

Monthly Report

June 2019

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Information security

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Disaster Assistance

Overview

QRA has responsibility to administer Natural Disaster Relief and Recovery Arrangements (NDRRA) and Disaster Recovery Funding Arrangements (DRFA) measures in Queensland, coordinating the Government's program of infrastructure renewal and recovery within disaster-affected communities.

Since its establishment in February 2011, QRA has managed and coordinated \$15.6 billion of disaster reconstruction and recovery works for 85 disaster events activated for disaster relief measures.

The list of activated disaster events is found on www.disaster.qld.gov.au.



NDRRA

Although the disaster funding arrangements transitioned to DRFA from 1 November 2018, the state will continue to administer and submit claims under the existing NDRRA Determination for a three year period while the existing NDRRA program for disasters occurring in the 2016, 2017 and 2018 event periods¹ are finalised. Three events also occurred in the 2019 event period prior to the implementation of DRFA and will be the final events administered under NDRRA.

With an allowable time limit of two financial years to deliver reconstruction works, \$13.2 billion of works from 61 events across 2009-10, 2011, 2012, 2013, 2014, 2015 and 2016 events have been delivered and works worth \$1.1 billion for the remaining 16 events from the 2017, 2018 and 2019 event periods (that occurred prior to 1 November 2018) are currently in the delivery phase (Delivery Program).

Of the total program, \$13.1 billion of completed works have been closed out and acquitted in audited claims, with the remainder of the program from the 2017, 2018 and 2019 event periods to be acquitted in annual claims through to 2021 following completion of works.

DRFA

The DRFA arrangements apply to any disaster events that occur after 1 November 2018.

Eight events with damage estimates of \$1.3 billion have been activated to date to which DRFA applies in Queensland, including the *North & Far North Queensland Monsoon Trough, 25 January – 14 February 2019* event and the more recent *Severe Tropical Cyclone Trevor and associated low pressure system, 19-27 March* event. No DRFA program has yet been acquitted.

The main change under DRFA relative to the NDRRA model is that natural disaster recovery funding for the restoration of essential public assets is based on upfront damage assessments and estimated reconstruction costs rather than reimbursement of actual costs incurred. DRFA also provides the potential for the state to retain savings delivered in the state's restoration program for allocation to disaster mitigation and resilience projects.

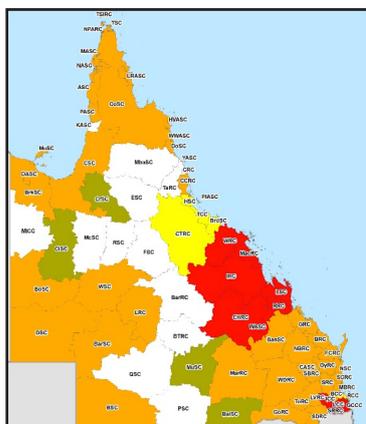
¹ Event periods are based on the closing date of the financial year, ie the 2018 event period represents the 2017/18 financial year.

Disaster Assistance

Activations

one DRFA activation new in June 2019

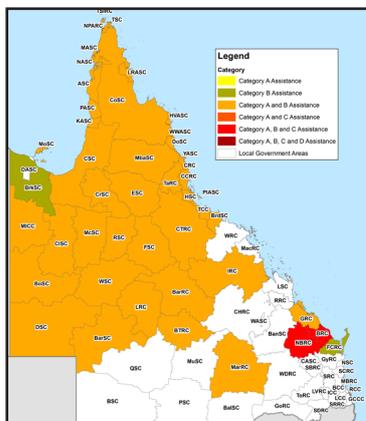
The information below shows the LGAs activated for NDRRA and DRFA relief measures for the 2017 to 2019 event periods that are still in the delivery phase.



2017 event period – \$792 million NDRRA program

(Works to be delivered by 30 June 2019, with acquittal by March 2020)

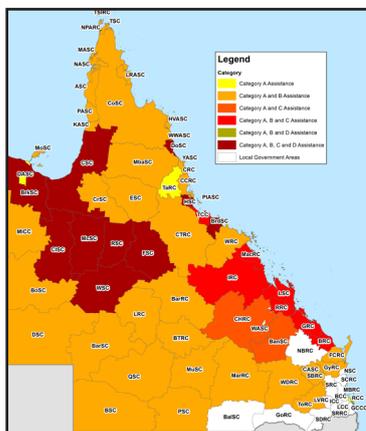
- Far North Queensland Trough, 21–28 March 2017
- Far North Queensland Trough, 3–10 February 2017
- Severe Tropical Cyclone Debbie, associated rainfall & flooding, 28 March – 6 April 2017
- Gulf Tropical Low, 15–24 February 2017
- Far North Queensland Low, 8–11 January 2017
- Western Queensland Flooding, 13–20 September 2016
- Central Queensland Severe Weather, 15–20 July 2016



2018 event period – \$310 million NDRRA program

(Works to be delivered by 30 June 2020, with acquittal by March 2021)

- Severe Tropical Cyclone Nora and Associated Flooding, 24–29 March 2018
- North Queensland Flooding, 6–10 March 2018
- North and North West Queensland Low and Associated Rainfall and Flooding, 24 February – 8 March 2018
- Central Queensland Storm, 20 February 2018
- Cape York Queensland Trough, 26 January – 2 February 2018
- Central Coast Queensland Severe Weather, 16 – 19 October 2017



2019 event period – \$1.297 billion Combined NDRRA/DRFA program value

(Works to be delivered by 30 June 2021, with acquittal by March 2022)

NDRRA

- Wide Bay-Burnett Severe Storms, 11–14 October 2018
- Mareeba & Tablelands Bushfires, 17 September – 9 October 2018
- Gympie Bushfires, 19 – 27 September 2018

DRFA

- Southern Queensland Upper Level Trough, 22-25 April 2019 (New Activation)
- Severe Tropical Cyclone Trevor and associated low pressure system, 19 – 27 March 2019
- North & Far North Queensland Monsoon Trough, 25 January – 14 February 2019
- Tropical Cyclone Owen, 9 – 17 December 2019
- Tropical Cyclone Penny, 24 December 2018 – 4 January 2019
- South West Queensland Trough, 14 – 17 December 2018
- Central Queensland Bushfires, 22 November – 6 December 2018
- Redland Bushfires, 28 November – 13 December 2018

Disaster Assistance

NDRRA/DRFA Delivery Program status

The **Delivery Program** comprises works for 24 events across the 2017, 2018 and 2019 event periods with an estimated value of \$2.4 billion.

The status of the Delivery Program by event period is as follows:



2017 Events

Across the 2017 disaster season, 62 councils were activated for NDRRA assistance from seven events, including Severe Tropical Cyclone Debbie, at a total estimated recovery and reconstruction cost of \$792 million.

In order to be eligible under NDRRA, works required to have been completed by 30 June 2019.

Formal reporting of completion will occur over coming months, however councils and state agencies have consistently indicated that works were completed on time. Three 2017 projects remain in delivery – Whitsunday Regional Council’s Shute Harbour project has an extension of time to deliver through to 30 June 2020 due to geo-technical complexities; and short extensions of time have been requested for two Mackay Regional Council projects delayed by weather impacts.

2018 Events

Across the 2018 disaster season, 48 councils were activated across six disaster events at a total estimated recovery and reconstruction cost of \$310 million.

To date, near to 86 per cent of funding submissions for the 2018 events have been approved, and QRA is assisting delivery agents to prepare any remaining outstanding submissions and progress delivery of the remaining program.

Delivery agents have until 30 June 2020 to deliver eligible NDRRA works from the 2018 Events.

2019 Events

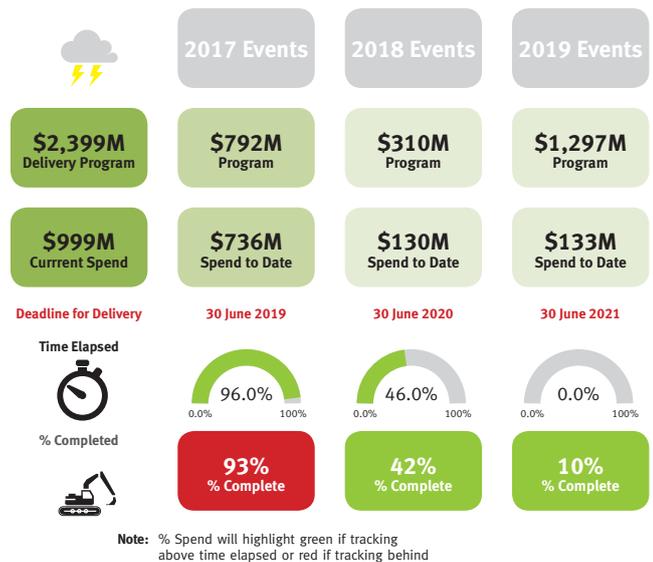
In 2018-19 the State has been impacted by an unprecedented 11 disaster events with 61 councils activated for assistance, including the December bushfires in Central Queensland, the record-breaking monsoon flooding event across North and Western Queensland in January/February 2019 and three cyclones including Severe Tropical Cyclone Trevor which brought flooding to Far Western communities in March.

Most recently, Maranoa Regional Council and Paroo Shire Council were activated during June for the *Southern Queensland Upper Level Trough, 22-25 April 2019* event.

Of these, three events that occurred in September and October 2018 were activated under NDRRA and eight events that occurred after 1 November 2018 have been activated under DRFA.

Preliminary estimates of the total NDRRA/DRFA cost for the 2019 events are \$1.3 billion, including \$265 million of Category C and D exceptional circumstances packages.

The estimate will be further refined over coming months as impacted council areas assess damage.



Disaster Assistance

NDRRA/DRFA Acquittal Program status



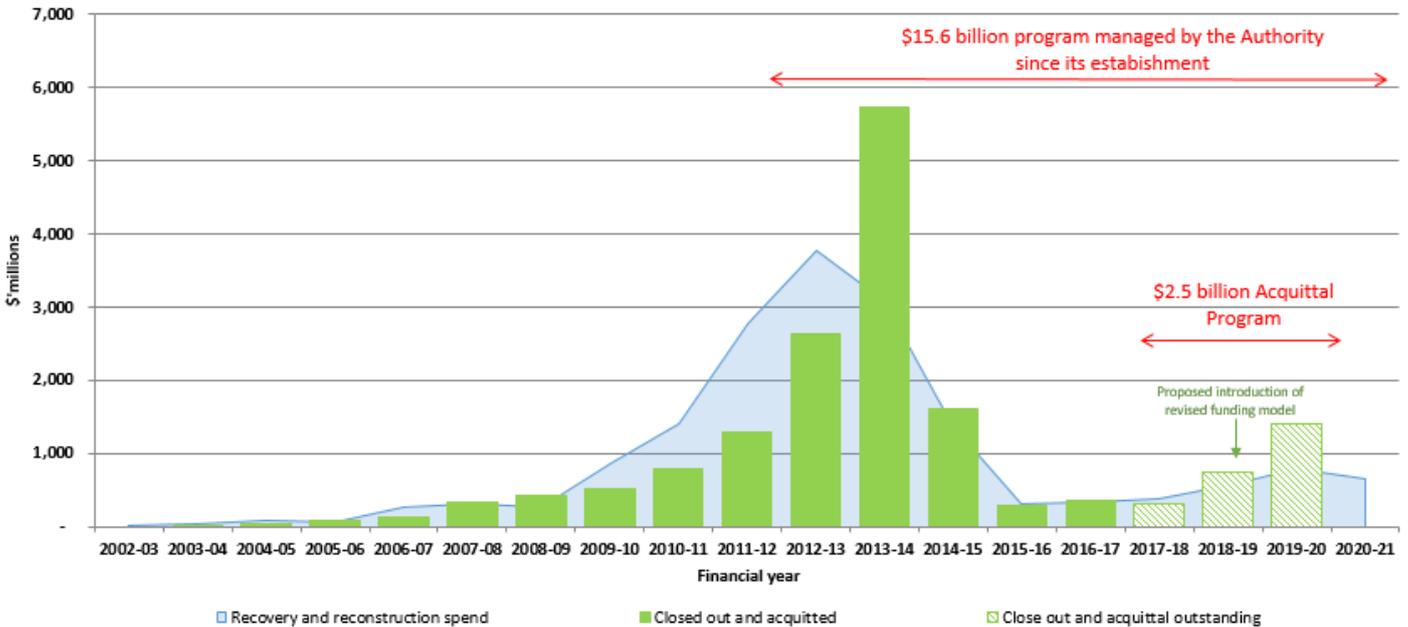
The **Acquittal Program** comprises works that are yet to be acquitted in claims to the Commonwealth, and is spread across the 24 events from the 2017, 2018 and 2019 event periods in the Delivery Program, the works from the 2016 event period that were completed in the year up to the deadline for delivery on 30 June 2018 and three projects from the 2015 event period that received extensions of time for delivery.

On 28 March 2019, QRA submitted the State’s annual NDRRA claim to the Commonwealth, accompanied by an unqualified audit opinion, for \$314 million works completed in the year to 30 June 2018. The claim included final works from the 2016 events and components of the 2017 and 2018 event works completed by 30 June 2018.

The claim was accepted and acquitted by the Commonwealth and \$131.8 million was paid to Queensland on Friday 28 June 2019.

Queensland’s next Claim for NDRRA and DRFA works completed in the 2018-19 financial year will not be due for lodgement with the Commonwealth until March 2020.

The following graph shows the historical and projected acquittal profile for Queensland as per Commonwealth Claims submitted for the 2001-02 to 2017-18 financial years and preliminarily expected to be submitted for 2018-19 to 2020-21 in order to finalise the Acquittal Program.



Disaster Assistance

Additional Recovery Measures – North and Far North Queensland Monsoon Trough (2019)

The Monsoon Trough event brought a deluge that caused widespread devastation from the Torres Strait in the north to the Queensland/South Australian border in the south west.

A range of DRFA relief measures have been activated to alleviate distress for communities, businesses, industries and the environment impacted by the event, and to build resilience to future events:

- increase in the value of Category C recovery grants available to Primary Producers from \$25,000 to \$75,000, and to small businesses and not for profits from \$25,000 to \$50,000
- Commonwealth-funded \$1 million payments to eleven significantly impacted councils to use on priorities they deem most urgent (such as rate relief for impacted properties, infrastructure or livestock carcass disposal). QRA released the total \$11 million funds to the councils on 15 February 2019
- \$242 million of additional assistance measures identified by the Queensland Government to address gaps in assistance and support longer-term recovery.

The \$242 million recovery package focuses on recovery within the built, economic, environmental, and human and social recovery domains and also includes measures to build resilience within affected communities.

Package guidelines commenced to be released in June 2019, and Expressions of Interest or applications are now open for submission from eligible applicants for a number of the programs, including the built environment and infrastructure programs.

The \$242 million package comprises the following elements:

Built/Infrastructure \$134.5M	Economic/Industry \$39M
<ul style="list-style-type: none"> • Betterment (State and Local Government assets) (\$100M) • Water and sewerage infrastructure (\$14.5M) • Clean-up and repairs of community and recreational assets and facilities (\$20M) 	<ul style="list-style-type: none"> • Business and industry support (\$10M) • Tourism Recovery Program (\$5M) • North West Queensland Beef Recovery Package (\$22M) • Extraordinary fodder supply (\$2M)
Environment \$36M	Human & Social \$12.75M
<ul style="list-style-type: none"> • Riparian (rivers) and coastal recovery program (\$33M) • Weeds and pest management program (\$3M) 	<ul style="list-style-type: none"> • Community Health and Wellbeing (\$7M) • Community Development Program (\$5.25M) • Monitoring and Evaluation (\$0.5M)
Resilience \$19.75M	
<ul style="list-style-type: none"> • Flexible Grants Program (\$15.5M) • Community information and education (\$0.75M) • Flood mapping and flood warning programs (\$3.5M) 	

Disaster Assistance

Additional Recovery Measures – Central Queensland Bushfires (2018)

A suite of DRFA Category C recovery measures has been approved for communities across eight LGAs affected by the devastating bushfires in Central Queensland in November and December 2018.

The \$12.042 million package will be delivered across two years and comprises:

- engagement of Community Development Officers to work with affected communities and identify how best to support the recovery effort going forward
- targeted specialist mental health support program, including access to specialists, mental health awareness programs and clinical interventions, to assist disaster-affected individuals, carers, families, volunteers and communities with specialist clinical mental health support and emotional wellbeing post disaster
- \$6 million flexible funding grants program for community led recovery and resilience activities
- targeted community grant to support clean-up and reinstatement activities beyond that otherwise available under DRFA
- funding to build community resilience through a range of information and education initiatives to help people understand how they can better prepare for and respond to bushfire events.

Additional Recovery Measures – Severe Tropical Cyclone Debbie (2017)

A range of NDRRA and non-NDRRA relief measures are being delivered to alleviate distress for communities, businesses, industries and the environment impacted by Severe Tropical Cyclone (STC) Debbie.

COMMUNITY RECOVERY FUND **NDRRA CATEGORY C** **\$14.9M**

- Fund to support initiatives and projects over a two year period to restore social networks and build community resilience and capacity for the future in the Gold Coast, Isaac, Logan City, Mackay, Rockhampton, Scenic Rim and Whitsunday council areas.
- The Queensland Government Department of Communities, Disability Services and Seniors and Queensland Health are delivering three support programs to individuals and community mental health and community development programs, with detailed status reports provided on a quarterly basis.

EXCEPTIONAL NDRRA DISASTER MEASURES CATEGORY D \$96.3M

Package	Purpose	Status
Local Council Package (\$17.3 million)	<p>Infrastructure projects to generate employment, boost the local economy and drive community resilience in key impact areas:</p> <ul style="list-style-type: none"> • Shute Harbour Marina (\$15.2 million) – demolish and replace the existing jetty, rebuild the terminal building, repair an existing seawall, and replace ancillary infrastructure. • Airlie Beach repairs, Whitsundays (\$850k) – for repairs. 	<ul style="list-style-type: none"> • Shute Harbour- The Commonwealth has approved an Extension of Time for delivery to 30 June 2020. Demolition works on the Lloyd Roberts jetty and terminal building were completed in July 2018. Whitsunday Regional Council released the construction tender to market in January 2019. Tender period closed on 11 March 2019. Project is currently in tender assessment and funding clarification phase. • Airlie Beach repairs - Construction of Airlie Beach foreshore parklands in final stages. Playground opened 19 April 2019, with remaining works completed in June 2019.
Resilient Infrastructure (Betterment) (\$41.9 million)	<ul style="list-style-type: none"> • To restore or replace essential public assets to a more disaster resilient standard. • The normal cost of restoring or replacing the asset to its pre-disaster standard is funded under Category B NDRRA and the incremental cost to 'better' the asset to a more disaster-resilient standard is funded by a capped allocation from the Betterment fund and Council contributions. 	<ul style="list-style-type: none"> • Expressions of Interest (EOI) were received from eligible councils activated for Category B (REPA) seeking \$114 million. • 83 projects have been approved worth \$41.9 million, fully allocating the Betterment funding across 22 councils. • All projects are reported to have been complete prior to 30 June 2019, other than Shute Harbour, a portion of which is being delivered with Betterment funding (refer above) .
Environmental Recovery Package (\$35 million)	<ul style="list-style-type: none"> • To ensure the recovery of impacted environmental areas, including the clean-up of beaches, recreational parks, rivers and waterways. • \$35 million of the Environmental Recovery Package across five areas: <ul style="list-style-type: none"> A. Coastal B. Environmental C. Riparian D. Mapping E. Water Courses. 	<p>A & B (Coastal, Environmental) – \$19.4 million</p> <ul style="list-style-type: none"> • 42 submissions worth more than \$19.2 million were approved and completed across 15 Councils. <p>C, D & E (Riparian, Mapping, Water Courses) – \$15.6 million</p> <ul style="list-style-type: none"> • All funding was allocated to eligible projects across seven Natural Resource Management (NRM) bodies. • All projects were reported as complete by 30 June 2019.
Economic Recovery Package (\$2.1 million)	<ul style="list-style-type: none"> • To support recovery of industry and businesses in and around impacted areas that experienced significant disruption and damage. 	<ul style="list-style-type: none"> • Department of Agriculture & Fisheries had Industry Recovery Officers (IRO) on the ground in impacted areas across five primary producer industries including nursery, grazing and cropping, horticulture, sugarcane and dairy. • Rural financial counselling services delivered support on the ground in impacted areas and IROs assisted primary producers with Category C Recovery Grant applications to QRIDA. Agronomic advice was provided to farmers on a needs basis.



Repair works in progress at Inverdon Bridge, Whitsunday Regional Council

Disaster Assistance

STATE PACKAGES \$62M

The state has committed to fund the full \$110 million of additional assistance measures that it would have funded under its original Category D proposal to the Commonwealth following STC Debbie. Of this, the State will fund \$62 million of recovery measures in addition to its \$48 million (50 percent) contribution to the \$96 million NDRRA Category D packages approved by the Commonwealth.

Key projects announced to date for state funding for additional recovery measures to repair damage and revitalise impacted regions following STC Debbie include:

- \$25 million towards the South Rockhampton Flood Levee
- \$8.8 million towards revitalising the iconic tourism destinations of Mackay's Bluewater Trail and Queens Park
- \$5.775 million for the restoration of Proserpine Entertainment Centre
- \$5 million for repairs to the Whitsunday Regional Council Administration Building in Proserpine, which serves as the region's local disaster coordination centre
- \$4.562 million for sand replenishment at Midge Point and Lamberts Beach and construction of new rock groynes on St Helens Beach in Mackay
- \$2.65 million towards the revitalisation of the Airlie Beach Foreshore. Additional funding is being provided through the state's Building our Regions program (\$2.83 million) and Category D (\$850,000)
- \$1 million to Toowoomba Regional Council to contribute towards a new regional SES headquarters in Charlton
- \$895,000 to Whitsunday Regional Council for the rectification of the Bowen Front Beach Seawall
- \$880,000 to Logan City Council consisting of \$770,000 towards Flooded Road Smart Warning System and \$110,000 for an updated flood study of Logan and Albert Rivers
- an additional \$3 million of additional state funding across six Resilience projects for Central Highlands, Fraser Coast, Gladstone, Rockhampton, and Scenic Rim Regional Councils and Herbert River Improvement Trust / Hinchinbrook Shire Council.



Julieanne Gilbert MP, state member for Mackay, Cr Greg Williamson - Mayor of Mackay Regional Council and QRA Chair, Dick Wilson at the sod turning for the launch of the Queens Park revitalisation project.

Recovery

Local Recovery Plan

QRA continues to work extensively on recovery planning with councils impacted by major disaster events of recent years, increasing capability and awareness through active participation and providing support for local recovery governance.

Local Recovery Planning support includes supporting impacted councils to identify their damage and impacts, recovery objectives and tasks and measures for success. This approach has assisted councils to develop and/or strengthen their individual recovery capabilities.

The eight 'Recovery Plans on a Page' for Operation Queensland Recovery are now being closed out, there are three current Event Specific Recovery Plans and 21 local 'Recovery Plans on a Page' are actively in delivery or development as follows:

Event	Overview	Status
Severe Tropical Cyclone Trevor (2019)	In March 2019, Severe Tropical Cyclone Trevor and associated low pressure system impacted 21 LGAs across Far North and Central West Queensland. Two councils are developing an event specific Plan-on-a-Page.	Liaison and Recovery officers currently meeting with 21 councils and conducting recovery workshops. Barcoo Shire Council is currently finalising their Local Recovery Plan-on-a-Page, and Lockhart River Aboriginal Shire Council has commenced discussions with QRA Recovery team.
North & Far North Queensland Monsoon Trough (2019)	39 councils across North and Central Queensland were impacted by flooding associated with the monsoon trough in January and February 2019. The North and Far North Floods Recovery Plan includes local Recovery Plans-on-a-Page for 13 councils.	Liaison and Recovery officers are continuing meetings and recovery workshops. Fourteen councils are finalising their Local Recovery Plans-on-a-Page, of which 13 are now complete and included in the State Recovery Plan. State Recovery Plan was endorsed by the Queensland Government in June.
CQ Bushfires (2018)	In November and December 2018, the Central Queensland Bushfires devastated 35 communities across eight LGAs, burning 1.4 million hectares of land. The CQ Bushfires Recovery Plan includes local recovery plans (on a page) for five severely impacted council areas.	The recovery plan to support Central Queensland communities recover, reconnect and rebuild following the bushfires of 2018 was released on 4 April 2019. The recovery progress of key tasks will be monitored against key metrics nominated by councils and agencies through regular recovery status reporting to be undertaken at three, six, nine and 12 months.
Cyclone Debbie (2017)	The Operation Queensland Recovery plan provides the framework for a community-led approach to recovery following STC Debbie. The Recovery Plan includes local recovery plans for the eight most severely impacted council areas.	Following the two year anniversary of STC Debbie in March 2019, QRA is compiling the close out report for Operation Queensland Recovery. The report is planned for release to the public and aims to demonstrate the recovery work that has been undertaken at a local, regional and state level over the last two years to restore impacted areas of Queensland. The report will also provide an update on progress in resilience and mitigation activities.

Queensland Recovery Plan

The Queensland Recovery Plan is Queensland's principal reference document when planning for and conducting recovery operations.

The focus of the Plan is empowering local governments. Supported by state agencies, local governments are encouraged to deliver local solutions, and to ensure communities own the recovery process.

The Queensland Recovery Plan is reviewed annually, and the next review commenced in May 2019 and be completed by the start of the 2019/20 disaster season.

Recovery Capability Development Project (RCDP)

Recent disasters highlighted the varying levels of recovery capability across local governments.

In 2018, the Recovery Capability Development Project (RCDP) was developed by QRA to address gaps in recovery capability across Queensland's local governments through a series of training workshops and exercises.

The first phase of the project, which was developed and delivered collaboratively with state government and local recovery partners, identified four training and exercise packages needed for councils. These included:

- Local Government Planning (a subset of this package was the development of recovery plans for Aboriginal and Torres Strait Islander Councils)
- Governance Arrangements
- Community Participation in Recovery
- Impact Assessment and Data.

QRA has worked with 50 councils across all approaches to recovery capability through RCDP workshops (23 councils' participating) and through on the ground local recovery planning and training following Severe Tropical Cyclone Debbie (2017), the Central Queensland Bushfires (2018) and currently for North & Far North Queensland Monsoon Trough (2019).

Through the RCDP, 11 recovery sub-plans were actively being refined and developed for approval. As a result of the current season, the development of recovery sub-plans has been identified as a priority. Through the development of those sub-plans, the recovery planning and recovery governance module of RCDP will be addressed. However, the community participation module will remain as a standalone project and the impact identification and data project will be absorbed into the recovery information and reporting cycle.

Recovery Planning and Governance Project

As an outcome of the Recovery Capability Development Project and lessons learned during recovery operations during the NFNQ Monsoon Trough event, this project will involve a gap analysis in terms of local government recovery planning, identify where assistance is required, and develop recovery sub-plans with Queensland local governments through a coordinated strategic program approach. This will also enhance local recovery governance. The project is due for completion by July 2020.

Recovery Information Hub

This project has been initiated as a result of QRA being identified as the lead entity to address recommendation number two of the Office of the Inspector-General Emergency Management's (IGEM) review into the Efficacy of Recovery Governance. Recommendation number two states: "Practical guidance on what community-led recovery means, and how it can be best implemented should be captured and shared with all who have responsibility for it. This should be done to help individuals and communities take the lead in recovery and so that community-led recovery become the norm following disasters and other events."

When the hub goes live, it will enable Local and State Government Agencies and Non-Government Organisations (NGOs) to access a range of recovery resource material including: recovery reporting cycle documents, research material, recovery case studies, Local Recovery Plans-on-a-Page, Recovery Sub-plans as well as reference materials such as the Community Recovery Handbook, Queensland Recovery Plan and Queensland Recovery Strategy.



QRA staff member Alexandra Marsh leading a recovery planning session with Pormpuraaw Aboriginal Shire Council

Resilience

QRA is leading disaster resilience and mitigation policy in Queensland.

Resilience grant funding programs

Natural Disaster Resilience Program (NDRP)

\$15M FUNDING AVAILABLE
NDRP Jointly funded by the Commonwealth and Queensland governments, the Natural Disaster Resilience Program (NDRP) supports community groups, government and non-government agencies, as well as Queensland based not-for-profits, to build disaster resilience across the state.

The 2017-18 NDRP is administered by QRA with total funding available of \$15.0 million.

A total of \$14.9 million of funds has been allocated to 76 approved projects from 54 councils and 14 organisations and agencies.

QRA is currently actively monitoring and assisting with delivery of the projects.



Queensland Disaster Resilience Fund

\$38M OVER 4 YEARS
QDRF The Queensland Government announced a \$38 million Queensland Disaster Resilience Fund (QDRF) in the 2018-19 Budget to strengthen the state's resilience to future disasters. The Disaster Resilience Fund is administered by QRA.

The fund will support local governments, state agencies and non-government organisations in delivering disaster mitigation projects and initiatives that build resilience throughout the state over the next four years in parallel with disaster reconstruction works.

The QDRF objectives are to support delivery of disaster resilience and mitigation projects that align with the Queensland Strategy for Disaster Resilience objectives, are cost effective and evidence based and address state-risk priorities such as those identified in the Queensland State Natural Hazard Risk Assessment 2017.

The first funding round of the QDRF of \$9.5 million was launched on 26 February 2019 and was heavily oversubscribed with 223 applications received. A total of 62 projects submitted by local governments, state agencies and non-government organisations were approved under the QDRF with successful applicants notified via a Ministerial letter on 28 June.

In conjunction with the QDRF, \$1.15 million in Australian Government funding has been allocated to 11 projects under the Prepared Communities Fund, as part of the Australian Government's Preparing Australia Package.

Resilience

Resilience Activities

Activity	Purpose	Status
Resilient Queensland 2018–2021: Delivering the Queensland Strategy for Disaster Resilience	<p>Resilient Queensland 2018-21 was released on 31 May 2018 and represents the plan for implementing the Queensland Strategy for Disaster Resilience.</p> <p>Pilot projects will be rolled out to facilitate delivery of improved disaster resilience on a regional scale, and support councils to develop their own disaster risk management strategies and resilience plans.</p> <p>The Burnett Catchment Flood Resilience Strategy was the first pilot project to be completed in mid-2018 and was delivered in partnership with Bundaberg, Cherbourg, North Burnett and South Burnett councils.</p> <p>The purpose of the pilots are to test and evaluate the relevant methodologies for potential State-wide application.</p>	<ul style="list-style-type: none"> • Three regional resilience pilot projects commenced in late 2018 for councils in Central Western Queensland, the Mary River and Fitzroy regions to provide a coordinated blueprint to leverage social, economic, built and environmental resilience. • The pilot projects are progressing well with each focused on a locally-led approach designed to meet the needs of local Councils using a regional approach with support by the state. • Work undertaken includes: detailed background research and multiple workshops to identify local issues, challenges, and opportunities; a detailed local landscape and hazard knowledge capture process in the Central West; collective examination and review of flood warning infrastructure in the Fitzroy; and identification of regional aspirations and actions in the Mary region. • NDRP funds have been approved for Resilient Queensland pilot work including funding Regional Resilience Coordinators for both the Burnett region and the Central West regions. The Regional Resilience Coordinators commenced in the Burnett region in September 2018 and Central West region in late 2018.
Brisbane River Catchment Flood Studies	<p>The Queensland Government, through QRA and partner agencies, and local councils (Brisbane, Ipswich, Somerset and Lockyer Valley) are working together on a long-term plan to manage the impact of future floods and enhance community safety and resilience in the Brisbane River floodplain.</p> <p>The project includes development of a Flood Study followed by a Strategic Floodplain Management Plan (SFMP) that will guide a coordinated approach to planning and response activities to manage flood across the floodplain.</p>	<ul style="list-style-type: none"> • The Flood Study was released on 5 May 2017. • The Flood Study supported the development of a SFMP, which was released on 9 April 2019. • QRA is responsible for leading the delivery of 12 of the 52 recommended actions from the SFMP and will oversee the coordination of the remaining actions to be delivered by local governments and state agencies. • Local governments are now delivering the fourth and final phase of the Brisbane River Catchment Flood Studies, which is the development of Local Floodplain Management Plans using the data gained from the Flood Study and SFMP. • Eight other State agencies and SEQWater are responsible for 22 SFMP actions in total.
Flood Warning Infrastructure Program	<p>QRA continues to assist the Bureau of Meteorology (Bureau) to ensure the best available information is available for providing flood warnings and forecasts.</p>	<ul style="list-style-type: none"> • QRA continues to review the status of each of the councils' Network Investment Plans with regards to the implementation of recommendations. • QRA worked with the Bureau of Meteorology and key stakeholders to develop the <i>Queensland Strategic Flood Warning Infrastructure Plan</i> that will support the Bureau's National Flood Warning Infrastructure Framework. • QRA will develop a strategic approach to deliver flood warning infrastructure improvements using the \$2M of Category C and D DRFA funding made available for councils impacted by the North and Far North Queensland Monsoon Trough. • The Draft <i>Queensland Strategic Flood Warning Infrastructure Plan</i> was submitted to the Queensland Flood Warning Consultative Committee for endorsement at its July meeting.
Flood Resilient Building Guidance for Queensland Homes	<p>Provide the building industry and homeowners with information and ways to strengthen the resilience of their homes to floods.</p> <p>The guide was developed in consultation with a range of stakeholders including the building and insurance industries, local government and state agencies as part of the Brisbane River Catchment Flood Studies project.</p> <p>The purpose of the guide is to help Queenslanders reduce the impact of flooding to their homes and in doing so reduce the cost of future flood events.</p>	<ul style="list-style-type: none"> • A comprehensive building guide was developed specific to improving the flood resilience of new and existing Queensland homes. • The flood Resilient Building Guidance for Queensland Homes was released on 9 April 2019 and is available at www.qra.qld.gov.au/resilient-homes

QRA staff member Stephen Dredge presenting at the whole-of-catchment workshop for the Mary Valley Region in Gympie



Program spotlights

Whitsunday infrastructure on track to recovery

The Queensland Government has committed more than \$10 million of additional funding to the reconstruction of some of Whitsunday region's most significant buildings after they were damaged by Severe Tropical Cyclone (STC) Debbie in 2017.

When STC Debbie made landfall at Airlie Beach on 28 March 2017, the Whitsunday region felt the full impact of the destructive weather system with Proserpine Entertainment Centre and the council administration building both left with extensive damage.

In response, the Queensland Government has committed \$5.725 million towards the repair and revitalisation of the Proserpine Entertainment Centre and a further \$5 million towards the rebuilding of Whitsunday Regional Council's administration centre.

The new entertainment centre will include state-of-the-art multi-media equipment, a modern bar and kitchen, all-ability access for patrons and will be built to a more disaster-resilient standard.

The new administration centre will include a Climate Change Hub and a Disaster Centre to provide a central office for future disaster planning and management in the region.

The Queensland Government contribution for both reconstruction projects was funded under the \$110 million commitment from the State Government to support recovery efforts in regions impacted by Cyclone Debbie.

This is in addition to almost \$100 million in reconstruction and recovery funding by the Commonwealth and Queensland Governments for the Whitsunday Regional Council area under the Natural Disaster Reconstruction and Recovery Arrangements.

The reconstruction of the Proserpine Entertainment Centre and the council administration building will go a long way to assisting local council and the Whitsunday community get back to business as usual following Cyclone Debbie.



Artist's impression of the future Proserpine Entertainment Centre



Artist's impression of the future Whitsunday Regional Council Administration Building

Program spotlights

Aurukun sees the benefit of building back better

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

A prime example of these benefits is the community of Aurukun in Far North Queensland, one of the most remote and isolated Indigenous communities in Australia.

The Aurukun Access Road is an essential part of the region's transport infrastructure, providing the only road link to the Peninsula Developmental Road and Weipa, approximately 200 kilometres to the north.

The graded road was easily damaged by monsoon weather events that often left the Indigenous community cut-off.

Rather than continually repair the road, the Queensland Reconstruction Authority worked with Aurukun Shire Council to upgrade it following Tropical Cyclone Oswald in 2013.

The first step was to repair damage to the road with a \$2.6 million restoration package, followed by \$1 million in Betterment works to upgrade it, both jointly funded through the Commonwealth and Queensland Governments through the Natural Disaster Relief and Recovery Arrangements (NDRRA).

This was combined with \$8.8 million in funding from the Cape Indigenous Mayors Alliance and additional support from the Department of Transport and Main Roads' Transport Infrastructure Development Scheme.

This has meant that following the 2019 Monsoon Floods, while communities immediately to the north and south of Aurukun have suffered extensive damage to their local road networks running into the many millions of dollars, the damage to the Aurukun Access Road was limited, ensuring access was not a barrier to the community's recovery.



Aurukun Access Road prior to works



The resilient Aurukun Access Road post 2019 Monsoon Floods

Program spotlights

Alice River Bridge reconstruction works

Careful planning and thorough technical assessments by the Department of Transport and Main Roads (TMR) ensured swift progress to get repair works underway on the flood-damaged Alice River Bridge.

The bridge, on Hervey Range Road west of Townsville, was severely damaged during the North and Far North Queensland Monsoon Trough event in early 2019. Floodwaters caused significant erosion of the river bed around the bridge foundations, which could have compromised the structural integrity of the bridge. The bridge's western abutment, along with the road embankment, was critically damaged by scouring. Due to the severity of the damage, the bridge was immediately closed to all traffic and a diversion route established.

In mid-February 2019, once floodwaters had subsided and it was safe for crews and engineers to access the site, TMR commenced surveying and technical inspections. Specialist engineers completed further assessments to determine the best way to manage the extensive damage to the bridge. In March 2019, crews used heavy machinery to remove large amounts of debris from around the bridge foundations, allowing structural engineers to inspect the bridge piers and piles.

Based on these assessments, TMR estimated repair works could take up to six months to complete. TMR committed to fortnightly updates to ensure the community was kept informed of progress and worked with local businesses to ensure temporary diversion signage was appropriate. Constructing a side track was considered, but not pursued because of site constraints and the time it would take to construct.

Following TMR's assessments, which included environmental and cultural heritage requirements, the department completed design work and RoadTek commenced repairs in April 2019. The initial focus was on earthworks around the bridge piers and backfilling of the scours at both bridge abutments. Large quantities of rock protection were then placed over this material to prevent further erosion.



Alice River Bridge – repairs in progress



Alice River Bridge – large debris had to be removed once floodwaters subsided to allow inspection of the bridge piers

On the western approach, temporary fill was placed into the large void behind the abutment wall so crews could cut away the bridge's concrete margins and approach slab safely, without the structure collapsing in an uncontrolled manner. Once these were safely removed, crews began to rebuild the bridge approach by backfilling and compacting material in 200mm layers, to a total height of five metres. Crews then prepared to construct the new concrete margins and approach slab on the western abutment.

In May 2019, repairs at Alice River were progressing very well and TMR determined that the bridge could likely be opened under traffic control by mid-July 2019, about two months ahead of the original schedule. Further works will then be undertaken, with an expected completion date of early August 2019.

Eligible reconstruction works will be jointly funded by the Commonwealth and Queensland Governments under the Disaster Recovery Funding Arrangements (DRFA).



Alice River Bridge – during works, showing the large void under the western abutment due to scouring



Alice River Bridge – placing rock protection on the eastern abutment



Alice River Bridge – removal of damaged concrete margins and approach slab

Program spotlights

Cunninghams Gap stabilisation works completed

Safety works to stabilise rocky slopes above the Cunningham Highway near Cunninghams Gap were completed in late May 2019.

Heavy rain associated with Severe Tropical Cyclone Debbie impacted the region in March 2017, causing boulders to become unstable on slopes above the road at several sites near Cunninghams Gap. In addition to emergency works immediately after the event, further reconstruction works have now been completed.

The Cunningham Highway is a key transport route linking the Darling Downs region with Ipswich, with more than 7200 vehicles travelling through Cunninghams Gap daily, including 1500 heavy vehicles.

A large boulder was removed in November 2018, requiring a temporary closure of the highway.

Initially, other works involved in-place stabilisation of large rock hazards by hand-scaling off ropes and rock nailing with a mesh cover to secure them to the rock formation. However, difficult drilling conditions including voids, fissures and fractured rock slowed progress.

To overcome this, a number of innovative approaches were investigated to speed the process of rock nailing, with a 'cradle and grout sock' method proving to be the most successful. This involved sliding a plastic PVC half pipe cradling a grout-filled sock (that looks like a sausage) into the drilled hole – see last photo below. The cradle held the grout in place, minimising loss of grout into the surrounding cracks until the rock nail could be anchored and tightened in place. The cradle was then pulled out of the hole with the nail and grout secured in place. This process was repeated for each hole.

Eligible reconstruction works will be jointly funded by the Commonwealth and Queensland Governments under the Natural Disaster Relief and Recovery Arrangements (NDRRA).



Cunningham Highway – workers hand scaling rocks above the road



Cunningham Highway – workers removing an unstable boulder above the road



Cunningham Highway – crew removing rocks and debris from road



Rock nailing process – white cradle half pipe and blue anchor with grout tubes

