PHOENIX
RESILIENCE

Be ready, be resilient

FEB-MAR

2022

IPSWICH FLOOD REVIEW

Strategic Review Report

Contents

Executive Summary

In late February and early March 2022, Southeast Queensland was subjected to a devastating flood. This event had significant consequences across the Ipswich Local Government Area, resulting in prolonged activation of the Local Disaster Management Group, Local Disaster Coordination Centre and Local Disaster Recovery and Resilience Group.

In a demonstration of commitment to continuous improvement and transparency, Ipswich City Council resolved to undertake a flood review which included community consultation and publishing the report in the public domain. This report, titled Feb-Mar 2022 Flood Review, is the outcome of this commitment.

Ipswich has a high flood risk and flooding will occur again, with a severe flood likely. This review captured the lessons from the 2022 flood response to inform initiatives that will improve outcomes/minimise adverse disaster consequences for the Ipswich community, economy, environment, and infrastructure as well as for responders in future events.

Ipswich's flood risk is highlighted by its representation in the 20 most at-risk federal electorates to climate extreme in the nation. Electorate of Wright – No 5 and electorate of Blair – No. 20

The review included analysis and review of over 740 documents/records and over 50 websites containing numerous documents. Seven debrief sessions were facilitated for responders and four for the community forums. A total of 31 people involved in response and recovery were interviewed individually. The review recognises and outlines the significant improvements that have been implemented since the flood.

The recommendations in this review intend to further contribute towards the objectives of disaster management in Ipswich:

- Strive to safeguard people, property, and the environment from disaster impacts

- Empower and support local communities to manage disaster risks, respond to events and be more resilient.

The recommendations are categorised across People, Process, Organisation, Support, Technology and Training.

In summary, the review found organisational structures, resources, documents and processes are in place to effectively manage disasters. Areas for improvement were mainly related to refinement in their deployment.

On a strategic level this included:

- Setting the strategic direction, priorities and expectations from the start and providing the endorsements/resources to implement them across the organisation

- Formalising the human/social network

- Reassessing future city planning of key affected areas

- Exploring opportunities to further enhance disaster preparedness within high-risk communities

- Optimising and aligning community disaster information

On an operational level this included:

- Enhancing methods to detect/monitor impacts

- Reviewing wording/methods for warnings and notifications

- Improving the flood mapping resources and processes

- Refining the LDCC organisational structure to avoid fatigue risks and improve specialist support across response and recovery

- Building capabilities through training in impact monitoring, Guardian IMS and hazard mapping

List of Recommendations

1. Organisation/Process: Formalise the coordination arrangements between ELT, EMU, LDCC, LRRG and the wider organisation. This should be supported by a process that includes setting, communicating and resourcing the response/recovery priorities.

2. Support: Explore opportunities to expand the camera network and alternative methods of community notification, including alarms (not depending on technology alone). Assess the benefits versus risks to inform the selection of methods.

3. Process: Review the content of community messages and identify opportunities to refine the hazard/impact descriptions and call to action, including for Culturally and Linguistically Diverse community members. Avoid using acronyms and technical information like gauge levels.

4. Process: Implement continuous community engagement outside a disaster in Council's role and responsibilities and an information campaign on what Council is doing.

5. Technology/Process:Explore opportunities to make flood information more accessible to the community.

6. Process/People:Secure endorsement for the Councillor toolkit and familiarise/promote its use among the Councillors.

7. Process: Implement live response and recovery briefing opportunities for Councillors with the interval depending on the severity, complexity and circumstances of the disaster.

8. Process: Assess future purposes for identified high risk flood areas that were severely damaged during this flood, i.e. areas like Colleges Crossing.

9. Process: Explore opportunities to further enhance disaster preparedness within high-risk communities, for example those that become isolated.

10. Organisation: Process the outcomes of the human/social network initiative in a human/social network capability matrix and supporting contact list. Re-engage with network members to formalise the working arrangements during disaster response and recovery. Provide ongoing initiatives to build the capability and capacity of the human/social network.

11. Process: Continue to build on existing initiatives to strengthen local business community connections, and explore opportunities to assist businesses in enhancing their resilience through disaster planning, provided in the various languages commonly spoken in the Ipswich Local Government Area.

Acknowledgment of Country

Phoenix Resilience and Ipswich City Council respectfully acknowledge the Traditional Owners as custodians of the land and waters we share. We pay our respects to their Elders past, present and emerging, as the keepers of the traditions, customs, cultures and stories of proud peoples.

Background

As a result of the Mayoral Motion in April 2022, Council resolved to undertake a review of the 2022 flood event, including public participation and submissions, by:

- Publishing Flood Review 2022, including preparation, planning, emergency response and communications effectiveness.

- Conducting public forums and seeking residents' feedback on all aspects of the flood event, including preparation, emergency response, post-event response and future flood mitigation measures.

- Making submissions and public hearings public in the interests of transparency, except where privacy or operational sensitivity requires confidentiality.

- Developing a final report and plan of action for Council consideration, including suggested actions for all levels of government, before the December 2022 Ordinary Council meeting.

The first objective is to develop a report and strategic action plan for Council and other levels of government (through advocacy) related to the prevention of, preparedness for, response to and recovery from the flooding that impacted the City of Ipswich in February/March 2022.

The second objective is to develop a report and operational action plan related to Council operations and business continuity related to the prevention of, preparedness for, response to and recovery from the flooding that impacted the City of Ipswich in February/March 2022, and disasters generally.

The reports will consider the perspectives of:

- Community and businesses
- Council disaster operations
- Council business continuity measures
- Disaster Management Groups
- Other levels of government

The overarching outcomes for this review are to:

- Provide insight and assurance as to Council's and other entities' capacity and capability to respond to flood events
- Provide an opportunity for community to give input and feedback to feel valued and heard
- Provide insight into community resilience, expectations regarding disaster and flood events
- Educate and inform the community and stakeholders about disaster management systems and personal preparedness

The review is consistent with the approach outlined in the Lessons Management Handbook 2019, by the Australian Institute of Disaster Resilience, and considers prevention, preparedness, response and recovery against current leading practice, such as:

- The Standard for Disaster Management in Queensland
- Previous Inspector-General of Emergency Management reviews
- Queensland Flood Commission of Inquiry
- IGEM Review South East Queensland Rainfall and Flooding – February to March 2022 Review

Aim

This review will capture the lessons from the 2022 flood response to inform initiatives that will improve outcomes/minimise adverse disaster consequences for the Ipswich community, economy, environment and infrastructure as well as for responders in future events.

Objectives

Several overall objectives have been set for this review:

1. Capture and analyse feedback and insights from the community and other key stakeholders
2. Reflect on plans, processes, resources, capabilities and technology dedicated to the response
3. Review decisions and outcomes
4. Formulate improvement opportunities

Methodology

When working to establish cause, we considered three dimensions.
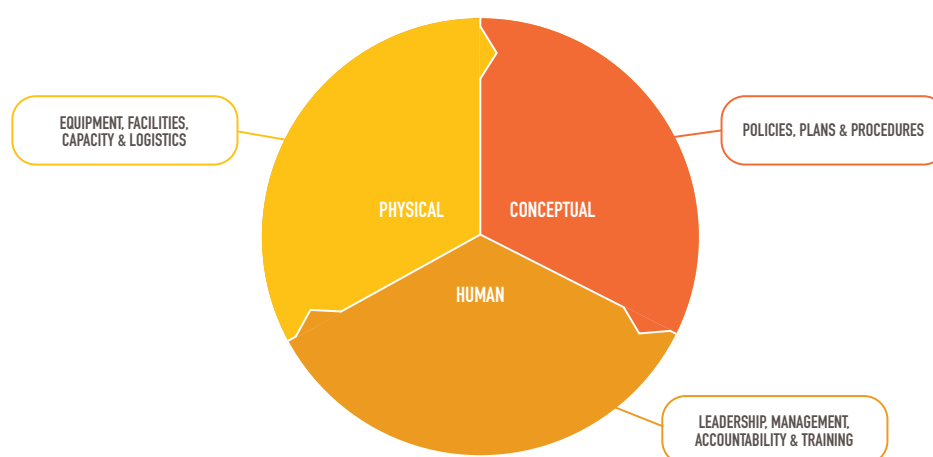
Data collection and analysis for this review followed the OILL PROCESS (Observation, Insights, Lessons Identified, Lessons Learned) outlined in the Australian Institute for Disaster Resilience, Lessons Management Handbook and the Inspector-General Emergency Management, Queensland Disaster Management Lessons Management Framework.

The report recommendations are coded to follow the P2OST2 evaluation method.

People	Roles, responsibilities, accountabilities, skills
Process	Plans, policies, procedures, processes
Organisation	Structure
Support	Infrastructure, facilities, maintenance
Technology	Equipment, systems, standards, security, interoperability
Training	Capability, qualifications, skill levels

The review process included the following project management steps:

| TERMS OF REFERENCE | DOCUMENT/ RECORD REVIEW | CONTEXT ASSESSMENT | CONSULTATIONS | ANALYSIS | REPORT |

Figure 1. Project Management Steps

Stakeholder Engagement

For this review, key stakeholders were consulted through survey, feedback forums, workshop or direct interview.

COMMUNITY

LDMG & LRRG MEMBERS

CONSULTATION

COUNCILLORS

SUBJECT MATTER EXPERTS

LDCC MEMBERS AND SUPPORT

2022 Ipswich Floods Review - Flood Review Listening Tour - Rosewood and Surrounds

⊙ 31 Aug 2022 6:00 PM - 31 Aug 2022 7:30 PM

📍 Rosewood State School, Rosewood State School, School Street, Rosewood QLD, Australia

Share your experience to help support our community to be ready and resilient for future flood events.

2022 Ipswich Floods Review - Flood Review Listening Tour - Ipswich, East Ipswich, Bundamba and Surrounds

⊙ 13 Sep 2022 6:00 PM - 13 Sep 2022 7:30 PM

📍 United Sports Club, United Sports Club, Joyce Street, East Ipswich QLD, Australia

Share your experience to help support our community to be ready and resilient for future flood events.

2022 Ipswich Floods Review - Flood Review Listening Tour - Goodna and Surrounds

⊙ 14 Sep 2022 6:00 PM - 14 Sep 2022 7:30 PM

📍 Goodna State School, Goodna State School, Albert Street, Goodna QLD, Australia

Share your experience to help support our community to be ready and resilient for future flood events.

2022 Ipswich Floods Review - Flood Review Listening Tour - Karalee and Surrounds

⊙ 15 Sep 2022 6:00 PM - 15 Sep 2022 7:30 PM

📍 Karalee State School, Karalee State School, Arthur Summervilles Road, Karalee QLD, Australia

Share your experience to help support our community to be ready and resilient for future flood events.

Figure 2. Four community forums were conducted [1]

We considered a range of documents for the review.

Standards and Guidelines	Relevant plans	Related reviews and studies
• Queensland Emergency Management Assurance Framework (EMAF) • Queensland Strategy for Disaster Resilience • Queensland Flood Risk Management Framework • Standard for Disaster Management in Queensland (IGEM) • Australian Institute for Disaster Resilience (AIDR) – National Emergency Risk Assessment Guidelines (NERAG) Handbook • AIDR – Australian Emergency Management Arrangements Handbook • AIDR – Community Recovery Handbook AS/NZS 31000:2018 Risk Management – Guidelines • Australasian Inter-service Incident Management System (AIIMS) 2017	• Queensland State Disaster Management Plan • Ipswich Integrated Catchment Plan • Ipswich Floodplain Management Strategy • Ipswich City Council Local Disaster Management Plan (LDMP) • Ipswich City Council LDMP – Sub Plans • Evacuation Centre Sub Plan • Evacuation Process Sub Plan • Managing Animals and Livestock Sub Plan • Isolated Communities Sub Plan • Public Information and Warnings Sub Plan • Recovery Sub Plan • Dam Emergency Action Plans	• IGEM Review South East Queensland Rainfall and Flooding – February to March 2022 Review • Deloitte (QRA): The Social, Financial And Economic Costs of the 2022 South East Queensland Rainfall and Flooding Event • Brisbane River Catchment Flood Study Other records considered: • BoM Brisbane River Model Reports • Watch & Act Warnings • Facebook and social media posts • Public media reports • Situation Reports • Incident Action Plans
		Feedback data considered
		• LRRG and Task Force Event Debriefs • Divisional Councillors Feedback Report • Evacuation Centre – Ipswich Show Society Debrief • Evacuation Centre – ICC Staff Debrief • LDMG & LRRG – We want your observations survey • Media and Comms Debrief report • Survey ICC Staff – We want your observations Survey • Public Surveys – Public Listening Tours • 2022 Ipswich Floods Review – Shape Your Ipswich Online Survey Report • Feedback data considered: Consultation with state and federal MPs by the Mayor and EMU representative

We also considered the following relevant legislation:

- Disaster Management Act 2003 (Qld) and Disaster Management Regulation 2014 (Qld)

- Water Supply (Safety and Reliability) Act 2008 (Qld)

In all, the review included analysis and review of over 740 documents and records and over 50 websites containing numerous documents. Seven debrief sessions were facilitated for responders, and four for the community. A total of 31 people involved in the response and recovery were interviewed individually.

Ipswich Flood Risk Profile

The City of Ipswich Floodplain Management Strategy defines Ipswich's flood risk profile:

- Ipswich is a city with a complex flood story due to its location on both the floodplains of the Bremer and Brisbane Rivers. The Bremer River is an important part of the much larger Brisbane River catchment (13,570km2 in size) and river levels are also influenced by tides from Moreton Bay.

- Flooding has always been a natural occurrence in the region and this was recorded as early as 1824 by the explorer John Oxley. While riverine floods usually dominate, flooding also occurs along the many local creeks, as well as numerous overland flow paths which exist. In terms of rainfall, Ipswich typically receives approximately half its average yearly rainfall (900mm) in the months of December to March.

- The majority of the Ipswich Local Government Area (LGA) lies within the lower Bremer River floodplain. The upper catchment areas lie within the Scenic Rim floodplain whilst the north-eastern and northwestern parts are located directly on the Brisbane River floodplain. The Brisbane River also forms the city's north-eastern boundary. The Bremer River catchment has a total size of approximately 2,030km2 with a 100km river length from its source in the Scenic Rim to the Brisbane River.

- A number of major creeks flow into the Bremer River within Ipswich, namely the Western (Franklin Vale), Warrill (Purga), Ironpot, Mi Hi, Deebing and Bundamba Creeks. The Six Mile, Goodna, Woogaroo and Sandy Creeks flow directly into the Brisbane River along the city's north-east boundary. Black Snake Creek, which flows through the township of Marburg, also feeds into the Brisbane River at Fernvale.

- Urban development in Ipswich has historically been concentrated along the Bremer River and the eastern creeks, primarily along the Deebing, Bundamba, Six Mile, Goodna and Woogaroo Creeks. The City is currently experiencing a high level of urban development in the Ripley Valley area (Bundamba Creek), Springfield area (Woogaroo Creek) and Redbank Plains as well as Collingwood Park areas (Six Mile Creek). This level of growth has been acknowledged in the recently adopted Advance Ipswich (the plan) with the state forecasting a population growth to 435,000 people by the year 2031 from the current population of approximately 233,302 (Estimated Resident Population (ERP) | City of Ipswich | Community profile).
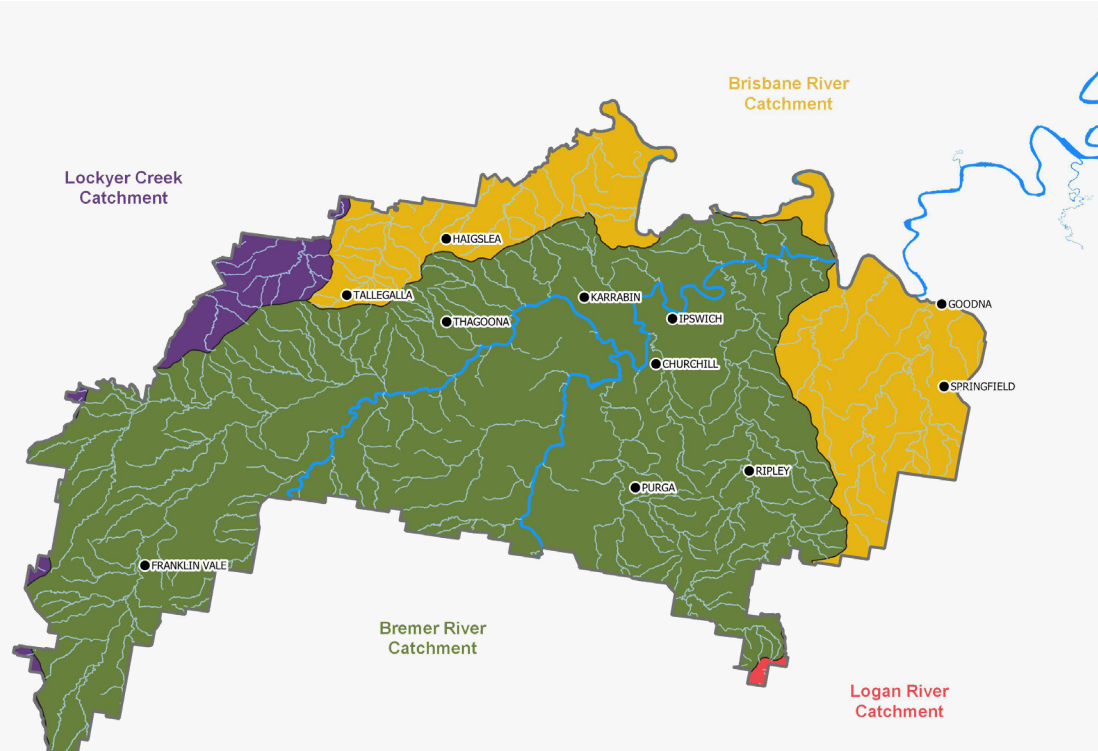
Figure 3. Major catchments within the Ipswich LGA
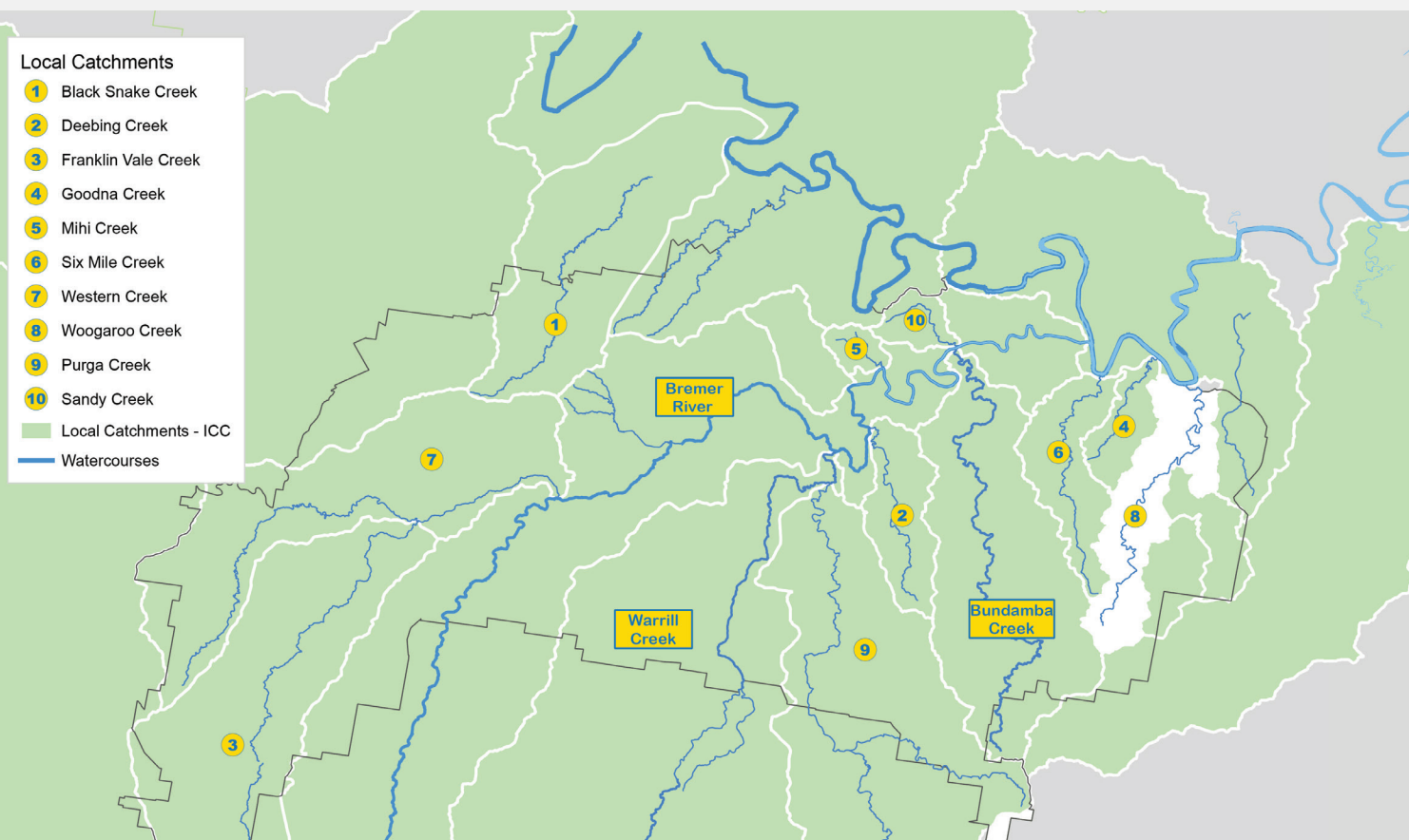
Figure 4. Catchments and sub-catchments within the Ipswich LGA

Ipswich has a high flood risk. As per the list of the top 20 most at risk federal electorates to climate extremes 2030:

- No. 5 electorate of Wright – Parts of Ipswich LGA – 13.6% of properties are high risk

- No. 20 electorate of Blair – Parts of Ipswich LGA – 7.1% of properties are high risk

The February/March 2022 was the fourth most severe flood to affect the area since recording commenced.
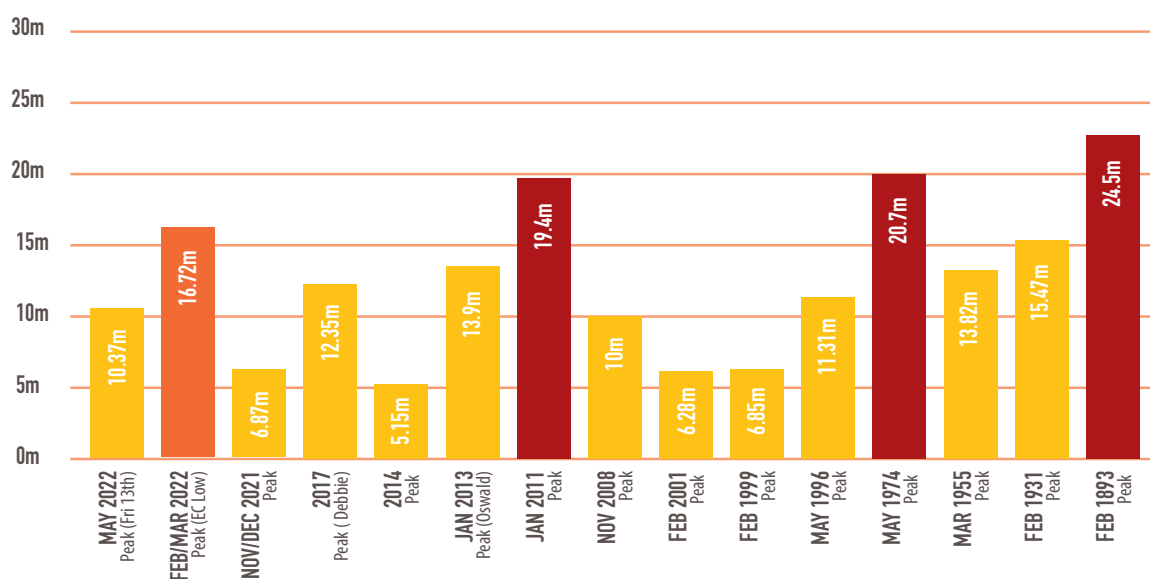
Figure 5. Flood levels – comparative analysis - Ipswich David Trumpy Bridge

The 2022 Flood Event

The February/March flooding event was significant and had unique characteristics. It was widespread, covering an area from Gympie to Northern New South Wales. Due to climate drivers including La Nina, wet weather conditions continued from 2021 to 2022, resulting in high levels of soil saturation. These pre-conditions resulted in a flooding event with overland flow, creek and riverine flooding impacts. The volume of rain was unprecedented, exceeding previous Ipswich rainfall records. A new record for daily rainfall at Wivenhoe Dam was set at 314.6mm on 26 February, which was 65.8mm higher than the previous record set during the 2011 flood event. The Amberley gauge recorded 935.8mm over the summer period, 111.2mm higher than the 2011 record and more than twice the average summer rainfall for this location.
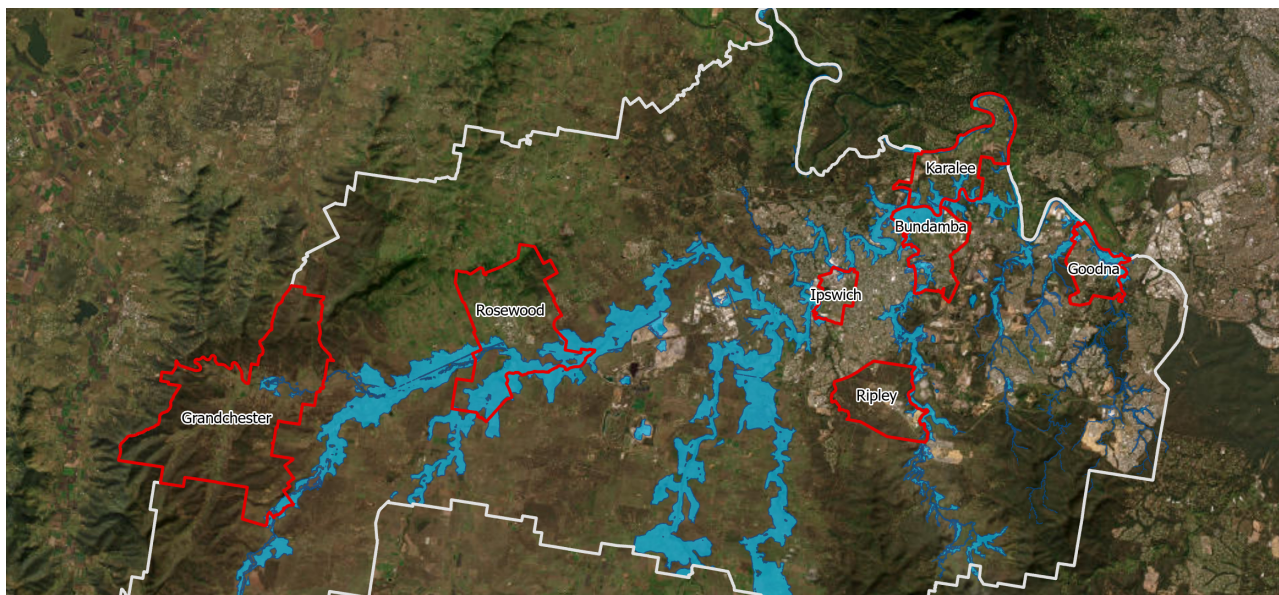
Figure 6. Ipswich Local Government Area flood extent
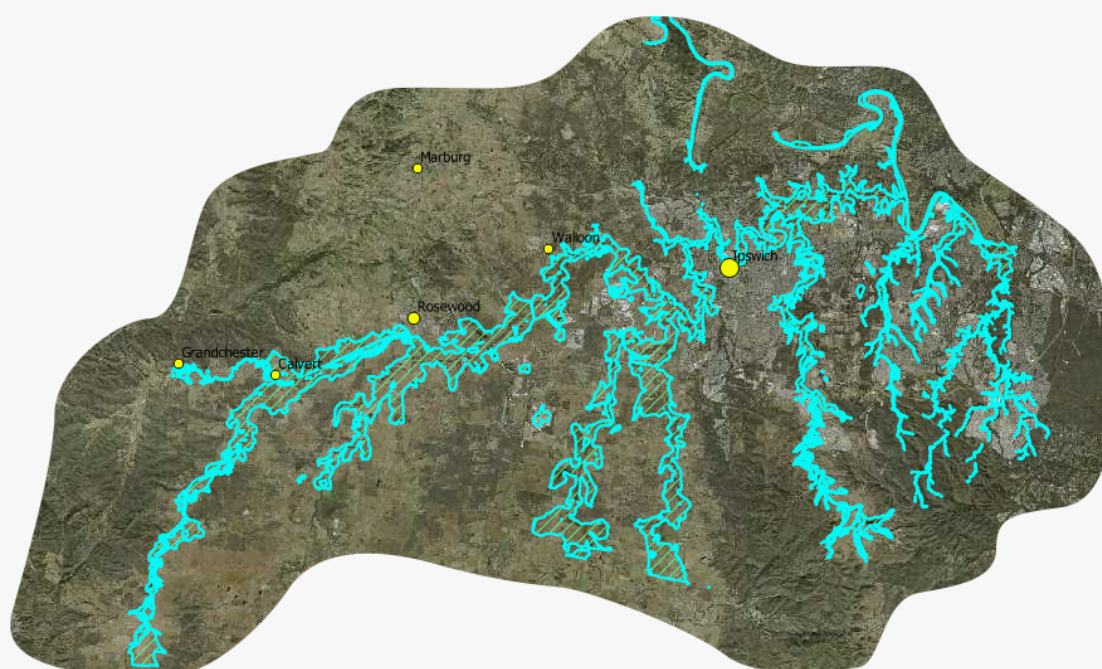
Figure 7. Ipswich indicative flood extent 2022 flooding (Ipswich flood intelligence data)

Response Activity

From Wednesday 23 February to Wednesday 9 March 2022, Ipswich City Council activated its Local Disaster Coordination Centre (LDCC) in response to the unfolding situation. The Local Recovery and Resilience Group (LRRG) activated on Sunday 27 February 2022 and, while the group formally stood down on Thursday 8 September in relation to this event, recovery activities are ongoing at date of review publication. Since the flood event the Flood Intelligence Centre (FIC) has been absorbed into the LDCC as a functional cell to maximise efficiency.
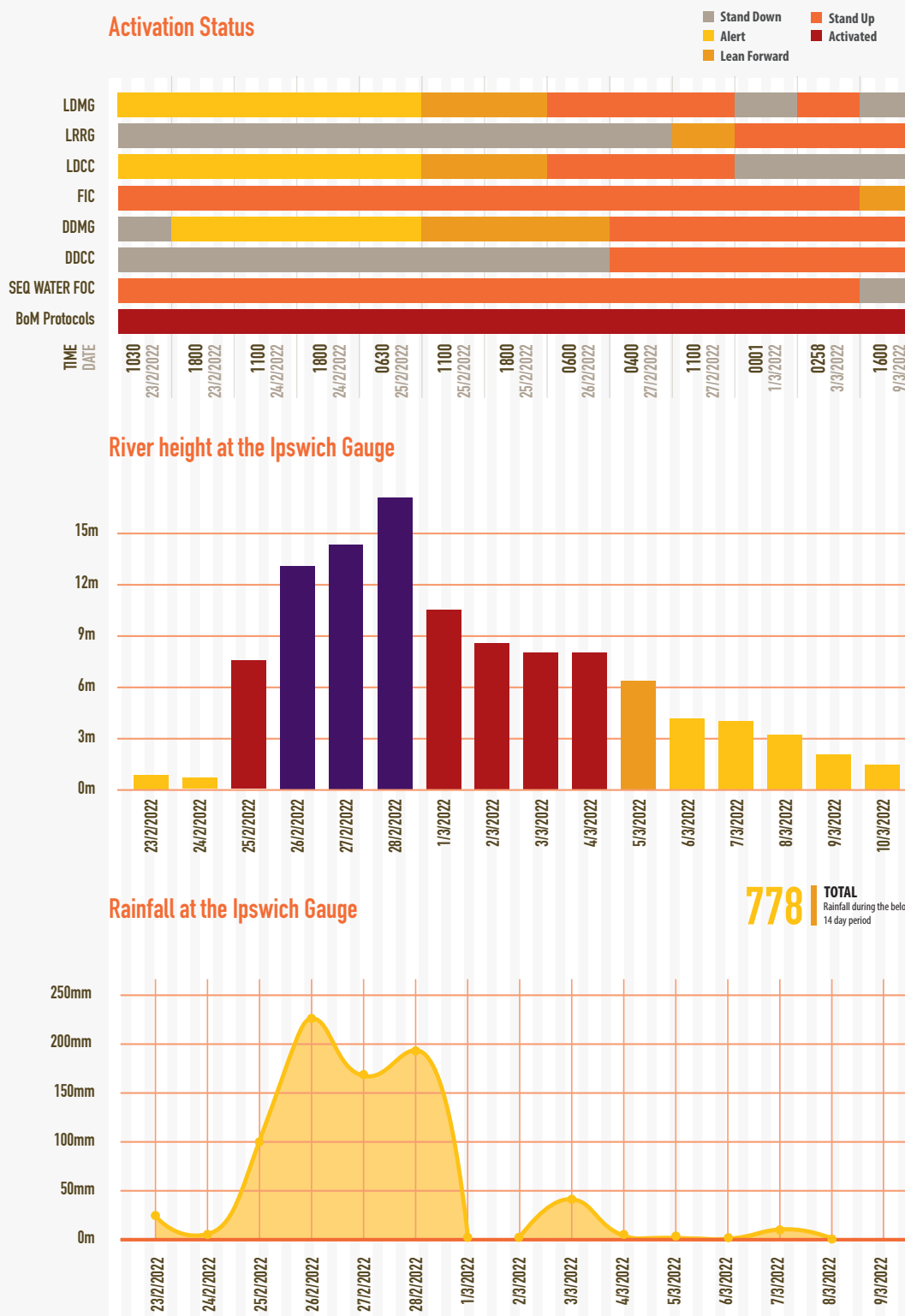
Figure 8. Feb/March 2022 flood event overview

Summary of Warnings and Alerts

Legend:
- ■ Stay Informed
- ■ Watch & Act
- ■ Monitor Conditions
- ■ Prepare to Leave
- ■ Emergency Warning
- ■ Leave/Evacuate Immediately

FRI 25/2

- **1100 | 11:00am**
  Ipswich LGA
- **1430 | 2:30pm**
  Ipswich LGA
- **2235 | 10:35pm**
  Flash Flooding Ipswich LGA
- **2245 | 10:45pm**
  Marburg Detention Basin
- **2245 | 10:45pm**
  Bundamba Creek, Woogaroo Creek, Bremer River, Warril Creek
- **2245 | 10:45pm**
  Rosewood Detention Basin

SAT 26/2

- **1000 | 10:00am**
  Bundamba Creek, Woogaroo Creek, Bremer River, Warril Creek
- **1000 | 10:00am**
  Marburg Detentions Basin
- **1830 | 6:30pm**
  Bundamba Creek, Woogaroo Creek, Bremer River, Warril Creek
- **1830 | 6:30pm**
  Marburg Detention Basin
- **1830 | 6:30pm**
  Rosewood Detention Basin
- **2141 | 9:41pm**
  North Booval
- **2159 | 9:59pm**
  Flash Flood North Booval

SUN 27/2

- **0355 | 3:55am**
  Bundamba Creek, Woogaroo Creek, Bremer River, Warril Creek, Western Creek
- **0400 | 4:00am**
  Wivenhoe Dam Release Ipswich LGA
- **0930 | 9:30am**
  Flash Flooding Bundamba Creek, Woogaroo Creek, Bremer River, Warril Creek, Western Creek
- **1030 | 10:30am**
  Flash Flooding Marburg Detention Basin
- **1030 | 10:30am**
  Flash Flooding Rosewood Detention Basin
- **1815 | 6:15pm**
  Booval, Bundamba
- **1815 | 6:15pm**
  Goodna, Riverview

THURS 3/3

- **0930 | 9:30am**
  Marburg Detention Basin
- **1230 | 12:30pm**
  Ipswich LGA

Figure 9. Summary of warnings and alerts

Although the Australian Warning System had not yet been implemented for flood in Queensland, Ipswich City Council proactively used the AWS symbology and templates during this event to deliver warnings on its disaster dashboard and social media platforms

Response Timeline

MON 21/02
0mm

TUES 22/02
0mm

WED 23/02
Up to 15mm

THURS 24/02
Up to 5mm

FRI 25/02
Up to 68mm

SAT 26/02
Up to 217mm

SUN 27/02
Up to 149mm

BAU

Threat Advisory issued.
Flood Intelligence Centre Alert Status

LDMG Alert Status.
LDCC Alert Status.
Sandbag Stations open.
FIC Stand Up.
DDMG Alert Status.
First SitRep Issued.

ICC Operations 24/7.
Incident Alert Plan distributed.

LDMG Lean Forward and Stand Up Status.
LDCC Lean Forward and Stand Up Status.
DDMG Lean Forward Status.
2x DD 'Prepare to Leave' warnings issued.
3x DD 'Monitor Conditions' warnings issued.
1x EA issued.
1x PoR Open.
COD activated.

1x DD 'Prepare to Leave' warning issued.
DD Self Reporting open.
1x DD Request for self-evacuation.
Evacuation Centre open.
1x DD 'Evacuate Immediately' issued (Bundamba)
1x EA issued.

LRRG Alert Status
DDMG Stand Up Status.
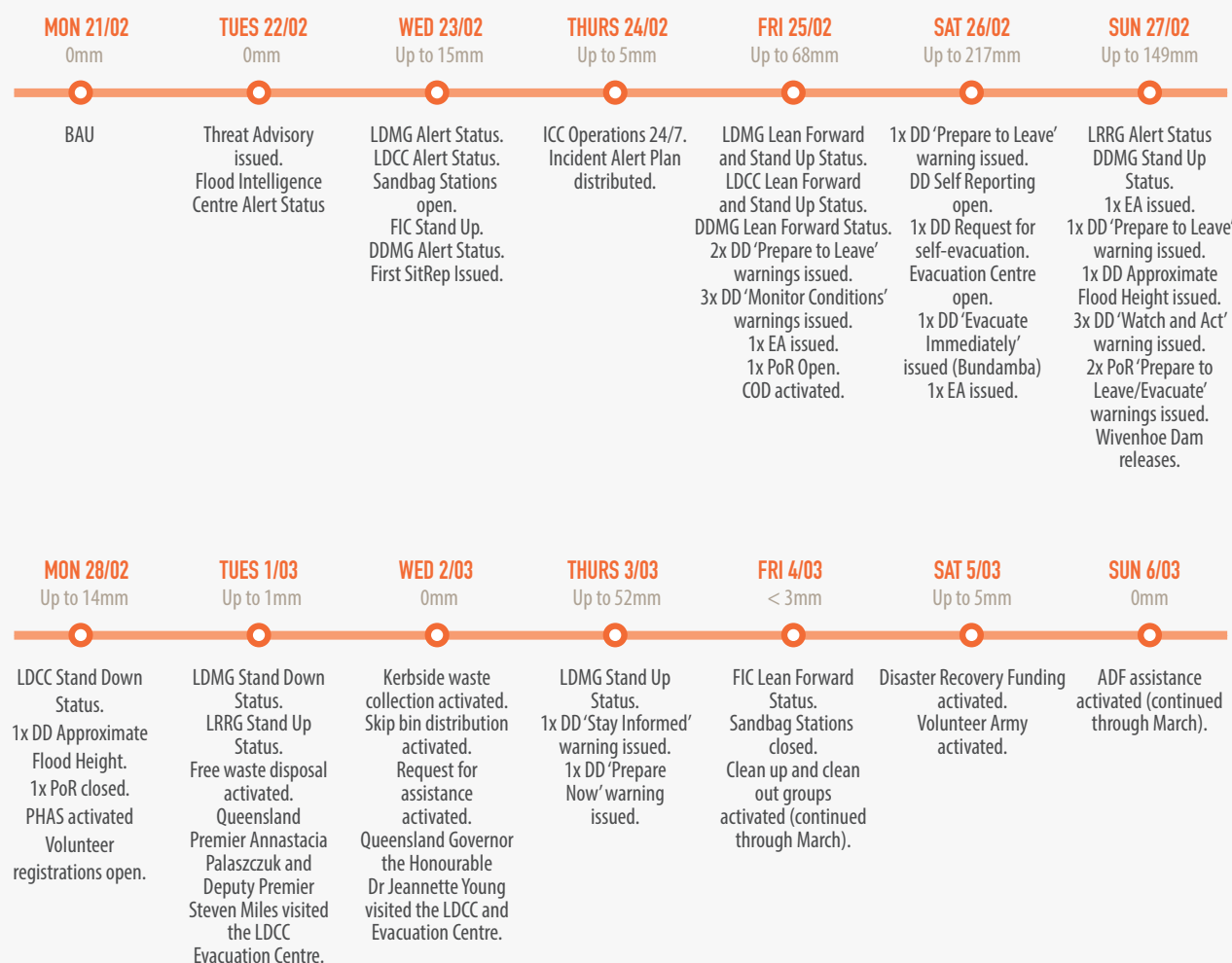1x EA issued.
1x DD 'Prepare to Leave' warning issued.
1x DD Approximate Flood Height issued.
3x DD 'Watch and Act' warning issued.
2x PoR 'Prepare to Leave/Evacuate' warnings issued.
Wivenhoe Dam releases.

MON 28/02
Up to 14mm

TUES 1/03
Up to 1mm

WED 2/03
0mm

THURS 3/03
Up to 52mm

FRI 4/03
< 3mm

SAT 5/03
Up to 5mm

SUN 6/03
0mm

LDCC Stand Down Status.
1x DD Approximate Flood Height.
1x PoR closed.
PHAS activated
Volunteer registrations open.

LDMG Stand Down Status.
LRRG Stand Up Status.
Free waste disposal activated.
Queensland Premier Annastacia Palaszczuk and Deputy Premier Steven Miles visited the LDCC Evacuation Centre.

Kerbside waste collection activated.
Skip bin distribution activated.
Request for assistance activated.
Queensland Governor the Honourable Dr Jeannette Young visited the LDCC and Evacuation Centre.

LDMG Stand Up Status.
1x DD 'Stay Informed' warning issued.
1x DD 'Prepare Now' warning issued.

FIC Lean Forward Status.
Sandbag Stations closed.
Clean up and clean out groups activated (continued through March).

Disaster Recovery Funding activated.
Volunteer Army activated.

ADF assistance activated (continued through March).

Figure 10 . Response timeline of events [2]

Ipswich City Council, State-Government, community organisations and Local Recovery and Resilience Group and Task Force members came to the aid of the community and worked tirelessly to meet community needs. It is also essential to acknowledge the individuals, community groups and businesses who supported each other throughout this event. One evacuation centre was managed by Council, two places of refuge were opened and supported by Council, and two Recovery Hubs were led by the Department of Communities, Housing and Digital Economies (DCHDE), with Council support. They even received evacuees from two neighbouring LGAs.

Community needs in relation to waste collection were addressed swiftly and a contractor engaged for kerbside collection effectively redirected to assist council crews with flood clean up. Australian Defence Force (ADF) support was also valuable and appreciated.

Community sentiment in relation to coordination of spontaneous volunteers was better than previous events. As of 14 March 2022, 933 volunteers had registered for the city's flood clean up via Volunteering Queensland. All field crews were on the ground as soon as the water receded to restore roads.

The new Local Disaster Coordination Centre with improved resources and facilities at 1 Nicholas Street provided a productive work environment.

Figure 11 . Brisbane Road businesses starting to clean up – image provided by ICC

Impacts

Though Ipswich did not experience any loss of human life in this flood event, the community impact cannot be understated. Flood waters caused devastating damage across the city to over 600 dwellings, almost 300 businesses, more than 250 vehicles, and unquantified losses to livestock and livelihoods. Riverbanks and riparian areas were eroded or destroyed, and entire trees ripped from the ground and carried downstream. Landslips, an unusual phenomenon for Ipswich, occurred at various locations across the city. The Queensland Fire & Emergency Services (QFES) Damage Assessment Dashboard provided a quick overview of the assessed damage caused to buildings within the Ipswich LGA. This dashboard was an effective tool in identifying areas where there were high levels of damage. Figure 12 provides data as at 10 March 2022.
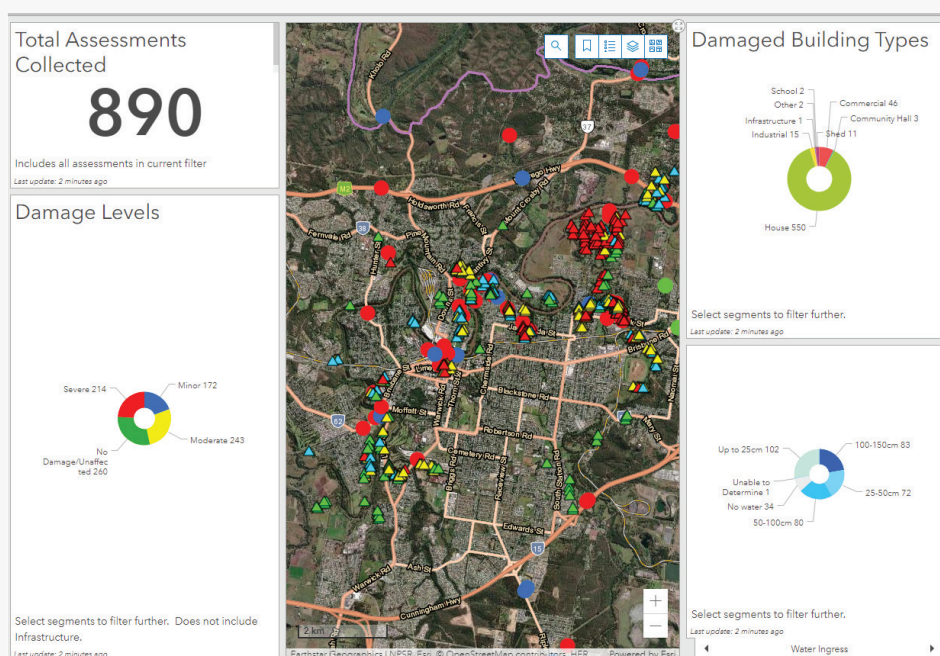

Figure 12 . QFES Damage Assessment Dashboard [3]

A breakdown of the QFES data into suburbs was a further tool that assisted Ipswich City Council in determining suburbs with the highest needs.

Damage	Minor	Moderate	NoDamage	Severe	Grand Total
SUBURB_CALC	Damage (Count All)				
AMBERLEY			1		1
BARELLAN POINT	6	7		1	14
BASIN POCKET	15	3	11		29
BLACKSTONE			5		5
BRASSALL			1	1	2
BUNDAMBA	15	34		62	111
CHURCHILL	3	20	16	2	41
EAST IPSWICH			1		1
GAILES	3	7	7	1	18
GOODNA	40	43	71	70	224
GOODNA EAST		7		2	9
IPSWICH	3	18	6	4	31
KARALEE	7	15			22
LEICHHARDT	1				1
MOORES POCKET	5	2	4		11
NORTH BOOVAL	13	33		37	83
NORTH IPSWICH	10	8	2	1	21
ONE MILE	5	5	6	1	17
RACEVIEW			7		7
REDBANK	1		4		5
TIVOLI		8	6	4	18
WEST IPSWICH	7	4	4	2	17
Grand Total	134	214	152	188	688

Figure 13. Suburb damage as extracted from QFES Damage Assessment Dashboard [4]

The Department of Employment, Small Business and Training (DESBT) provided economic impact data of the floods for the Ipswich LGA as of 18 May 2022. This data highlighted the financial impact on businesses.
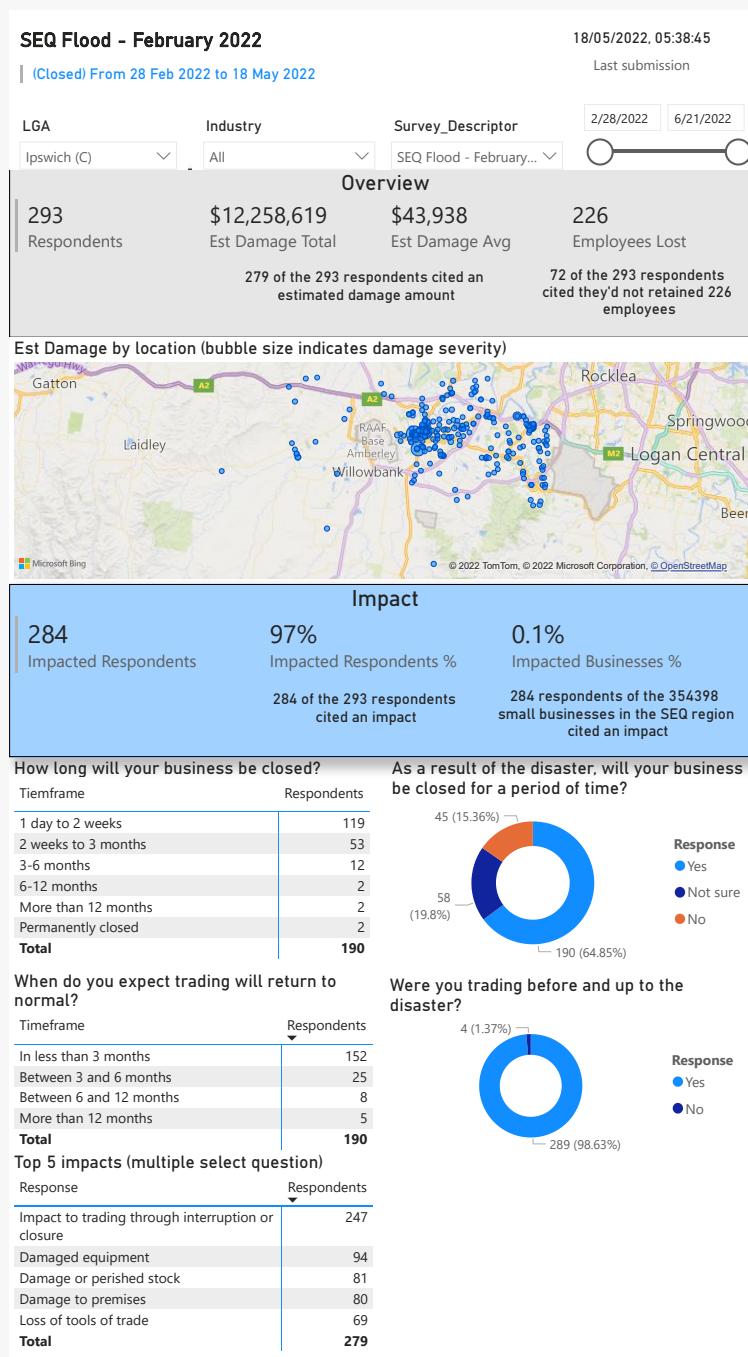
SEQ Flood – February 2022

| (Closed) From 28 Feb 2022 to 18 May 2022

18/05/2022, 05:38:45
Last submission

| LGA | Industry | Survey_Descriptor | 2/28/2022 | 6/21/2022 |
| Ipswich (C) | All | SEQ Flood - February... | | |

Overview

293	$12,258,619	$43,938	226
Respondents	Est Damage Total	Est Damage Avg	Employees Lost

279 of the 293 respondents cited an estimated damage amount

72 of the 293 respondents cited they'd not retained 226 employees

Est Damage by location (bubble size indicates damage severity)

Impact

284	97%	0.1%
Impacted Respondents	Impacted Respondents %	Impacted Businesses %

284 of the 293 respondents cited an impact

284 respondents of the 354398 small businesses in the SEQ region cited an impact

How long will your business be closed?

Tiemframe	Respondents
1 day to 2 weeks	119
2 weeks to 3 months	53
3-6 months	12
6-12 months	2
More than 12 months	2
Permanently closed	2
Total	**190**

When do you expect trading will return to normal?

Timeframe	Respondents
In less than 3 months	152
Between 3 and 6 months	25
Between 6 and 12 months	8
More than 12 months	5
Total	**190**

Top 5 impacts (multiple select question)

Response	Respondents
Impact to trading through interruption or closure	247
Damaged equipment	94
Damage or perished stock	81
Damage to premises	80
Loss of tools of trade	69
Total	**279**

As a result of the disaster, will your business be closed for a period of time?

45 (15.36%)
58 (19.8%)
190 (64.85%)

Response
● Yes
● Not sure
● No

Were you trading before and up to the disaster?

4 (1.37%)
289 (98.63%)

Response
● Yes
● No

Figure 14 . Economic impact data [5]

Roads and bridges were inundated, major water treatment plants and power infrastructure had to be taken temporarily offline, and Colleges Crossing, a significant recreation and tourism location, was destroyed.

Human/Social

- Displacement of residents – up to 410 residents attended the Ipswich Evacuation Centre at its peak.

- The DCHDE provided temporary accommodation support to 108 residents of Ipswich.

- As at 13 April, 14 Ipswich residents were still accessing temporary accommodation support through DCHDE.

- As at 14 November, the Insurance Council of Australia had received 4,997 claims for Ipswich property (home, contents, motor, building, landlord) to the value of $127,249,084.

- The DRFA Personal Hardship Assistance Scheme was activated for the Ipswich LGA on 28 February and closed on 26 Marc

- As at 26 September, over 7,709 Emergency Hardship Assistance grants had been administered by DCHDE to support Ipswich residents. This this and other grants, 15,777 Ipswich residents were provided assistance grants to the value of $6,292,063.

- Support was provided from several angles:

  - ¤ Community Recovery Hubs were opened at:

  - ¤ Ipswich Trades Hall – 4 Bell Street, Ipswich

    - ¤ Frank McGreevy Function Centre – 112 Brisbane Terrace, Goodna

    - ¤ Recovery Hubs offered a one-stop-shop for people to access disaster recovery services, including information and referrals to support services, information on flood recovery, financial assistance counselling, housing support, emotional, mental health and personal support.

  - ¤ Support services operating from the hubs include the Department of Communities, Housing and Digital Economy, Services Australia, Australian Red Cross, Lifeline, Salvation Army, Insurance Council of Australia, insurance companies, Ipswich City Council and West Moreton Health.

- Resilient Residential Recovery Package – industry and community education program.

- Human and Social Recovery Package – flexible funding grants; community health and wellbeing package; accommodation package; and a community development program.

Eligible residents within the Ipswich LGA were able to apply to the Department for Home Affairs for:

- Disaster recovery payments

- Disaster recovery allowance for New Zealand residents living and working in Australia, that were not eligible for the other support measures.

- Personal hardship assistance scheme

- Essential Services Safety and Reconnection Scheme

Economy

- Almost 300 businesses in Ipswich were impacted to varying degrees.

- Impacts for those impacted businesses ranged from business interruption, loss of some or all stock, damage to some or all stock and/or damage to premises.

- As at 14 November, the Insurance Council of Australia had received 309 claims from commercial policy holders in Ipswich with total incurred losses to the value of $26,064,877.

- The average value of damage/loss was estimated to be $84,352 per business.

Recovery payments were available from the Department of Home Affairs

- Recovery grants of up to $75,000 for eligible primary producers to help with recovery and reinstatement activities.

- Recovery grants of up to $50,000 for eligible small businesses to help with recovery and reinstatement activities.

- Recovery grants of up to $50,000 for eligible non-profit organisations to help with recovery and reinstatement activities.
- Recovery grants of up to $20,000 for clean-up, repair and replacement of sports and recreation facilities.
- Economic Recovery Package – industry recovery and resilience officers; small business support package; tourism recovery and resilience package; rural landholder recovery grant program; and medium to large business recovery loans.
- Recovery payments were available from the Department of Small Business and Training:
- Support payments of up to $20,000 for eligible employers who hire eligible unemployed jobseekers.
- Back to work support payments of up to $15,000.
- Disaster assistance loans and essential working capital loans for primary producers
- Disaster assistance loans and essential working capital loans for small businesses
- Disaster assistance loans and essential working capital loans for not-for-profit organisations
- Freight subsidies for primary producers.

Environment

- Resilient household rebuild program; home raising program; voluntary home buy-back program; and property level flood information.
- Public health risks for the community as a result of exposed asbestos to several flood damaged homes and contaminated wastewater spillage from privately owned septic tanks.
- Environmental damage to ecosystems within the Brisbane and Bremer River and impacted creeks.
- Damage to/loss of native animal habitats along waterways due to significant erosion and pollution as a result of floodwater run-off.
- Impacts to natural areas, banks and waterways, culturally significant sites, conservation estates, service trail network, bushland, debris (natural and non-natural), vector control issues.
- Resilient household rebuild program; home raising program; voluntary home buy-back program; and property level flood information.
- Environmental Recovery Package – environmental recovery package; and flood risk management package.
- Clean Up Package – to assist state agencies and local councils with the clean-up, removal and disposal of flood-related debris in impacted communities.
- Impacts from chemical spills and discharged from commercial/regulated premises
- Human health risks of mosquito-borne diseases with pooling water
- Loss of livestock and health impacts of decaying carcasses
- Putrescible waste disposal operations, including impacted pet food business
- The impacts in the Ipswich area were significant as demonstrated in the image below.

Figure 15 . Health Land and Water Impact Tool (2022 SEQ Flooding) - Environmental impacts across South-East Queensland, including Ipswich

Waste Material

Operations for the entire event to 14 March 2022:

- 6,000+ tonnes of waste delivered to landfill — 3x more than usual
- 4,776 visits to Riverview and Rosewood Recycle and Refuse Centres
- Hundreds of tonnes of household items collected as part of Council's free kerbside collection in flooded suburbs

Infrastructure

- 10 Sporting Facilities
- 17 Parks
- 4 Community Facilities
- 12 Conservation Estates
- Local Recovery and Resilience Grants to address emerging recovery needs and build community resilience.
- Infrastructure and Built Recovery Package — community and recreational assets program; betterment for roads and transport assets; and local recovery and resilience grants.
- Restoration of damaged essential public assets

Roadways

- 173 Roads Sealed Impacted
- 331 Unsealed Roads Impacted
- 2 Drainage Structures Impacted
- 3 Flood Monitoring Towers Impacted
- During the peak of the flood, 101 roads were closed across Ipswich (including state-controlled roads).
- Ipswich Council has spent more than $7 million on flood recovery efforts since the flood. This has seen the filling of about 3,000 potholes plus the repair and reopening of more than 100 roads and bridges.
- In the 2022-2023 financial year, a further $1.1 million has been set aside to repair about 6,030 potholes.

Sandbagging

- Operations for the entire event: 72 crew members assisted with filling, loading onto pallets and into resident's cars; 28,000 sandbags were filled, each weighing 20kg

Ipswich Flood Response — A Community Perspective

Four Public Listening Tour Forums were held throughout the Ipswich LGA:

- Rosewood and surrounds (31 August 2022) — where 8 persons from the local area attended.
- Ipswich, East Ipswich, Bundamba and surrounds (13 September 2022) — where 21 persons from the local area attended.
- Goodna and surrounds (14 September 2022) — where 10 persons from the local area attended.
- Karalee and surrounds (15 September 2022) — where 16 persons from the local area attended.

During the Public Forums, a number of positive points were identified:

- Council's Disaster Dashboard was noted as being helpful and kept up to date, giving the community a reliable source of information.

- Council was proactive at sharing information, not only on the Disaster Dashboard but also on social media platforms.

- During the event, Council staff and Councillors were perceived to be helpful, provided localised updates and undertook relevant actions if the information could not be issued at that time (e.g. issuing a follow-up call or sending information to residents).

- Council assisted the community in their clean-up efforts by immediately allowing the use of the Council waste facilities for free (i.e. Resource Recovery Centres). The deployment of waste trucks into the more heavily impacted communities as soon as the water receded to remove waste reduced the emotional impact of seeing flood damaged property piled up in the street

- Attendees noted that multiple Councillors and Council Officers reached out to the community during and after the flood event and helped them.

- Assistance from non-profits, e.g. Lifeline, were positively regarded by the community.

- The Recovery Hubs were organised quickly and provided a lot of support to community members.

Members of the community identified some areas where improvements could be made:

- Technical terminology used throughout the disaster was hard to understand, so clear messaging is needed through notifications, print material, online and social media.

- Participants would rather be overprepared than underprepared and would like to see Council having equipment ready in identified and potential flooding areas to assist residents with preparations.

- Access to localised flood mapping data was requested.

- Participants may have blocked the number used for emergency announcements. Council could provide awareness that blocking the number in the past will block future announcements and information – need to build awareness about emergency announcement/text and other notifications.

- Due to the high percentage of CALD community members within the Ipswich LGA, accessible and multilingual messaging is needed to ensure it reaches all members of the community.

- Attendees across the Ipswich LGA noted concerns regarding historic Council development approving developments on floodplains.

- Leaving Recovery Hubs open for a longer timeframe was requested, as many residents needed the resources they provided many days after the flood event.

- A central register would help track volunteers in communities to ensure all volunteers are bona fide – many seemed random and residents were worried about being scammed.

- Greater education for residents around where emergency facilities are located and where supplies can be found (i.e. food).

- Establish an official emergency/recovery centre, creating a safe location for those to stay during future flood events in identified vulnerable communities where isolation is known to occur.

Review Outcomes – Strategic

This section outlines strategic observations, insights and recommendations.

Ipswich City Council demonstrates a strong dedication to continuous improvement. The review found that various of the findings in this report had been identified and corrective action initiated. The improvements that have been implemented since the flood are reflected and considered in the recommendations.

Governance and Structure

The purpose of a Council is to support its community, during business as usual or a disaster.

Disaster management is a collective effort based on strong relationships, supported by processes and structures. Maintaining and strengthening these relationships requires regular engagement outside a disaster, clear, communicated and well-practiced structures/roles and responsibilities to support it, and training and exercises to embed it.

In Council, various entities have a direct role in disaster management. This includes the Council Executive Leadership Team (ELT), the Local Disaster Coordinator (the General Manager, Infrastructure and Environment Department) directing the Local Disaster Coordination Centre (LDCC), the Local Recovery Coordinator (the General Manager, Community, Cultural and Economic Development) directing the Local Recovery and Resilience Group (LRRG) and the Council Emergency Management Unit (EMU). Within Council, various other branches are required to provide disaster support, which can be in relation to communication, infrastructure restoration, road management, community engagement, waste management, flood intelligence or any other response/recovery need as it arises.

Even though the Local Disaster Management Group sets the response objectives, Council ELT decides how it organises Council resources to meet them. This direction is set at the top and requires communication throughout the organisation.

In a disaster, clear direction for all organisation members is required to set the priorities and expectations. This will empower and enable staff to apply distributed decision making and take decisive actions, reducing response times and minimising adverse consequences.

Ipswich City Council, through the Ipswich LDMG, retains primary responsibility for managing disaster events contained within the local government area[1]. The Ipwsich LDMG is unable to direct entities on how to conduct their business and operations, including that of Ipswich City Council itself. The Ipwsich LDMG is committed to the concepts of partnership, leadership, public safety and performance. [2]

Observation:

During this response, the priorities and expectations from ELT were not clear to all staff, especially in relation to business-as-usual priorities vs disaster response/recovery priorities.

Insight:

Council recognises the importance of strong leadership and direction in a disaster response. Since the flood, Council ELT has participated in various engagements to explore governance arrangements. The outcomes are yet to be formalised; however, during a recent weather event, ELT members took a more directive role.

Recommendations

1. Organisation/Process: Formalise the coordination arrangements between ELT, EMU, LDCC, LRRG and the wider organisation. This should be supported by a process that includes setting, communicating and resourcing the response/recovery priorities.

The role of the EMU in disaster response and recovery is addressed in the Operational Review Report and LRRG After Action Review.

Community Information

As a community member, it is essential to have the right information to inform your actions while protecting life and property. As a responder, this is no different. Therefore, the quality, timeliness and user-friendliness of information is essential.

Information management for responders is discussed in the Operational Review Report. Community information is explored here.

The recently conducted IGEM flood review has identified opportunities for improvement in warning and notification of community members, especially through terminology and the timeliness of Emergency Alerts. [3]

As a community member in Ipswich, information can be obtained through various channels, some more reliable than others. Following that, information needs to be easy to understand. It needs to be clear what a community member is being warned about, what it could mean and what action is required.

Disaster Related Information Sources

Figure 1. Ipswich community information sources

The Ipswich community is culturally and linguistically diverse (CALD) and this needs to be considered in disaster communication. In 2021, it was identified in the Census that 32,929 Ipswich residents (14.1%) speak a language other than English in the home, which is an increase from 43.9% in 2016. In Ipswich, 152 languages other than English are spoken at home; the most prevalent language used at home is Samoan, followed by Punjabi, Vietnamese, Filipino/Tagalog, Malayalam, Hindi and Spanish. CALD community communication challenges were identified through the community forums as being an important issue and opportunity for improvement.

Significant work in relation to optimising community warnings has been done nationally recently, resulting in the Australian Warning System. [4]

In Council, work has been undertaken to improve community information since the 2022 flooding event, resulting in the continuous improvement of the disaster dashboard. Here information can now be found in relation to road closures, flood levels, camera footage of common flood areas, evacuation centres and other important information.

[3] https://www.igem.qld.gov.au/south-east-queensland-rainfall-and-flooding-event-february-march-2022-review
[4] https://www.igem.qld.gov.au/south-east-queensland-rainfall-and-flooding-event-february-march-2022-review

To keep the community informed, Council is also sending notifications and warnings through social and general media, like River 94.9. If there is an immediate threat to life, an Emergency Alert process is initiated to distribute text messages to all mobile devices in the hazard area.

Observation:

During the community consultations, it was raised that the community would appreciate further initiatives to enhance hazard/impact awareness. Suggestions included flood cameras, alarms at strategic locations and improvements to the messages' language.

Observation:

Gauge levels are challenging to understand for community members and they are more interested in what it means for road closures.

Observation:

Clarity in messaging is essential; however, technical terminology and acronyms are frequently used in messaging, which can create misunderstandings.

Insight:

Council is continually reviewing opportunities to improve community information. Since the flood, four council cameras have been installed with six more currently in progress, that can be viewed via the Disaster Dashboard.

Recommendations

2. Support: Explore opportunities to expand the flood camera network and alternative methods of community notification, including alarms (not depending on technology alone). Assess the benefits versus risks to inform the selection of methods.

3. Process: Review the content of community messages and identify opportunities to refine the hazard/impact descriptions and call to action, including for Culturally and Linguistically Diverse community members. Avoid using acronyms and technical information like gauge levels.

4. Process: Implement continuous community engagement outside a disaster in Council's role and responsibilities and an information campaign on what Council is doing.

5. Technology/Process: Explore opportunities to make flood information more accessible to the community.

Role of Councillors

Ipswich has dedicated elected officials that go above and beyond for their community. This is appreciated by the local community and is reflected in the outcomes of the community consultation.

> " **Councillors reached out to the community after the flood event and helped for which we are very grateful.** "

The context is different in each Local Government Area and the optimal role of Councillors in a disaster is also different.

The review has found the most value for Ipswich is in Councillors supporting their communities on the ground and providing the situational awareness and insights back into the response through a single pre-agreed channel and process.

This community engagement is to take place within appropriate safety controls and by adhering to disaster management principles and Ipswich arrangements, i.e., the disaster dashboard.

To optimally support their constituents, Councillors need regular updates on the situation. It was found that developing written Sitreps is a time-consuming, labour-intensive task; in addition, information changes constantly and so does the accuracy/relevance of the Sitrep. Receiving live status updates through an online collaboration platform will likely reduce the challenges related to the Sitrep.

Since the flood, the Disaster and Emergency Management Councillor Toolkit has been developed and is currently in the review stage. This toolkit includes the required key elements: Councillor liaison arrangements, roles, responsibilities and duties, safety expectations, briefing process, issues management process and information request process.

Recommendations

6. Process/People: Secure endorsement for the Councillor toolkit and familiarise/promote its use among the Councillors.

7. Process: Implement live response and recovery briefing opportunities for Councillors with the interval depending on the severity, complexity and circumstances of the disaster.

Flood Mitigation – Infrastructure and Planning Schemes

Ipswich has a high flood risk and it will flood again. Protecting the community requires a holistic approach that includes city planning, flood mitigation infrastructure, hazard monitoring resources as well as a flood response capability. This is recognised by Council in the Floodplain Management Strategy and the Ipswich Integrated Catchment Plan.

Council also has an internal capability that is dedicated to minimising flood risk across the Local Government Area.

Across the Ipswich LGA, some constituents raised the issue of historic approval of developments on floodplains within the Ipswich LGA. These community members believed transparency in the assessment process would be beneficial to dealing with the issue.

To ensure planning considerations are appropriately addressed, the New Ipswich Planning Scheme[5] has been initiated, which includes consideration of flooding and major urban catchment flow.

Observation:

This flood demonstrated some areas are so susceptible to flood that rebuilding may not be the best option.

Through the Queensland Government's Resilient Homes Fund a total of $350 million has been allocated for the purchase of flood-impacted homes, which is expected to secure the purchase of approximately 500 homes, of which approximately 150 are expected to be in Ipswich.[6]

At time of publication:

- 158 properties in total had registered and met Queensland Reconstruction Authority (QRA) program guidelines with valuations now to be undertaken by QRA; and

- 32 offers have been made, of which 27 were accepted in full; of those 27, 11 properties are now under formal contract of sale and 4 properties have settled.

Insight:

Risk reduction is achieved through the Resilient Home Fund and city planning initiatives.

Recommendations

8. Process: Assess future purposes for identified high risk flood areas that were severely damaged during this flood, i.e. areas like Colleges Crossing.

9. Process: Explore opportunities to further enhance disaster preparedness within high-risk communities, for example those that become isolated.

Collaboration with Community Support Organisations

Observation:

Ipswich has a valuable resource in its local community support organisations. Council works closely with many of these organisations in business-as-usual to address the needs of vulnerable community members. These organisations could add significant value in a disaster response/recovery and some of them already do. It was found that leveraging the local human/social network could be further optimised.

This has led to the human/social network mapping initiative recently commenced in Ipswich. Under the leadership of the Human/Social Task Force Coordinator, local community organisations workshopped how they can contribute to the various aspects of disaster response/recovery and what they would need (resources, training, processes) to assist. This network could assist with key response/recovery activities, for example displaced residents, spontaneous donations, mental health support, complex cases and any other response/recovery challenge as it emerges.

The Ipswich Human/Social Network
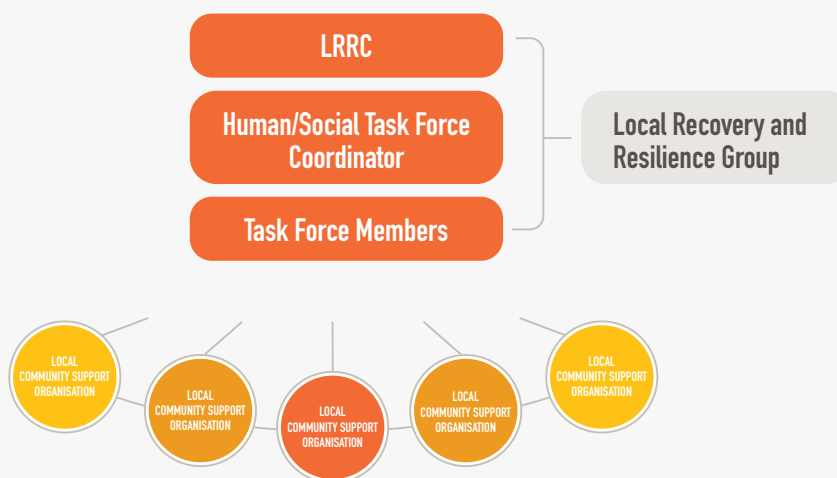
Insight:

Optimising the human/social network could lead to more efficient deployment of resources across all network members, better community outcomes and stronger relationships with and between local community organisations.

Recommendations

10. Organisaion: Process the outcomes of the human/social network initiative in a human/social network capability matrix and supporting contact list. Re-engage with network members to formalise the working arrangements during disaster response and recovery. Provide ongoing initiatives to build the capability and capacity of the human/social network.

Business Continuity Considerations for the Ipswich Business Community

Ipswich is home to an entrepreneurial and resilient business community.

As of 23 August 2022, 40 Ipswich businesses passed the Best of QLD assessment.

By creating positive word of mouth for Queensland, it will help to attract more visitors, grow expenditure and increase market share. [7]

The program has been developed in partnership with the state's regional tourism organisations, the Queensland Tourism Industry Council and the Department of Tourism, Innovation and Sport. It identifies and recognises experiences that best bring the Queensland story to life and consistently deliver an exceptional customer experience.[8]

The initial business needs were met through the Councils flood waste collection initiatives and from there, support was provided through assisting with grant application, creation of the Business Ipswich site (https://www.businessipswich.com.au/) and promotion of the GIVIT Small Business Hardship appeal.

Council's Economic Development Branch has helped 11 businesses to get funding including helping small businesses with applications that were rejected, incomplete or found with missing information to reapply with a greater success rate.

Observation:

CALD business owners are disadvantaged in grant and funding applications due to language barriers. Various state government agencies are implementing initiatives to engage with CALD community members; however, most forms remain solely in English.

Observation:

Increased growth in Local Chambers of Commerce membership numbers indicate determination and need to build connections.

---

[7] The Best of Queensland Experiences Program (BOQEP) is an innovative program that guides the Queensland tourism industry to deliver exceptional transformational experiences.
[8] https://teq.queensland.com/au/en/industry/industry-resources/best-of-queensland-experience-program

Recommendations

11. Process: Continue to build on existing initiatives to strengthen local business community connections, and explore opportunities to assist businesses in enhancing their resilience through disaster planning, provided in the various languages commonly spoken in the Ipswich Local Government Area.

Strategic Findings

To implement the findings of the review the following stages are recommended.

Firstly, Council ELT and EMU and other stakeholders as appropriate to meet to confirm endorsement of the recommendations and plan actions through a workshop. As part of the review, the outcomes of this workshop will be captured in an action plan that outlines tasks, roles and responsibilities, resource needs, milestones and success criteria.

Following that, finalise the action plan and any documents that are recommended for development/ finalisation as part of this review.

Council ELT is to resource and monitor implementation of the action plan and relating documents and communicate intent, priorities, actions and progress across the organisation.

Regular progress review times are to be set, until the success criteria of the action plan have been met.