Building resilience through regional collaboration and partnerships

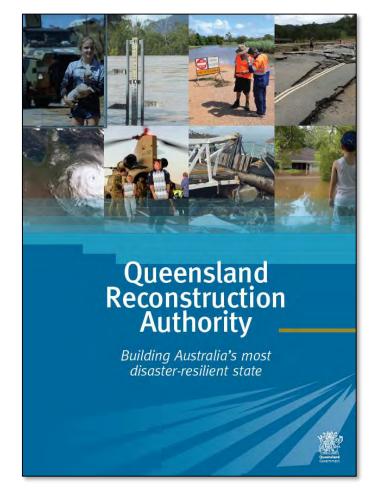
Jimmy Scott, General Manager, Resilience



28 August 2019

Queensland Reconstruction Authority

- Established in 2011 Australia's only permanent disaster recovery agency
- \$15.6 billion reconstruction program
- Leads coordination of resilience policy for Queensland
- Administers Disaster Recovery Funding Arrangements on behalf of Queensland Government



2006 2008 2018 2007 2009 2010 2011 2012 2013 2014 2015 2016 2017 2019 \$1,800M COSTS* \$500M \$150M \$390M \$700M \$1,700M \$6,600M \$1,500M *\$328M *\$360M *\$264M *\$1,070M 0 Sec. Gulfof Cape Cleveland Bushfires Nth & W QLD Flooding TC Dylan **FNO Bushfires** Carpentaria Central QLD bushfires 2 Jan 2014 Oct-Dec 2012 Shell Monsoon OLD Monsoonal OLD Monsoonal QLD Flooding Trough -Oct 2015 Nov-Dec 2018 Central Coast QLD Severe Weather TC Penny Flooding Flooding Jan-Feb 2007 Nov 2010-Feb 2011 Far North QLD Peninsula Flooding Dec 15- Jan 16 0 Redland Jan 2019 Jan 2008 Dec 2009-Mar 201 -25 SEQ Heavy Rainfall & Flooding WOLD ۰ħ. Nov-Dec 2018 2 Bowen & Burdekin 2 2 Oct 2017 TC Charlotte SW QLD Central W QLD Heavy Rainfall & lan 2014 Heavy Rainfall & Jan 2009 Shires Flooding Bushfires -C C TC Nelson SE & W QLD TC Neville TC Anthony Jan 2012 -Flooding Dec 2012 Ster Jan 2006 Storms & Flooding Jan 2015 Jan-Feb 2007 0 Jan 2010 Jan 2011 Central & W Far North Feb 2008 Flooding North QLD N & FN QLD 6 C **QLD** Rainfall Feb 2016 Monsoon Trough W QLD Tropical Low Tropical Low - 5202 TC Ellie 2 G & Flooding Longreach Central E QLD Heavy Rainfall & Tara Storms -Feb/Mar 2018 Jan-Feb 2019 Nth & Central QLD Flooding Feb 2009 Feb 2014 QLD Monsoonal Flooding Jan 2017 Mar 2007 WQLD Central QLD Surface Trough -TC Olga TC Yasi 0 Tropical Low Mar 2006 Ŀ Feb 2013 -Jan 2010 Feb 2011 Jan-Feb 2012 Ster Stat Flooding Feb-Mar 2008 TC Fletcher Central 0 Jan 2015 North QLD Flooding Feb 2014 Central QLD Heavy Rainfall & Flooding 4 SE & Nth Coas SQLD -C Q Feb 2016 Upper Level Trough QLD East Coast Low C C QLD Monsoonal Flooding Mar 2018 TC Ului STC Debbie --Apr 2019 Aug 2007 Mar 2010 3 SE OLD TC Hamish FNQ Tropical Dec 2014 SE OLD Central & Sth Mar 2017 Nth & SW QLD Iow QLD Tropical NE QLD Rainfall & Flooding Tropical Storms Mar 2009 Feb-Mar 2011 Feb 2012 Low W QLD Flooding May-lun STC Nora & Feb-Mar 2013 Apr-May 2015 2008 Floods Flooding May 2016 Feb 2014 Jun 2007 Mar 2018 IFMAMIJASOND. JEMAMIJAS ON D FMAMILASOND MIJASOND I F M A M -North QLD Flooding 00 Sper SW QLD Flooding Sunshine Coast, Gympie & Fraser Coast Flooding 2 0 Nth Coast Storms & Flooding & East Coast Hybrid Low 4 STC Trevor SW G W QLD Flooding Mareeba Tablelands bushfires TC Paul Tropical Cyclones Mar 2017 Jun 2008 4 Mar 2010 Apr 2011 Sep 2016 -Larry & Monica & Central & S QLD Storms Apr 2009 Feb-Mar 2012 TC Ita diam'r. Mar 2019 Sept-Oct 2018 April 2014 Tropical Cyclone Nathan SE QLD C Flooding Oct 2007 -Gympie bushfires Mar-Apr 2006 Far North QLD Trough Same -TC Oswald 8 Fernvale Severe Storm 4 TC Owen QLD Storms & Associated Flooding 0 Mar 2015 all the second SE QLD dillo -Sept 2018 Associated Rainfall and Central QLD Severe Weather SWQ Low **Bushfires** Central Feb 2017 & Associated Flooding Aug-Oct 2011 Nth & FNQ Oct 2015 TC Gillian May 2009 Flooding Jul 2016 Dec 2018 W QLD Storms & Heavy Rainfall & Flooding Jan 2013 March 2014 Nov 2008 Sep 2010 Stel Flooding Mar 2012 Central & SW Oct 2007 Nth QLD Severe Weather & Flooding 100 æ -Ster Far Nth QLD -Bushfires --Storms & Flooding Sep-Oct 2009 Feb 2018 **Gulf Tropical Low** SE QLD Flooding W QLD Trough Central W Baralaba Localised Heavy Rainfall Nth QLD Central Coast & L QLD Flooding Sth QLD Feb 2015 Feb 2017 Jan 2006 Storms North Stradbroke -Severe Storms Jun 2016 Island Fres Southern OLD Trough Mar 2016 Dec 2008 S E QLD East -Oct 2011 Oct 2018 Oct 2010 East Coast Dec 2013 Coast Low SW Tropical Low March 2014 Dec 2007 - Jan 2008 G C Cape York QLD Trough Mar 2012 Flooding 0 FNQ & NW QLD Tropical Low Jan-Feb 2018 Nov 2009 5 OLD Tropical Cyclone Marcia Flooding Thunderstorms Brisbane TC Tasha 1 Mar 2016 Nov-Dec 2011 Feb 2015 Dec 2010 Nov 2014 Nth, Central Wide Bay-Burnett Key & SWQ Flooding 1-4 6 Teles Severe storms C Dec 2009-Jan 2010 Oct 2018 Flooding/ Heavy Rainfall Bushfires Tropical Tropical Cyclone (TC) Severe Tropical Cyclone Landslide Storms

Funding for natural disaster events in Queensland

*Estimated expenditure under Natural Disaster Relief and Recovery Arrangements in Queensland by financial year (as at Dec 2017) and excluding 2017 events (estimates to be determined).

Central Queensland Bushfires

22 November – 6 December 2018

Tropical Cyclone Owen

9-17 December 2018

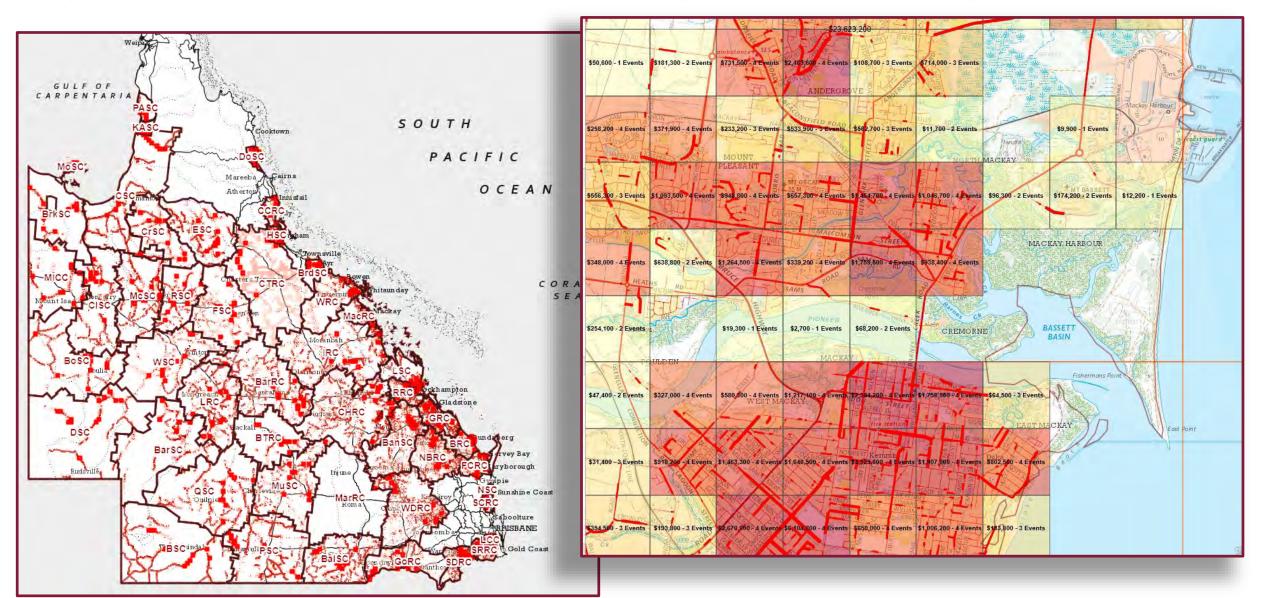
Tropical Cyclone Penny

24 December 2018 – 4 January 2019

Queensland summer disaster season 2018-19

A bovember - 6 December 2018

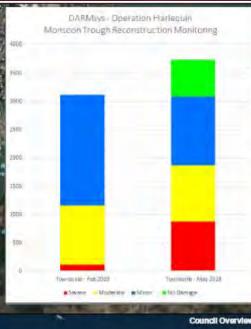
Mapping Queensland's natural disaster repeat damage hot spots





6 month damage assessments

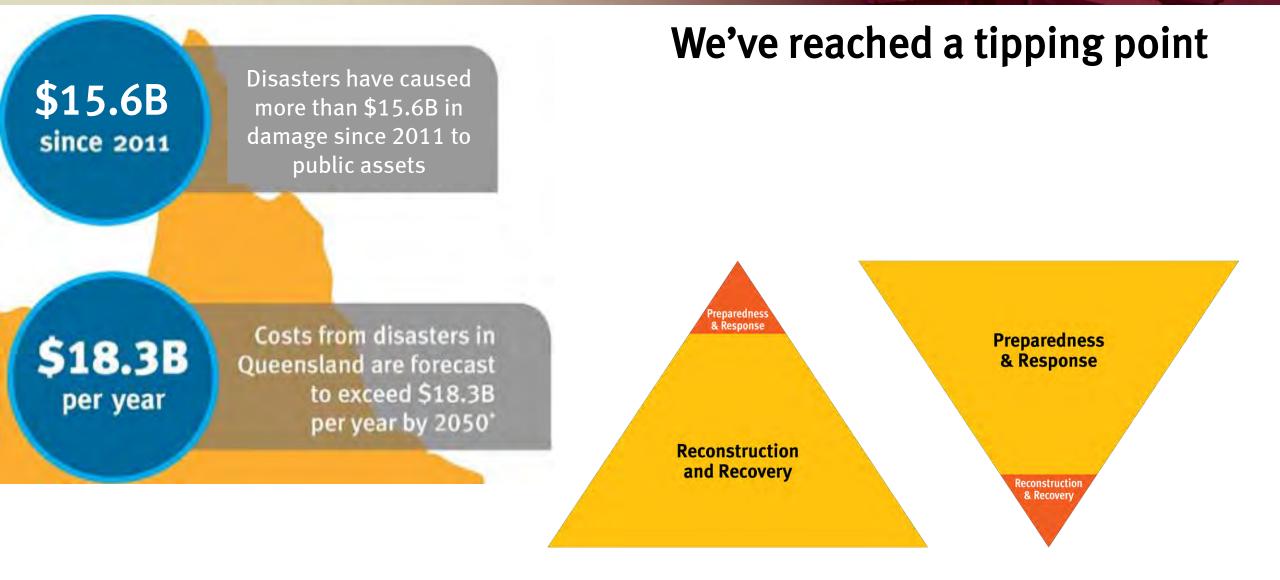
Severe
813Moderate
868Minor
890



Main Map Extent

North West Queensland flooding





*Australian Business Roundtable for Disaster Resilience and Safer Communities, Building Resilience to Natural Disasters in our States and Territories 2017.

Resilient 2018-21 Queensland

- Resilient Queensland is Australia's first implementation plan for a statewide resilience strategy
- Our commitment is by 2022, every local government in Queensland will be part of a regional resilience strategy that clearly identifies risks and prioritises actions to strengthen disaster resilience over time.

Queenslanders are disaster resilient when...



we work together to better manage disaster risk

> we seek new opportunities to reduce disaster risk

we continually improve how we prepare, respond and recover from disasters

Building resilience through regional collaboration and partnerships

Regional resilience strategies

- Burnett Catchment
- Brisbane River Strategic Floodplain Management Plan
- Central West Queensland
- Mary River Region
- Fitzroy River Catchment
- Burdekin and Haughton Catchments

Key challenges

- building a resilient society
- enhancing economic resilience
- improving infrastructure
- advancing disaster recovery operations
- increasing government capability and capacity
- improving funding certainty.



Get Ready Queensland

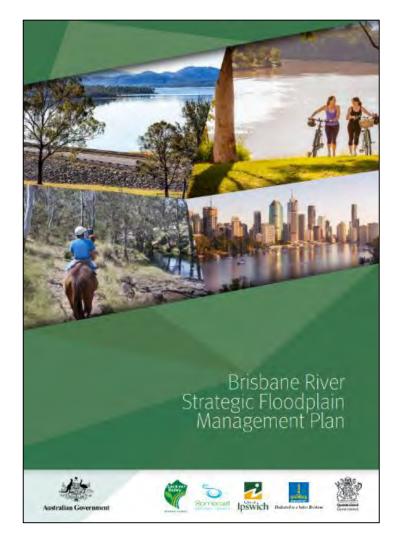


Resilience





Case studies



A connected catchment **Burnett Catchment Flood** Resilience Strategy - an overview A pilot partnership to improve flood resilience across the Burnett River Catchment May 2018 Queensland

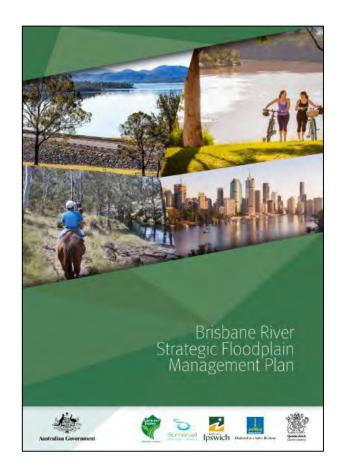
www.qra.qld.gov.au/burnett

www.qra.qld.gov.au/BRCFS

Case study: Brisbane River Strategic Floodplain Management Plan

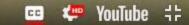
Our shared vision

"Working together to strengthen the flood resilience of our communities, our economy, our infrastructure and our environment"

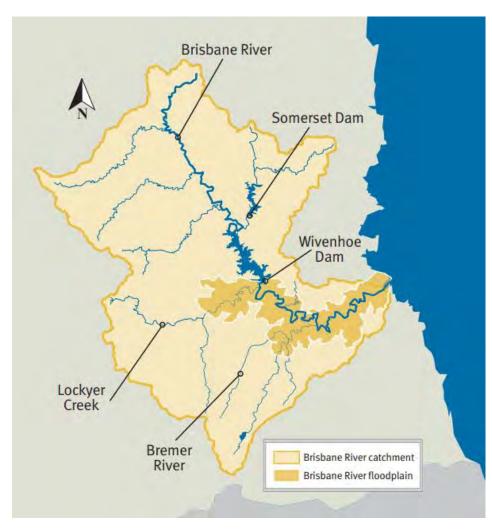




- Hey there, my name is Ruby,



Quantifying the challenge



Challenge #1 Project constraints

- large and highly populated floodplain
- tight timeframes two years
- four local government areas as well as significant State interests
- co-funded partnership with full consensus on all decisions

Scale and complexity

Not a project for the faint-hearted!

- 140 stakeholders
- 480 hours of meetings and workshops
- 2000 community interactions
- 2680 stakeholder comments addressed
- 5020 pages of technical content reviewed

10,000 GIS files40,000 hours of flood model simulations200,000 building database entries

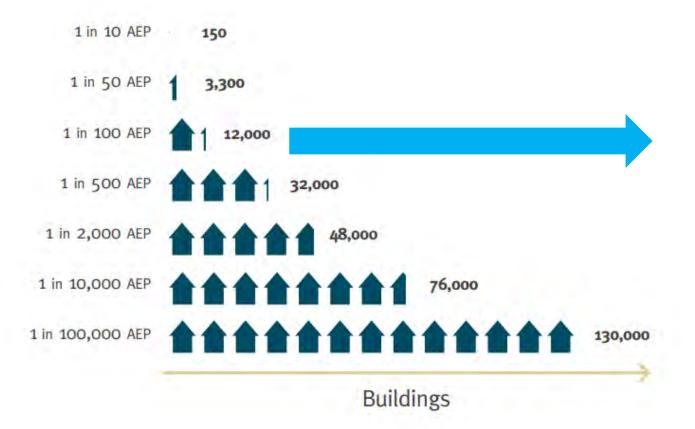
Challenge #2



Challenge #3 Doing things for the first time meant there was no clear example to work towards



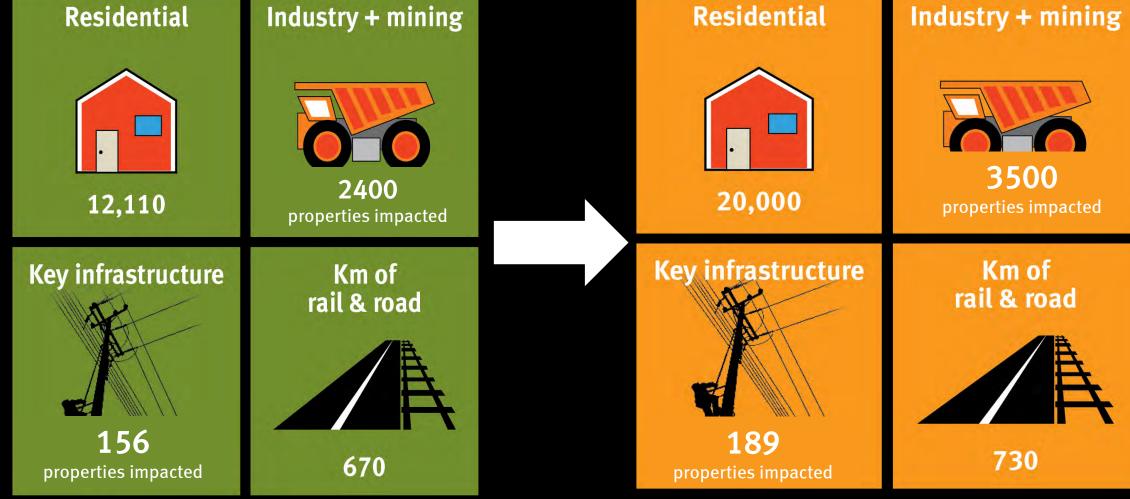
Buildings that flood above the lowest habitable floor level (as at 2018)





17,300 buildings inundated above ground level 12,000 buildings inundated above floor level

The estimated cost of flooding is increasing... 2011



Outputs

- Technical Evidence Report
- Strategic Floodplain Management Plan
- Land Use Planning Technical Guideline
- Building Controls Guideline
- WaterRIDE upgrade



New national benchmark

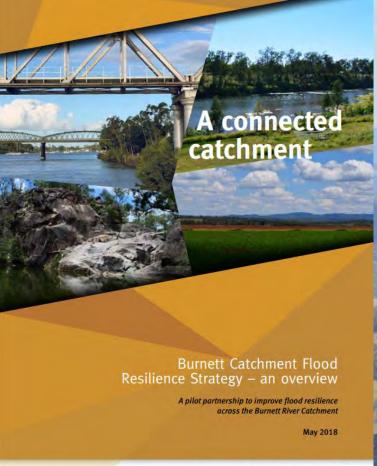
- State and local government partnership
- > All partners have committed to deliver on the Strategic Plan
- Comprehensive economic assessment and property database
- Multi-disciplinary and regional approach

Next steps

- > 52 strategic actions for coordinated approaches to flood resilience
- > 17 actions have statewide benefits
- state and local governments are committed to delivering the actions
- > five year review.



Case study: Burnett Catchment Flood Resilience Strategy







Burnett River Catchment



Catchment statistics





33,000 km² in area



525 km flood affected state roads

\$393m reconstruction costs 2011-17

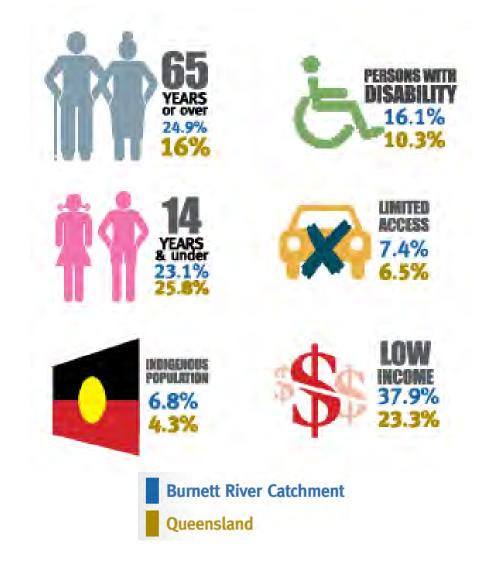
40,600 properties



38% flood affected agricultural land



\$11.96b gross regional product



Broad involvement

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

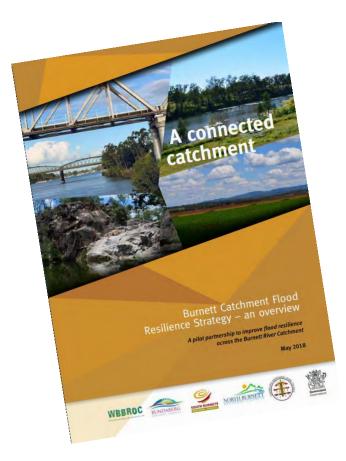
Dwayne Honor - Churchill Fellow, Bundaberg Regional Council.



Our stakeholders stakeholder months 0 groups locally-led, regionally coordinated and state supported ******** 31 CEOs workshop council officer graduates participants participants collaborative workshops 62 stakeholde meetings stakeholder 10 Olifelia workshop 33,000 satisfaction rating km² covered 7,623 13 9 sqm of mapping km trips travelled

Outputs

- Technical Evidence Report
- Burnett Catchment Flood Resilience Strategy
- Regional Action Plan
- Funding for Regional Resilience Coordinator to drive implementation



Key Learnings: Understanding Stresses and Shocks

