Reduction, 29 June - 2 July 2020 (Queensland Government)
- Disaster Recovery Funding Arrangements (DRFA) Efficiencies Framework for Queensland (QRA)
- Queensland Disaster Resilience Fund 2019-2020 (QRA)
- Establish a state policy on the assessment, prioritisation and funding of state-funded flood mitigation works (QRA).
- State Disaster Risk Report 2020 (QFES)



## Objective 4 – We continually improve how we prepare for, respond to and recover from disasters

### Describing success

**Understanding our current and future disaster risks enables us to make informed decisions for current and future generations.**

**We are resilient when:**

- our disaster management systems are scalable to accommodate future changes
- we are on a journey of continuous improvement
- we work across disciplines and organisations for resilience planning
- we embrace a culture of ongoing improvement through regular monitoring and information sharing.

### Strategy commitments

- C4.1** Identify adaptation opportunities following disasters and in anticipation of climate change
- C4.2** Drive continuous improvement in disaster management in Queensland via assurance frameworks and accompanying performance measures.

### Delivered

- ✓ Queensland Strategy for Disaster Resilience 2017 (QRA)
- ✓ Resilient Queensland 2018-21 – Delivering the Queensland Strategy for Disaster Resilience (QRA)
- ✓ State Disaster Management Plan 2018 (QDMC)
- ✓ Office of the Inspector-General Emergency Management Emergency Management Assurance Framework (IGEM)
- ✓ The Cyclone Debbie Review: Lessons for delivering value and confidence through trust and empowerment (IGEM)
- ✓ Queensland Climate Adaptation Strategy 2017 – 2030 (DES)
- ✓ Emergency Management Prioritisation Tool (IGEM)
- ✓ Damage Assessment and Reconstruction Monitoring system DARMsys™ (QRA)
- ✓ Lessons Management Program (IGEM)
- ✓ Resilient Queensland in Action (QRA)
- ✓ Review - Efficacy of recovery governance (IGEM)
- ✓ The 2018 Queensland Bushfires Review (IGEM)
- ✓ 2019 Monsoon Trough Rainfall and Flood Review (IGEM)
- ✓ 2019 Queensland Government Household Resilience Program (HPW)
- ✓ North and Far North Queensland Monsoon Trough – Recovery Plan 2019-2021 (IGEM)
- ✓ Central Queensland Bushfires Recovery Plan 2018-2021 (QRA)
- ✓ Flood Resilient Building Guidance for Queensland Homes (QRA)
- ✓ Disaster funding application portal for Queensland councils and state agencies - Management and Reporting System - MARS (QRA)
- ✓ Emergency Management Sector Adaptation Plan for Climate Change 2018 (QFES)

### Delivering

- ✓ Co-develop Queensland specific resilience measures and toolkits for inclusion in regional resilience models (QRA)
- ✓ Regular reporting on the 16 Strategy commitments via Functional Recovery Groups (QRA)
- ✓ Monitoring and reporting on Resilient Queensland
- ✓ 2019 Queensland Bushfire Review (IGEM)
- ✓ 2019 Paradise Dam Preparedness Review (IGEM)
- ✓ System-wide lessons management program for disaster management (IGEM)
- ✓ Disaster Management Research Framework (IGEM)
- ✓ Queensland Disaster Management Lexicon (IGEM)
- ✓ Cyclone Resilient Building Guidance for Queensland Homes (QRA)
- ✓ Storm Tide Resilient Building Guidance for Queensland Homes (QRA)
- ✓ Refresh of the Emergency Management Assurance Framework and Standard for Disaster Management – comes into effect on 1 July 2020 (IGEM)
- ✓ Small Business Recovery Centre (DESBT)
- ✓ Recovery Information Hub (QRA)

### Future actions

- Bushfire Building Guidance for Queensland Homes (QRA, QFES)
- Repeat Event Damage Index enhancements (QRA)
- QAO audit 2021-22 to assess whether Queensland is better able to prevent and prepare for floods following the Queensland Floods Commission of Inquiry (QAO)
- Resilient buildings - Consider a range of regulatory and incentive-based approaches for increasing resilience of buildings (HPW, QRA, QFES)



## Objective 1 – We understand the potential disaster risks we face

### *Case studies, learnings and good practice*

#### Natural hazards with the most significant impact in Queensland

Queensland is exposed to a range of natural hazards that can lead to significant consequences for our communities. Within the last decade we have experienced natural disasters of a size and scale that are almost unprecedented; certainly we have endured some of the most significant events in recent history.

The scope of the Queensland State Natural Hazard Risk Assessment QFES, (2017) includes the hazards of:

- tropical cyclones
- riverine flooding
- bushfires
- severe weather
- earthquakes
- heatwaves
- coastal inundation.

The report acknowledges tropical cyclones and riverine flooding remain the hazards whose impacts pose the greatest risk to Queensland.

The State Risk Report 2020 (SRR2020) project, being led by QFES, will deliver an updated version of the Queensland State Natural Hazard Risk Assessment 2017, and is defined by a broader scope encompassing natural and anthropogenic hazards as well as a broad overview of the impact of climate change to disaster risk in Queensland.

#### Queensland Emergency Risk Management Framework

The United Nations, through the Sendai Framework for Disaster Risk Reduction 2015-2030, notes that understanding disaster risk is the first priority toward disaster risk reduction.

Hazard identification, the analysis of exposure and vulnerability and the subsequent identification of risk through this process is the cornerstone of understanding disaster risk and forms the basis for effective risk-based planning.

Under the Queensland State Disaster Management Plan, QFES is responsible for the conduct of a state level disaster risk assessment.

The Queensland Emergency Risk Management Framework (QERMF) was developed to inform risk-based planning across the emergency management sector in Queensland and has been endorsed by the Queensland Disaster Management Committee.

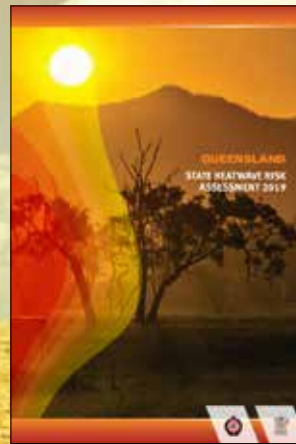
The application of the QERMF promotes opportunities for collaboration and communication between Government, industry stakeholders and the community across the three disaster management levels (local, district and state) in Queensland. It also promotes the need for identification and communication of residual risk across these levels.

The QERMF assists key stakeholders working within the Queensland Disaster Management Arrangements to review existing natural disaster risk management processes and assist in enhancing resilience as outlined within the QSDR.

<https://www.disaster.qld.gov.au/qermf>

*Images: (Left) False colour satellite image showing the difference between flooded rivers in light blue and oceans in darker blue, on Sunday, 10 February 2019, (centre) Satellite image of the Queensland bushfires taken at 7-30am on 29 November 2018, taken by the Himawari 8 Japanese weather satellite, (right) Tropical Cyclone Owen 9-17 December 2018.*





## New state risk assessments for heatwave, earthquake, tsunami and severe wind

Recent QFES publications include:

- State Heatwave Risk Assessment 2019
- State Earthquake Risk Assessment 2019
- Tsunami Guide for Queensland 2019
- Severe Wind Hazard Assessment for Queensland 2019
- Emergency Management Sector Adaptation Plan (EM-SAP) for Climate Change 2018
- State Natural Hazard Risk Assessment 2017.

The Queensland State Heatwave Risk Assessment 2019 (SHRA) represents the most comprehensive analysis of future climate risk undertaken for a natural hazard risk assessment in Queensland.

The summer of 2018-19 was the hottest on record for Australia. The extreme heatwaves and bushfires that occurred across Queensland are a clear indication that we are facing unprecedented challenges in understanding and responding to the impacts of natural hazards in a changing climate.

The SHRA was developed to provide all stakeholders with clear and consistent information regarding the changing nature of heatwave risk in Queensland. It was a collaborative effort between multiple stakeholders, coordinated through a working group led by QFES, QH, and DES.

The Queensland State Earthquake Risk Assessment 2019 and companion Tsunami Guide for Queensland were developed to provide a comprehensive overview of earthquake and tsunami risk for the state. Detailed analysis of these hazards understandably requires a high level of technical expertise, so QFES partnered with Geoscience Australia to help contextualise the findings of the National Seismic Hazard Assessment 2018 and the Probabilistic Tsunami Hazard Assessment 2018.

The Severe Wind Hazard Assessment for Queensland is a collaborative project between Geoscience Australia and QFES, which aims to provide realistic and tangible information on the potential physical impacts of tropical cyclones on Queensland communities. This is intended to enable the emergency management sector and local governments to more effectively engage with the community on the current and future risks posed by cyclones and inform long term risk management strategies.

<https://www.disaster.qld.gov.au/qermf>

<https://www.disaster.qld.gov.au/qermf/Pages/Assessment-and-plans.aspx>

## Climate Week QLD 2019

The Queensland Government is committed to transitioning the state to a low-carbon, clean-growth economy and adapting to the impacts of a changing climate.

As a part of this commitment to understand the future impact of climate change, the Queensland Government hosted political, business and community representatives from across Australia and the Asia-Pacific region at Queensland's first ever Climate Week from 2–8 June 2019.

Climate Week QLD 2019 provided a forum for leaders and sub-national governments to share ideas and build a community of action against climate change.

Activities throughout the week included a public program of arts, music, and panel discussions, a First Nations Summit, and climate leadership training with former US Vice President Al Gore and the Climate Reality Project.

Community groups, businesses, universities, not-for-profit groups, schools, landholders and individuals across Queensland were also invited to host climate action events during climate week.

Students from years 3 to 10 participated in the 2019 Minister's Climate Challenge, coming up with innovative solutions to local climate change problems.

<https://www.qld.gov.au/environment/climate/climate-change/climate-week>

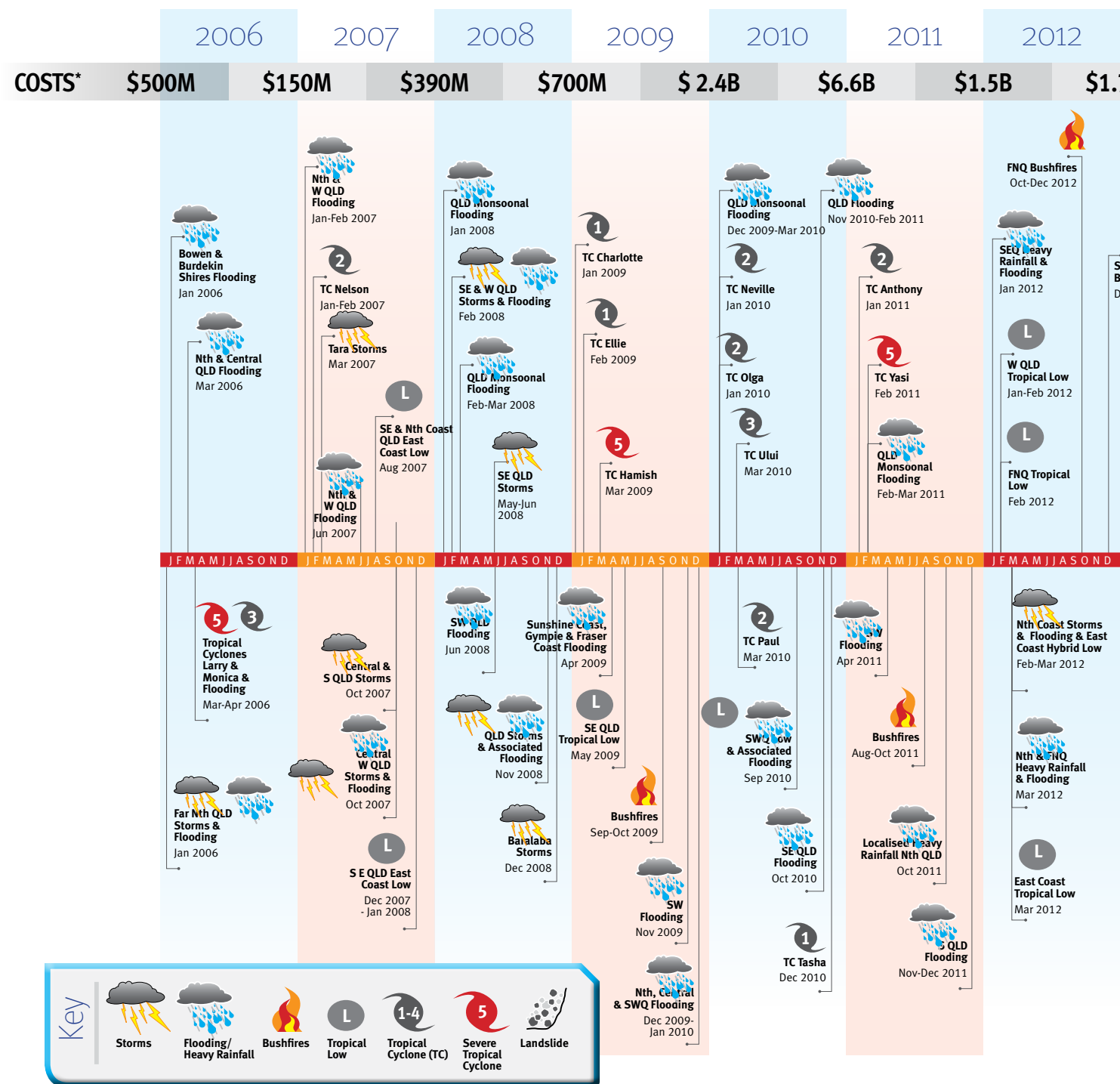
*Images: Covers (left to right) Tsunami Guide for Queensland 2019, State Earthquake Risk Assessment 2019, and Queensland State Heatwave Risk Assessment 2019.*

# Recent natural disasters in Queensland

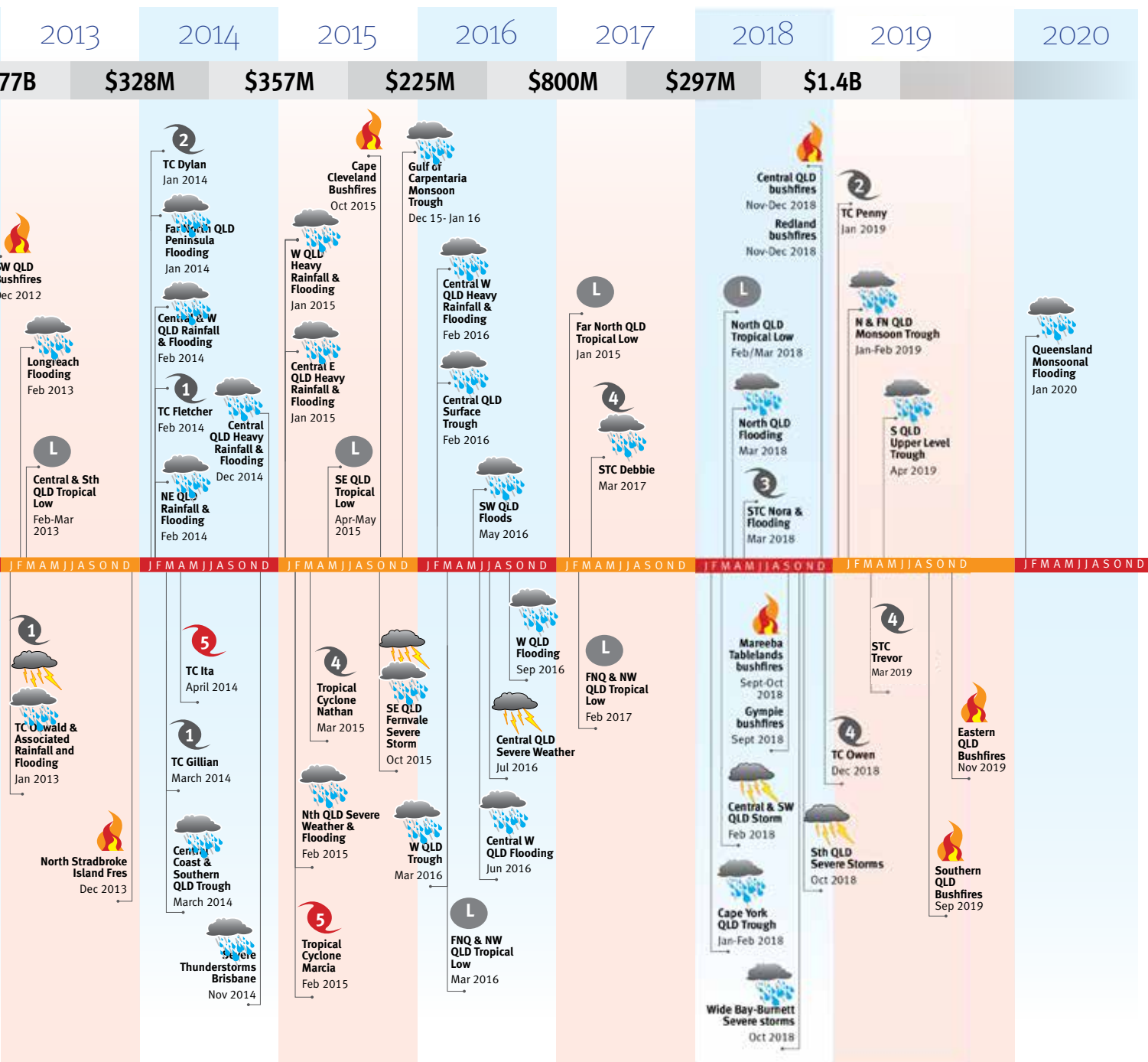
Queensland has been hit by more than 80 significant natural disaster events in the past decade.

Since its establishment in 2011, QRA has managed a \$15.7 billion program of Natural Disaster Relief and Recovery Arrangements (NDRRA) and Disaster Recovery Funding Arrangements (DRFA) recovery and reconstruction works.

<https://www.qra.qld.gov.au/funding>









## Disaster resilience now has a permanent home in Queensland legislation

On 3 April 2019, the role of Australia's only permanent disaster recovery organisation was strengthened, with amendments to the *Queensland Reconstruction Authority Act 2011* passing through parliament cementing the role of the QRA as the state's lead agency for disaster recovery, resilience and mitigation policy.

While initially founded to assist in reconstruction and recovery of the state post-floods, QRA has since established itself as a national and international leader in natural disaster resilience, and now has the legislative authority and clarity it needs to support government in building a stronger and more resilient state.

The amendments will ensure QRA can undertake its responsibilities for the full range of disaster events rather than only floods, lead the coordination of resilience and recovery policy, and facilitate mitigation activities outside of post-disaster events.

The resilience activities QRA undertakes will not be limited to communities affected by a previous disaster event. Amendments to the Act extend the Authority's functions to facilitate this and demonstrate the Queensland Government's commitment to making Queensland the most disaster-resilient state in Australia.

The main purpose of *Queensland Reconstruction Authority Act 2011* is to provide for appropriate measures:

- to ensure Queensland and its communities effectively and efficiently recover from the impacts of disaster events, and
- to improve the resilience of communities for potential disaster events.

Read the Act at <https://www.legislation.qld.gov.au/view/pdf/2017-07-03/act-2011-001>

## Refresh of the Emergency Management Assurance Framework and Standard for Disaster Management

The Emergency Management Assurance Framework (EMAF) is a commitment by the disaster management sector to position Queensland as the most disaster resilient state in Australia.

The EMAF ensures entities meet their legislative responsibilities through programs that are effective, aligned to good practice, encourage the best use of resources and meet the needs of Queensland communities. The EMAF enables a statement of confidence in the effectiveness of entities operating within Queensland's disaster management arrangements.

The Standard for Disaster Management in Queensland (the DM Standard) provides the parameters for conducting disaster management in Queensland. The DM Standard also provides a mechanism to assess performance and consists of shared responsibilities, outcomes, indicators and accountabilities.

In 2018 the Office of the IGEM worked with representatives from across the disaster management sector to refresh the EMAF and the DM Standard, originally developed in 2014.

The refresh was informed by more than 1000 hours of engagement including face-to-face consultation, six working groups, 108 responses to external surveys and insights captured over four years of application.

The refreshed documents will come into effect on 1 July 2020, with resources and workshops supporting a phased transition for the sector.

2019 survey results indicate that 68 per cent of respondents are keen to understand the DM Standard for application to their work.

The EMAF and the DM Standard are <http://www.igem.qld.gov.au/>

*Image: (Left) Parliament House (right) State Disaster Coordination Centre during the Central Queensland Bushfires.*





## Understanding our risk and preparing our communities

### Get Ready Queensland grants program for councils

The Get Ready Queensland program is a year-round, all-hazards resilience-building initiative to help communities prepare for natural disasters.

Get Ready Queensland is about building our resilience to deal with the extreme weather and natural disasters that are part of living in our state.

Resilience is about more than just good preparation or effective responding. It is about accepting that extreme weather is part of living in Queensland, and preparing to handle it accordingly.

Get Ready Queensland is a year-round, all-hazards, resilience building initiative which provides \$2 million to the state's 77 councils and one town authority with funding to help communities be better prepared for natural disasters.

Queensland councils are using this funding for first-aid equipment, sandbag machines, training for local disaster management staff, equipment for evacuation centres, and much more.

All of these resilience investments have been chosen by their local communities to best meet their local needs.

Councils have been advised of their 2019-20 Get Ready Queensland funding and have been provided with a suite of key messages, images and communication resources.

Get Ready Queensland Week was held in October 2019 to coincide with the release of the Bureau of Meteorology's Severe Weather Outlook.

<https://www.qra.qld.gov.au/funding/get-ready-queensland-councils>

### 2019 Get Ready Queensland Ambassador Johnathan Thurston

Rugby league great and Indigenous role model Johnathan Thurston has been announced as the first Get Ready Queensland Ambassador, to help raise awareness around being prepared for natural disasters.

As part of his role, Mr Thurston will be the face and voice of social media and radio advertising campaigns. He is one of Queensland's most influential people and when he speaks, our state listens.

As a North Queenslander, the new Ambassador has experienced firsthand some of Queensland's worst natural disasters. "I've been through my fair share of weather events, including Cyclone Larry in 2006 and Cyclone Yasi in 2011," Mr Thurston said.

"The flooding in Townsville and across large parts of Queensland in January this year was another jolting reminder of the challenges our state faces from Mother Nature.

"Because when it comes to extreme weather in Queensland, it's not a matter of 'if' but 'when'.

"And as a husband and father of four girls, I know having a 'what-if' plan in place can be the difference between staying safe or putting my family in danger, so I want to help other Queenslanders become better prepared for storms.

"These steps can be simple: having a household emergency kit and plan, communicating with your neighbours, checking your insurance.

"The Get Ready Queensland website has a range of resources to help Queenslanders take the steps they need to protect what's most important to them" he said.

<https://www.getready.qld.gov.au>

*Images: (Left) Get Ready Queensland emergency collateral, (right) Johnathan Thurston.*



## New look: Get Ready Queensland

The Get Ready Queensland brand had a refresh in 2019 to modernise the look and feel of the program and new products have been made available to Queensland councils to support their disaster preparedness and resilience communications and activities.

One of the key elements of this brand refresh has been the creation of an extensive image library covering a range of both dramatic disaster images as well as some photos that focus on the theme of resilience, community spirit and the positive outcomes of planning and preparedness.

50 images are available in the library and the collection will continue to expand with suitable, quality photographs that councils can use for any Get Ready Queensland related communications. Councils have also been invited to provide any images they think would be suitable.

With an increased emphasis on social media, four short social media videos have been produced for councils to use on their social media channels as well as updated social media tiles and cover images.

Other updated resources include a range of A3 posters, pull up banners, DL fridge magnets, Word documents, PowerPoint presentation templates and email banners as well as refreshed Get Ready Queensland branded items.

The Get Ready Queensland website includes a new 'In your language' page linking Queenslanders to government resources in their language and connections to translating and interpreting services.

<https://getready.qld.gov.au/homepage/>

<https://www.qra.qld.gov.au/funding/get-ready-queensland-councils>.

## School's out, safety's in – get bushfire ready

On the back of the Central Queensland bushfires in December 2018, there was an intense start to the 2019 bushfire season in September. The Queensland Government's \$100,000 September-October school holiday bushfire preparedness awareness campaign encouraged Queenslanders to take the time to prepare their property and family and have a bushfire survival plan in place before bushfire strikes.

The campaign featured print, radio and social media advertisements in South East Queensland and major regional centres from 23 September 2019 to 6 October 2019, and campaign key messages included:

- If you're staying at home you can prepare your household now with some simple steps such as clearing debris from your roof and gutters; checking pumps, generators and water systems; ensuring adequate access for fire trucks; trimming low branches; and relocating flammable items away from your home
- If you're planning a trip, consider the distance from emergency services, the likelihood of heightened bushfire risk at the location you're visiting and if you're travelling to or through bushfire-affected areas
- If you are travelling these holidays, check the Queensland Rural Fire Service website to see where current bushfires are and where there are fire bans in place
- Right now is the time to think about your families, pets, neighbours, homes and businesses, and how to help keep them safe. Even in urban areas, families should be ready and prepare a bushfire survival plan, prepare your home and make sure your insurance is reviewed and up-to-date.

School holidays are a perfect time for parents to sit down with their children to ensure all members of the family are bushfire-ready.

The campaign complements QFES's existing bushfire awareness campaign *In the line of fire*, which ran radio, outdoor and social media advertising for three months commencing in August.

<https://www.getready.qld.gov.au/campaigns/bushfire-awareness-campaigns>





## Operation Knock Knock helping communities to connect

While the economic impact of natural disasters in Queensland is significant, social impacts come at a much greater cost to the community. The compounding effects of social impact challenges after disasters provide a clear focus for all levels of government, emergency services and communities to collaborate and deliver preparedness programs to foster connectedness and resilience.

Operation Knock Knock (OKK), led by QFES, presented as a multi-agency community engagement initiative involving volunteers and staff from QFES, Red Cross, Surf Lifesaving Queensland, Volunteer Marine Rescue and local community groups who mobilised together for a door knock and public displays in their local communities on 15 September 2018, to raise awareness and prepare for local risks through community connection.

The initiative was coordinated in conjunction with local governments and supported by partner agencies including QRA and LGAQ.

More than 1000 people were deployed on the day across the state and collected data revealing that of 7788 people spoken with, 2671 people had been identified as vulnerable. Observations included, 'significant fuel loading around property and one-way access – does not see issue but will consider a bushfire survival plan' and 'prepared – been here in 1974 and 2011 floods'. Participating services delivered over and above and in many locations, with multi-agency groups providing timely and relevant local messaging to their communities.

In the name of community spirit, OKK saw neighbours helping neighbours, locals helping locals and mates helping mates – building resilience in Queensland communities.

## Operation Community Connect puts the UNITY in COMMUNITY

Sharing a 'cuppa' is a great way to connect with family, housemates, neighbours and local community to have a chat about getting ready for the next wild weather event.

Operation Community Connect, initiated by QFES in partnership with QRA and LGAQ, took tea to the streets across the state in August 2019 to encourage community connection and the space to discuss preparation for local disaster risks.

Thousands of volunteers and staff from emergency services agencies engaged with their communities at local events, public displays and door knocking to build a greater understanding of shared responsibility. Approximately 40,000 tea bags with targeted messages were distributed and consumed in 'tea and talk tents' to encourage important conversations and help foster a more connected Queensland in the face of emergencies and disasters.



*Images: (Top left) QFES Operation Knock Knock helping communities to connect on the North Coast, (top right) Operation Community Connect at the Ekka in Brisbane and (bottom), Rockhampton Emergency Services Day tea and talk.*



## Queensland's resilience projects recognised

Eight innovative projects from across Queensland received 2019 Get Ready Queensland Resilient Australia Awards for making their communities better prepared for natural disasters and emergencies.

The Queensland winners were standout projects in a highly competitive field with a record 34 entries across six categories.

The joint winners in the Local Government Award category were Redland City Council and Sunshine Coast Regional Council.

Redland City Council won the award for its innovative Community Champions Program, where community members work alongside disaster management leaders and agencies in planning, preparation, response and recovery.

Sunshine Coast Regional Council's Schools Program was the other winner for its multi-faceted program, which empowers young people to make a difference by helping build community resilience.

The Government Award category, incorporating state and federal agencies also had joint winners.

The Brisbane River Strategic Floodplain Management Plan was recognised as an outstanding example of how locally led, regionally focused and state-supported resilience can achieve improvements for all parts of the community. The Strategic Plan provides a framework for a consistent approach to managing the Brisbane River floodplain and is a partnership between Queensland Government, Brisbane City Council, Ipswich City Council, Somerset Regional Council, Lockyer Valley Regional Council and Seqwater.

The Department of Housing and Public Works was also recognised for its Queensland Government Household Resilience Program, which assists home owners in coastal parts of Queensland to improve the resilience of their homes against cyclones.

Swayneville State School in the Mackay Regional Council area collected the School Award for its Connecting the Divide mural developed after Severe Tropical Cyclone Debbie destroyed the main access road in the community of Sarina Range. The mural has come to symbolise community recovery and resilience and is a teaching tool for people who are new to the area or school community to understand the hazards and risks of living on Sarina Range.

Energy Queensland won the Business Award for its Building Resilient Queensland Communities project, which used innovative technology and prioritised community partnerships to improve response and minimise community impacts from disasters.

Substation33 collected the Community Award for improvements made to Flooded Roads Smart Warning System, which helps save lives by using low-cost automatic flood warning signs. The system was developed in partnership with Logan City Council and Griffith University.

The People's Choice Photography Award was won by Sarah Jayne-Ebsooth from Queensland Fire and Emergency Services for her amazing 'Grit and Courage' image taken of a volunteer during the bushfires at Deepwater in November 2018.

Sarah's photo captures the essence of disaster resilience in Queensland along with her description that said when flames began towering over volunteers, when the wind and heat were not in their favour, they didn't turn their backs and say 'it can't be done', they fronted the flames and carried on with the job they all came to do.

<https://www.qra.qld.gov.au/news/2019-get-ready-queensland-resilient-australia-awards>



*Image: (Above) winners of the 2019 Get Ready Queensland Resilient Australia Awards, (inset) People's Choice Photography Award winning entry.*





## Disaster resilience education for young people

The Australian Institute of Disaster Resilience (AIDR) Education for Young People supports the implementation of effective and sustainable disaster resilience education initiatives that empower and give voice to young people throughout Australia.

The national Disaster Resilience Education Strategy Group provides leadership and direction for Disaster Resilient Australia-New Zealand School Education Network and the AIDR Education for Young People Program. Group membership includes representatives from policy, research, education and emergency management at both state/territory and national level.

AIDR has published a vision document titled Disaster Resilience Education: Young Australians for a disaster resilient future, which acknowledges that the reality of increasing disaster risk in Australia is not yet acknowledged in formal education. The lack of a shared vision and overarching strategy for disaster resilience education contributes to the vulnerability of children and young people and represents a significant gap in our national efforts to “enhance Australia’s capacity to withstand and recover from emergencies and disasters.” (Commonwealth of Australia, 2011).

Across several learning areas, cross-curriculum priorities and general capabilities, the Australian Curriculum promotes learning about risk, safety, responsibility, community, hazards, impact, emergencies, disasters, sustainability, wellbeing and resilience. Disaster resilience education links all three dimensions of the Australian Curriculum, providing opportunities for authentic student enquiry, drawing on contemporary knowledge and technology from research, government, industry and community sectors. Beyond enquiry, disaster resilience education empowers learners to act for change in their local community.

Read the vision at <https://www.schools.aidr.org.au/media/6191/dre-young-australians-disaster-resilient-future.pdf>

*Images: (Left) Albany Creek State School disaster preparedness with the Get Ready Queensland team and special guest Tony Auden Meteorologist from Seven News Brisbane, (right) Fraser Coast Regional Council disaster management scenario workshop for local senior school leaders.*

## Disaster resilience education in Queensland

In Queensland’s state, independent and Catholic schools there are students, teachers and leaders from the education sector demonstrating a motivation and willingness to engage in authentic learning partnerships for disaster resilience.

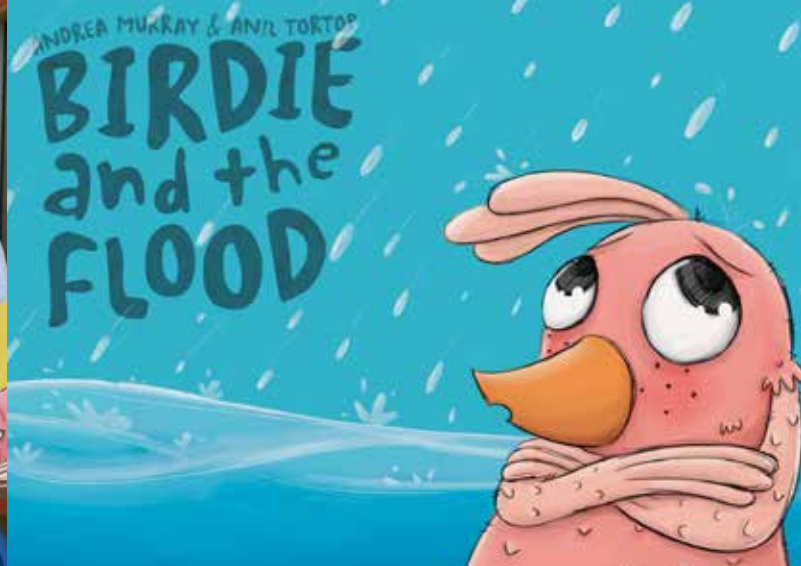
Participating organisations, including QFES, state and local governments and non-government organisations such as the Australian Red Cross, help to support young people to build their disaster knowledge and resilience and to apply their knowledge, skills and ideas to reduce risk in their local community.

While there are some great case studies and examples of disaster resilience education in Queensland schools, we still face the nationally recognised challenges. We acknowledge there are widespread opportunities for a shared vision and for a more coordinated and strategic approach to encourage implementation of disaster resilience education in Queensland schools. We also recognise the need for contemporary, appealing, practical and localised disaster resilience education resources that are accessible to all community members, including teachers, children and young people.

## Benefits of disaster resilience education

Disaster resilient young people:

- recognise specific hazards and understand risks in their local environment
- learn from the experiences, knowledge, skills and cultural wisdom of others
- demonstrate skills and strategies for staying safe, seeking help and helping others
- practise protective strategies for mental health and personal resilience
- are connected and active in their local community
- respect the environment and make sustainable choices
- consider the needs of others and collaborate to achieve shared goals
- design solutions to prevent hazard events from becoming disasters
- share their learning, opinions and ideas with decision-makers
- participate in actions for recovery in the aftermath of a disaster or other traumatic incident.



## Birdie's Tree books assist children to be more resilient to natural disasters

Natural disasters like storms, cyclones, floods or fire can be very frightening and upsetting for babies and young children. Playing a therapeutic game or reading a story with a caring adult can help a young child work through the scary experiences and 'big feelings'. Birdie's Tree is a suite of resources to help babies and young children, their parents and families prepare for, cope with and recover from natural disasters.

Birdie's Tree was developed by the Queensland Centre for Perinatal and Infant Mental Health (QCPIMH) in 2011. Following Cyclone Yasi, the Lockyer Valley flash floods, and widespread flooding throughout Queensland, infant mental health clinicians noticed an increase in young children presenting with symptoms of post-traumatic stress, including behavioural difficulties and emotional disturbance.

The Birdie's Tree resources are designed to help young children understand severe weather events, learn words to express 'big feelings' (like scared, worried, sad, angry and lonely, as well as cosy, safe, happy, patient and kind), and feel reassured through their relationships with parents and other caring adults.

The Birdie's Tree resources are free at the Birdie's Tree website (link below). There are five storybooks to read online (Birdie and the Fire, Birdie and the Flood, Birdie and the Drought, Birdie and the Cyclone, Birdie and the Earthquake) with Birdie and the Very Hot Day and Birdie and the Big Sickness are coming soon. Birdie and the Fire and Birdie and the Cyclone have been translated into eight languages (Arabic, Burmese, Chinese, Dari, Hindi, Samoan, Somali and Vietnamese), available through the Birdie's Tree website and Queensland Transcultural Mental Health.

Seven interactive games explore weather, emotions and 'who helps' in a natural disaster. Information sheets and booklets support parents to cope with the emotional impacts of severe weather for themselves, their children of all ages and their family. A Birdie's Tree early childhood curriculum is being developed in Queensland and New South Wales, for national roll-out in 2020.

Proudly supported by the Australian and Queensland Governments through the DRFA, QCPIMH is now helping disaster response mental health teams deliver the Birdie's Tree Recovery Program for young children affected by monsoonal flooding in northern and north-west Queensland. The funding is also providing full-colour printed Birdie storybooks to libraries, councils and primary schools in areas affected by the floods. Birdie and Mr Frog puppets help educators and librarians bring the stories to life and creatively engage children in processing their experiences of challenging weather.

Feedback on Birdie's Tree has been very positive, particularly from communities affected by floods, drought and fire. Children engage readily with the books, puppets and games. Teachers, librarians and early childhood educators are developing their own creative ways to use the Birdie stories, for example with 'story stones', colouring in, and restorative play (restoring feathers on a Play Doh Birdie; or using Pyrex mixing bowls, pebbles and origami flowers to 'build Mr Frog a new pond'). Council disaster management and resilience officers have found the Birdie's Tree resources very popular at community events such as disaster ready days.

Many communities are experiencing an acute event like flood or fire in the context of the chronic, ongoing challenges of drought. Birdie and the Drought is in high demand. There is strong interest in the upcoming book, Birdie and the Very Hot Day, as many councils are finding heatwaves a serious public health challenge.

<https://www.childrens.health.qld.gov.au/natural-disaster-recovery/>

*Images: (Left) Birdie authors Andrea Murray and Andrea Baldwin, (right) Birdie and the Flood cover.*





### Case study: Sunshine Coast – Resilience education

Experience shows us that communities that are well prepared and supported before a disaster occurs are more resilient and able to recover faster.

Sunshine Coast Regional Council, through Get Ready Queensland, delivered an education program for year five students that explored preparedness activities and local disaster risks, which won first prize at the 2019 Resilient Australia Awards in Adelaide for the National Local Government Award for its Get Ready Schools program.

Palmwoods State School is one of the local schools that participated in the Get Ready Schools program and has been featured in a video about the program at

<https://www.youtube.com/watch?v=JBw2S-qzPo8&t=3s>.

### Case study: Ipswich – Disaster Resilience Schools Program

The Disaster Resilience Schools Program is an in-class interactive forum facilitated by Council and the Ipswich City SES Unit, exploring Prep to Year 6 school children's awareness of natural hazards and disasters. It also identifies ways in which students, Council and the SES work together to prevent, prepare, respond to, and recover from disasters.

The Schools Program is supported by a Natural Hazards Educator Guide, a resource booklet containing in-class activities to help educators engage students in learning about natural hazards and the emergency responses to them. It also encourages consideration of the management and response by Council and other agencies to natural hazards and disasters, and students' own prevention, preparedness, response and recovery efforts.

Both the Schools Program and the Guide are designed to support Australian Curriculum1 learning areas from Prep to Year 6.

[https://www.ipswich.qld.gov.au/residents/emergency\\_management/educational-resources](https://www.ipswich.qld.gov.au/residents/emergency_management/educational-resources)

### Case study: Sunshine Coast – Disaster hub

Sunshine Coast residents now have access to real-time disaster information that includes road and traffic conditions, weather warnings, power outages, school closures and council alerts, all in one place.

Provided by Sunshine Coast Regional Council, the Disaster Hub empowers community members to make informed decisions and understand the risk surrounding local disasters. The information is provided in real-time, from multiple trusted sources such as the Bureau of Meteorology, Department of Transport and Main Roads, QFES, Queensland Police Services, Ergon, Telstra and others.

The Disaster Hub's innovative approach to informing locals and empowering their decision making was awarded a 2016 Resilient Australia Award. With councils across Australia following the Sunshine Coast's lead, more communities will be able to benefit from this creative and informative initiative.

<https://disaster.sunshinecoast.qld.gov.au/#Dashboard>

### Case study: Bushfire: Be prepared and understand your risk

The QFES Rural Fire Service has produced a website so Queenslanders can check their postcode or suburb to see the bushfire potential in their neighbourhood. The map does not indicate current bushfires or predict the chances of a fire occurring. It shows the potential for a bushfire to take hold, spread and do damage, if one started in the area. It is based on local conditions such as vegetation type, topography and other indicators.

<https://www.ruralfire.qld.gov.au/BushfirePostCodeChecker>

Images: (Left) The Get Ready Queensland team visit Coen State School, (right) 'Are you in the line of fire?' campaign.



### **Case study: Fraser Coast – Community Coordination Committee**

Fraser Coast Regional Council has established a Community Coordination Committee to empower the local community to be a part of preparing, planning, responding and recovering from disasters. The group is led by the disaster planning coordinator, who coordinates regular meetings with residents representing different parts of the Fraser Coast to discuss issues and challenges, as well as coordinating and testing their communications networks ahead of a disaster season.

The coordinator connects with the group via text messaging to quickly ascertain situational awareness during a disaster and to call on help where needed.

An example of the group's effectiveness was during a bushfire at Burrum Heads in 2017, when the Burrum District Community Centre at Howard was opened as a respite centre within 45 minutes of a request being sent. It was a shining example of how a community group can assist others in the wider region at short notice.

The group recently conducted its monthly seasonal radio check with other groups in the region, which not only successfully established emergency communications, it also highlighted its role as a disaster hub.

### **Case study: Townsville – Education videos for cultural groups**

Disaster preparedness is critically important when you live in North Queensland. As a result Townsville City Council has developed a series of videos to assist people prepare for the impacts of a cyclone. Developed to assist vulnerable people, especially those outside the cities or in culturally and linguistically diverse communities, the videos walk audiences through one family's preparations.

[https://www.youtube.com/watch?v=tWmwYLY2\\_b4](https://www.youtube.com/watch?v=tWmwYLY2_b4)

### **Case study: Ipswich – Translated information for diverse communities**

Comics are being used by Emergency Management Australia and Ipswich City Council to engage culturally and linguistically diverse communities on disaster risks and preparations. The comics consist of six easy-to-understand illustrations, offering tips for dealing with different types of natural disasters.

Ipswich is home to people from more than 115 cultural backgrounds, and Ipswich City Council is using the comics to support engagement with the diverse cultural groups within their community. They are shared through schools and churches as a way of reaching out to community groups.

[https://www.ipswich.qld.gov.au/residents/emergency\\_management/other-lan](https://www.ipswich.qld.gov.au/residents/emergency_management/other-lan)

### **Case study: Bundaberg – Interactive flood gauge information**

Bundaberg residents have access to flood mapping, enabling them to make more informed choices about managing the risks of flooding. Following record flooding in 2013, Bundaberg Regional Council created incremental flood gauge mapping software, enabling residents to easily compare flood gauge heights to potential inundation of their property. Upstream gauges are used to indicate the potential impact to their properties, with the flood heights presented in an interactive map that uses their current location as a reference point. When released in December 2013, the Incremental Flood Gauge Mapping Project was the first program of its kind in Australia, and won the Excellence in Innovation Award at the 2014 Local Government Managers Australia Excellence Awards.

<https://www.bundaberg.qld.gov.au/community/burnett-river-flood-information/2?tegorid=1>

*Image: Get Ready Queensland was the focus at Fraser Coast's 2019 Food'n'Groove event where locals could get up close and personal with emergency service vehicles and learn about how to prepare for a natural disaster – including making a 'What If Plan'.*





## Objective 2 – We work together to better manage disaster risk

### *Case studies, learnings and good practice*

#### Guiding principles for statewide collaboration

A disaster-resilient community is one that works together to understand and manage the risks it faces. As part of Resilient Queensland, a comprehensive engagement process is underway to identify opportunities and priorities to better coordinate our resilience efforts across the state.

Resilient Queensland advocates for tailored solutions that are developed by local people for local needs. Resilient Queensland will ensure local, regional and state level disaster resilience planning, priorities and projects are integrated and align with the objectives and commitments of the strategy.

#### The 6 ‘Cs’ of disaster resilience

Essential elements for success for resilient communities include the 6 ‘Cs’:

- champions
- connections
- collaboration
- cooperation
- co-ownership
- coordination.

#### Our approach – locally led, regionally coordinated, and state supported

In working together to build a more disaster resilient community, we recognise the need for:

- local leadership – locals know their communities, risks and needs best and that resilience champions at the local, regional and state level are needed to empower communities
- flexibility and adaptation – adapt to the changing disaster context
- shared responsibility and collaboration – involves co-designed and co-delivered solutions, using multi-disciplinary approaches, with minimal impost on local resources
- prioritisation – refers to the right policy settings, the right location and the right resources
- resilience being embedded into decision-making and actions – embeds mainstream resilience into the ‘day to day’ through proactive (not reactive) approaches.



## Regional resilience strategies

A key outcome of Resilient Queensland will be the development of regional resilience plans that will support the coordination and prioritisation of future resilience building and mitigation projects across Queensland.

By 2022, every local government in Queensland will be part of a regional resilience strategy that clearly identify risks and prioritise actions to strengthen disaster resilience over time.

The regional resilience strategies are building on the successful delivery of the Burnett Catchment Flood Resilience Strategy, which proved to be a successful model for bringing together people from different disciplines and jurisdictions to find shared solutions to common problems. This strategy delivered a suite of actions to be prioritised and delivered over time to strengthen flood resilience in the region.

Three regional resilience strategies are being developed throughout 2019 involving partnerships between the Queensland Government and local governments to identify ways we can work together to strengthen our resilience capability and capacity at the local level:

- Central West Queensland
- Mary River Region
- Fitzroy River Catchment.

## Shared solutions to common challenges

Regional resilience strategies seek to understand the common resilience challenges persisting across a region and across multiple local governments, and help to align collective resources, capability and capacity where opportunity might exist to deliver efficient and cost effective shared solutions to achieve common goals.

The strategies intend to set out coordinated blueprints to match funding opportunities to local and regional need to fortify community resilience over time in a way that both addresses community needs and aligns with global, national, and state resilience objectives.

Resilience and recovery approaches in Queensland consist of five core functional elements – Human and Social, Settlements (Building), Environment, Economy, and Roads and Transport. Each of these elements underpin our level of resilience, and their interconnected and interdependent nature mean that if any of the elements are impacted, the effects can ripple to other elements.

## Recognising challenges for local governments

Common challenges faced by local governments when implementing disaster risk reduction initiatives were identified via a 2016 statewide consultation. These included the need for:

- funding application assistance
- improved mapping, data management and hazard /risk intelligence
- developing proactive management strategies
- implementing cost-effective resilience measures
- coordination with other agencies
- implementing community awareness.

Local governments also identified key challenges in managing potential risks during the 2016 consultation, and the regional resilience plans will address these by addressing objectives to:

- build a resilient society
- enhance economic resilience
- improve infrastructure
- advance disaster recovery operations
- increase government capability and capacity
- improve funding certainty.

The Queensland Government is focused on empowering local governments to strengthen disaster resilience at the local level so communities are better equipped to deal with the increasing prevalence of natural disasters.

*Images: QRA team training Gladstone Regional Council staff to use MARS, the disaster funding application portal for Queensland councils and state agencies.*





### Co-design: A locally led and regionally coordinated approach

The locally led and regionally coordinated stakeholder engagement process ensures local, regional and state level disaster resilience planning, priorities and projects are integrated and align with the objectives and commitments of the *Queensland Strategy for Disaster Resilience*.

Locally led co-design is much more than a 'stage' of the regional resilience strategies, it is a philosophy which underpins it. The development of a regional resilience strategy is based upon local need and local leadership, using a bottom-up approach that is also regionally co-ordinated and state facilitated. This process helps to articulate community need and design a strategy that is orientated to the direction regional communities want to move in – underpinned by pathways to realise these resilience aspirations.

One of the core tenets of regional resilience collaboration and partnerships is centred around finding 'shared solutions to common challenges'. The shared regional experiences of local governments may be physical (i.e. catchment-based), geographic, economic, social, or environmental. Locally led co-design seeks to enable local governments to design the project they feel will deliver maximum benefit and meet local expectations and requirements. This is underpinned by strong engagement-based approaches to listen, draw out and pull together key regional themes based upon local leadership.

Every community is different. Locally led co-design processes reflect this, and concordantly leverage existing work already underway and learned knowledge gained through difficult circumstances – to help others across the region and across the state.

### Collaborative partnerships and a multidisciplinary approach

In the past, disaster management was the role of a small part of our community. It was reserved for disaster management specialists, community leaders and response teams. It is now recognised that collaborative partnerships across governments, non-government organisations, researchers and industry groups provide the foundation for resilience pathways to grow.

Use of evidence-based analytics and strong relational and engagement-based approaches helps to drive proactive strategy formulation and implementation, in ways which align with locally defined goals. Over time, this approach enables improved coordination of funding opportunity.

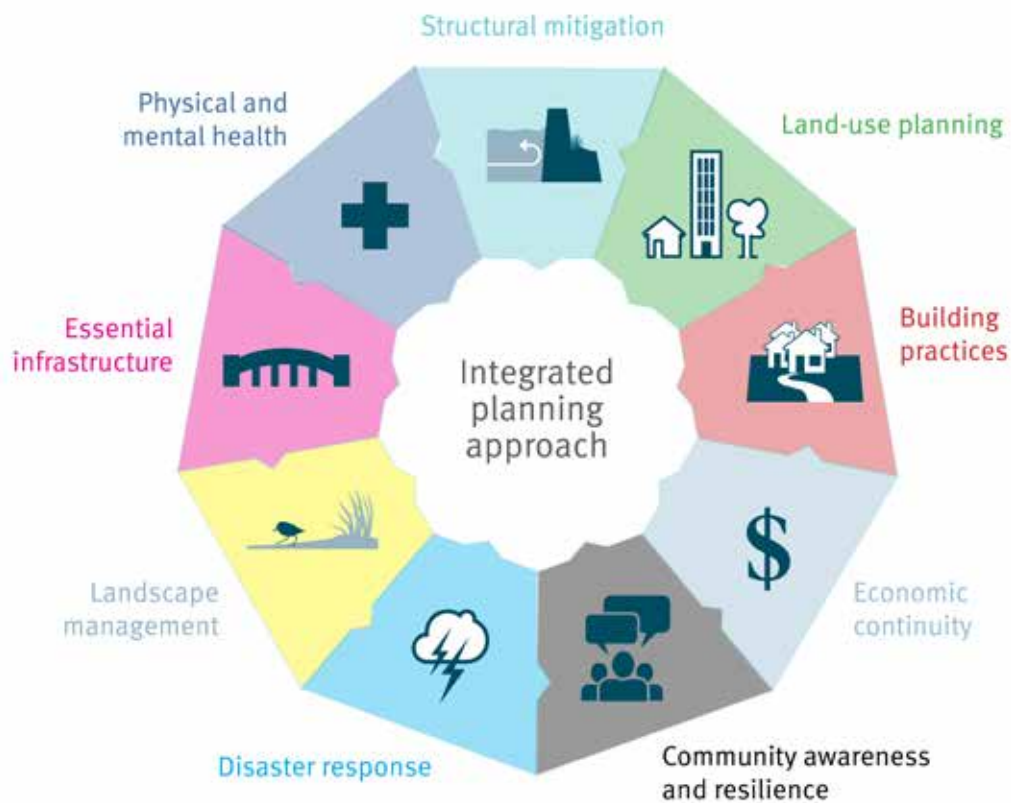
No two disasters are the same. Therefore it is difficult to contemplate that any single plan is going to meet the community's need to tackle all future disasters. However, the process of co-design and multidisciplinary involvement in the regional resilience strategies has demonstrated that having a successful disaster resilience plan is about opening the conversation to a range of professionals and the broader community. The collaborative partnerships and multidisciplinary approach establish a greater understanding across the community so locals know who to listen to, and who to reach out to during a disaster.

The regional resilience strategies recognise the important role that all Queenslanders play in building resilience by incorporating integrated planning approaches that involve a range of professions and stakeholder groups.



## Integrated approaches to regional resilience

The regional resilience strategies recognise the important role that all Queenslanders play in building resilience by incorporating integrated planning approaches that involve a range of professions and stakeholder groups.







## Regional resilience 2019

### Brisbane River Strategic Floodplain Management Plan

The Queensland Government and local councils have worked together to deliver on a long-term plan to manage the impact of future floods and enhance community safety and resilience in the Brisbane River floodplain. This program is a partnership between the Queensland Government, Seqwater and the four local governments of Brisbane, Ipswich, Somerset and Lockyer Valley.

The *Brisbane River Strategic Floodplain Management Plan* (April 2019) provides the framework for a consistent approach to managing flood risk across the floodplain. It is a significant regional plan informed by the *Brisbane River Catchment Flood Study* released in May 2017.

The Plan includes 52 recommendations for the Queensland and local governments to implement that will further strengthen the flood resilience of communities living, working and visiting the Brisbane River floodplain.

Measures include structural mitigation, land use planning, building guidance, community resilience, disaster management and landscape management. Delivery of these actions will build on the extensive work delivered since 2011 to improve flood resilience in the region.

Key outputs from the Plan include:

- a comprehensive assessment of the economic cost of flooding
- regional data for a consistent approach to managing the floodplain
- flood resilient building guides to help reduce the impact of floods on Queensland homes
- identification of structural mitigation options to undergo further feasibility testing.

[www.qra.qld.gov.au/brcfs](http://www.qra.qld.gov.au/brcfs)

The nine desired outcomes of the Brisbane River Strategic Floodplain Management Plan are:

1. Floodplain management initiatives are delivered using a holistic, integrated and collaborative approach.
2. Floodplain management initiatives are informed by a regional understanding of current flood risks.
3. Future climate change impacts are recognised and planned for through adaptation and resilience building.
4. Community awareness, understanding and response are the foundation for community resilience.
5. Land use is planned, located and considers design elements to ensure development appropriately responds to the level of flood risk.
6. Building design and construction improves community resilience and reduces property damage.
7. Infrastructure is used to reduce flood risks where appropriate.
8. Landscape management across the catchment contributes to flood risk reduction.
9. Disaster management planning and response applies a regionally consistent approach whilst recognising local flood risks.

The Plan outlines the supporting actions for each of the desired outcomes.

[www.qra.qld.gov.au/brcfs](http://www.qra.qld.gov.au/brcfs)



## Burnett Catchment Flood Resilience Strategy

The *Burnett Catchment Flood Resilience Strategy* is the first regional resilience strategy pilot project delivered as part of Resilient Queensland. The Strategy is a joint project between the Queensland Government and the four councils of Bundaberg, North Burnett, South Burnett and Cherbourg. The project was overseen by the Wide Bay Burnett Regional Organisation of Councils (WBBROC) who acted as the Steering Committee.

The Strategy was released in May 2017, and included 95 future actions for councils to implement across the region over time under our four key pillars:

- Resilient society
- Resilient economy
- Resilient environment
- Resilient settlements.

WBBROC was a joint winner of the 2018 Get Ready Queensland Resilient Australia Awards for the Strategy, which was the first floodplain management plan to bring together four councils to manage flood risk on a regional scale.

The multidisciplinary approach has been successful with the following groups getting involved in the implementation:

- mental health and aged care services
- agricultural networks
- disaster management offices
- land management groups
- local and state governments.

WBBROC continues to implement the resilience strategy actions with a Regional Resilience Coordinator who is funded from the Australian and Queensland Government's 2017-18 Natural Disaster Resilience Program. The project will continue to be monitored and reviewed by the WBBROC to help identify improvements and guide local governments.

### Lessons learned:

- Managing expectations is important and it takes time to build relationships and earn the trust from new stakeholders
- Bringing people together requires innovative approaches as the work spans stakeholders across multiple disciplines and various locations across the catchment
- Local government resources are limited and time needs to be a consideration in planning
- The funding environment is competitive and applications for resilience funding are generally oversubscribed.

<https://www.qra.qld.gov.au/burnett>

***We had the likes of disaster managers, engineers, environmental officers... all throwing their lens, skills and experience at the problem.***

**Dwayne Honor**

**Churchill Fellow, Bundaberg Regional Council**

*Image: (Top) Aerial view of Bundaberg and Burnett River - Image (insert) Burnett Catchment Flood Resilience Strategy cover.*





## Implementation of the Burnett Catchment Flood Resilience Strategy

Following the release of the Burnett Catchment Flood Resilience Strategy in May 2018, participating councils continue to work together to implement the resilience actions identified by the Strategy.

A regional resilience committee was instituted by the Wide Bay Burnett Regional Organisation of Councils (WBBROC) led by the chair of the implementation committee, Dwayne Honor from Bundaberg Regional Council, in partnership with Andrew Bryant, the WBBROC Regional Resilience Coordinator who was brought on board to help steward the implementation of the Strategy across the four partner councils, and also working with not-for-profits, State government agencies, community groups and the private sector.

Participating councils meet on a regular basis to discuss resilience matters at hand, as well as focus on the implementation of the strategy's actions.

From a technical perspective, the focus of the regional resilience committee has included the introduction of collaborative management arrangements for the catchment's flood warning infrastructure. This has included new river and rain gauge maintenance arrangements, shared across local governments, which has seen increased knowledge sharing at the regional scale, cost savings to local government, and enhanced network functionality and reliability.

State government agencies regularly liaise with the regional resilience committee and work together to offer training to frontline personnel, to be better prepared for emergencies and disaster events.

Critically, this includes the provision of Skills for Psychological Recovery and Psychological First Aid training. The committee has recommended these important training sessions as part of Council's annual training and professional development calendars.

The regional resilience coordinator works closely with a broad range of not-for-profits and community groups, including the Red Earth Community Leadership Program, of which Andrew Bryant is an alumni.

The Australian Rural Leadership Foundation, in partnership with the Regional Australia Institute, recently announced delivery of a Leadership for Our Regions program in the Wide Bay Burnett region, as one of only two pilot sites in Australia.

The regional resilience committee continues to work across a range of different matters in a collective arrangement, focusing on residential aged care resilience planning, working with seasonal workers and backpackers across the region to better understand the landscape risks of the area, various mental health collaborative projects, engagement with primary producers and industry organisations in relation to agricultural, land management and environmental stewardship.



Video: Find out more about The Burnett Catchment Flood Resilience Strategy at <https://www.qra.qld.gov.au/burnett>

Image: Burnett Catchment Resilience Strategy workshop.



## Mary Region Resilience Strategy

The Queensland Government is partnering with the WBBROC and the councils of Sunshine Coast, Noosa, Gympie and Fraser Coast to deliver the Mary River Regional Resilience Strategy.

The purpose of the Strategy is to develop a consistent and coordinated approach to managing natural disasters that will enhance community safety and resilience across the Mary River region.

The strategy will establish a coordinated blueprint for achieving social, economic, built and environmental resilience across the region. Stakeholders will work together to:

- continue existing efforts to understand disaster risks and identify regional hot-spots
- identify how the region can safely accommodate future growth through land use planning
- identify tools to support local businesses with continuity planning
- consider a range of hazards including flood, fire, earthquake and severe storm.

The Strategy will outline a shared understanding of disaster issues in the region and be supported by an action plan that is linked to funding opportunities to build resilience throughout the region over time. The action plan will include ways to keep the community informed about disaster risks throughout the region, develop key observations and opportunities for future resilient urban growth, and support business continuity planning to strengthen the local economy.

<https://www.qra.qld.gov.au/maryregion>

## Fitzroy Regional Resilience Strategy

The Queensland Government is partnering with the councils of Livingstone, Rockhampton, Isaac, Central Highlands, Banana and Woorabinda to develop the Fitzroy Regional Resilience Strategy.

The purpose of the Strategy is to develop a consistent and coordinated approach to flood warnings throughout the region that will enhance community safety and resilience.

The Strategy will focus on pathways to flood warning infrastructure optimisation and process improvements, linked to funding opportunities over time via a programmed pathway. Stakeholders will work together to:

- continue to understand flood risks and identify regional hot-spots
- develop strategies to coordinate flood warning asset management
- review flood warning classifications and coordinate location of future assets
- develop a consistent approach to communicating flood risk information across the region
- identify lasting partnership arrangements that facilitate best practice improvements being delivered over time.

The Strategy will outline a shared understanding of flood risks in the catchment and be supported by a common asset management and action plan that is linked to funding opportunities to build resilience throughout the region over time. The action plan will support the coordinated implementation of a best practice flood warning gauge network for the region, and will be used as a model for further work across the state.

<https://www.qra.qld.gov.au/fitzroy>

*Mary River Regional Resilience Strategy cover.*

*Fitzroy Regional Resilience Strategy cover.*

*Image: (Top) Co-design workshop for the Fitzroy Regional Resilience Strategy, 6 October 2018.*





## Central West Regional Resilience Strategy

The Queensland Government is piloting a Regional Resilience Strategy for seven local governments in Central West Queensland to identify ways to help their community increase their disaster resilience and secure a more prosperous future. Stakeholder workshops commenced in late 2018, with the Strategy scheduled for completion in late 2019. The stakeholders are searching for ways to transition the region's economy away from climate dependence, diversify their economic offering and enhance liveability to attract community growth.

The focus of the Central West Regional Resilience Strategy is to align the objectives of economic development, resilience and climate adaptation, in order to help the region reduce its exposure to the effects of climate variability and uncertainty – particularly the increasing strong cycles of persistent drought and flood facing the region, which is taking its toll on families, communities, businesses, stock and land.

The Strategy will focus on prosperity as a key driver for resilience – as a means of minimising or reducing the effects of climate-induced natural hazards through a resilient society and economy.

### What have we learned so far?

Significant strategic planning has been undertaken by local governments in Central West Queensland over many years to transition its economy away from climate dependency as it grapples with systemic economic challenges such as de-population, unstable commodity prices, changes in ownership of productive land and years of prolonged drought. The local governments are of the view that an economy that is less climate-dependent is the key to economic prosperity.

Other challenges include the increasing number of tourists coming into the region who are unprepared for the environment. In addition, there is a sense that the historical knowledge of the area is being lost due to generations of people moving out of the region.

Strategies will be developed to build on current efforts to diversify the local economy and invest in innovation, as well as to care for local communities and the land.

The project is a partnership between the Queensland

Government and the local governments of Blackall- Tambo, Barcaldine, Longreach, Winton, Barcoo, Boulia and Diamantina. Other stakeholders involved include the QRA, QFES, DNRME, DES, Desert Channels and Outback Futures.

New Possibilities - the Central West Regional Resilience Strategy draws upon an expansive resilience evidence base to build a pathways approach to identify key opportunities to transition towards a climate resilient future for our region, and strengthen community and climate-related disaster resilience.

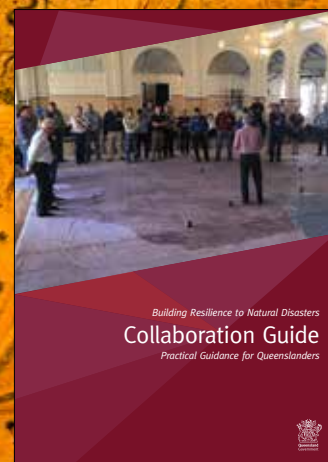
It has been developed in partnership with Queensland Government, the Remote Area Planning and Development Board and its member councils. Its purpose is to guide how we work together to proactively support resilience action across the Central West.

<https://www.qra.qld.gov.au/centralwest>

*Collectively, we know our regional aspirations and what we want for our future. New Possibilities charts a pathway to help us to move towards that vision. This Strategy is supported by an Action Plan to guide our focus and priorities over time, to match community need with possible funding pathways. Its ultimate goal is to underpin a sustainable and prosperous Central West into the future.*

**Councillor Rob Chandler**  
Chairman of the Remote Area Planning  
and Development Board

*Image: Vaughn Johnson Lookout, Diamantina National Park, (insert) Central West Regional Resilience Strategy cover.*



## Queensland's Resilience Body of Knowledge

Our journey in delivering Resilient Queensland over the past 18 months has demonstrated that there is considerable disaster resilience knowledge and insight held by many practitioners across multiple fields and technical disciplines. It is important to ensure that these technical observations are captured, and a lasting account of these learnings made for reference that can both act as a training tool and as a compendium of background knowledge that can help inform further disaster resilience policy development in Queensland.

To this end, we have developed Queensland's first Resilience Body of Knowledge – the Re-BOK. This document provides a detailed account of the approach, insights, and outcomes the 2018-19 engagement phase of Resilient Queensland.

The document is a 'living' record - a current understanding of resilience in Queensland, providing locally-derived options for future work during the implementation phase of Resilient Queensland (2020–21) to continue the journey of making this great state and our communities more disaster resilient.

This Re-BOK is provided in several parts:

- **Part 1** provides the context for undertaking the engagement phase of Resilient Queensland during 2018–19
- **Part 2** shares the approach used in the engagement phase with local governments, communities, state agencies, not-for-profit organisations and academic institutions
- **Part 3** articulates a wide range of insights drawn from that engagement that are relevant in further developing a shared understanding of what resilience actually is in the Queensland context
- **Part 4** provides a range of locally-derived outcomes for further consideration as part of the implementation phase during 2020–21 and beyond.

This document is to be released in April 2020.

## Building Resilience to Natural Disasters Collaboration Guide

Collaboration, partnerships and learning through knowledge sharing are fundamental to the disaster management tenet of shared responsibility. The *Building Resilience to Natural Disasters Collaboration Guide* provides guidance on how to establish collaborative groups across stakeholders to advance locally led resilience. It draws on some theory and links activities to Queensland's disaster resilience policy framework.

It reflects 'on the ground' experiences in designing and preparing Queensland's pilot regional resilience strategies in partnership with local stakeholders under Resilient Queensland.

Although this guide is drafted with a resilience to natural disaster lens, the principles and actions can be used to build resilience in any network.

Closer bonds enhance preparedness and long-term resilience, bolster a sense of unity, expedite recovery and facilitate smoother disaster management. Collaboration is fundamental to success in prevention, preparedness, response and recovery.

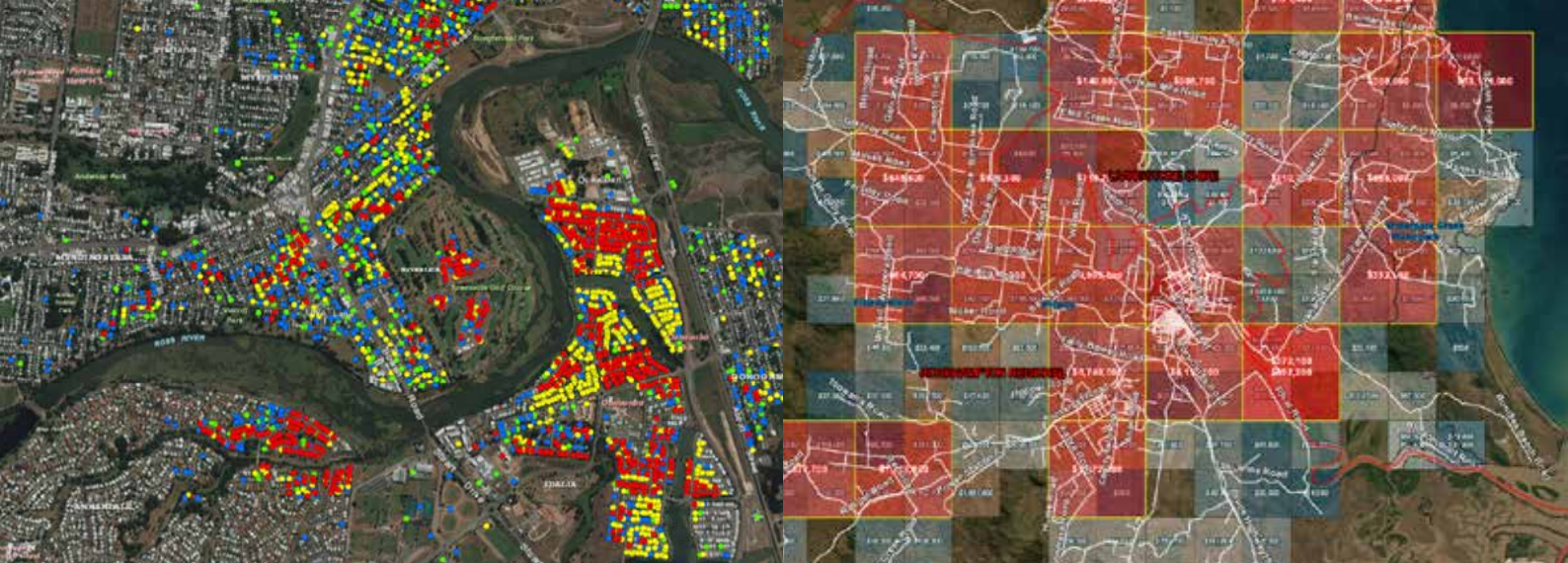
Everyone in the community has a role to play, however, we have learned that despite collaboration being critical, it's easier said than done. Many people do not know how to reach out and feel vulnerable, uncertain and lack empowerment.

Local knowledge is fundamental to continuous improvement in resilience and the greatest benefactors of good collaboration are those affected the most in disasters – the people of our communities.

<https://www.qra.qld.gov.au/resilient-queensland>

*Images: (Left) Diamantina Regional Resilience Workshop 2019, (inserts) Queensland's Resilience Body of Knowledge, and the Building Resilience to Natural Disasters Collaboration Guide – Practical Guidance for Queenslanders covers.*





## Locational intelligence and resilience

Geographic information systems (GIS) provide the ability to enhance communication and collaboration before, during and after disaster events. Queensland Government uses locational intelligence in various applications to enable and improve analysis to identify areas where resilience projects may be beneficial.

### Sharing map based damage data to identify and assist our most vulnerable

Damage Assessment and Reconstruction Monitoring system (DARMsys™) is used to monitor Queensland's rebuilding progress. Real time data is collected by assessors undertaking rapid damage assessments using a hand-held monitoring device and sent via wifi to provide map-based damage data. It has been acknowledged by the World Bank as having played an instrumental role in enabling Queensland to recover quickly from natural disasters.

DARMsys™ has been invaluable to the State Disaster Management Group and is now used by state agencies to plan their response for recovery from natural disasters. For example, the DCDSS can identify and provide targeted assistance to vulnerable people. Other organisations using it include utilities providers, public works, temporary housing planners and councils.

### GIS capability highlighting vulnerabilities in our transport infrastructure network

Working closely with local government and state agencies, Queensland has improved its capability in the effective collection of geo-coded damage data of council and government assets. The Repeat Event and Dollar Index (REDI) is an analytical tool to support councils to identify priority assets and locations ('hot spots') that will more than likely be damaged in an event. It supports decision-making to invest in improving assets and understanding potential costs and avoided costs.

With the Australian Government's recent national natural disaster funding reforms, a greater emphasis is being placed on resilience and mitigation activities. The enhanced quantity and quality of data provided by the Heat Mapping project provides an ideal platform to review historical damage patterns and reconstruction spending.

Data used in the Repeat Event and Dollar Index (REDI) mapping project can be used to inform mitigation policy and investment, with benefits to be realised at all levels of government. Further, the data can be used to predict the scale of damage during and after disaster events, and can help provide an objective analysis of costs and decision making to enhance the resilience of key infrastructure.

### Real time situational awareness assists staff to plan for the response to recovery transition

The QRA-Atlas, released in 2019, provides QRA staff with locational data through a multi-hazard operations dashboard. It delivers near-real time information during an emergency response, with data feeds from multiple agencies.

This user-friendly visual tool has live layers for fire danger ratings, damage assessments, SES call outs, fire hotspots, cyclone tracks, rain and thunderstorm radar, river gauge locations, flood heights and warnings, and hazardous winds.

This situational awareness assists QRA staff to plan for the transition from response to recovery and resilience.

*Images: (Left) Townsville DARMsys following the Monsoon Trough 2019, and (right) screenshot of the REDI.*



## Queensland's Flood Warning Infrastructure

In Queensland, more than 3000 rainfall and river gauges inform statewide flood warnings and forecasts. These are owned and operated by multiple entities including state and local government, the private sector, and the Bureau of Meteorology.

Flood waters don't respect boundaries. It is therefore extremely important for all areas of Queensland to have information from other flood warning systems. This will help keep our communities safe by ensuring they are well informed by timely weather and flood warnings and forecasts.

QRA is working with key stakeholders including the Bureau of Meteorology and local governments to improve Queensland's flood warning infrastructure.

A high level of collaboration and information sharing is necessary to ensure accurate and consistent flood warning information is being provided to the Bureau of Meteorology and to our local communities.

To support Queensland communities in their recovery following the North and Far North Queensland Monsoon Trough event (25 January to 14 February 2019), the \$2 million Flood Warning Infrastructure Network Project was approved as part of the \$242 million Category C and D DRFA package, jointly funded by the Australian and Queensland Governments.

The purpose of the Flood Warning Infrastructure Network Project is to analyse existing flood warning infrastructure, and identify high priority locations requiring additional flood warning infrastructure capability.

There are four project areas of operation:

- **Far North Queensland** – Aurukun, Cairns, Cassowary Coast, Cook, Croydon, Douglas, Etheridge, Hope Vale Aboriginal, Kowanyama Aboriginal, Lockhart River Aboriginal, Mapoon Aboriginal, Mareeba, Napranum, Northern Peninsula Area, Pormpuraaw, Torres, Torres Strait Island, Wujul Wujul and Yarrabah councils
- **North West Queensland** – Burke, Carpentaria, Cloncurry, Flinders, McKinlay, Mornington, Mount Isa and Richmond councils
- **Central West Queensland** – Boulia, Longreach, Barcoo, Diamantina and Winton councils
- **Townsville and surrounds** – Burdekin, Charters Towers, Hinchinbrook, Mackay, Townsville, Palm Island and Whitsunday councils.

The Flood Warning Infrastructure Network Project is keeping our communities safe by delivering:

- suitable flood warning infrastructure upgrades to the most appropriate locations throughout the flood-impacted area
- improvements to Bureau of Meteorology services to support primary producers and communities
- a range of assets to support better information being made available, including the use of flood cameras at strategic locations.

Key project actions are:

- facilitate a catchment approach - locally led, regionally coordinated
- define flood warning infrastructure as means for providing situational awareness
- incorporate existing initiatives into one common operating picture
- analyse existing infrastructure upgrade initiatives against identified risk areas
- identify gaps in the flood warning infrastructure network
- develop and apply principles for prioritisation across the areas of operation
- prioritise flood warning infrastructure improvements across the areas of operation
- support procurement of infrastructure
- establish/align with emerging governance arrangements.

<https://www.qra.qld.gov.au/fwln>

*Image: Cloncurry Flood Warning Infrastructure Network workshop September 2019.*





**Patrick**  
Park Ranger

## Managing fire in parks and forests

DES manages around 13 million hectares of parks and forests, which comprises about 14 per cent of Queensland's bushfire prone land.

Some fires have nature conservation benefits while others, particularly severe wildfires, can cause damage to property and the environment.

The need for carefully planned fire management activities and practices has never been more critical, due to the expansion of urban and rural residential areas neighbouring parks and forests, combined with the severe bushfire risk caused by the increasing adverse impacts of climate change.

DES monitors wildfire risk and fire danger conditions across the land it manages to maintain preparedness levels and emergency response plans, with priority given to protecting life and property. Strategies to mitigate the risk of wildfires include:

- planned burning to reduce fuel loads, protect life and property, park and forest facilities, and conserve natural systems and processes
- maintenance of an extensive network of roads and firelines
- well-trained and equipped staff to respond to wildfire outbreaks
- a cooperative approach to fire management across the landscape with the QFES, other land management agencies, park neighbours and the community. This includes supporting QFES in initiatives such as the 'Operation Cool Burn' initiative.

DES is committed to continuously improving fire planning, management and action. One of its priorities is working with Traditional Owners to combine modern management practices with traditional knowledge, and to ensure appropriate partnership arrangements and management objectives are tailored to each regional and cultural landscape.

[https://parks.des.qld.gov.au/managing/fire\\_management.html](https://parks.des.qld.gov.au/managing/fire_management.html)

## Traditional burning techniques used to build bushfire resilience on Minjerribah

The North Stradbroke Island Bushfire Management Project is a great example of the work happening as part of Resilient Queensland, which is aiming to make Queensland communities more disaster resilient through local leadership, regional collaboration and state facilitation.

With the support of QRA, the Quandamooka Yoolooburrabee Aboriginal Corporation partnered with stakeholders on Minjerribah (North Stradbroke Island) to develop comprehensive bushfire management plans for the three townships of Mooloomba, Goompi, and Pulan Pulan (Point Lookout, Dunwich and Amity Point).

The bushfire management plans are unique in their combined use of traditional fire management practices and modern disaster mitigation strategies.

The plans were developed following a significant bushfire event across North Stradbroke Island in January 2014.

The fire was one of the largest in Queensland's recorded history, led to a mass evacuation and impacted 70 per cent of bushland on the island.

The bushfire management plans help improve community safety and protect the lives and property of people on the island, in addition to maintaining the natural and cultural heritage of the landscape.

The shared objectives of the bushfire management plans are to:

- improve community safety and protect life and property
- realise the aspirations of the Quandamooka People
- protect and maintain natural and cultural heritage and cultural landscape values.

Incorporating traditional burning techniques on Minjerribah is making a difference in the local community and environment.

Watch the video to see why: <http://www.qyac.net.au/QALSMA.html>

<http://www.qyac.net.au/docs/MinjerribahBushfireFactsheetDIGITAL.pdf>

*Image: (Left) Fire management at Bringalily State Forest and (right) Park Ranger, screenshot from the video Fire Management on Minjerribah.*



## QFES Volunteerism Strategy Implementation Plan

The QFES Volunteerism Strategy Implementation Plan (VSIP) was developed through considerable consultation with QFES Volunteers and QFES business units during the Volunteerism Strategy engagement process. The VSIP has now been reviewed by QFES executive leaders, volunteer representatives and associations and was approved by the Board of Management on 9 October 2019.

The VSIP streamlines the priorities identified by volunteers into 13 initiatives to be implemented across three phases.

Phase one will roll out five initiatives deemed top volunteer priorities with key projects including; Consultation evidenced through updated QFES briefing templates, Communication through establishment of QFES Volunteerism Advocate Network, Honours and Awards presented through the QFES Volunteer Employer Awards Program, Capability enhanced by the development of Brigade/Group 'Health Checks' and implementation of flexible volunteering models to enrich Volunteer Sustainability and Recruitment programs

The Volunteer Sustainability and Capability Unit team within Community Capability and Volunteerism (CCV) branch are working collaboratively with QFES business areas and services to deliver updated these priorities with and lasting results from this first phase by June 2020.

Phase two of the implementation plan is scheduled to start early 2020 with four initiatives; Training, Future Leadership Development, Volunteer Lens and Engagement and as these projects are developed updates will be communicated through QFES internal communication channels and the dedicated Facebook page for Volunteerism Strategy Implementation Plan.

Phase three of the Implementation Plan will include the last four initiatives; Volunteer Systems and Support, Volunteer Well-being, All hazards approach and Partnerships.

Meaningful engagement with the QFES volunteer network who are more than 90% of the workforce and embedded in every community in the state, is vital to support the 2030 Strategy vision to build a connected and capable Queensland in the face of emergencies and disasters. As initiatives progress, a 'Volunteer Lens' will be applied to how QFES does business to ensure there is an appropriate level of engagement, consultation and communication with volunteers.

VSIP will ensure volunteers get involved in decision-making, have access to flexible volunteering, utilise local skills and knowledge, increase personal well-being, receive recognition for their service, build on capability and leadership skills, have input into new systems to alleviate administrative burden, attend shared training and exercises and see a strengthening of strategic/corporate partnerships to increase resilience.

The VSIP is a 'live document' committed to continuous improvement to ensure that the ideology of QFES' Volunteerism Strategy continues to be reviewed and updated to enhance the evolution of volunteering at QFES in a flexible, adaptable future forward organisation.

*Image: Courtesy of QFES.*





## Tackling Regional Adversity through Integrated Care

Queensland Health's Tackling Regional Adversity through Integrated Care (TRAIC) program provides support for people living in drought and disaster affected communities. The TRAIC program builds resilience and fosters recovery among people and communities affected by adversity.

Under the TRAIC program nine senior clinicians, known as Regional Adversity Integrated Care Clinicians (RAICCs) outreach into communities to provide clinical care and community support for people with mental health issues, in particular those at risk of suicide. The RAICCs are based in Cairns, Townsville, Mackay, North West, Central West, Central Queensland, Wide Bay, Darling Downs and South West Hospital and Health Services.

The TRAIC program is based around four key pillars where the senior clinicians:

- provide integrated care to people dealing with mental health issues associated with drought and/or natural disasters by connecting them to the right care at the right time and place
- training front line staff to better identify and work with people dealing with drought and/or disaster related mental health issues
- work with the community to help them to better understand mental health issues so people are more likely to seek assistance
- work with other agencies to coordinate care and resources and improve referral pathways for those dealing with adversity-related mental health issues.

The RAICCs deliver a range of community and clinical training programs that enhance resilience and build disaster coping strategies. From January to July 2017 RAICCs delivered 98 training sessions, equating to 670 participants.

These programs include Suicide Risk Assessment and Management in Emergency Departments (SRAM ED). This face to face training of emergency department staff is designed to equip them to better deal with people who present with suicide ideation. From 1 July 2018–1 January 2019, RAICC staff trained a 145 staff.

Mental Health First Aid training builds skills to assist someone developing a mental health problem or experiencing a mental health crisis. Rural Minds workshops combine practical, culturally-relevant information around risk factors, signs and symptoms, prevention tips/techniques and where and how to get assistance. This training helps build a resilient community, more equipped to respond well in times of disasters. RAICCs deliver this program in communities affected by disasters on an ongoing basis.

In addition, the TRAIC program has an annual \$600,000 grants program. The grants are provided using a co-design approach to encourage community-based groups to develop and promote mental health support in regions affected drought, disasters and other crises. Now in its fourth year the program has provided funding for 54 grants since its establishment. The community-based grants program was designed to help and encourage local people to develop local programs and initiatives that support each other on the ground.

<https://www.health.qld.gov.au/clinical-practice/guidelines-procedures/clinical-staff/mental-health/grants/rural-remote-community>

## Disability Inclusive Disaster Risk Reduction

The Disability Inclusive Disaster Risk Reduction (DIDRR) Framework and Toolkit was released in December 2019 to facilitate greater inclusion by supporting people with disability to take an active part in disaster preparation, response and recovery. The toolkit will encourage and support Queensland disability providers to co-design inclusive solutions that increase the resilience of people with disability to disaster.

<https://collaborating4inclusion.org>

*Image: Illimbah fire scar September 2019, Scenic Rim Regional Council.*



## Objective 3 – We seek new opportunities to reduce disaster risk

### *Case studies, learnings and good practice*

#### Disaster Management Officers' Network

The Office of the Inspector-General Emergency Management (IGEM) continues to support Queensland's network of Disaster Management Officers (DMOs) and local disaster coordinators.

The DMO Network and its activities help to collaboratively strengthen capability and operational capacity in disaster and emergency management across Queensland. The DMO Network currently comprises 112 officers from 58 councils representing about 75 per cent of Queensland's councils.

In 2018-19, the network developed themes for the fourth annual forum held on the Gold Coast in early May 2019. The forum attracted 68 representatives from local governments across the state. This year, representatives from QFES, QRA, the Office of the Information Commissioner, Australian Broadcasting Corporation, Quandamooka Yoolooburrabee Aboriginal Corporation, Volunteering Queensland and Team Rubicon Australia delivered presentations and participated in discussion panels.

This annual forum is a critical component of the broader DMO Network which seeks to enhance capability at the local level through better collaboration, resource, idea and knowledge exchange and the sharing of good practice.

As with past forums, the 2019 program was mainly delivered by the DMOs themselves around the theme of 'Beyond the Horizon'

#### Minimising the cost of future disasters

Reducing disaster risk requires investment in resilience initiatives and opportunities, and finding ways to work together to manage disaster risk through better informed planning and investment. Work is underway across the regions to achieve better strategic alignment and prioritisation of projects that can be linked to funding opportunities. Investment in disaster resilience yields a double dividend.

By 2050, costs from disasters in Queensland are forecast to exceed \$18.3 billion per year. As costs continue to rise, there is a growing realisation of the need to embed resilience across all aspects of policy and to prioritise resilience investments by considering the broader economic and social benefits that result.

Further investment in disaster resilience is essential to lessen the forecast increase in costs. This includes physical measures, such as resilient infrastructure, and community measures, such as preparedness programs.

The National Disaster Risk Reduction Framework (NDRRF) refers to a triple dividend of investment in risk reduction and resilience:

- avoid loss and suffering
- reduce future disaster costs
- unlock economic opportunities and broader economic and social benefits to be realised even in the absence of a natural hazard.

For infrastructure investments, for example, co-benefits may include employment opportunities, improved service reliability, greater business confidence and incentives for innovation. Such co-benefits support economic growth and social capital in Australian communities.

<https://www.homeaffairs.gov.au/emergency/files/national-disaster-risk-reduction-framework.pdf>

*Image: DMO Forum 2019.*





## Shifting from recovery to resilience

The Australian Business Roundtable recognises that shifting the funding balance from recovery to resilience involves smarter planning and investment. The process of prioritisation should consider an investment's potential to deliver 'co-benefits', including economic growth and community connectedness.

A tipping point has been reached in Queensland's disaster resilience journey. In the past we have invested in reconstruction and recovery to get communities back on track following disasters. The current challenge is to maintain the ability to help communities recover at the same time as increasing our investment into areas of disaster risk reduction and preparedness.

## Analysing Queensland's investment in resilience

A review of selected Queensland Government funding programs since 2009-10 identified a range of disaster resilience activities. The review looked at 12 Queensland Government funding programs delivered from 2009 to 2018 to understand what types of projects were contributing directly and indirectly to resilience building through government grants. It found that the majority of state and local government funded resilience projects contribute to new and improved infrastructure and structural mitigation, whilst a smaller proportion of resilience activities contributed to the social aspects of resilience through community education and support.

Disaster resilience projects delivered throughout the state via Queensland Government grants since 2009-10:

- 244 floodway / culverts/ backflow projects
- 135 flood warning / gauge network improvements
- 128 community connectedness / awareness programs
- 86 water treatment plant upgrades
- 17 flood levees (construction and studies / design).

## Direct and indirect resilience building

Since 2009, the Queensland Government has provided \$980 million through 23 funding programs for 1388 locally led projects throughout the state that either directly or indirectly contribute to our disaster resilience. Of these projects, 69 per cent directly contributed to disaster resilience through actions that help to mitigate disaster risk. The remaining projects indirectly contributed to resilience by supporting the general resilience of communities, but did not directly involve disaster mitigation or prevention activities. It is noted that further analysis is required in relation to indirect resilience.

Government grants have been used to drive improvements to public infrastructure for either direct or indirect benefits to resilience as show in the graph below. Examples of projects with indirect resilience benefits include:

- **Water and sewerage treatment plant upgrades** – contribute to maintaining water quality during a disaster
- **Drainage upgrades** – enable higher volumes of water to drain during flood and storm tide events, which can minimise flood impact and recovery maintenance
- **Irrigation systems** – provide additional capture and storage of water
- **Community centres** – strengthen community connectedness and societal resilience both pre and post disaster
- **Electronic signage** – meets business-as-usual requirements and provides flexibility to adapt messaging during a disaster to keep the community safe
- **Solar panel installation on critical infrastructure** – reduces the running costs of assets, whilst also enabling assets to remain operational in times without power.

These examples are a powerful demonstration of how incorporating resilience considerations into business-as-usual decisions will provide a cumulative effect on Queensland's overall resilience if all sectors embrace this need.

*Images: (Left) Wolfram Creek Road, Mareeba Shire Council, March 2018, (right) Alice River Bridge (QFES drone image).*



## Embedding resilience into investment

Achieving broader investment in resilience requires all sectors to work together and embed climate adaptation and disaster resilience into decision-making. It can no longer be seen as a role for the traditional disaster management and natural hazard management fields. It requires a full spectrum of disciplines contributing to resilience of Queensland communities both now and in the future by factoring current and future risks into decision-making.

The Queensland Government has a forward estimate of \$45 billion over the next four years to provide essential infrastructure and capital works. It will be important to consider how these investments might increase our resilience, and how planning for future investments can contribute to indirect resilience building.

## Analysis of resilience related grants

A number of interesting observations can be made when reflecting on the way resilience funding has been spent in Queensland over the past ten years:

- Resilience funding that directly builds resilience has often been reactionary and event-led, rather than on prioritised need.
- Business-as-usual activities often unknowingly support disaster resilience outcomes either directly or indirectly. This tells us that recognising this and leveraging future investments to achieve multiple benefits is crucial.
- There is an opportunity to increase funding of people, not just projects, as limited capacity and capability is a common issue facing local governments.
- Funding program applications and eligibility criteria should seek context on how particular projects meet broader resilience policy intents or principles.
- Matching funding criteria (not just spend) to regional and local need is critical – is our funding going where it is needed? Or is spending more opportunistic or circumstantial?

## Funding guidance

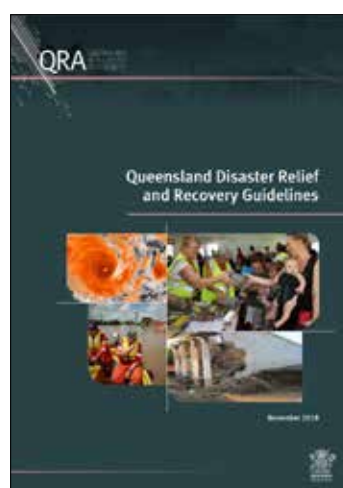
The QRA manages and coordinates Queensland's program of recovery and reconstruction funding within disaster-impacted communities. The Queensland Disaster Relief and Recovery Guidelines detail Queensland's administration of two disaster relief and recovery arrangements: the joint Australian/State Government funded Disaster Recovery Funding Arrangements (DRFA) and the State Disaster Relief Arrangements (SDRA).

For more information about QRA administered funding programs visit the QRA website.

<https://www.qra.qld.gov.au/funding>

There are a number of on-going and one-off local and national grants available that can be used to fund (in-part or full) risk mitigation projects identified as an outcome of the QERMF risk assessment process. QFES has prepared guidance for grants for disaster management stakeholders in the development and submission of grants and grant programs through a series of online presentations.

<https://www.disaster.qld.gov.au/qermf/Pages/Funding.aspx>



*Images: (left) Water Street, Rockhampton, (right) NDRP Tanderra rainfall station, Central Highlands, (inset) Queensland Disaster Relief and Recovery Guidelines (November 2018)*





## Timing considerations for resilience grants

Resilience funding cycles need to factor in timing for grant applications, preparedness activities, and resilience improvements and initiatives.

## \$114.5 million fund to improve infrastructure

The Australian and Queensland Governments have partnered to deliver \$114.5 million in Betterment and Water and Sewerage funding to help communities impacted by the North and Far North Queensland Monsoon Trough to restore damage and build stronger, more disaster-resilient infrastructure.

This funding demonstrates our commitment to helping devastated north and north western Queensland communities not only recover, but also build resilience to protect them against future disasters. More resilient infrastructure means communities are better prepared for disasters, better able to endure when disaster strikes, and quicker to recover in the aftermath. More resilient infrastructure allows communities to stay connected and recover quicker after a disaster.

This funding will ensure roads and bridges can stay open, water treatment plants and sewerage infrastructure can keep operating and businesses, including primary producers that rely on vital transport routes, can stay on track. This Betterment Fund is the largest ever approved in Australia. It's also the first time that funding will be available for both state and local government-owned infrastructure. The Betterment Fund is a great example of all levels of government working together to improve the resilience of our communities, and the results will help create a stronger Queensland.

## Queensland Disaster Resilience Fund 2019

The Queensland Disaster Resilience Fund (QDRF) supports projects to strengthen the resilience of Queensland communities and help them better prepare for disasters.

The QDRF supports local governments, state agencies and non-government organisations to deliver mitigation and resilience projects to better protect Queensland communities from future disasters.

The first round of QDRF funding saw 62 projects from local governments, state agencies and non-government organisations approved.

Successful projects include bushfire mitigation measures such as fire breaks, riverbank stabilisation, flood modelling and mapping, evacuation centre upgrades, and reducing disaster risk for people with disabilities.

Applications for both the QDRF and the previous NDRP were eight times oversubscribed, clearly highlighting the need for increased investment in disaster resilience and mitigation.

<https://www.qra.qld.gov.au/QDRF>



## Local Resilience Action and Investment Tool

The Local Resilience Action and Investment Tool is a sophisticated yet intuitive Excel tool currently being developed to assist local governments in strategically enhancing resilience over time by identifying a suite of potential funding avenues for proposed actions. The output of the tool involves the automated population of a draft Resilience Action and Investment Plan.

The tool uses criteria to collect information and categorise the proposed actions through five steps:

1. Analyse the current state of actions taken to date
2. Identify resilience goals
3. Undertake a prioritisation review
4. Allow the user to review previous funding approvals dating back to 2009
5. Identify whether there is a need for funding requirements for each of the proposed actions.

Data collected during these five steps are assessed and compiled to auto-fill a draft a Resilience Action and Investment Plan to provide a consolidated record of all works and programs from across council that contribute to building community resilience.

The key objectives of preparing a Resilience Action and Investment Plan include:

- maintaining an up to date action/works register that records both proposed actions and results of implemented actions – drawn from the existing suite of local and community strategies, plans and needs that interface with disaster resilience
- proactively planning for and prioritising specific resilience actions that will address issues over time
- maintaining awareness of funding opportunities at the state and federal levels
- informing an ongoing and periodic sequence of resilience investment (including funding applications) for consideration by the relevant funding authorities.

## Queensland Disaster Resilience and Mitigation Investment Framework

The *Queensland Disaster Resilience and Mitigation Investment Framework 2019* provides guidance on effective investment decision-making and prioritisation to support disaster resilience and mitigation across Queensland.

It was developed by QRA on behalf of the Queensland Government, to provide guidance to public sector agencies, private sector entities and community-based organisations in the development of detailed guidelines to determine disaster resilience and mitigation investment priorities.

The purpose of the Framework is to:

- support decision-makers in the assessment and prioritisation of infrastructure-based resilience and mitigation investments and non-infrastructure or community resilience
- establish a consistent statewide approach to recognising how investment contributes value to Queensland's resilience agenda
- guide Queensland Government agencies in the development of strategic and detailed funding guidelines for disaster resilience
- create a targeted approach to building resilience through clear principles for decision-making and prioritisation of investments in disaster risk reduction, mitigation and adaptation that can be applied across the public, private and community sectors
- facilitate progress of investment in disaster risk reduction, mitigation and adaptation by acting as both a link and enabler between existing Queensland policy documents, funding sources, guidelines, and approaches to investment and procurement
- recognise national and international disaster risk reduction, mitigation and adaptation approaches, including the Sendai Framework for Disaster Risk Reduction and the NDRRF.

*Image: QRA team discussing planning for recovery and resilience with Wujal Wujal Aboriginal Shire Council following the 2019 Monsoon Trough.*





The Framework was developed in close consultation with :

- Queensland Government
- Bureau of Meteorology
- Queensland Treasury Corporation
- Insurance Council of Australia
- Investor Group on Climate Change
- Floodplain Management Australia
- Planning Institute of Australia
- Australian Red Cross
- Local Government Association of Queensland.

<https://www.qra.qld.gov.au/our-work-resilience/queensland-disaster-resilience-and-mitigation-investment-framework>

### **Case study: Sunshine Coast Regional Council Disaster Hub - Real time access to disaster information in a single location**

Sunshine Coast residents now have access to real-time disaster information that includes road and traffic conditions, weather warnings, power outages, school closures and council alerts, all in one place, the online Disaster Hub. Provided by Sunshine Coast Regional Council, The Disaster Hub empowers community members to make informed decisions and understand the risk surrounding local disasters. The information is provided in real-time, from multiple trusted sources such as the Bureau of Meteorology, Queensland Transport and Main Roads, Queensland Fire and Emergency Services, Queensland Police Service, Ergon, Telstra and others.

Due to The Disaster Hub's innovative approach to informing locals and empowering their decision making, it was awarded a 2016 Resilient Australia Award. With councils across Australia following the Sunshine Coast's lead, more communities will be able to benefit from this creative and informative initiative.

<https://disaster.sunshinecoast.qld.gov.au/#Dashboard>

### **Case study: North West Queensland councils investing and working together to reduce disaster risk with Get Ready Queensland grants**

The North West Queensland Regional Organisation of Councils (NWQROC) this year have pooled the funds of seven local governments, including Carpentaria, Burke, Cloncurry, Doomadgee, Flinders, McKinlay and Richmond.

NWQROC plan to develop a Get Ready North West Community Information Portal. They also plan to produce Get Ready Queensland digital resources such as videos, and have a region-wide campaign during Get Ready Queensland.



## Resilient Small Businesses get Back on Track following disasters

Following the 2019 North and Far North Queensland Monsoon Trough event, DESBT received \$10 million through the jointly funded State/Commonwealth DRFA to support the development of a collaborative, locally led Business and Industry Support Package, including:

- \$3 million for a Small Business Disaster Recovery Grant program. Grants of up to \$10,000 have been available since 10 June 2019 to engage business consultants, mentors, coaches or an advisory service to assist with business recovery and to increase resilience and sustainability
- \$2.5 million to tailor the Go Local, Grow Local campaign to drive a behavioural change in local areas by purchasing local goods and services
- \$2 million for enhanced business mentoring and coaching activities, including Mentoring for Recovery and the expansion and development of the local pool of mentors
- \$1.5 million to transition into phase two of the Small Business Recovery Centre, which will operate as independent, locally managed support hub.
- \$1 million for business development and support for recovery and business continuity planning

## Small business recovery

Following the 2019 North and Far North Queensland Monsoon Trough a Small Business Recovery Advisory Council (SBRAC) was established, and a Small Business Recovery and Resilience Champion commenced.

Membership of the SBRAC includes local Chambers of Commerce, representatives from relevant Local, State and Federal Government agencies, peak industry bodies including Non-Government Organisations and local small business owners directly impacted by flooding from the affected regions. The SBRAC meets monthly to share information on the current and emerging needs of their small business communities and to review locally led and developed projects and programmes.

## Free mentoring

Access to free, professional mentoring services continues to be available to all small business owners across North and Far North Queensland to address their individual business challenges. 193 unique small business owners have been mentored between 1 February–19 December 2019. The vast majority of these have been located in Townsville where the direct impact devastated the local business community.

## Small Business Recovery Centre

The establishment of the first Queensland Small Business Recovery Centre in Townsville immediately following the flooding provided critical support and advice to small business owners impacted by the unprecedented weather event. A Memorandum of Understanding supporting the transition of the Small Business Recovery Centre to the Smart Precinct NQ has been finalised with Townsville City Council. Relocation is scheduled to occur in early 2020 and the Centre will remain in place through until 30 June 2021. The team who established the centre has been awarded Highly Commended for a Premier's Award for Excellence in the 'Be a Responsive Government' category. Extensive learnings of the needs and requirements of small business owners during the launch and establishment phases of the SBRC will allow the Department and supporting agencies to best position themselves to respond and support communities affected by future natural disasters.

## Back on Track roadshow for business resilience

The Back on Track outreach roadshow travelled to 27 locations hit hardest by the floods across North and Far North Queensland to help small businesses recover, rebuild and prosper. This unique cross-government collaboration helped small businesses through the provision of free advice and face-to-face access to business mentors, wellbeing support networks, digital marketing expertise, grants assistance, professional photography support and connections to other relevant government agencies. The Small Business Recovery and Resilience Champion will continue to drive outreach programmes throughout the affected LGA's for the duration of the DRFA.

Helpful information and support for small businesses and primary producers recovering after a natural disaster is available at:

<https://www.business.qld.gov.au/running-business/protecting-business/disaster-resilience>

*Images: The Back on Track roadshow travelled to 16 locations hit hardest by the floods across North and Far North Queensland.*





## Bushfire State Planning Policy – state interest guidance material 2019

With climate change predictions indicating a hotter and drier climate for large parts of Queensland, effective land use planning and hazard mitigation to ensure community safety is of paramount importance. The impact of bushfires will vary across the state, depending on the severity of the bushfire, the proximity and exposure of people and property to hazardous vegetation, and the vulnerability of different land uses to bushfire threat.

Land use planning plays a key role in ensuring that new development and communities are not placed at undue risk; by adopting hazard avoidance and/or risk mitigation strategies. For example, planning provisions can ensure there is adequate separation between bushfire hazard sources and new or intensified development. Proactive and effective planning for bushfire risk can also help improve community safety and resilience and minimise the burden on emergency management systems and processes.

This Bushfire State Planning Policy – state interest guidance material has been prepared primarily to support the implementation of the State Planning Policy (SPP) and the interpretation of the natural hazards, risk and resilience state interest. Although the SPP broadly applies to a range of activities undertaken by state and local governments, the guidance material is particularly focused on assisting local governments when making or amending a local planning instrument and when applying the assessment benchmarks (to the extent relevant).

<https://dsdmipprd.blob.core.windows.net/general/spp-guidance-natural-hazards-risk-resilience-bushfire.pdf>

## Bushfire Resilient Communities

Land use planning for bushfire hazard is one part of an integrated disaster management strategy in mitigating the risks associated with bushfire events to an acceptable or tolerable level.

The Bushfire Resilient Communities - Technical Reference Guide for the State Planning Policy 2019 supports the State Planning Policy July 2017 (SPP) and associated State Planning Policy state interest guidance material – Natural hazards, risk and resilience – Bushfire (SPP guidance).

The SPP outlines the state interests in land use planning and development that underpin the delivery of local and regional plans and development. These state interests include natural hazards, including bushfire, and risk and resilience measures.

The SPP guidance assists:

- local governments to make or amend local planning instruments
- assessment managers and practitioners when applying the SPP assessment benchmarks to development applications (only where the state interests have not been integrated in local planning instruments).

The Bushfire Resilient Communities provides technical guidance and the policy positions of Queensland Fire and Emergency Services (QFES) to state agencies, local governments, and practitioners engaged in land use planning for bushfire hazard and development activities that may be affected by bushfire hazard.

This includes:

- making or amending state and local planning instruments such as planning schemes or regional plans
- designating land for community infrastructure
- making or assessing development applications.

[https://www.ruralfire.qld.gov.au/Bushfire\\_Planning/Documents/Bushfire-Resilient-Communities.pdf](https://www.ruralfire.qld.gov.au/Bushfire_Planning/Documents/Bushfire-Resilient-Communities.pdf)



## Business continuity planning

Community-based organisations support thousands of vulnerable Queenslanders, regardless of where they live in our diverse and decentralised state. Ensuring continuous service delivery can be challenging for small community organisations when disaster hits. Business continuity planning helps to ensure that these organisations are prepared when disaster hits.

DCDSS partnered with the Community Services Industry Alliance (CSIA) to promote business continuity planning for community-based organisations. The Disaster management and recovery toolkit, developed by the CSIA in partnership with the Queensland Government, provides information, resources and ideas about how community based organisations can work proactively to achieve business continuity, and be ready to assist people and households at the worst times.

The toolkit enables business continuity planning both within organisations and across local community service delivery networks. To date eleven workshops for non-government organisations have been delivered in areas including the Gold Coast, Hervey Bay, Toowoomba and Townsville.

Two peer-to-peer business continuity networks have been established to foster local responses to business continuity and planning challenges. The Regional Social Development Commission, based in the Mackay, Whitsunday and Isaac regions, has seen 30 local organisations come together to partner with the Mackay Disaster Management Group to build capacity within the local housing network. The Community Projects Assistance Services in the Somerset region, is working with Esk and Toogoolawah Meals on Wheels, their partner organisations and contractors, and the Disaster District Management Group to ensure continuity of Meals on Wheels services to the communities' most vulnerable during times of disaster. A facilitation guide is currently being developed to assist other community organisations establish local peer-to-peer networks and implement business continuity planning.

<https://www.qld.gov.au/community/disasters-emergencies/supporting-people-with-vulnerabilities>

## Flexible Funding Grants

Queensland's communities are well versed in managing disaster, particularly after a spate of cyclones, storms and floods in recent years. Flexible Funding Grants were awarded to 68 projects following the 2019 Monsoon Trough event. Projects include the purchase of backup generators, satellite solutions and LED road signage and to provide community education, skills and wellbeing sessions and forums including first aid and sessions targeted specifically to graziers, tourism leaders and isolated women.

Bushfire is also a significant threat to lives and property across much of the state. As part of wider Queensland and Australian Government efforts following the 2018 bushfires, more than \$6 million has been allocated to support recovery and resilience building activities. Community groups, non-government organisations, industry groups and local governments applied for one-off, non-recurrent flexible funding grants, offered in two grant funding rounds, to deliver projects in Central Queensland that promote longer-term disaster recovery and resilience.

All funded projects are expected to roll out by 2021. Grants have been awarded to projects that reduce risks, enhance self-efficiency and community-efficacy and minimise negative impacts of disasters. Projects that support service continuity, promote sustainable economic recovery and preparedness and resilience to future disasters, have also been funded. Grant recipients include Capricornia Catchments for 'Seeing Past the Smoke' community workshops, upgrades to the Finch Hatton emergency airstrip and funding for a 'Community Resilience Through Volunteering' workshop.

Flexible Funding Grants are provided through Category C DRFA funding.

*Images: (Left) Bloomsbury community meeting following the Central West Queensland bushfires 2018, (right) Community recovery at Binna Burra and Canungra following the Southern Queensland Bushfires September 2019.*





### **Case study: Resilient primary producers, small business and non-profit organisations**

The Queensland Rural and Industry Development Authority (QRIDA) administers disaster assistance to primary producers, small businesses and non-profit organisations affected by eligible disasters with the opportunity to access low interest loans and grants.

The funding delivered to primary producers, small businesses and non-profit organisations recovering from flooding in North Queensland surpassed \$102.8 million the week of 22 November 2019, comprising \$92.8 million for primary producers and \$11 million for small business and non-profit organisations.

Following the 2019 Monsoon Trough, QRIDA published a series of client stories and videos to demonstrate how clients have successfully used available finance options to recover and become more resilient.

#### **Primary producers**

- Farming families in a disaster zone: What it takes to keep a cattle dream alive
- North West graziers recovering from flood disaster

#### **Small business**

- 'Townsville will survive': Recovery grants helping small business get back to business
- Flooding disaster puts decades in business to the ultimate test

#### **Non-profit organisations**

- 'Biblical' weather event unable to drown sporting clubs spirits
- Recovery grant just in time for annual pony event
- Famous bowls club committee's biggest challenge yet
- Weekend footy institution restored following flooding event
- History in the making as association re-opens after flooding disaster

<http://www.qrida.qld.gov.au/news-and-events/client-stories/client-stories-natural-disaster-assistance>

### **Drought and Climate Adaptation Program increases resilience for primary producers**

The Drought and Climate Adaptation Program (DCAP) aims to help producers better manage drought and climate impacts. Climate scientists, government and non-government agencies, producers and industry leaders are working together on a number of cutting-edge research projects and partnerships.

This research helps producers manage financial risks with decision-making around drought and climate variability through improved forecast products, tools and extension activities.

DCAP's major partners include the DAF, DES, the University of Southern Queensland, the Bureau of Meteorology and Meat & Livestock Australia.

### **Case study: Advancing weather index insurance for crops**

Weather index insurance was discussed as a way to manage and mitigate the impact of severe adverse weather for farmers at a series of workshops in September.

The University of Southern Queensland, Queensland Farmers Federation, insurance broker Willis Towers Watson and the DAF are working together to further the development of parametric or index-based insurance products for cyclone cover for the agriculture sector.

### **Case study: Economic recovery support for flood-affected Julia Creek producers**

Economic advice was provided to eight young beef producers affected by the February floods at Julia Creek. They were guided in assessing their business options using the Breedcow and Dynama herd budgeting software. This helped them explore business recovery options, post flood and drought, as well as the best options for the long-term profitability of their businesses.

<https://www.longpaddock.qld.gov.au/dcap/news-media/>

*Images: (Left) QRIDA clients and cattle graziers Robert and Ruth Chaplain, Maxwellton, North West Queensland, (right) advancing weather index insurance for crops.*



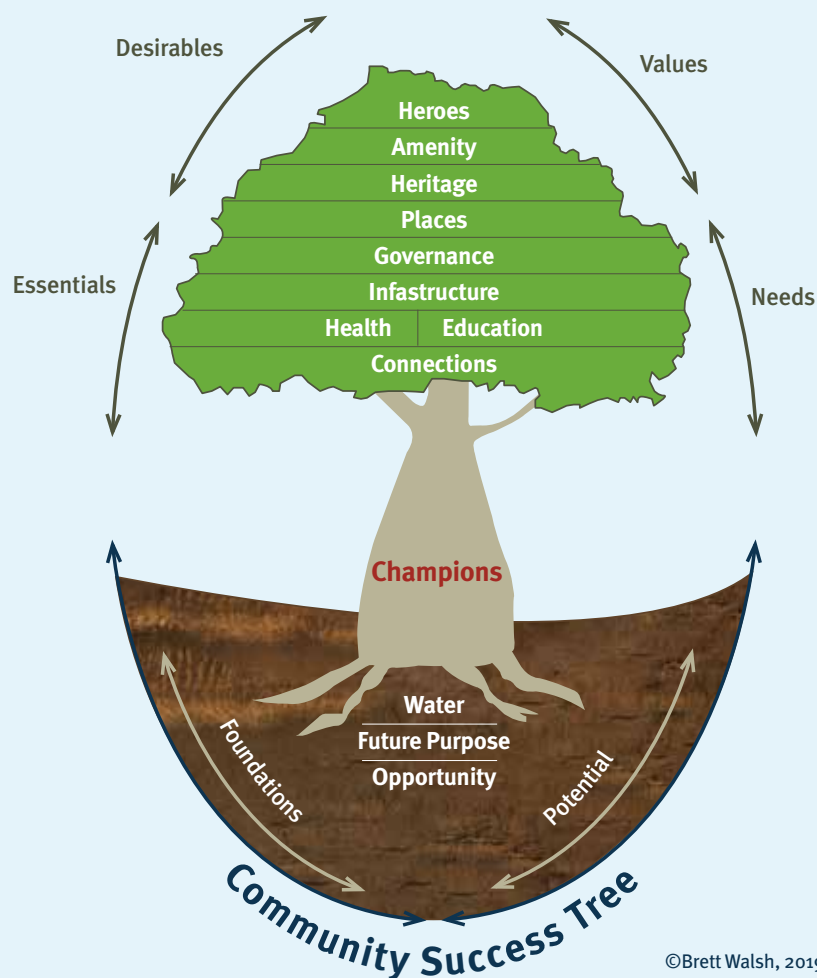
### Case study: The community success tree

The 'community success tree' concept, courtesy of Deputy CEO of Barcaldine, Brett Walsh, is a model for sustainability of rural and remote communities. The tree illustrates components including foundations, essentials, and desirables that contribute to the success and resilience of a community.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5693357/>

### The concept of community resilience

The concept of 'community resilience' is almost invariably viewed as positive, being associated with increasing local capacity, social support and resources, and decreasing risks, miscommunication and trauma.



©Brett Walsh, 2019.

Images: (Top) Courtesy Barcaldine Regional Council,  
(insert) community success tree concept diagram.





## Case study: How shocks and stresses affect the resilience of a community

Resilience and recovery efforts over time have shaped our understanding of the importance that societal resilience plays in supporting a community to effectively tackle the impacts of disasters. Long-term and repeat events can impact on a society's physical and mental health, which has flow-on impacts in participation in employment, education and the overall economy. At the same time, external factors such as de-population of communities and changes in commodity prices can have the same negative impact on a community and inhibit their ability to cope when faced with the added pressure of a disaster event.

Disaster resilience is underpinned by societal resilience, which is the foundation piece that needs to be addressed in order to tackle all other parts contributing to a community's resilience.

The diagram below was informed through lessons learned from working with stakeholders in Central West Queensland to develop a resilience strategy for the region. In talking with stakeholders it quickly became apparent that there are underlying long-term and systematic issues that need to be addressed in order to help communities in this part of the state to maintain a high level of resilience.

Stakeholders in Central West Queensland identified the following chronic and persistent stresses facing their community, and the acute shocks they face when impacted by disasters.

**Chronic stresses** - caused by broader megatrends such as:

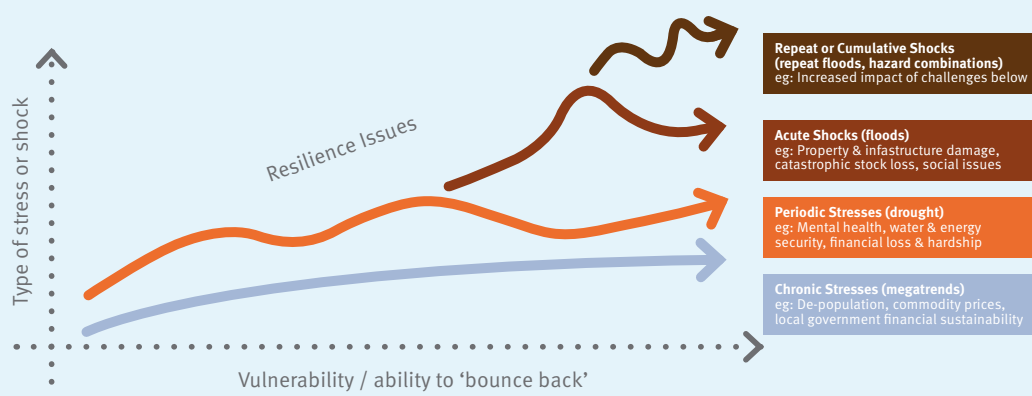
- climate dependency
- regional de-population (including ageing population)
- uncertain commodity prices and ownership changes
- local government capacity and funding
- technology and communications limitations
- transport maintenance and upgrades.

**Persistent stresses** - caused by longer term stresses such as:

- drought
- water and energy security
- mental health
- financial loss and personal hardship
- coordination of government and NGO service provision
- persistent stock decline and extreme fodder scarcity.

**Acute shocks** - caused by episodic events :

- widespread and extreme flooding in the North West
- catastrophic stock loss
- mental health & widespread disruption/damage to community fabric
- infrastructure resilience
- property damage
- isolation
- business continuity and supply chain challenges.



Images: (Left) Clean up in Townsville, (right) cattle near Normanton following the 2019 Monsoon Trough.



## Objective 4 – We continually improve how we prepare for, respond to and recover from disasters

### *Case studies, learnings and good practice*

#### Lessons management program

Lessons management is a key element of continuous improvement and enables learnings from events, exercises and good practice to be identified, shared and embedded in the disaster management system. The Office of the IGEM is leading the implementation and maintenance of a system-wide lessons management program in Queensland.

It is intended that IGEM's lessons management program will be supported by a robust method of monitoring and reporting, designed to deliver sustainable improvements and positive change.

Development of the lessons management program commenced in February 2018 and involves significant consultation with key representatives and practitioners from the disaster management sector who play a key role in supporting improvements to the Queensland disaster management system.

The development of the lessons management program will utilise the methodologies and learnt successes of co-design. The methodology used during the project will draw on and synthesise information, ensuring reflection and iterative development throughout the project. Co-design has been chosen as it enables greater capacity to identify good practice from a diverse range of stakeholders, whilst being conducive to cultural and systemic change processes through greater sector ownership.

In 2019 lessons were identified and shared with the sector from the 2018 Queensland Bushfires Review and the 2019 Monsoon Trough Rainfall and Flood Review.

**Video: IGEM's video explaining lessons management is available at <https://www.igem.qld.gov.au/assurance-framework/lessons-management-program>**



*Image: Flooded streets Townsville following the 2019 Monsoon Trough, (insert) 2018 Queensland Bushfires Review, and 2019 Monsoon Trough Rainfall and Flood Review.*





## Continuous improvement through independent assurance

The primary role of the Office of the IGEM is to enable confidence in Queensland's emergency management arrangements.

Independent reviews have endorsed Queensland's handling of recent natural disasters. A review report provides a comprehensive analysis of the effectiveness of a particular disaster management issue, situation or set of arrangements.

Review reports are based on evidence and may include discussion of underlying themes, contributing factors and root causes of issues. Review reports include findings and base recommendations for improvement on lessons identified, research and good practice.

The IGEM reviews were undertaken following the 2018 Bushfires and 2019 North Queensland Floods and include the views of more than 500 members of communities directly affected.

Key findings include:

- the safe operation of the Ross River Dam prevented more widespread flooding in Townsville
- Queensland should re-assess its risk for heatwaves and bushfires

The Queensland Government accepted either in-principle or in full all 37 recommendations made in the reports.

The reports Flood recommendations include:

- better management of evacuation centres especially for vulnerable people, and better communication with those in the centres
- ongoing development of online 'dashboards' as a local point of truth in disasters
- better coordination of offers of help and donations.

Bushfire recommendations include:

- \$16 million over four years from 2019-20 to improve bushfire management in state national parks and forests
- more fire behaviour analysts
- 'one-stop-shop' for help and advice on fire breaks.

IGEM also released a review report on the Efficacy of Recovery Governance (Report 1: 2018-19).

In this review, it was acknowledged that a challenge for the IGEM role will be to change the cultural approach towards recovery, to ensure those on the periphery actively strive to become involved. Efforts should centre around ensuring recovery is given appropriate priority by all agencies.

The recommendations are aimed at those key aspects that government should influence directly. More broadly, there is scope to reach out further:

- educating the sector about the value of the role that everybody can play in recovery
- emphasising the need for, and enhancing, recovery leadership at all levels
- supporting regular community activities, to build knowledge, trust and strengthen bonds within communities
- encouraging regular activities and recovery exercises for supporting authorities.

Much of this is common to the resilience agenda, emphasising the links between recovery and resilience heard through interviews during the review.

By and large, the review found the state has the structures, arrangements and plans in place to manage and support community-led recovery. There is room for some structural adjustments to improve efficiency, and ensure clearer communication at the upper coordination levels.

But most of all, there is the opportunity to change the culture about recovery and to kindle the determination to make this stage of disaster management work better for the benefit of all Queenslanders.

For more information visit <https://www.igem.qld.gov.au>.

*Image: QFES North Coast Door Knock team.*



## A collaborative, sector-wide approach to disaster management research

The Queensland Disaster Management Committee (QDMC) has identified the Disaster Management Research Framework (DMRF) as one of its priorities in the Queensland State Disaster Management Plan (SDMP).

IGEM is responsible for enabling a sector-wide, collaborative approach to disaster management research through:

- identifying opportunities for cooperative partnerships to improve disaster management outcomes (DM Act 2003)
- collaboration and knowledge-building activities to drive an 'effective disaster management system' (SDMP)
- building a culture of collaboration, improvement excellence and innovation to challenge the emergency management sector to adapt to and explore emerging opportunities (IGEM Strategic Plan 2019-23).

### Disaster Management Research Framework

The DMRF was established to support collaboration between the tertiary and disaster management sectors and promote the use of research by disaster managers. The DMRF is underpinned by the sector-defined guiding principles of responsiveness, collaboration, accessibility/actionability and accountability. Collaborative development and promotion of research for Queensland's unique context was progressed as part of the DMRF through:

- developing a coordinated approach to undertaking, managing and sharing research
- establishing strategic research priorities for the disaster management sector
- promoting and facilitating engagement between government and the tertiary sectors
- supporting the transfer of research findings into practice.

## Research in action

Through the DMRF, IGEM has helped engage researchers to inform reviews and discussion papers. Local government disaster managers have been introduced to researchers to answer questions, participate in projects and guide decisions on post graduate study and provide feedback on course development. IGEM has helped link research students with agencies and delivered lectures to domestic and international students.

The DMRF has supported researchers from Griffith University to engage with the local disaster management sector on a project examining the use of local food supply networks for building disaster resilience. Through the DMRF, IGEM helped facilitate sector workshops and is hosting a developing online Community of Practice (CoP) to link disaster managers and local food network providers.

To support the translation of research into practice, IGEM has partnered with the Australian Red Cross to implement the National Gender and Emergency Management Guidelines in Queensland. This project takes nationally researched guidelines and applies them to existing Queensland-based practices for supporting community recovery.

### Research Community of Practice and Research Register

IGEM's Research CoP initially included identified disaster management and research champions to help build knowledge of the sectors, and has since grown to over 300 disaster managers and researchers. IGEM's Research Register now has more than 150 Queensland university researchers specialising in disaster and emergency management from a broad range of disciplines including architecture, engineering, economics, creative industries and journalism.

### Research Advisory Panel

The Research Advisory Panel (RAP) supports the DMRF and includes representatives from state and local government agencies and Queensland universities. IGEM maintains a register of research topics and questions identified by our sector. The RAP endorsed the use of the 34 themes for research classification used by the United Nation's Office of Disaster Risk Reduction to categorise research needs, expertise, gaps, current research, strategic drivers, and what the sector wants and needs.

<https://www.igem.qld.gov.au/disaster-management-research-framework>

*Image: Gender and Disaster Working Group. World Association of Disaster and Emergency Medicine Conference – May, 2019.*





## Research partnerships with universities and students

IGEM has partnered with universities and researchers on various research projects. Examples include working with Griffith University to help inform the development of Best Practice Guidelines for Emergency Supply and Disaster Logistics in Queensland, and working with the Queensland University of Technology to develop a proof-of-concept immersive technology application to support evacuation.

IGEM has hosted four QUT intern students who worked on projects addressing key issues identified by the local government disaster management sector, completed in conjunction with local and state disaster managers.

These projects resulted in publications, presentations at national and international conferences, guidance for reviews of group governance, additional research grants and helping inform discussions to progress statewide systems and programs.

The projects examined:

- ageing in place
- the potential use of immersive technology for engaging community about risk
- governance of environmental recovery from disasters
- current and potential use of GIS by local disaster managers.

## A shared language: Queensland Disaster Management Lexicon

The Office of the IGEM created Queensland's Emergency Management Assurance Framework to promote continual improvement of disaster management effectiveness and reinforce the need for shared responsibility in delivering disaster management outcomes for communities.

Through developing the Framework with stakeholders, it was identified that there was a need to work within a common language, contextualised to Queensland's disaster management sector. An inconsistent understanding of disaster management language has the potential to cause confusion, and adversely impact practitioner interoperability and outcomes for the community.

Disaster management arrangements in Queensland are unique within Australia, and so is a lot of the terminology used within that sector. A lexicon contextualised to the Queensland situation provides a platform to highlight terms from a number of sources specific to the state:

- legislation, through the *Queensland Disaster Management Act 2003*
- local plans and guidelines
- district plans and guidelines
- Queensland state plan and strategies
- specific Queensland agency plans, and
- relevant national and international glossaries and handbooks.

The national glossary, the Australian Emergency Management Glossary, provides an ancillary source for those terms that are common across jurisdictions.

The Queensland Disaster Management Lexicon, developed in collaboration with disaster management stakeholders, provides a contextualised resource specifically pertaining to our disaster management arrangements.

This shared language enables a greater degree of interoperability across state agencies, local councils and non-government organisations involved in all phases of disaster management in Queensland.

The Queensland Disaster Management Lexicon is a 'living' resource, reviewed annually within the Queensland sector as part of the assurance framework suite of documents.

<https://www.igem.qld.gov.au/assurance-framework/queensland-disaster-management-lexicon>

# Disaster resilience starts at home

Will your home keep you safe from flood?



## Building guidance for Queensland home to improve how we prepare for, respond to and recover from disasters

We all have a role to play in keeping safe and reducing the cost of disasters. Resilient design and construction can reduce long-term costs for home owners by reducing expected costs associated with disaster damage and insurance premiums.

Cyclones and floods are a part of life for many Queenslanders. Investing in resilient measures at home can significantly reduce the effort, cost and time to recover from cyclones and other natural disasters.

It not only reduces the physical and financial cost, but also the social and emotional impacts.

In 2019, new building guides were developed to strengthen the resilience of Queensland homes to flood, cyclones and storm tide. The non-mandatory guides are designed for use by building industry professionals to help Queensland homeowners when building a new home or retrofitting an existing home.

They provide information about resilient design and construction options for new and existing homes as well as the best building materials and systems for reducing the impact of disasters.

### Flood Resilient Building Guidance for Queensland Homes

The Flood Resilient Building Guidance for Queensland Homes was developed in close consultation with the following stakeholders:

- Queensland Government
- Brisbane City Council
- Ipswich City Council
- Lockyer Valley Regional Council
- Somerset Regional Council
- James Davidson Architect
- Insurance Council of Australia
- Suncorp Insurance
- Master Builders Association
- Queensland Building and Construction Commission

### Cyclone Resilient Building Guidance for Queensland Homes

The Cyclone Resilient Building Guidance for Queensland Homes relates to Queensland homes located within 50 kilometres of the coastline north of Bundaberg, which need to be strong enough to withstand cyclonic winds.

### Storm Tide Resilient Building Guidance for Queensland Homes

Storm Tide Resilient Building Guidance for Queensland Homes builds on the cyclone guide to incorporate storm tide considerations for northern Queensland homes located within 100 to 200 metres of an open shoreline.

The cyclone and storm tide resilient guides provide information about:

- impacts of cyclones and storm tide on homes
- wind classifications for cyclone prone areas
- resilient design and construction tips for new and existing homes in cyclone prone areas
- cyclone and storm tide resilient building products and systems
- tips for repairing or rebuilding cyclone damaged homes.

### Bushfire Building Guidance for Queensland Homes

The Queensland Government is currently developing a guide targeted at Queenslanders in fire prone areas to retrofit their homes and gardens to increase their resilience to bushfires.

<https://www.qra.qld.gov.au/resilient-homes>

*Image: (top right) Launch of the Flood Resilient Building Guidance for Queensland Homes, 9 April 2019.*





### **Case study: Flood resilient home renovation generates insurance savings**

In 2011, a Graceville home was flooded five metres above ground level. Following the flood, the owners renovated their home to increase their flood resilience. The home was raised approximately three metres above its original height to position the finished floor level above that of a 1 per cent (1 in 100) Annual Exceedance Probability Event.

The owners recognised that the lower level of the home remained at risk of smaller, more frequent floods. Flood resilient design principles were incorporated into this lower level of the home, including rendered concrete block walls, a polished concrete floor, removable cabinetry and an internal layout that enabled easy cleaning post-flood.

The value of this approach was recognised by their insurer, with a significant reduction in their insurance premium. In the years 2012 to 2017, insurance premiums for the property were \$5253 per annum. Following the renovations that incorporated flood resilient design strategies, the premium was reduced to \$3133 per annum – a saving of 40 per cent.

### **Case Study: Household Resilience Program**

A program aimed at improving the cyclone resilience of homes in identified cyclone regions has benefitted more than 1700 households across the state.

In the aftermath of Tropical Cyclone Debbie in 2018, the DHPW established the \$20 million Household Resilience Program.

The aim was to decrease the impact of severe weather events by making grants available to low-income households in pre-1984 dwellings located in the state's cyclone region to undertake resilience improvement works such as roof replacements.

Homes built before the introduction of the building code in 1984 can be more susceptible to damage from cyclones.

The program ran from July 2018 and reached funding capacity in September 2019. It operates as a co-payment arrangement where grant funding covered 75 per cent of the cost of works for a minimum of \$3300 up to a maximum grant value of \$11,250 per eligible household.

A total of 1748 households within 50 kilometres of the Queensland coast from Bundaberg in the south to Cooktown in the north benefitted from the resilience building program.

Most households opted to upgrade their roof under the program, with 82.55 per cent of improvement works for roof replacement and 14.70 per cent of works to install window protection such as cyclone shutters or screens.

Other improvement works funded included roof structure tie-down upgrades using an external over-batten system, replacement of garage doors and frames, tie downs of external structures such as sheds and replacement of external hollow core doors. Some homeowners have opted for more than one improvement option.

Almost 90 per cent of homeowners said they would not have been able to complete the upgrades without the government grant.



### Case study: Queensland Climate Resilient Councils

LGAQ and DES have established a partnership to support local governments in Queensland to plan for and respond to climate change.

In 2016, the Queensland Government engaged a consultant to undertake a statewide desktop assessment of local government governance arrangements and found that councils need to strengthen critical frameworks for climate resilience decision-making.

The Queensland Climate Resilient Councils is a five-year program working with Queensland local governments to strengthen internal council decision-making processes to respond to climate change. The best available science tells us that our climate is changing, and we are experiencing increased changes in temperature, rainfall, sea level and extreme weather conditions affecting how we live and work. It makes sense to take appropriate action to better manage our climate risks. By adopting a risk-based approach, we can adapt to such changes and still enjoy our lifestyles and stay safe.

There is a lot we can all do to mitigate the impacts of global warming, and local governments can lead and support their communities and local business to get on the front foot. All good leaders understand that strong leadership must be supported by strong governance. Without the right governance arrangements in place, decision-making - particularly in diverse and complex organisations like councils - loses focus, and high priority goals and objectives suffer.

The program accesses nationally and internationally recognised specialists to provide councils with a unique opportunity to discuss how these changes impact council's priorities and their community. Funding is available to all Queensland councils for a free face-to-face briefing and governance assessment.

<https://qcrc.lgaq.asn.au/home>

### Resilient infrastructure – Betterment

The Queensland Betterment Fund has been a success story for this state in building stronger and more resilient infrastructure in the face of repeated natural disasters.

Betterment allows local governments to rebuild essential public assets to a more resilient standard that helps them withstand the impacts of future disasters, and delivers on QSDR's Objective Three - We continue to invest in disaster risk reduction.

Upfront investment in stronger infrastructure and more resilient communities saves money for all levels of government in the long-term.

The Betterment Fund is a great example of all levels of government working together to improve the resilience of our communities.

In 2019, a \$100 million Betterment Fund was established following the North and Far North Queensland Monsoon Flood event, joint funding under the State/Commonwealth Disaster Recovery Funding Arrangements (Category D).

QRA developed the Queensland Mitigation Investment Framework to give prioritisation and investment towards Betterment funding.

### Case study: Avoided costs in building back better

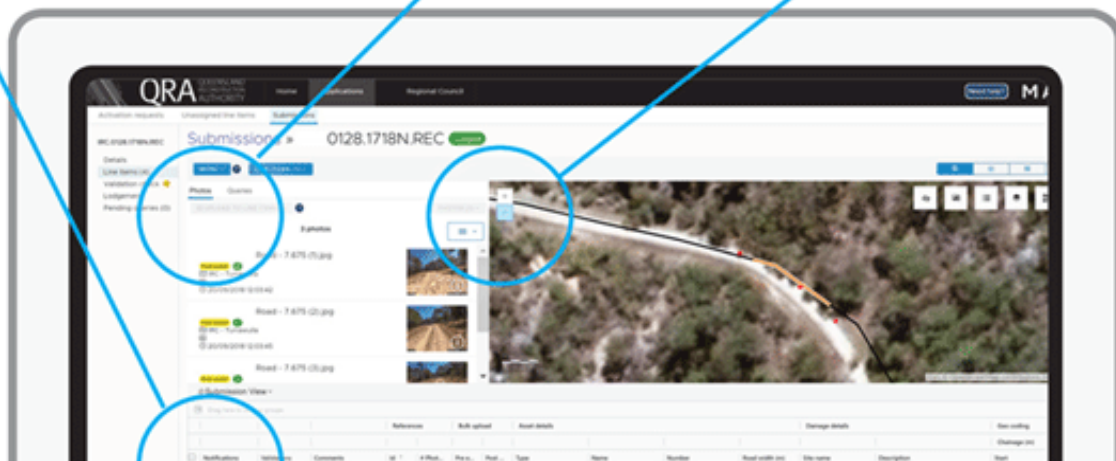
Following Cyclones Oswald, Marcia and Debbie in 2013, 2015 and 2017 respectively, \$141.85 million was approved for 370 projects across 44 local government areas from the Queensland Betterment Fund, providing the resources needed to build back better so the next disaster doesn't have the same devastating impact.

Almost 260 of the total 370 betterment projects delivered have been impacted by 16 subsequent events since their completion, some sites have been in the firing line up to five times (floods, cyclones and severe storms).

From an investment of around \$94 million for these projects, we have seen more than \$145 million in avoided costs, which is just for those projects that have been re-impacted.

*Image: Midge Point works, Mackay Regional Council, January 2019.*





## The disaster funding application portal for Queensland councils and state agencies

MARS is the Management and Reporting System developed by the QRA to support councils and state agencies with disaster funding applications.

The system is shared by QRA and funding applicants, with the aim of improving efficiency in lodging and assessing disaster claims. MARS is used for events activated under the DRFA and other funding available to councils and state agencies.

For events occurring after 1 November 2018, authorised users can log in to the MARS Portal to:

- request activation for disaster relief measures
- build and lodge submissions and supporting evidence
- prepare and lodge progress reports and close out documentation
- view information on trigger points, activation history and more.

Organisations have access to the same views and functionality as QRA assessors, including multipanel views and integration with mapping technology to support better quality submissions and assessments.

Each organisation can view their supplied digital road network on a map and see submission and assessment information displayed geographically. This integration with mapping means MARS can offer validation messages based on the data provided. Users have the opportunity to address anomalies or data gaps prior to lodgement, supporting a smooth assessment process.

<https://www.qra.qld.gov.au/funding/mars-disaster-funding-application-portal>

## Case study: Flood resilient roads and pavements

DTMR is saving millions of dollars in maintenance through the use of an innovative bitumen to create more resilient roads and pavement. Already widely used in coastal regions, foamed bitumen is proving to be a beneficial investment in areas exposed to flooding.

While conventional thin asphalt/granular pavements can suffer significant damage from flooding, in similar circumstances, foamed bitumen pavements have shown excellent resilience. Examples of the foamed bitumen's resilience has been seen in Mount Lindesay Highway, Bruce Highway in Cairns, Sandy Gully in Mackay, Warrill View, south of Ipswich and the Yeppen floodway in Rockhampton. Foamed bitumen costs less to construct per cubic metre than asphalt, and reduces the cost of maintaining and rehabilitating roads after natural disasters.



Images: (Top insert) Camp Cable Road, foam bitumen during STC Debbie, (bottom insert) after STC Debbie.



## Building resilience across Queensland

### Queensland Resilience, Adaptation Pathways and Transformation Assessment

QRA is working with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) to support and enhance resilience building across Queensland Government.

CSIRO will apply their existing Resilience, Adaptation Pathways and Transformation Assessment (RAPTA) framework, made fit for purpose for Queensland (QRAPTA) and will lead the engagement with relevant state agencies to enable their self-determination of resilience strategies and priorities.

QRA and CSIRO will develop case studies to illustrate the use of QRAPTA with a view to extending economic assessment tools building on those already developed under the National Resilience Taskforce's Guidance on Prioritisation, as part of the Climate and Disaster Risk Guidance documents.

## Queensland Resilience Coordination Committee

QRA has established a Queensland Resilience Coordination Committee (QRCC) to provide strategic leadership and support for the implementation of the QSDR and associated actions and commitments. The QRCC will facilitate a coordinated whole-of-government approach to building resilience to all hazards across Queensland.

In this role, the QRCC will provide strategic direction and advice on policies and capabilities for the enhancement of resilience in Queensland by:

- identifying opportunities for whole-of-government resilience policy development
- establishing priorities for coordinated projects and programs
- identifying future trends and emerging issues.

Reporting to the QDMC, the QRCC is chaired by QRA's Chief Executive Officer and membership is made up of the CEOs and Directors-general of various government agencies.

## Ready and Resilient Working Group

The purpose of the Ready and Resilient Working Group is to support the coordination of key resilience communications and engagement activities being delivered across the Queensland Government.

The Working Group will collaborate with QRA to ensure that all Queensland Government agencies are working together to achieve the vision of making Queensland the most disaster resilient state in Australia.

*Image: Birdsville, Big Red Bash. Courtesy of Eye on Photography.*





## Queensland to host United Nations' disaster conference 2020

Queensland's expertise in disaster management, recovery and mitigation has been recognised by the United Nations with Brisbane to host the 2020 Asia-Pacific Ministerial Conference on Disaster Risk Reduction.

The international conference will be jointly organised by United Nations Office for Disaster Risk Reduction, in collaboration with the Commonwealth Department of Foreign Affairs and Trade.

The international conference, which will be held in June 2020, will attract disaster experts from the Asia Pacific, including more than 2000 delegates from more than 50 countries.

The forum will provide a broad understanding of the implementation issues at the heart of the Sendai Framework for Disaster Risk Reduction, to which Australia is a signatory. The framework aims to substantially reduce disaster risk and loss in lives and livelihoods for people, businesses, communities and countries. It takes a holistic approach to disaster and considers impacts on health, economies, environments and social and cultural wellbeing.

Disaster experts and policy makers from across the Asia-Pacific met in Brisbane in November to lay the groundwork for the 2020 conference.

The 2020 conference in Brisbane will be the ninth regional Ministerial Conference on Disaster Risk Reduction and the first hosted by Australia. It is expected to produce a political declaration on disaster risk reduction and an updated regional action plan. The last ministerial conference was hosted by Mongolia in July 2018.

Hosting this conference will provide an opportunity to share Australian experiences as well as learn from our neighbours who face similar challenges, increasing our collective understanding of disaster risks. Working together will help us to save lives, minimise economic loss and ensure no one is left behind during a disaster.

***"This is a climate emergency. The number of weather and climate-related disasters has more than doubled over the past forty years. Climate action begins with disaster risk reduction."***

**Mami Mitzutori**

Special representative of the Secretary-General  
for Disaster Risk Reduction

*Image: International meeting in Brisbane on 12-13 November to plan for the Asia-Pacific Ministerial Conference for Disaster Risk Reduction.*





*Image: Courtesy of Queensland Museum Network.  
Photo by Gary Cranitch*





*Image: Central Queensland Bushfires 2018, near Deepwater.  
Photo courtesy of QFES.*

# Resilient Queensland in Action

[www.qra.qld.gov.au/resilient-queensland](http://www.qra.qld.gov.au/resilient-queensland)