



Tropical Cyclone Jasper
Economic Impact Assessment



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1 Details

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2 Executive Summary

Cairns Regional Council (CRC) wishes to gain an understanding of the economic and employment impacts (short, medium, and long-term) of Tropical Cyclone (TC) Jasper and the subsequent flooding severe weather event, and accordingly commissioned Conus Business Consultancy Services (Conus) to provide a detailed Economic Impact Assessment (EIA).

A key aspect of this report was an extensive online Survey to businesses throughout the impacted areas with 511 respondents answering key questions about the impact of the severe weather event on their business. Consideration was given to findings at both the regional Cairns SA4¹ level and the CRC Local Government Area (LGA) level. Key findings of the survey specific to the Cairns SA4 Region:

- **85.9% of businesses reported being impacted** to some degree by the event. 46.7% reported being directly impacted by a loss of power. 21.4% reported wind damage from the actual TC itself while 34% also reported either partial or full water inundation.
- The scale of this **asset damage**, from the 511 respondents, was estimated at **just over \$101 million**. The median value of asset damage was \$20,000, although 7.5% of businesses impacted indicated the damage to be severe, in excess of \$500,000.
- Of those impacted, **38.8% reported that their employment was also impacted**.
- Consistent with other major natural disasters in Queensland, a **greater portion of businesses experienced indirect but potentially even more serious impacts to their business**. 73.2% of businesses had to temporarily close, 71.3% businesses indicated their customers were impacted and that they would be in turn, 52.6% indicated their employees were unable to attend work and 31.6% businesses indicated their suppliers were affected in turn creating disruption to their sales.
- Almost **3% of respondents reported a permanent closure** of their business.
- The **impact on business earnings has been significant**, either as a result of having to close for some time or by way of impacted customers. Of those businesses experiencing financial losses, 41.8% of businesses indicated that they had lost between \$10,000 and \$50,000, 11.1% have lost between \$50,000 to \$99,999 and 12.8% have lost between \$100,000 and \$500,000. 4.3% indicated that they have lost more than \$1 million in earnings.
- **Expected losses are anticipated to further accumulate**. The median value of lost revenue to date has been \$20,000 while the anticipated total median impact is \$30,000 for each business. This is confirmation that the total impact of the weather event increases over time particularly as a result of indirect impacts on business revenue reducing consumer and business spend in the region.
- The average time from the event before **business recovery is estimated to be 6.2 months**.
- 32% of businesses indicate that claiming assistance has been 'Very Easy' or 'Somewhat Easy', and the same number claiming it was either 'Very Difficult' or 'Somewhat Difficult'. Only 16.4% of respondents reported having received support. **The total amount of support reported from those 69 businesses who reported receiving it was \$724,890.**

¹ Statistical Area Level 4 as defined by Australian Statistical Geography Standard (ASGS) Edition 3

Similar findings were evident for businesses located within the CRC LGA, although the extent of impact was slightly less severe.

Based on survey results, macro-economic analysis and modelling was undertaken to determine the short, medium, and long-term economic and employment impacts within the Cairns SA4 Region and CRC LGA. Key results from this analysis include:

2.1 Cairns SA4 Region

Collectively businesses are assessed to have lost 4.1% of their annual revenue. The impact of TC Jasper and the flooding event on the Cairns SA4 region's **GRP is estimated to be a reduction of \$649.1 million**, with most of this impact falling within the 2023/24 financial year. Specific Government assistance directed at support for business turnover (rather than capital or rebuild grants and loans) is estimated to have lessened this reduction to \$643.8 million. This impact will be further partially offset by rebuild activities and capital grants and loans.

38.8% of Cairns SA4 businesses reported that their employment, either in the short or medium-term was impacted. The general trend was that in the short-term (up to end of April 2024) there was a net 4.7% (6,706 persons) reduction in employed persons. However, in the medium-term (May 2024 – May 2025) this is anticipated to reduce to a net 1.0% (1,436 person) reduction in employed persons inferring 5,270 persons were, or will be, rehired.

Table 2.1 Summary Impact on Employment		
Cairns SA4	Short-Term	Medium-Term
% recording impact on employment	38.8	
% reduction in employment	-4.7	-1.0
Estimated lost jobs (persons)	6,706	1,436

Many businesses are still unsure of what their insurance company will cover, with a significant number indicating they are still awaiting assessment or an outcome of an assessment. To date, the median insurance payout has been only \$15,000. Concerningly only a little over 50% of asset damage appears to have been insured.

2.2 CRC LGA

In general, the impacts have been less severe and the time to recovery is shorter for businesses within the CRC LGA compared to those across the broader Cairns SA4 region. 83.8% of businesses reported being impacted while the average time to recovery was 3.4 months. **Collectively businesses are assessed to have lost 3.6% of their annual revenue.**

The impact of TC Jasper on CRC LGA's **GRP is an estimated reduction of \$389.4 million** with most of this impact falling within the 2023/24 financial year. Specific Government assistance directed at support for business turnover (rather than capital or rebuild grants and loans) is estimated to have lessened this reduction to \$385.5 million. This impact will be further partially offset by rebuild activities and capital grants and loans.

36.2% of CRC LGA businesses reported that their employment, either in the short or medium-term was impacted. The general trend was that in the short-term (up to end of April 2024) there was a net

3.6% (3,450 persons) reduction in employed persons. However, in the medium-term (May 2024 – May 2025) this is anticipated to reduce to a net 0.05% (758 persons) reduction in employed persons inferring 2,692 persons were, or will be, rehired.

CRC LGA	Short-Term	Medium-Term
% recording impact on employment	36.2	
% reduction in employment	-3.6	-0.05
Estimated lost jobs (persons)	3,450	758

2.3 Industry Sectors and Business Size

Across the Cairns SA4 region the greatest percentage impacts to revenue were on the Agriculture, Forestry and Fishing (-10.7%) and the Arts and Recreation Services (-9.8%) sectors. The greatest percentage impacts to employment in the medium-term were on the Accommodation and Food Services (-1.4%); Agriculture, Forestry and Fishing (-1.7%) and Retail (-2.8%) sectors.

Cairns SA4	#	% businesses impact	recovery months	% change revenue	% change emp short-term	% change emp med-term
Accommodation and Food Services	71	94.4	5.0	-4.8	-8.2	-1.4
Administrative and Support Services*	7	100.0	3.7	-1.9	+7.2	+9.8
Agriculture, Forestry and Fishing	28	96.4	9.7	-10.7	-2.4	-1.7
Arts and Recreation Services	30	90.0	11.6	-9.8	-10.2	1.0
Construction	41	80.5	4.9	-6.3	-3.7	+2.3
Education and Training*	19	78.9	6.8	-4.0	-6.7	-7.7
Electricity, Gas, Water & Waste Services*	4	100.0	2.0	-0.7	-8.4	-4.8
Financial and Insurance Services*	11	81.8	4.0	-2.2	-4.2	-4.2
Health Care and Social Assistance	44	93.2	6.0	-0.7	-0.9	-0.5
Information Media & Telecoms*	8	75.0	8.9	-12.6	-23.0	-9.5
Manufacturing*	20	90.0	6.1	-6.8	-13.3	-9.5
Mining*	2	50.0	5.0	-1.2	+44.0	+47.1
Other Services	91	78.0	5.1	-3.5	-2.3	-1.0
Professional Scientific & Technical Service	36	80.6	5.6	-4.2	-6.4	+6.9
Public Administration and Safety*	4	100.0	17.8	-0.1	+1.2	0.0
Rental, Hiring & Real Estate Services*	15	66.7	7.9	-5.2	-5.0	0.0
Retail Trade	44	93.2	6.3	-3.3	-11.8	-2.8
Transport, Postal and Warehousing	28	89.3	3.8	-2.5	-2.3	-1.1
Wholesale Trade*	8	100.0	6.4	-3.0	-7.5	-7.5
TOTAL	511	85.9	6.2	-4.1	-4.7	-1.0

*Caution should be exercised in interpreting this result due to low sample number

Respondents were also categorised by number of employees and analysis conducted according to business size.

- Micro – 1 to 4 employees
- Small – 5 to 19 employees
- Medium – 20 – 99 employees
- Large – 100 – 199 employees
- Very Large – more than 200 employees

Micro and Small businesses suffered a far higher percentage impact on both revenue and employment compared to the Medium, Large and Very Large businesses.

Cairns SA4	Micro	Small	Medium	Large & Very Large	Total
# Respondents	316	119	55	21	511
% Impacted	81.7	92.4	90.9	100	85.9
Turnover \$ million	97.20	211.27	814.74	1,770.81	2,894.02
Turnover % of Total	3.4	7.3	28.2	61.2	
Turnover Impact %	-26.0	-7.3	-3.3	-2.8	-4.1
Employees	579	1,001	2,344	9,022	12,623
Employees % of Total	4.6	7.9	18.6	71.5	
S-T Employment Impact %	-41.7	-21.9	-6.3	+0.2	-4.7
M-T Employment Impact %	-16.8	-12.7	+1.6	+0.7	-1.0

² Individual results will not sum to the Total since this data is not weighted across LGAs or Industry sectors.

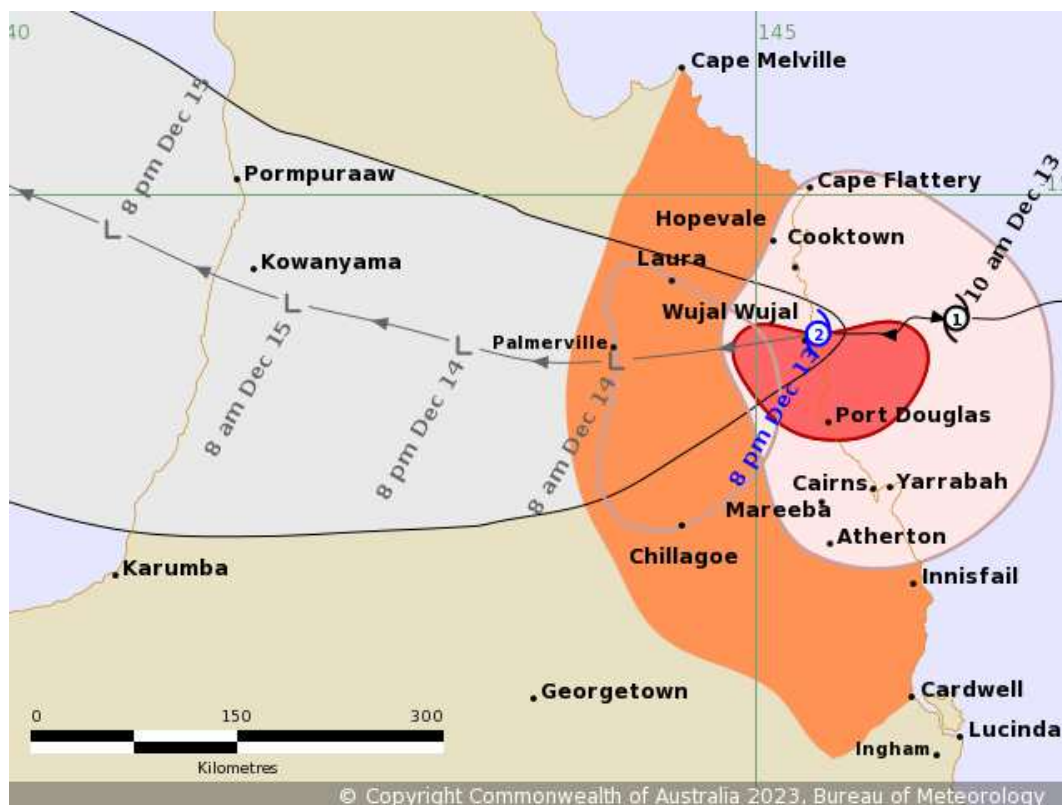
3 Introduction

Tropical Cyclone (TC) Jasper crossed the Queensland coast as a category 2 system in the vicinity of Wujal Wujal in Far North Queensland at around 8 pm AEST on the evening of 13th December 2023. TC Jasper was associated with an significant flooding event causing large-scale transport disruption, widespread power outages, and impacts to agriculture, infrastructure, businesses and tourism.

Conus was commissioned by the Cairns Regional Council to measure the economic and employment impact of this severe weather event on both the Cairns SA4 region in Far North Queensland and specific to the Cairns Regional Council Local Government Area.

4 Tropical Cyclone Jasper

In the days after the crossing of the cyclone torrential rains were experienced across a wide area of Far North Queensland with five-day totals of 2,166 mm reported at Black Mountain and 2,025 mm at Myola. The Barron River surpassed the March 1977 record of 3.8 metres, making the event the worst flooding event since records began in 1915.



The cyclone-related flooding caused significant damage to road infrastructure and resulted in numerous road closures in the region including the Bruce Highway south of Gordonvale and the Captain Cook Highway between Cairns and Port Douglas. Access roads up the Great Dividing Range to the Tablelands region were also severely impacted resulting in the closure of the Palmerston Highway, the Gillies Range Road and the Kuranda Range Road. In particular the Captain Cook Highway remained closed to all traffic until January 20th (when it reopened with a number of single lane sections) and the Palmerston Highway did not open until February 10th, also with a single lane section.

The Cairns Airport was closed to all flights on 12th December, immediately before land-fall of TC Jasper (this was a normal safety procedure in the face of an impending cyclone), but was then forced to close again on 17th and 18th December as the swollen Barron River breached levee walls and flooded the main runway at the Airport. General Aviation activities at the Airport were also severely impacted.

The main North Coast rail line was reopened just before Christmas, but the Kuranda Scenic Railway reopened for weekend services only in mid-February and a full service restarted in early March 2024.

The Cairns suburbs of Machans Beach and Holloways Beach were especially badly impacted by the flooding of the Barron River, with many properties inundated, roads destroyed or damaged and residents forced to evacuate.

Extensive power outages were experienced across the region with about 40,000³ properties and businesses without power for extended periods.

5 Cairns Region – Profile

For the purposes of this report, we will be considering the ‘Cairns region’ in Far North Queensland which is the Statistical Level Area 4 (SA4) region named ‘Cairns’ as defined by the Australian Statistical Geography Standard Edition 3⁴. The report also includes separate analysis of the Cairns Regional Council Local Government Area (CRC LGA).

While SA4 Cairns is not specifically aligned with Local Government Area (LGA) boundaries it includes the following LGAs.



- Cairns Regional Council (CRC)
- Douglas Shire Council (DSC)
- Tablelands Regional Council (TRC)
- Mareeba Shire Council (MSC)
- Cassowary Coast Regional Council (CCRC)
- Yarrabah Aboriginal Shire Council (YASC)

The Cairns Region is located in the northern-most part of Queensland. The Region encompasses a total land area of more than 317,000 square kilometres. FNQ includes significant areas of national park and state forest, rural areas and urban areas. The main urban centre is Cairns, with smaller urban areas in the townships of Atherton, Babinda, Cardwell, Cooktown, Gordonvale, Ingham, Innisfail, Karumba, Mareeba, Mission Beach, Mossman, Normanton, Tully and Port Douglas.

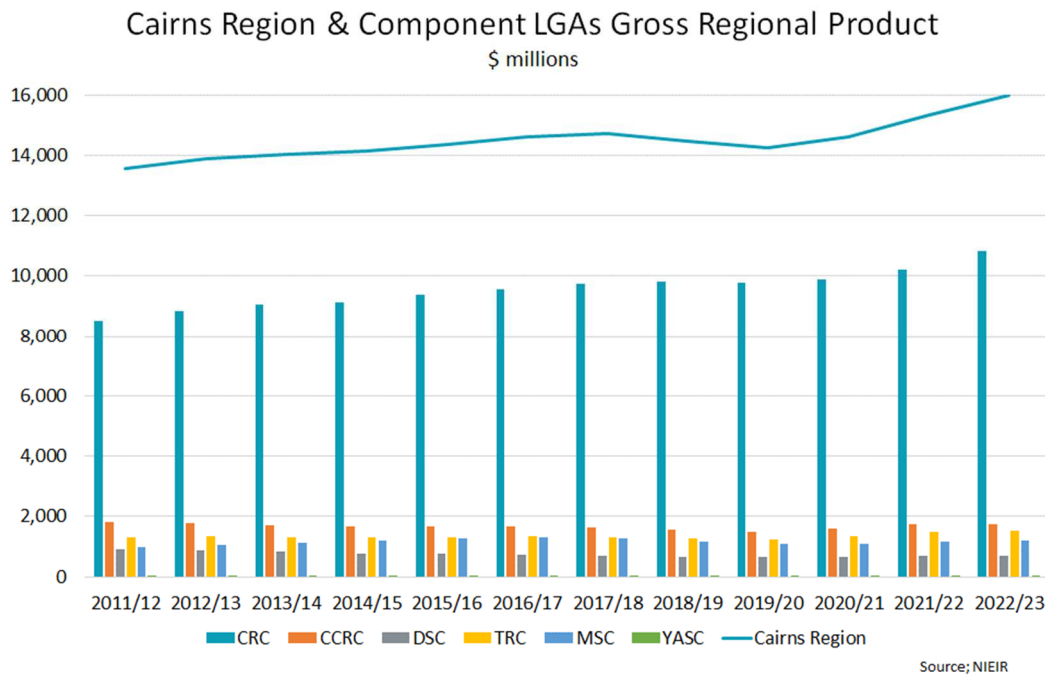
³ Ergon Energy Cyclone Jasper Restoration Plan

⁴ www.abs.gov.au/websitedbs/D3310114.nsf/home/geography

5.1 Economy

5.1.1 Gross Regional Product

Annual modelling by the National Institute of Economic and Industry Research (NIEIR) provides data at the LGA level for Gross Regional Product (GRP). The most recent data available⁵, for 2022/23, shows the combined GRP for the Cairns region as \$15.97 billion, which represents 3.4% of total Queensland Gross State Product (GSP). This share of the State’s economy has fallen from 3.9% in 2009/10.



Over the previous decade GSP growth in Queensland has been 24.5% while in the Cairns region GRP growth has managed growth of just 14.9%. However, in more recent years growth in the Cairns region has exceeded that at the State level. Cairns GRP has grown 12.1% in the past three years while Queensland GSP was up 11.0%.

The CRC LGA contributed 69.2% of the Cairns region’s GRP in 2022/23 (up from 62.7% in 2011/12). Over the previous decade the CRC LGA GRP has grown by 22.6% (significantly faster than the broader Cairns region), although in the past three years growth, at 10.9%, has been much closer to that seen at both the regional and State level.

These results highlight the fact that over the years since the COVID pandemic the Cairns economy (both at the SA4 and LGA level) has performed similarly to the State. Given the region’s heavy reliance on the tourism sector, and the anticipated significant impacts this sector was likely to face as borders closed and economic activity slowed, this can only be seen as an outstanding result. The strength of domestic tourism in the face of the pandemic, the highly diversified nature of the region’s economy, and efforts by tourism bodies, Chambers, business advocates and Local Governments across the

⁵ This data is available online for each of the LGAs at the economy.id website. 2022/23 figures are based on unpublished estimates for CRC 2022/23 from NIEIR which have been extrapolated to the other LGAs based on the correlation of 10-yr average growth rates for CRC and the other LGAs.

region all played their part in ensuring the region was in a very healthy economic position before TC Jasper hit.

Year	CRC LGA GRP \$ mill	% change y/y	Cairns SA4 GRP \$ mill	% change y/y	Queensland GSP \$ mill	% change y/y
2011/12	8,506	+2.3	13,568	+2.8	362,790	+5.8
2012/13	8,830	+3.8	13,898	+2.4	373,159	+2.9
2013/14	9,047	+2.5	14,047	+1.1	380,604	+2.0
2014/15	9,127	+0.9	14,127	+0.6	383,818	+0.8
2015/16	9,366	+2.6	14,366	+1.7	392,991	+2.4
2016/17	9,553	+2.0	14,599	+1.6	403,260	+2.6
2017/18	9,758	+2.2	14,706	+0.7	419,368	+4.0
2018/19	9,802	+0.5	14,468	-1.6	423,285	+0.9
2019/20	9,768	-0.4	14,244	-1.6	418,498	-1.1
2020/21	9,881	+1.2	14,601	+2.5	430,157	+2.8
2021/22	10,216	+3.4	15,331	+5.0	454,026	+5.6
2022/23 ⁶	10,829	+6.0	15,974	+4.2	464,580	+2.3
10-yr change	to 2022/23	+22.6		+14.9		+24.5
3-yr change	to 2022/23	+10.9		+12.1		+11.0
Sources: NIEIR and ABS State Accounts						

5.1.2 Industries

5.1.2.1 Cairns SA4 Region

The Cairns region's economy is the one of the three most diverse regional economies in Queensland with a Hachman index⁷ of 0.92. After the effects of the COVID pandemic were initially felt, the Hachman index in Cairns fell to 0.88 in mid-2021. Although it has now recovered much of that loss, its current value remains below its recent high of 0.95 recorded in early 2020 at which time it held the title of most diverse regional economy in Queensland.

The Healthcare and Social Assistance sector employs more than 27,000 people in the region and is the largest single employing sector accounting for almost 19% of total employment⁸. The sector also provides more than 13% of the total Industry Value Add⁹.

Other significant industry sectors include.

- Retail Trade which employs 17,600 people and contributes almost 7% to Value Add.
- Education and Training employs 14,600 people and adds another 7% to Value Add.
- Construction employs 13,500 people and adds more than 9% to Value Add.

⁶ 2022/23 figures are based on unpublished estimates for CRC 2022/23 from NIEIR which have been extrapolated to the other LGAs based on the correlation of 10-yr average growth rates for CRC and the other LGAs.

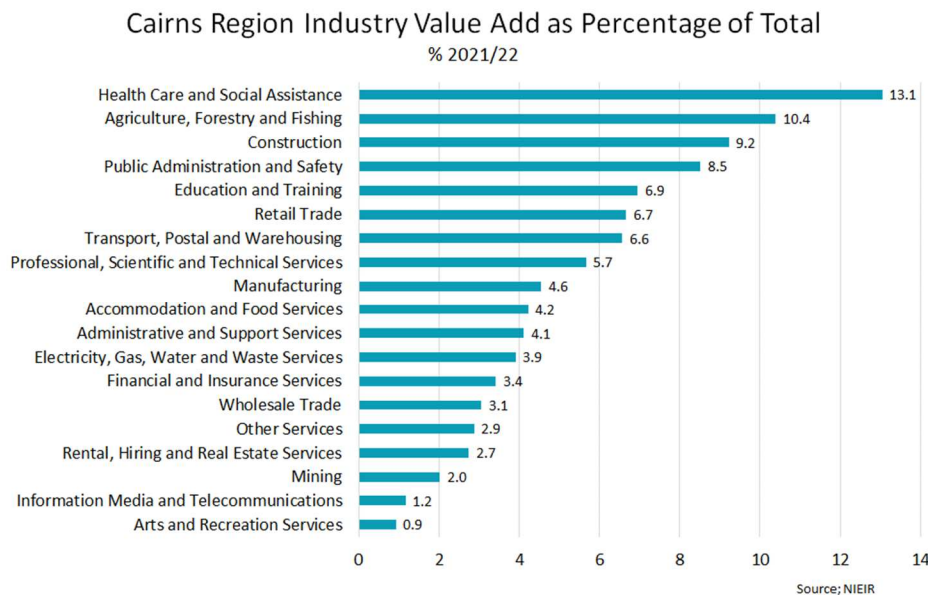
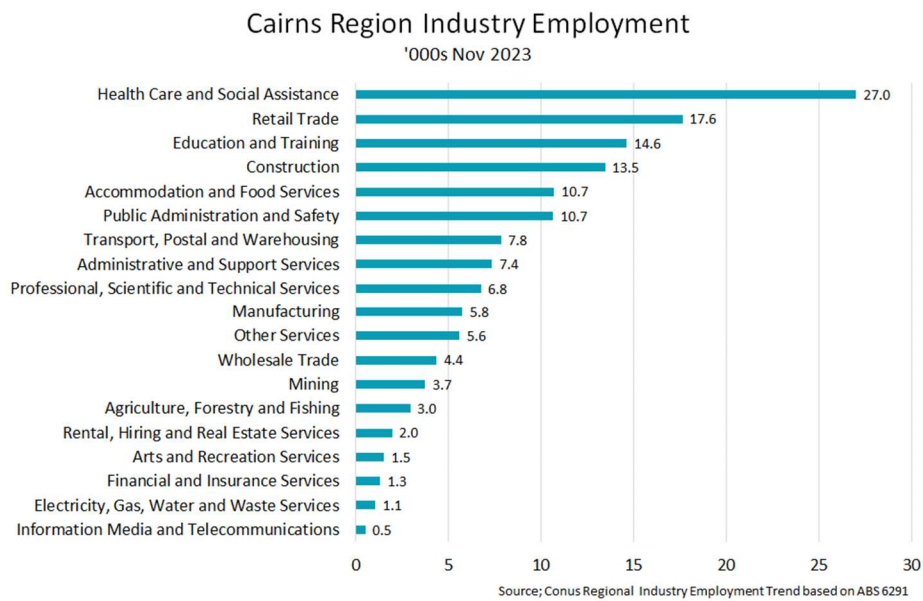
⁷ The Hachman Index measures the diversity of an economy relative to a benchmark (in this case Queensland). A score of 1.0 would indicate an economy as diverse as the benchmark. As at November 2023 Cairns was the third most diverse economy in regional QLD with a score of 0.92. Source; Conus derived from ABS quarterly regional industry employment data.

⁸ Data sourced from Conus Regional Industry Employment Trend Nov 2023

⁹ Value added by industry is an indicator of business productivity in the region. It shows how productive each industry sector is at increasing the value of its inputs. Source economy.id

- Agriculture, Forestry and Fishing which employs just 3,000 people but adds more than 10% to regional Value Add.

It should be noted that ‘Tourism’ does not appear as an industry sector since it is not defined as an industry within the Australian and New Zealand Standard Industrial Classification (ANZSIC) system¹⁰. This report considers the Tourism sector in more detail in Section 8 below.



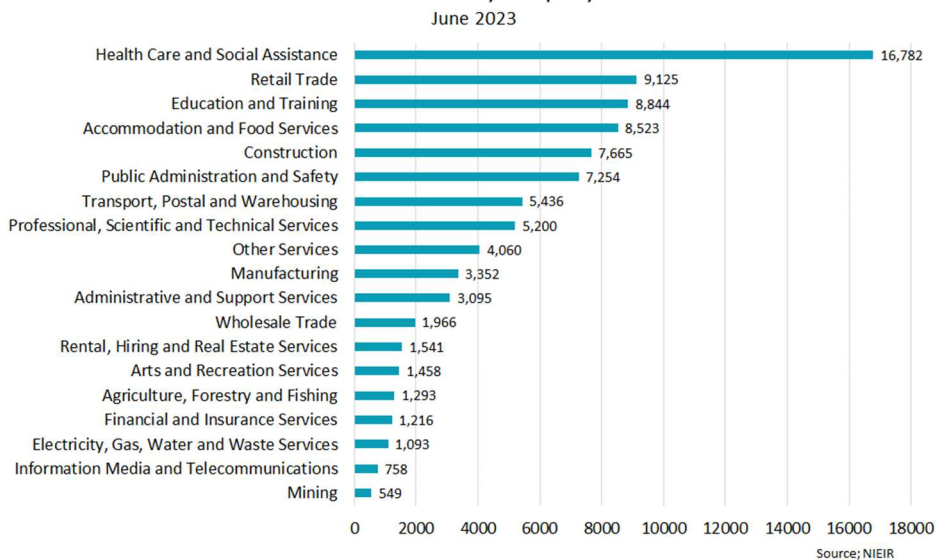
5.1.2.2 Cairns Regional Council LGA

The industry breakdown within the CRC LGA differs somewhat from that at the regional level, in particular the contribution of the Agricultural sector to the CRC’s GRP is significantly less than at the

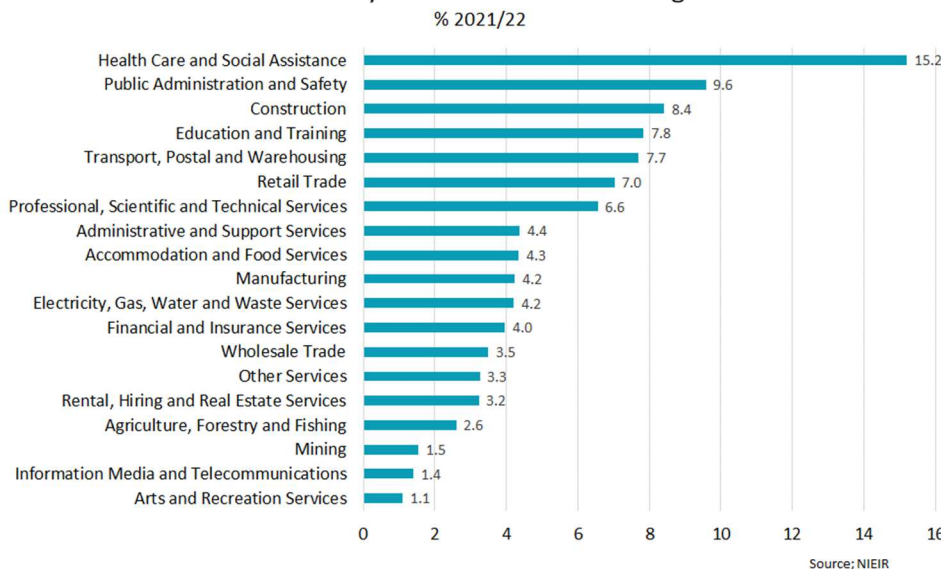
¹⁰ www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-industrial-classification-anzsic/latest-release

regional level (2.6% versus 10.4%). Conversely, both Healthcare (which is also the LGA’s largest employing sector) and Public Administration are more significant contributors to the LGA economy than at the regional level. The industry employment data for CRC LGA in June 2023 has been estimated using unpublished total employment data to June 2023 from NIEIR extrapolated to the split of industry employment reported by NIEIR in June 2022.

CRC LGA Industry Employment



CRC LGA Industry Value Add as Percentage of Total



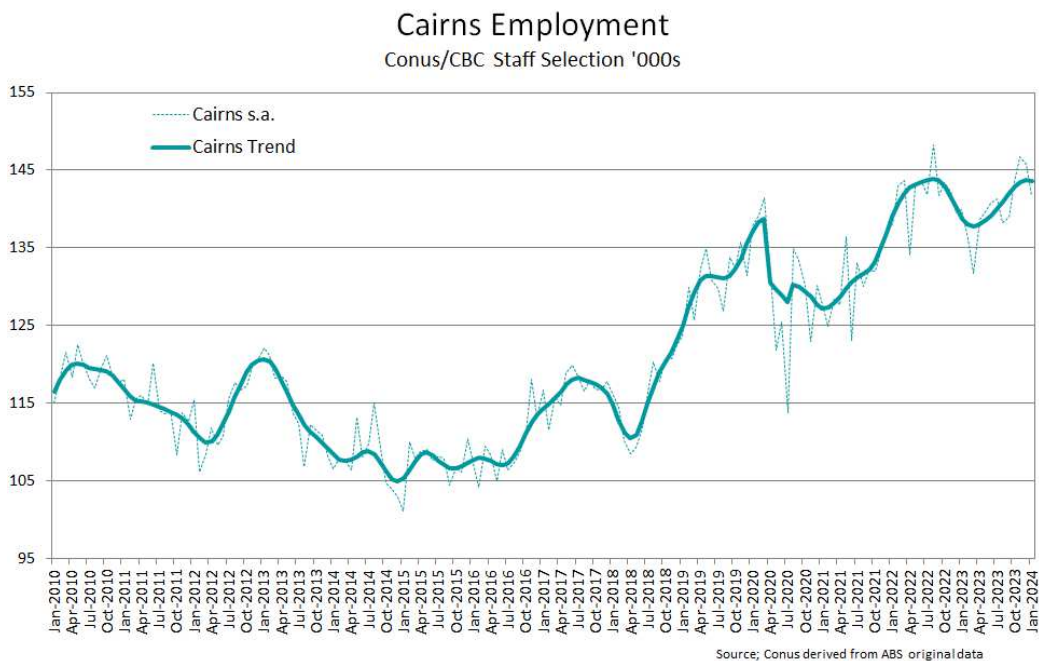
5.1.3 Employment¹¹

There were 143,600 people employed within the Cairns region in January 2024. The Trend unemployment rate stood at 4.8% with the Participation Rate at 68.3%.

¹¹ All regional data for Cairns in this section is sourced from Conus/CBC Staff Selection Regional Trend Employment derived from original ABS regional Labour Force data.

Employment sits close to a record high after recovering from sharp declines as the effects of the COVID pandemic impacted the region through 2020 and 2021. Trend employment growth over the year to January stood at +3.5% which compares very favourably with the Queensland (+3.2%) and national (+2.6%) rates of growth.

At the CRC LGA level the NIEIR estimate¹² for employment in June 2023 was 91,942 people, representing 66% of the Trend Cairns SA4 employment at that time. This aligns quite closely with the CRC LGA's share of regional GRP (69.2%). Applying this share (66%) to the Trend employment figure for January 2024 would suggest that employment in CRC LGA at the start of 2024 was 94,776.



5.2 Population

Population growth across Australia slowed sharply through 2020 and 2021; international migration came to a virtual halt as international borders were shut in response to the COVID pandemic. However, since then population growth in Australia has accelerated rapidly and in June 2023 was running at 2.4%¹³ p.a., its fastest pace since the ABS started compiling quarterly population estimates in 1981. In the decade before the pandemic, average population growth was just 1.6% p.a.

Since March 2020 the pace of internal migration out of capital cities (in particular Melbourne and Sydney) has increased and recent estimates for population growth in Queensland¹⁴ show an increase in the year to June 2023 of 2.6%. This compares to an average growth rate of 1.6% p.a. in the decade before COVID.

¹² Unpublished data from NIEIR for June 2023.

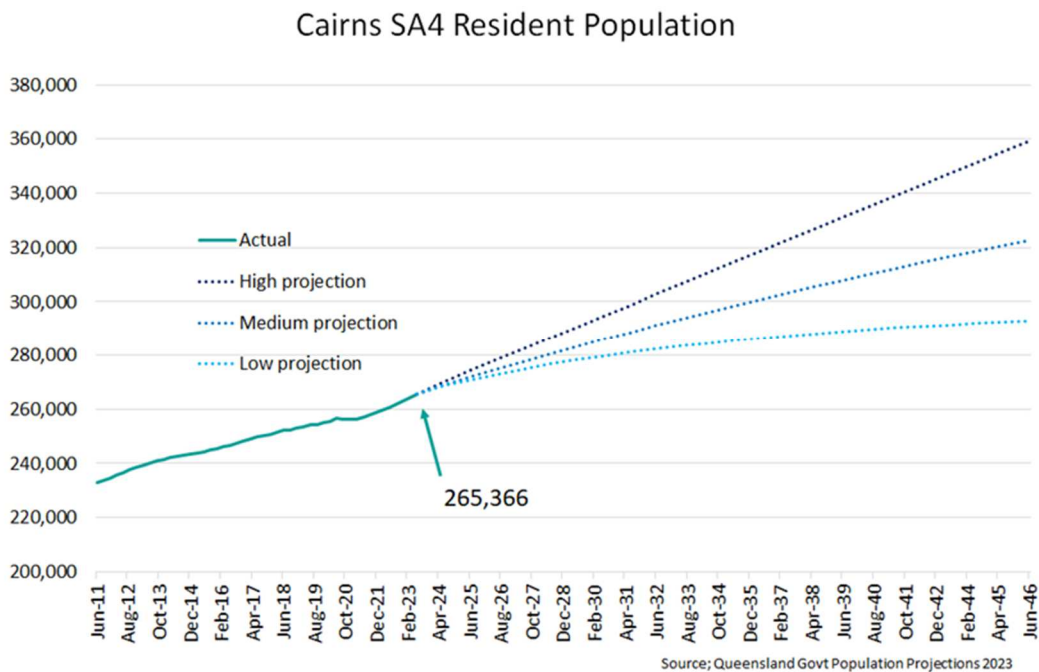
¹³ ABS; National, state and territory population June 2023

¹⁴ *ibid*

5.2.1 Cairns SA4 Region

Current residential population in the Cairns region is estimated (June 2023)¹⁵ to be 265,366 having grown by 1.8% over the previous year. This compares to growth of 2.6% in Queensland for the same period. For the ten years prior to the COVID pandemic population growth across the Cairns region had averaged 1.4%.

The most recent population growth projections for the Cairns region¹⁶ indicate estimated annual growth of between 0.4% and 1.3% pa through to 2046 with the region’s population projected to grow to 322,873 (medium series) by 2046.



5.2.2 Cairns Regional Council LGA

Current residential population in the CRC LGA is estimated (June 2023)¹⁷ to be 175,398 having grown by 2.0% over the previous year. For the ten years prior to the COVID pandemic population growth in the CRC LGA had averaged 1.4%.

The most recent population growth projections for the CRC LGA¹⁸ indicate estimated annual growth of between 0.7% and 1.7% pa through to 2046 with the LGA’s population projected to grow to 231,164 (medium series) by 2046.

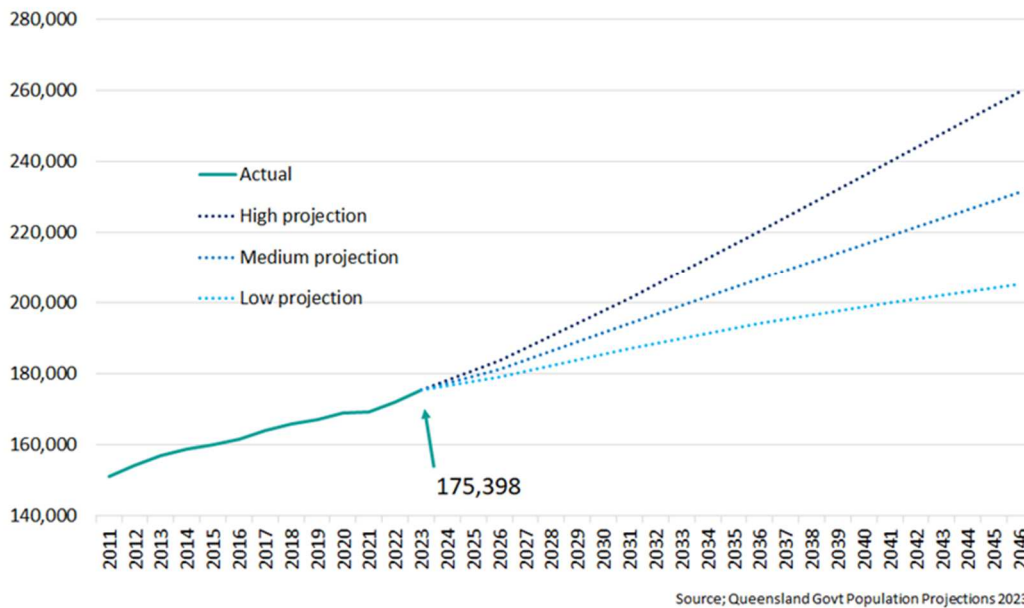
¹⁵ ABS; Regional population 2022/23

¹⁶ Queensland Government; Population Projections, 2023 update edition: Queensland SA4

¹⁷ ABS; Regional population 2022/23

¹⁸ Queensland Government; Population Projections, 2023 edition: Queensland LGA

Cairns Regional Council Resident Population



6 Business Survey

6.1 Survey Scope

Cairns Regional Council (CRC) wished to understand the economic impact (short, medium, and long-term) on the CRC Local Government Area (LGA) and broader Cairns SA4 region of the severe weather event caused by TC Jasper and subsequent flooding just before Christmas 2023. This Economic Impact Assessment (EIA) was commissioned to inform the CRC’s Recovery Plan in response to that and future disasters.

The Scope of Work outlined in the Request for Quote comprised two main parts for both the CRC LGA and the Cairns SA4 regions;

- Part 1 - a macro-economic analysis of the impact on Gross Regional Product (GRP) and employment (by industry)
- Part 2 - a micro-economic analysis of a variety of topics including impacts by business size, on tourism, on the agricultural sector, transport networks, air and sea transport etc.

6.2 Methodology

The methodology used for the economic impact assessment of TC Jasper consisted of three main elements:

- Macro-economic analysis and modelling was undertaken to determine the short, medium, and long-term impacts. This involved accessing a suite of macro-economic data for the CRC LGA and Cairns SA4 regions, gathering data on the economic impact felt by businesses in the face of the event, and incorporating this data into an economic model to estimate economic effects.

- Development and distribution of an extensive online Survey to businesses throughout the target areas. The Survey aimed to gather information on a raft of impacts felt by businesses to both inform the modelling above and to garner sufficient information to answer questions from Council. Specific issues covered within the Survey covered business size, direct and indirect impacts of the weather impacts on turnover and employment, and levels of insurance cover, along with more qualitative queries on issues such as access to information and assistance available.
- The Survey was supplemented with one-on-one discussions with key stakeholders across the region where useful, feasible and necessary. Desktop research was also undertaken to establish information currently available for Cairns SA4 and the CRC LGA and the impact the weather event had on industry sectors through reduced turnover and employment.

The economic impact assessment for the report primarily considers impact to GRP and employment. Survey results were weighted to account for any disparities between the attributes and distribution of Survey respondents and the known attributes and distribution of the business populations in Cairns SA4 and CRC LGA areas. These weighted results have been assessed quantitatively and used within an economic model to estimate macro-economic impacts.

Table 6.2 Input-Output Model Metrics	
Gross Regional Product	Employment
Gross Regional Product (GRP) is a measure of the total value of all goods and services produced within the CRC LGA and Cairns SA4 regions, over a financial year.	A measure of employment levels (full time equivalents) required to service the demand for economic output per annum.

The aim of the methodology was to determine the extent of damages, what businesses' experience was in relation to receiving Government assistance, businesses' experience with their insurers and what information is required to plan for business continuity following future natural disaster events.

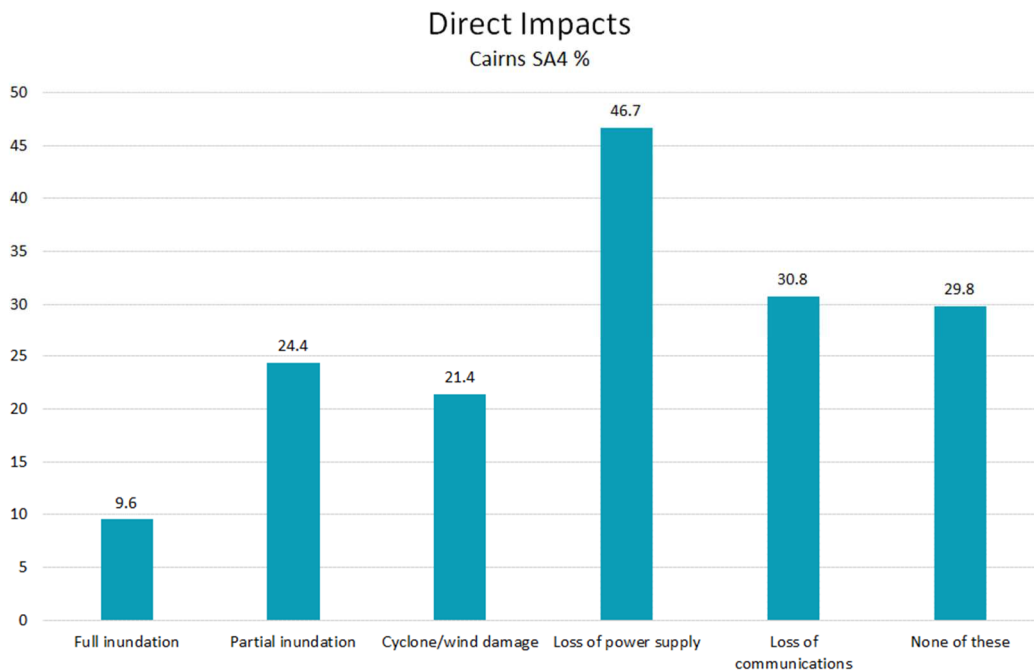
6.3 Survey Results

The estimated macro-economic impacts caused by TC Jasper and the flooding event are covered in detail in Section 7. This Section considers other information obtained from analysis of the Survey.

6.3.1 Cairns SA4 Region

Of the 511 businesses within the target SA4 region who responded to the Survey, 85.9% reported being impacted to some degree by the event.

Respondents who were impacted were asked to identify the kind of direct impacts their business suffered.



29.8% reported no direct impacts, while 46.7% reported being impacted by a loss of power. 21.4% reported damage from the actual TC itself while 34% also reported either partial or full inundation.

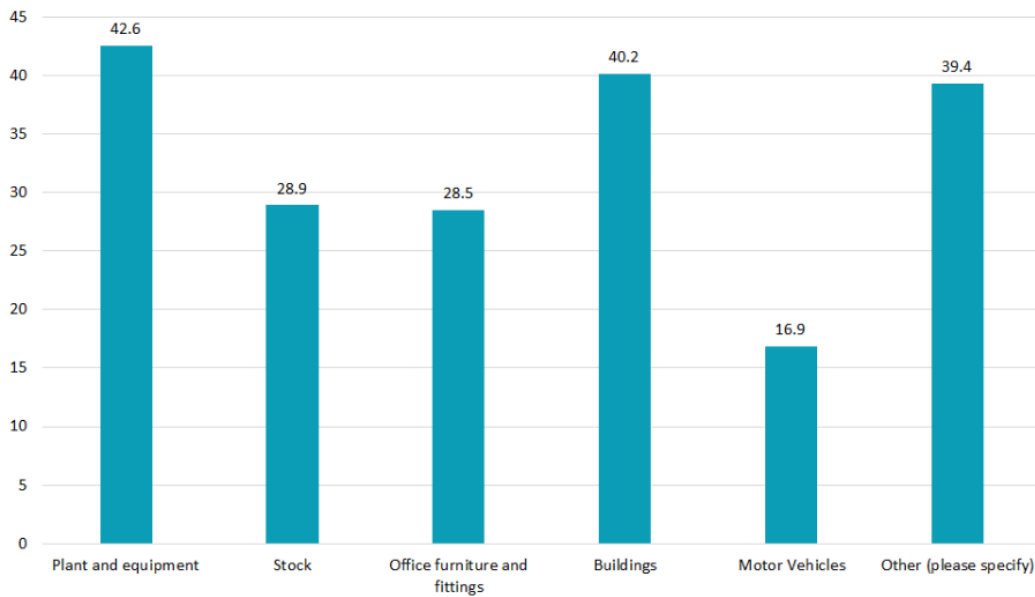
Respondents were asked to identify those assets which were directly impacted by the event. Damage was widespread across the full range of assets. ‘Other’ specific assets identified in the Survey were land, agricultural stock (such as fruit trees) and infrastructure such as fences and access. The scale of this asset damage was estimated at just over \$101 million¹⁹ with just \$55.1 million²⁰ (54.6%) covered by insurance claims. The median value of asset damage was \$20,000, although 7.5% of businesses impacted indicated the damage to be severe, in excess of \$500,000.

¹⁹ This figure excludes the \$113 million of damaged assets reported by CRC

²⁰ This figure excludes the \$2 million insurance reported by CRC

Assets Impacted

Cairns SA4 %



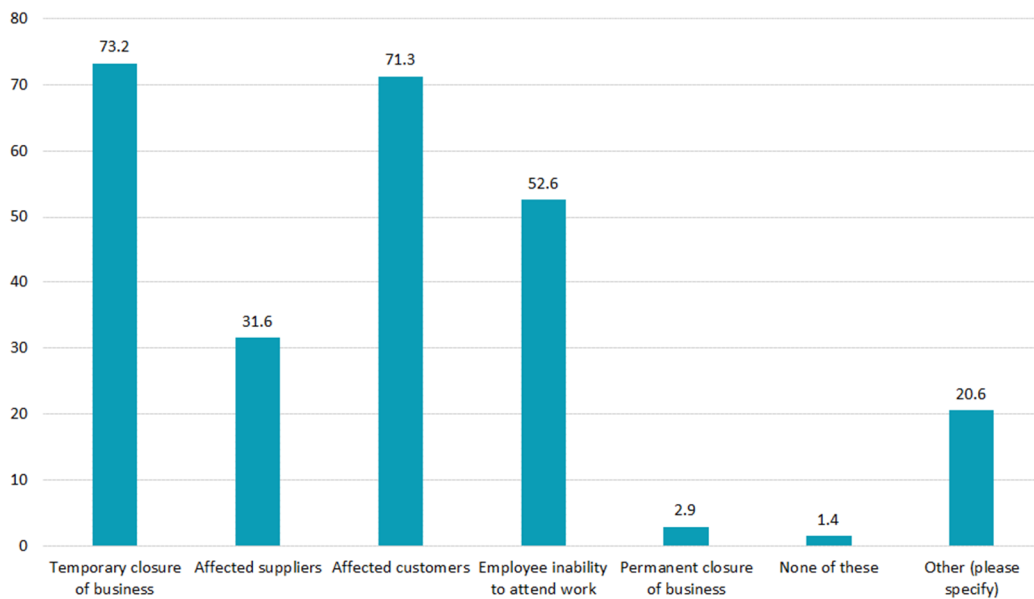
Of those impacted, 38.8% reported that their employment situation, either in the short or medium-term were also impacted (details of the impact on employment are given in more detail in Section 7.2.1).

Consistent to other major natural disasters in Queensland a greater portion of businesses experienced indirect but potentially even more serious impacts to their business. Nearly three in four (73.2%) of businesses had to temporarily close, seven in ten (71.3%) businesses indicated their customers were impacted and that they would be in turn, one in two businesses (52.6%) indicated their employees were unable to attend work and three in ten (31.6%) businesses indicated their suppliers were affected in turn creating disruption to their sales.

Almost 3% of respondents reported a permanent closure of their business.

Indirect Impacts

Cairns SA4 %



6.3.1.1 Other Impacts

In addition to the above, other impacts that have been experienced by Cairns region businesses include:

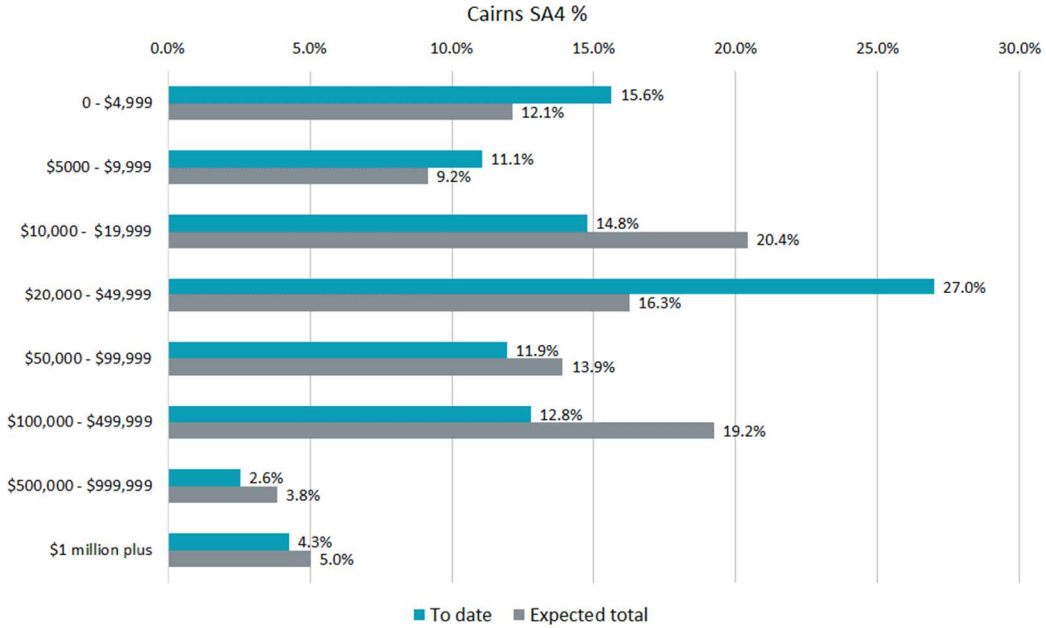
- Road closures and other impacts on transport infrastructure affecting both customers and supply of goods and services.
- Negative portrayal by the media causing cancellation of bookings / business services and reduced sales.
- Reduced tourist numbers.
- Loss of water supply.
- Damage to the reef.
- Wind and water damage to crops and inability to harvest.

6.3.1.2 Viability

The impact on business earnings has been significant, either as a result of having to close for some time or by way of impacted customers.

Of those businesses that have experienced financial losses, around one in four (26.7%) indicated that they had lost less than \$10,000 in earnings to date as a result of the event. 41.8% of businesses indicated that they had lost between \$10,000 and \$50,000 in earnings to date. 11.1% of businesses have lost between \$50,000 to \$99,999 and 12.8% have lost between \$100,000 and \$500,000. 4.3% have indicated they have lost more than \$1 million in earnings.

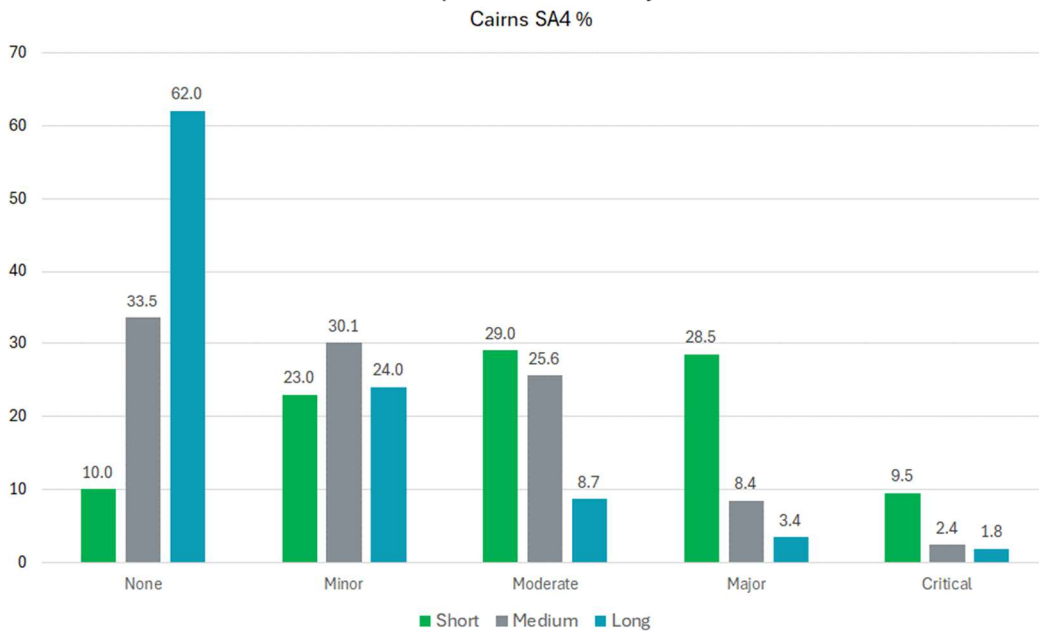
Lost Revenues



Expected losses are anticipated to further accumulate. The median value of lost revenue to date has been \$20,000 while the anticipated total median impact is \$30,000 for each business. This is confirmation that the total impact of the weather event increases over time particularly as a result of indirect impacts on business revenue reducing consumer and business spend in the region.

Businesses were asked to estimate the severity of the impact to their business viability over the short (up to April 2024), medium (from May 2024 to May 2025) and long-term (from June 2025 to June 2026).

Impact on Viability



- The impact on viability was significantly greatest in the short-term with major impacts falling away sharply in the long-term. While Major and Critical impacts were reported by 39% of businesses in the short-term this fell to just 5.2% in the long-term. Despite only 33% of respondents reporting None or Minor impacts in the short-term, by the long-term this measure had risen to 86%.
- Respondents were asked to estimate the time from the event before their business would have recovered. While estimates varied significantly within the various industry sectors (see Table 7.3), the average within the SA4 region was 6.2 months.

6.3.1.3 Other Results – Business Assistance

Types of assistance provided across the tiers of Government included:

- **DRFA Category B disaster assistance grants for small businesses**
 - Extraordinary disaster assistance grants of up to \$50,000 are available to small businesses impacted by TC Jasper.
- **Disaster Assistance Loans**
 - Up to \$250,000 for producers and small businesses and \$100,000 for not-for-profits to repair or replace damaged assets like plant and equipment, to repair premises, or to replace stock and maintain liquidity.
- **Essential Working Capital Loans**
 - Up to \$100,000 for producers, small businesses, and not-for-profits to allow for the continuation of operations, including paying wages, rents or rates, purchasing items such as fuel, fodder and water, or for the transportation of livestock and produce.
- **Freight subsidies**
 - Up to \$5,000 for primary producers to assist with the movement of stock, feed, machinery, fuel, water, and building or fencing materials.
- **Extraordinary Disaster Assistance Recovery Grants**
 - Grants up to \$75,000 are available to assist directly impacted primary producers, small businesses and non profit organisations with the costs of clean-up and reinstatement.
- **Tourism Exceptional Assistance Grants**
 - Provides financial assistance (up to \$500,000) to tourism operations which were closed to trading for a minimum of 14 days as a result of being isolated, or having a usual area of operation isolated as a direct result of Tropical Cyclone Jasper.

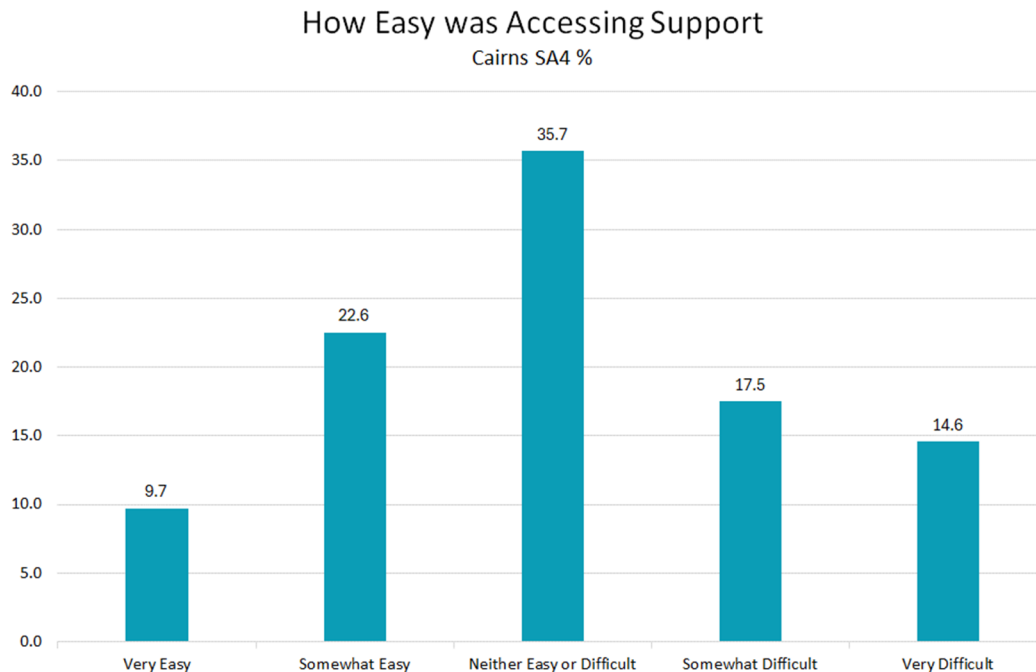
LGA eligibility

- **DRFA Category B disaster assistance grants for small businesses:** Cairns, Cassowary Coast, Cook Shire, Douglas Shire, Hope Vale, Mareeba, Tablelands, Wujal Wujal and Yarrabah Council areas.
- **Primary producer loans:** Cairns, Cassowary Coast, Cook, Douglas, Hinchinbrook, Mareeba, Tablelands
- **Small business loans:** Cairns, Cassowary Coast, Cook, Douglas, Hope Vale, Mareeba, Tablelands, Wujal Wujal and Yarrabah

- **Not-for-profit loans:** Cairns, Cassowary Coast, Cook, Douglas, Mareeba, Tablelands, Wujal Wujal and Yarrabah
- **Freight subsidies:** Cairns, Cassowary Coast, Cook, Douglas, Hinchinbrook, Mareeba, Tablelands
- **Extraordinary Disaster Assistance Recovery Grants:** Cairns, Cassowary Coast, Cook, Douglas, Hinchinbrook, Hope Vale, Mareeba, Tablelands, Wujal Wujal and Yarrabah
- **Tourism Exceptional Assistance Grants:** Cairns, Cassowary Coast, Cook, Douglas, Hope Vale, Mareeba, Tablelands, Wujal; Wujal and Yarrabah

In relation to this assistance Survey results indicated:

- When asked to judge how easy it had been to access support and/or information about support available, the respondents were quite evenly split with about 32% claiming it was either 'Very Easy' or 'Somewhat Easy', and the same number claiming it was either 'Very Difficult' or 'Somewhat Difficult'.



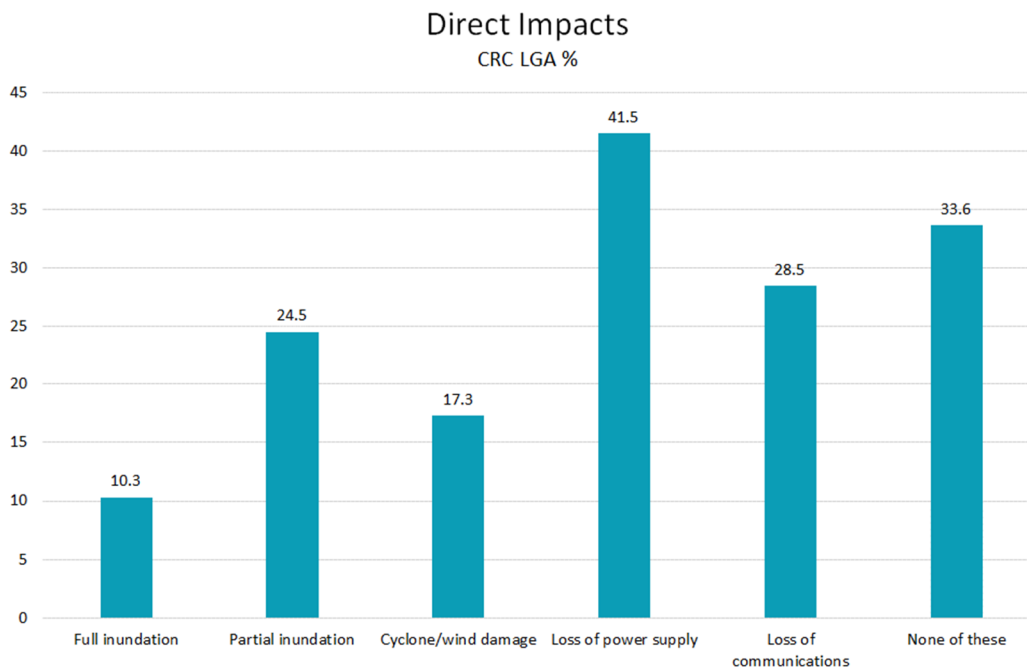
- Only 16.4% of respondents reported having received support. The total amount of support reported from those 69 businesses who reported receiving it was \$724,890²¹.
- Comments from respondents about the availability and ease of accessing government support were consistent around a few central topics;
 - Making sure that consistent and accurate information was easily available, perhaps by way of a one-stop-shop point of access. In times of a disaster, it is a significant challenge for people (often with very limited communications) to access multiple sources of information.

²¹ This figure excludes the \$79 million of support expected to be received by CRC

6.3.2 CRC LGA

Of the 394 businesses within the target LGA region who responded to the Survey, 83.8% reported being impacted to some degree by the event.

- Respondents who were impacted were asked to identify the kind of direct impacts their business suffered.



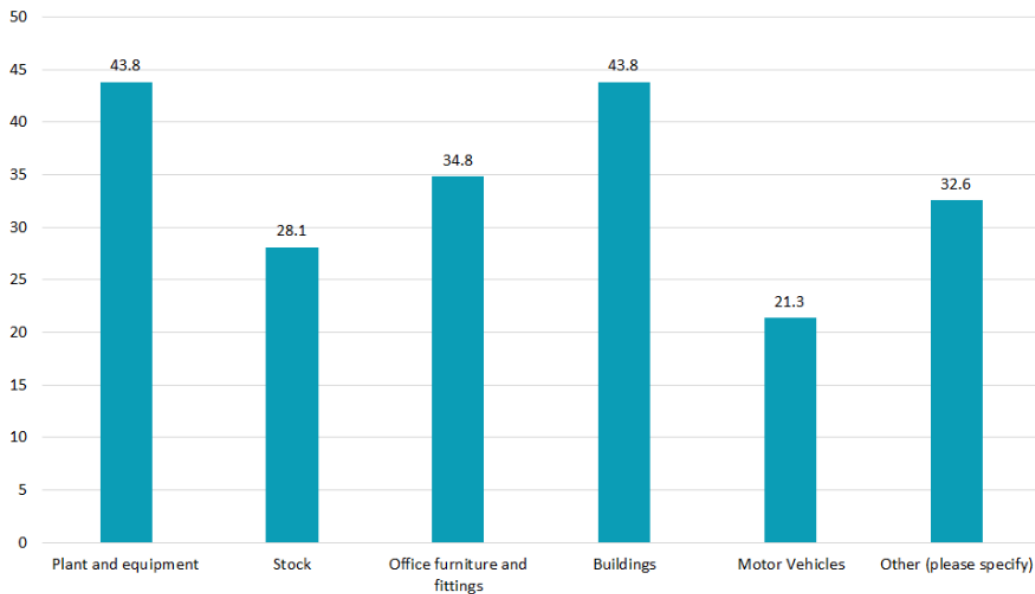
- 33.6% reported no direct impacts, while 41.5% reported being impacted by a loss of power. Only 17.3% reported damage from the actual TC itself, although 34.8% reported either partial or full inundation.
- Respondents were asked to identify those assets which were directly impacted by the event. Damage was widespread across the range of assets. ‘Other’ specific assets identified in the Survey included land, access, cane and associated infrastructure as well as mountain bike tracks, boats and construction sites. The scale of this asset damage was estimated at \$97.25 million²² with just \$54.1 million²³ (55.6%) covered by insurance claims.

²² This figure excludes the \$113 million of damaged assets identified by CRC

²³ This figure excludes the \$2 million insurance reported by CRC

Assets Impacted

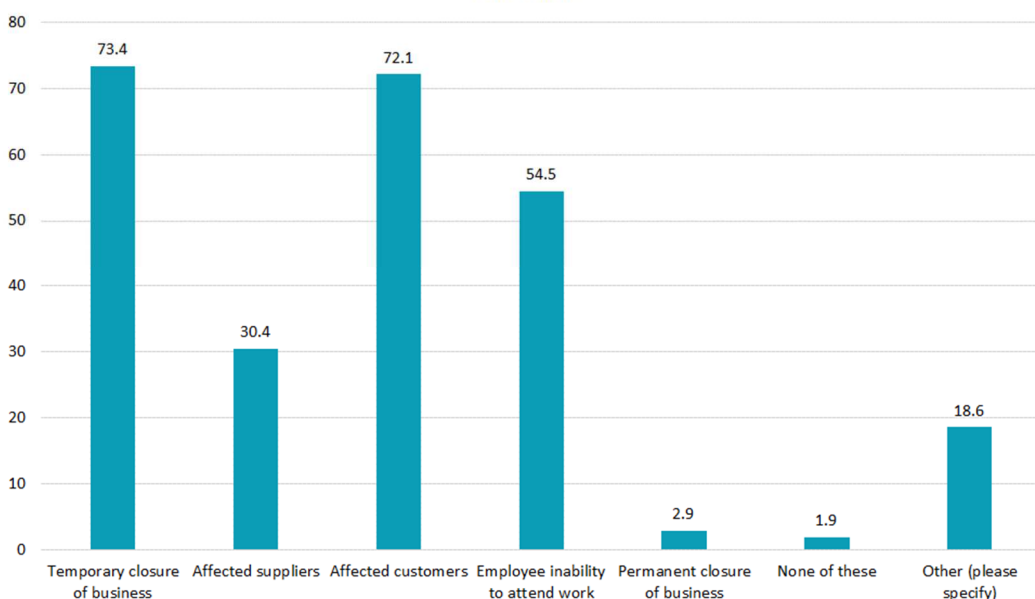
CRC LGA %



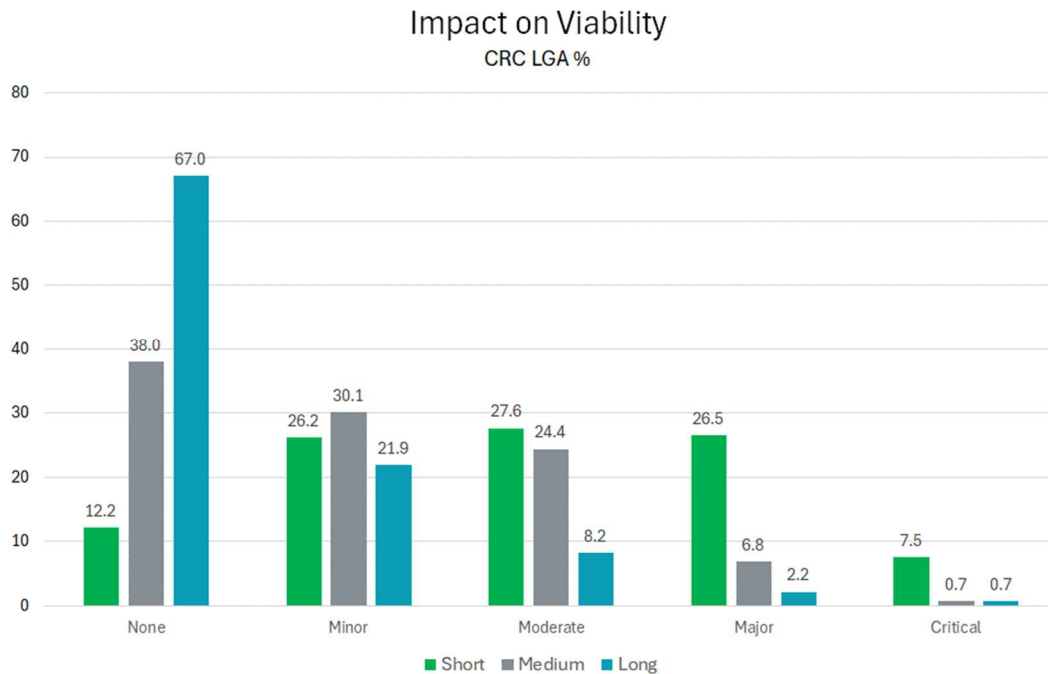
- Of those impacted, 36.2% reported that their employment situation, either in the short or medium-term was also impacted. (details of the impact on employment are given in more detail in Section 7.2.2).
- A large majority of impacted businesses reported a temporary closure of their business (73.4%) and impacts on their customers (72.1%). The inability of employees to get to work was also cited by more than 54% of those impacted. Almost 3% of respondents reported a permanent closure of their business.

Indirect Impacts

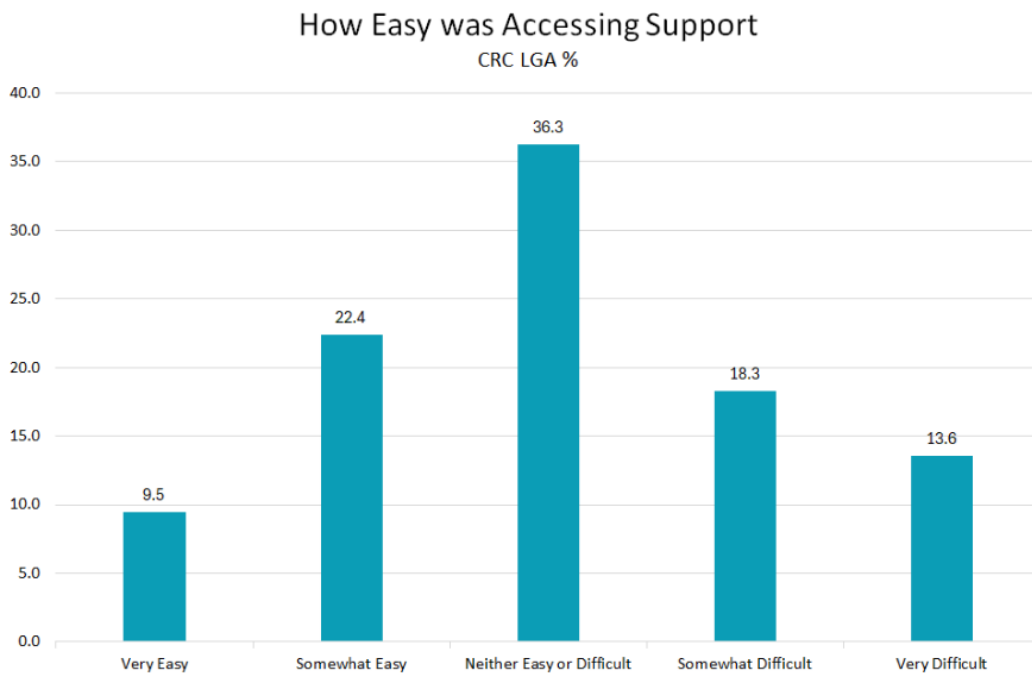
CRC LGA %



- Businesses were asked to estimate the severity of the impact to their business viability over the short (up to April 2024), medium (from May 2024 to May 2025) and long-term (from June 2025 to June 2026).



- The impact on viability was significantly greatest in the short-term with major impacts falling away sharply in the long-term. While Major and Critical impacts were reported by 34% of businesses in the short-term this fell to just 2.9% in the long-term. Despite only 38.4% of respondents reporting None or Minor impacts in the short-term, by the long-term this measure had risen to 88.9%. It is clear that the impacts on business viability in the CRC LGA area were less severe, and slightly less widespread, than those seen across the Cairns SA4 region more generally.
- Respondents were asked to estimate the time from the event before their business would have recovered. The average within the CRC LGA region was 3.4 months, significantly shorter than the anticipated recovery time across the broader region.
- When asked to judge how easy it had been to access support and/or information about support available, the respondents were quite evenly split with about 32% claiming it was either 'Very Easy' or 'Somewhat Easy', and the same number claiming it was either 'Very Difficult' or 'Somewhat Difficult'.



- Only 14.8% of respondents reported having received support. The total amount of support for those 48 businesses who reported receiving it was \$446,590²⁴.

7 Economic Impact

The macro-economic impacts caused by TC Jasper and the flooding event are covered in detail below. The extent of the physical damage, business closures, and lost earnings all flow through to reduced economic activity for both the Cairns SA4 region and CRC LGA, and in turn jobs losses.

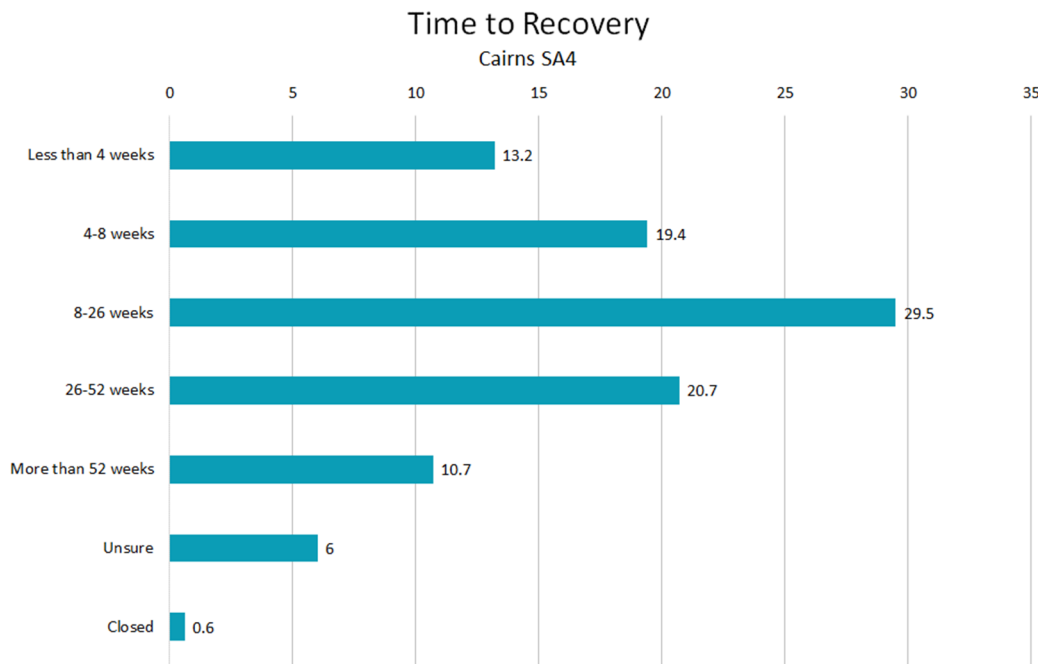
7.1 Gross Regional Product

7.1.1 Cairns SA4 Region

For Cairns SA4 region businesses:

- 85.9% of businesses were impacted.
- On average it is estimated to be 6.2 months before businesses are back to normal. While one-in-eight reported recovery within 4 weeks, the most frequent response was for anticipated recovery in 8 to 26 weeks. More than 10% expected recovery to take at least a year.
- Collectively businesses are assessed to have lost 4.1% of their annual revenue.

²⁴ This figure excludes the \$79 million of support received by CRC



The impact of TC Jasper and the flooding event on the Cairns SA4 region’s GRP is estimated to be a reduction of \$649.1 million, with most of this impact falling within the 2023/24 financial year. Specific Government assistance directed at support for business turnover (rather than capital or rebuild grants and loans) is estimated to have lessened this reduction to \$643.8 million. This impact will be further partially offset by rebuild activities and capital grants and loans. Survey respondent recovery activities alone are estimated to contribute at least \$61.6 million towards the Cairns SA4 regional economy over the 2023/24 and 2024/25 financial years and is illustrative of some of the offset to the reduction in economic activity.

7.1.2 CRC LGA

In general the impacts have been less severe and the time to recovery is shorter for businesses within the CRC LGA compared to those across the broader Cairns SA4 region.

For CRC LGA businesses:

- 83.8% of businesses were impacted.
- On average it will be 3.4 months before businesses are back to normal.
- Collectively businesses are assessed to have lost 3.6% of their annual revenue.

The impact of TC Jasper on Cairns Regional Council LGA’s GRP is estimated to be a reduction of \$389.4 million with most of this impact falling within in the 2023/24 financial year. Specific Government assistance directed at support for business turnover (rather than capital or rebuild grants and loans) is estimated to have lessened this reduction to \$385.5 million. This impact will be further partially offset by rebuild activities and capital grants and loans. Survey respondent recovery activities alone are estimated to contribute \$59.3 million towards the CRC LGA economy over the 2023/24 and 2024/25 financials years and is illustrative of some of the offset to the reduction in economic activity.

7.2 Employment

7.2.1 Cairns SA4 Region

38.8% of Cairns SA4 businesses reported that their employment, either in the short or medium-term was impacted. The general trend was that in the short-term (up to end of April 2024) there was a net 4.7% (6,706 persons) reduction in employed persons. However, in the medium-term (May 2024 – May 2025) this is anticipated to reduce to a net 1.0% (1,436 person) reduction in employed persons inferring 5,270 persons were or will be rehired.

Cairns SA4	Short-Term	Medium-Term
% recording impact on employment	38.8	
% reduction in employment	-4.7	-1.0
Lost jobs (persons)	6,706	1,436

7.2.2 CRC LGA

36.2% of CRC LGA businesses reported that their employment, either in the short or medium-term was impacted. The general trend was that in the short-term (up to end of April 2024) there was a net 3.6% (3,450 persons) reduction in employed persons. However, in the medium-term (May 2024 – May 2025) this is anticipated to reduce to a net 0.05% (758 persons) reduction in employed persons inferring 2,692 persons were or will be rehired.

CRC LGA	Short-Term	Medium-Term
% recording impact on employment	36.2	
% reduction in employment	-3.6	-0.05
Lost jobs (persons)	3,450	758

7.3 Industry Sector Analysis

When considering the impact across various industry sectors caution needs to be applied. Whilst Survey responses were well spread across all industry sectors there are nevertheless sectors where the number of responses is small enough that extrapolating from those responses to the sector in general would be inappropriate. When considered as an aggregate the industry sector results have been weighted to account for the importance of each sector within the SA4 and CRC areas.

- The greatest percentage impacts to revenue;
 - Agriculture, Forestry and Fishing (-10.7%) – see Section 9
 - Arts and Recreation Services (-9.8%)
- The greatest percentage impacts to employment in the medium-term;
 - Accommodation and Food Services (-1.4%) – see Section 8
 - Agriculture, Forestry and Fishing (-1.7%)
 - Retail (-2.8%)

Table 7.3 Industry Sector Impacts						
Cairns SA4	#	% businesses impact	recovery months	% change revenue	% change emp short-term	% change emp med-term
Accommodation and Food Services	71	94.4	5.0	-4.8	-8.2	-1.4
Administrative and Support Services*	7	100.0	3.7	-1.9	+7.2	+9.8
Agriculture, Forestry and Fishing	28	96.4	9.7	-10.7	-2.4	-1.7
Arts and Recreation Services	30	90.0	11.6	-9.8	-10.2	1.0
Construction	41	80.5	4.9	-6.3	-3.7	+2.3
Education and Training*	19	78.9	6.8	-4.0	-6.7	-7.7
Electricity, Gas, Water & Waste Services*	4	100.0	2.0	-0.7	-8.4	-4.8
Financial and Insurance Services*	11	81.8	4.0	-2.2	-4.2	-4.2
Health Care and Social Assistance	44	93.2	6.0	-0.7	-0.9	-0.5
Information Media & Telecoms*	8	75.0	8.9	-12.6	-23.0	-9.5
Manufacturing*	20	90.0	6.1	-6.8	-13.3	-9.5
Mining*	2	50.0	5.0	-1.2	+44.0	+47.1
Other Services	91	78.0	5.1	-3.5	-2.3	-1.0
Professional Scientific & Technical Service	36	80.6	5.6	-4.2	-6.4	+6.9
Public Administration and Safety*	4	100.0	17.8	-0.1	+1.2	0.0
Rental, Hiring & Real Estate Services*	15	66.7	7.9	-5.2	-5.0	0.0
Retail Trade	44	93.2	6.3	-3.3	-11.8	-2.8
Transport, Postal and Warehousing	28	89.3	3.8	-2.5	-2.3	-1.1
Wholesale Trade*	8	100.0	6.4	-3.0	-7.5	-7.5
TOTAL	511	85.9	6.2	-4.1	-4.7	-1.0

*Caution should be exercised in interpreting this result due to low sample number

7.4 Business Size Analysis

Respondents were categorised by number of employees.

- Micro – 1 to 4 employees
- Small – 5 to 19 employees
- Medium – 20 – 99 employees
- Large – 100 – 199 employees
- Very Large – more than 200 employees

The number of respondents in the two largest categories was small enough that it makes sense to combine these two categories in all analysis.

Cairns SA4	Micro	Small	Medium	Large & Very Large	Total
# Respondents	316	119	55	21	511
% Impacted	81.7	92.4	90.9	100	85.9
Turnover \$ million	97.20	211.27	814.74	1,770.81	2,894.02
Turnover % of Total	3.4	7.3	28.2	61.2	
Turnover Impact %	-26.0	-7.3	-3.3	-2.8	-4.1
Employees	579	1,001	2,344	9,022	12,623
Employees % of Total	4.6	7.9	18.6	71.5	
S-T Employment Impact %	-41.7	-21.9	-6.3	+0.2	-4.7
M-T Employment Impact %	-16.8	-12.7	+1.6	+0.7	-1.0

This analysis makes clear that the Micro and Small businesses suffered a far higher percentage impact on both revenue and employment compared to the Medium, Large and Very Large businesses. The fact that the Medium, Large and Very Large businesses make such a large contribution toward total turnover (61.2%) and employment (71.5%) has shifted the total results on average far below the more significant impacts felt by the Micro and Small businesses, which together make up only a modest 10-12% of both turnover and employment.

7.5 Learnings from Previous Natural Disasters

Experience and research tell us that respondents to surveys such as the one conducted for this EIA have a natural bias towards those most impacted by the event being surveyed (self-selection or volunteer bias²⁶). This Survey received widespread coverage across all the target LGAs, industry sectors and business size and while we can, and have, adjusted data to account for *known* variables (such as LGA and industry sector) we cannot adjust to account for *unknown* variables such as how many businesses were actually impacted compared to how many in our Survey reported being impacted. Nevertheless, we can note that the impacts outlined above are, in all likelihood, going to be at the upper end of a range of probable outcomes.

For example, if the actual rate at which businesses across the region were impacted was 75%, rather than the 85.9% suggested by the Survey, then the impact on GRP would be \$566.73 million (rather than \$649.1 million) and the medium-term impact on employment would be 1,253 (rather than 1,436).

In addition to the concern around self-selection bias there is a documented tendency for the responses in surveys such as these to be time sensitive. Studies which have followed up survey results

²⁵ Individual results will not sum to the Total since this data is not weighted across LGAs or Industry sectors.

²⁶ Self-selection (or volunteer) bias refers to the systematic, non-random difference in characteristics between individuals who choose to participate in a study and those who don't. Studies have shown that individuals who are personally interested in, or motivated by, a certain topic are more likely to participate in a research study about it.

sometime after the original event find that actual results can vary quite markedly from those estimated in the survey soon after the event.

For example, following the 2011 Brisbane floods the Chamber of Commerce and Industry Queensland (CCIQ) conducted a survey of impacted businesses. They then followed this with a second survey and report²⁷ six-months after the original and compared the results of the two surveys. The result of this report was to show that average direct impacts suffered, and reported in the later survey, were significantly lower than originally estimated. By contrast, average indirect impacts had been significantly under-estimated in the original survey. Taken together the total of both direct and indirect average impacts on turnover showed a reduction of 29% between the first and second survey. This CCIQ Report suggests that while the impacts originally estimated may be somewhat over-stated at the time, there is also a tendency to under-state the longer-term impacts on businesses caused by flow-on, indirect impacts to the economic environment.

The Queensland Budget for 2011/12 projected a hit to Gross State Product (GSP) in 2010/11, caused by the Brisbane Floods and TC Yasi, of \$6 billion representing 2.25% of GSP²⁸. Prior to the disasters, forecasts had been for growth in Queensland GSP of 2.25%, and therefore the revised expectation within the Budget was for zero growth in 2010/11. This expectation of the impact from the disasters will presumably have been formed, at least to some extent, by a similar exercise to the one conducted for this EIA. It is therefore worth noting that actual realised GSP growth in 2010/11 was 0.8%, which we might reasonably conclude was because the impacts from the Brisbane Floods and TC Yasi were actually \$4.2 billion rather than the \$6 billion originally estimated. This reduction of 30% tallies very closely with the result from the CCIQ Report noted above. If we were to see a similar time sensitivity reflected in the estimated impact from TC Jasper, then our estimate of the reduction in GRP would drop to \$460.9 billion (or 2.9%).

Taken together these two issues provide reason to be cautious about any estimates made as a result of a voluntary survey conducted a short time after a major event, such as TC Jasper and the flood event. While the size and diversity of the Survey provides us with a high degree of confidence that the results are a true reflection of the business population in the target areas we must also acknowledge that realities such as self-selection bias and the over-estimating of direct, short-term impacts are likely inevitable and therefore that Survey-derived estimates of the actual economic impact on both GRP and employment might be characterised as “up to” the scales noted in Section 7.

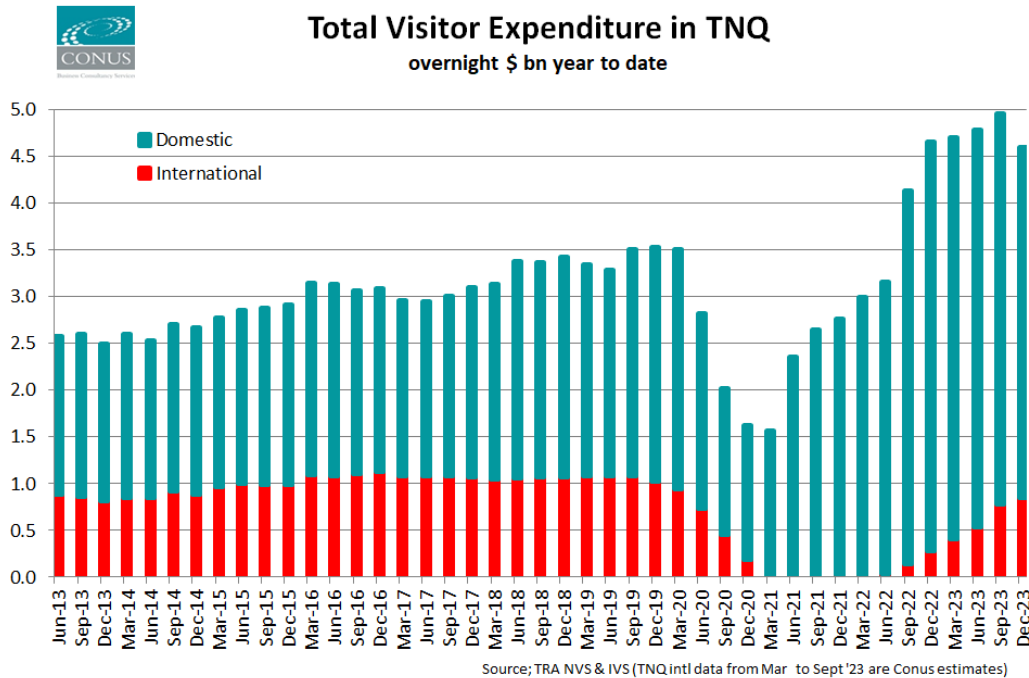
8 Impact on Tourism

Since the outbreak of the COVID pandemic and the subsequent national and State border closures the tourism sector in the Cairns region has been largely a tale of two markets. The domestic market hit new record highs as Australians were forced, or chose, to travel internally while the international market, having come to an almost complete stand-still, has been slow to recover.

²⁷ CCIQ; Six Months on from Queensland's Natural Disasters; A Report to the Queensland Government 2011

²⁸ Queensland State Budget 2011-12 Budget Strategy & Outlook. Budget Paper No 2, Section 3

Total tourism expenditure in Tropical North Queensland for the year to December 2023 fell slightly (partly as a result of TC Jasper) from record highs to \$4.6 billion, an increase of 30.2% from the pre-COVID high seen in the year to December 2019. The variation between the domestic and international markets is stark when we consider that domestic expenditure (\$3.75 billion) is up 49.7% over that period while international expenditure (\$0.85 billion) is still down 17.3%.

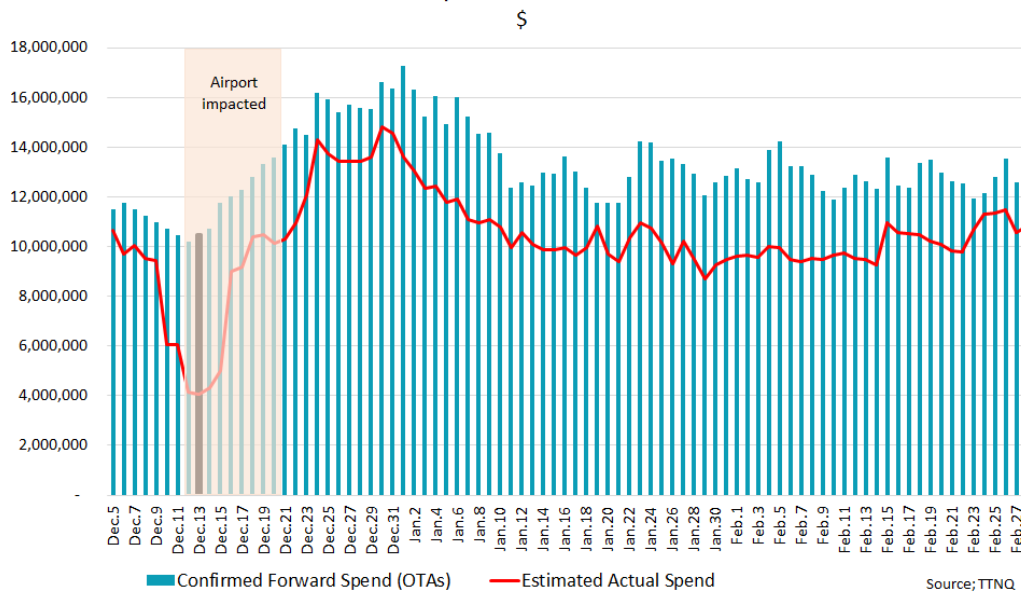


The impact on tourism became noticeable well before the actual landfall of TC Jasper. Impacts were being felt in the tourism sector as early as December 5th, 2023, when the BOM upgraded tropical low 03P to Cat 1 Tropical Cyclone Jasper in the Coral Sea, and then a couple of days later when forecasts were anticipating a severe (Cat 3 or 4) Tropical Cyclone heading towards the Far North Tropical coast and making landfall around December 13th somewhere north of Cairns.

Data from Tourism Tropical North Queensland (TTNQ), which compares confirmed forward spend as reported by Online Travel Agents (OTAs) with estimated actual spend figures, demonstrates that the effect of the possibility of a Severe TC striking the coast in the region was already being felt by December 5th.

Since December 5th TTNQ have been tracking the cumulative effect of cancelled tourism bookings and they estimate that (as at end February 2024) the event has resulted in lost and cancelled expenditure of \$256,664,290. This represents approximately a reduction of 5.2% in the total annual tourism expenditure in the region suffered over the course of less than three months. While the impact has clearly waned as time has passed it appears likely that at least some of the negative effects will continue to be felt until at least Easter 2024 with the total impact therefore likely to approach \$300 million (6% of annual total).

Impact on Visitor Expenditure TC Jasper and Flood Event



Since ‘Tourism’ is not treated as an industry sector within the ANZSIC classification it is difficult to extract tourism-specific data from the Survey. Nevertheless, the results from the Accommodation & Food Services sector (which in the Cairns SA4 region is dominated by ‘tourism’ businesses) confirm the significance of the event on the sector. 94.4% of Accommodation & Food Services businesses reported being impacted to some degree (much higher than the average) with a Net Impact on Turnover (when weighted by LGA) estimated at 4.8%. This figure closely matches the TTNQ estimate of 5.2% lost visitor expenditure across the whole tourism sector.

The estimated time to recovery of 5 months, although shorter than the average, would also accord well with the TTNQ data which suggests a return to more normal expenditure by April.

The impact on employment with the Accommodation & Food Services sector is far greater than the average across all industry sectors. The short-term impact is a net reduction of 8.2% of employment, which falls to 1.4% in the medium term.

9 Impact on Agriculture

9.1 Survey Results

Agriculture is a major industry sector which contributes 10.4%²⁹ towards the region’s economy and makes up 3% of all employment. Significant agricultural produce from the region includes cane, bananas, tropical fruit (including mangoes) and avocados as well as cattle grazing.

Results of the Survey from the Agricultural sector suggest the sector was impacted by the event at a much greater rate than average; 96.4% versus 85.9%. Gross Total Impact on turnover from TC Jasper and the subsequent flooding is 11.65%, which drops to 10.73% when results are weighted to account

²⁹ Percentage of SA4 Gross Value Add; economy.id 2021-22

for the relative weights within the various LGAs. This is significantly higher than the impact across businesses generally and highlights the disproportionate impact felt by the sector.

The Survey reported only limited Government support for the sector. Although 25% of agricultural respondents reported receiving some Government support (versus just 16.4% across all industries) the level of support was low and the Net Total Impact on turnover, after weighting for LGAs and accounting for the support received, only fell to 10.66%.

The average length of time that agricultural respondents expected until recovery was also significantly longer than the average across all industries; 9.7 months versus 6.2 months. This reflects the fact that many agricultural businesses reported losing much of their crop which will take many months, and in some cases years, to recoup. This longer time to recovery is also reflected in the fact that the negative effect on employment in the sector (while less than general in the short term; 2.4% versus 4.7%) was expected to be greater than the average across other industry sectors in the medium term; 1.7% versus 1.0%.

Cairns SA4	Agriculture	All Industries
Impacted %	96.4	85.9
Gross Impact % Turnover	10.73	4.06
Net Impact % Turnover	10.66	4.03
Time to Recovery months	9.7	6.2
Employment change %		
Short-term	-2.4	-4.7
Medium-term	-1.7	-1.0

9.2 Industry Liaison

Liaison with various agricultural sectors has provided further evidence that the sector was significantly impacted.

In relation to the impact of TC Jasper on the region’s agricultural sector, more than a century of flood records were broken in rivers in the Cairns and Daintree region. The impact according to the Queensland Farmers’ Federation³⁰ was significant with extensive farm erosion, crop and infrastructure damage, loss of machinery and stock evident across the region. Significant disruptions to supply chains occurred with damage being reported to chicken processing plants, sugar milling and cane rail infrastructure. In and out access between farms and all aspects of the supply chain were impacted.

Damage to nursery stock, mango and banana production also occurred for the horticulture sector with reports of close to 100% damage to rotational crops. Crop loss estimates for the cane industry were expected to be in excess of 1 million tonnes of cane. For canegrowers, the loss of young plant cane will mean crop and income impacts for at least the next 18 months.

³⁰ <https://www.qff.org.au/presidents-column/north-queensland-flooding-has-significantly-impacted-farmers-and-supply-chains/>

Prior to TC Jasper the mango industry had already been bracing for a poor season³¹. As the cyclone and rainfall struck, the remaining fruit on trees, which was ready to be harvested, was largely destroyed. According to the impact assessment report³² completed by the Australian Mango Industry Assn. it is estimated that, on average, mango growers experienced 30-50% crop loss equating to \$500,000-\$1.5m lost revenue for farms greater than 20ha in size. The report also highlights that, for a period of 6-8 weeks after the weather event, growers were having to pay significantly higher costs to transport what fruit they had managed to save as main roads from the Tablelands to the coast remained closed and/or transport company charges were elevated. This 'range levy' (\$15-\$30 per pallet) is estimated to have cost an average of \$20,000 per mango farming business. The flooding event caused some large-scale erosion of land in the Tablelands and many growers were faced with significant costs merely to maintain access to their properties. Grants available from the Queensland Rural and Industry Development Authority (QRIDA) under their 'Extraordinary Disaster Assistance Recovery Grants - Tropical Cyclone Jasper, associated rainfall and flooding' program were only up to \$75,000 with many growers reporting significantly larger impacts.

10 Impact on Transport

10.1 Airport and General Aviation

10.1.1 Cairns Airport

Cairns Airport lies just 6 kms north of the CBD between Mount Whitfield to the west, Trinity Bay to the east, and the Barron River to the north.



The Airport comprises two passenger terminals (International Terminal T1 and Domestic Terminal T2) located 200m apart from each other on the eastern side of the Airport, and a General Aviation precinct on the western side.

The Cairns Airport closed to flights at the end of the day on Tuesday 12th December 2023 (the day before the anticipated landfall of TC Jasper) and opened again on the morning of Thursday 14th December. This was a standard precautionary closure which occurs whenever there is a TC forecast to approach close to the Airport.

The intense rainfall that followed landfall of TC Jasper resulted in the Barron River over-topping the levee wall built to protect the Airport and, as

³¹ Conus discussion with Industry Assistance Officer at the Australian Mango Industry Assn.

³² Australian Mango Industry Assn; Cyclone Jasper Impact Assessment Summary – Mango, Mar 2024

water flooded the main runway and the General Aviation area, the Airport was again closed to flights at around 1pm on Sunday 17th December. It did not open again until 11am on Tuesday 19th December.

In total there were 512 airplane movements³³ cancelled over this period.

These closures obviously had a significant impact on the tourism sector, coming as they did just a week before Christmas. However, the direct economic impact on the Airport and associated business community on the site was also significant. Cairns Airport estimates the financial impact to have been a loss of revenues in the order of \$5 million³⁴.

An economic assessment of the Cairns Airport produced by Conus in 2022³⁵ showed the annual direct economic value to the region from the Airport's operations to be approximately \$565 million. Given the 3.5 days of closure caused by TC Jasper and the subsequent flooding we could estimate this loss of direct economic value to be approximately \$5.4 million³⁶ which rises to \$7.8 million when we include indirect impacts felt within the Cairns economy. The Airport is a significant enabler of economic activity in the region in areas such as tourism, trade, agriculture, and education. The 2022 Conus Report estimated that, when including this enabled activity, the Airport created \$3.2 billion of value for the broader Cairns region in 2021/22. Applying the 3.5 days of closure to this figure provides an estimate of total direct, indirect and enabled loss of value to be in the order of \$30.7 million.

However, as the Head of Operations at Cairns Airport notes³⁷, although the airport was closed for only the 3.5 days noted above, the disruption extended into the period between (and slightly after) the closures due to aircraft and crew repositioning as well as heavy rain and poor visibility. If we consider the entire period from 12th to 20th December, the number of movement cancellations increases to 580³⁸ (i.e. 13.3% more than considered above). Such an increase would see the economic impacts caused by the weather event increase to;

- Direct; \$6.1 million
- Direct and indirect; \$8.8 million
- Direct, indirect & enabled; \$34.8 million

The flooding event has highlighted the need for flood-proof infrastructure at the Airport and the Airport's CEO noted in discussion with Conus that all parts of the Airport built above the one-in-one-hundred-year flood level stayed dry throughout this event. TC Jasper has resulted in accelerated efforts to move infrastructure away from the more flood-prone areas of the complex, such as the General Aviation sector on the west of the Airport adjacent to the Capt. Cook Highway, to the Eastern Aviation Facility area.

³³ Cairns Airport

³⁴ Conus in discussion with Cairns Airport CEO

³⁵ Conus; Cairns Airport, Economic Assessment and Airport Census 2022

³⁶ \$565 million per annum * (3.5 days/365 days) = \$5.4 million

³⁷ In an email to Conus

³⁸ *ibid*

The possibility of raising the levee wall may also be a consideration although this comes with challenges given that doing so would have potential impacts on flooding in Northern Beaches suburbs; flood waters not over-topping any raised Airport levee would still need to go somewhere.

While the impact on passenger numbers through the Airport over the Christmas and New Year periods was significantly down as tourism bookings were cancelled (see Section 8) it was also noted³⁹ that the flow-on effect on passenger numbers into later in January was not as bad as might originally have been expected and that this could be due to the relative diversity of the Cairns economy.

10.1.2 General Aviation

The Cairns Airport also has a significant General Aviation component based on the Western side of the complex adjacent to the Captain Cook Highway. The sector had been busy prior to the flood event and has been a major focus of regional economic development advocacy efforts.

This General Aviation area was heavily impacted⁴⁰ by the flood waters, with 1-2 metres of water through many buildings and hangars in the area. These direct impacts were felt by almost all businesses in the General Aviation sector for one to two months (although some charter flight businesses were able to return to near-normal operations in a much shorter timeframe). Of particular concern was the inundation of stock and spare parts being held in many of these locations. Even before the flood the sector had been facing serious challenges with regard to the supply of parts being negatively impacted by the flow-on impacts from COVID, and the TC Jasper flood event further exacerbated those issues such that many businesses will be facing ongoing re-supply issues for up to a year.

In the longer term there is also concern that the flood has raised issues about the ongoing risks involved with the provision of General Aviation services in Cairns if weather events such as the TC Jasper flood are to become more frequent occurrences. This is likely to make the provision of flood insurance even more of a challenge than it already was; many impacted businesses were not covered by flood insurance. Together these issues are likely to impact on the perception of Cairns as a suitable location for this kind of activity and has already resulted in some overseas maintenance work moving elsewhere. Also noted⁴¹ was the impact the floods had on the provision of emergency services at the Airport which are relevant not only for Cairns but also further afield into Cape York and the Torres Strait.

On a positive front it was noted that, because of the already tight labour market situation in the sector prior to the flood, General Aviation businesses did not lay off staff for fear of being unable to get those employees back once the effects lessened. The response from the Cairns Airport in getting the runway and power reinstated in a timely manner was acknowledged as being very good. However, this came with the challenge that there was an initial perception from some Government agencies

³⁹ Conus in discussion with Cairns Airport CEO

⁴⁰ Conus in discussion with Business Manager – Aviation Australia and Business Manager & Director – Cairns Aviation Skills Centre

⁴¹ *ibid*

that “the Airport’s OK” when in fact the General Aviation side of the complex still faced significant challenges well after the Airport and terminals reopened.

Comment was also made that the lack of a BOM forecasting bureau in Cairns⁴² may have contributed to inadequate warnings about the possibility of such a major flood event.

10.2 Port

Far North Queensland Ports Corporation Limited, trading as Ports North, is a Queensland Government Owned Corporation responsible for the development and management of the declared Ports of Cairns and Mourilyan in the Cairns region as well as the Ports of Cape Flattery, Karumba, Skardon River, Quintell Beach, Thursday Island, Burketown and Cooktown elsewhere in the Far North.

Cairns Seaport is a multi-purpose regional port that caters to a diverse range of customers from project, bulk and general cargo, cruise shipping, fishing fleet and reef passenger ferries. The Port is also one of Australia’s busiest cruising destinations with both major international cruise ships and a number of domestic cruise vessels operating out of Cairns.

The Port of Mourilyan exports raw sugar and molasses from the Innisfail, Babinda, Tully and Atherton Tableland sugar growing districts. It comprises onshore sugar and molasses handling and storage facilities and a single sugar loader and associated wharf. The Port also includes a livestock export facility.

The operation of the facilities in both Cairns and Mourilyan was only minimally impacted by TC Jasper and the flooding event⁴³. The marina in Cairns was cleared of vessels (as is standard procedure in the face of an imminent TC) for a period of 24-36 hours as the cyclone approached, and most smaller vessels were fully operational again after that time. The disruption lasted slightly longer for larger vessels, perhaps up to two days, to allow for the checking of the navigation channel; although the bulk cargo operation of the Port was largely “*business as usual*” without any significant disruption. The Port is still expecting a total of approximately 90 cruise ships to visit Cairns in this financial year and TC Jasper has had no effect on that expectation.

The only impact that has been identified by Ports North is the fact that they feel they will need to be doing more maintenance dredging than originally forecast given an increase in infill sediment caused by the flooding. It is estimated that it will cost an additional \$3 million⁴⁴. The infrastructure at the Ports were unaffected but the event has reinforced the need to “*build back better*” and ensure infrastructure resilience when considering roads such as the Palmerston Highway (a major connection route from the Tablelands to Mourilyan).

10.3 Roads

The flooding caused catastrophic damage to the state-controlled road network in the Far North. On December 18th 2023 following the event all roads into the Far North were closed, all four range

⁴² The Cairns Airport Meteorological Office closed in 2019/20

⁴³ Conus in discussion with Ports North General Manager – Strategy & External Relations

⁴⁴ *ibid*

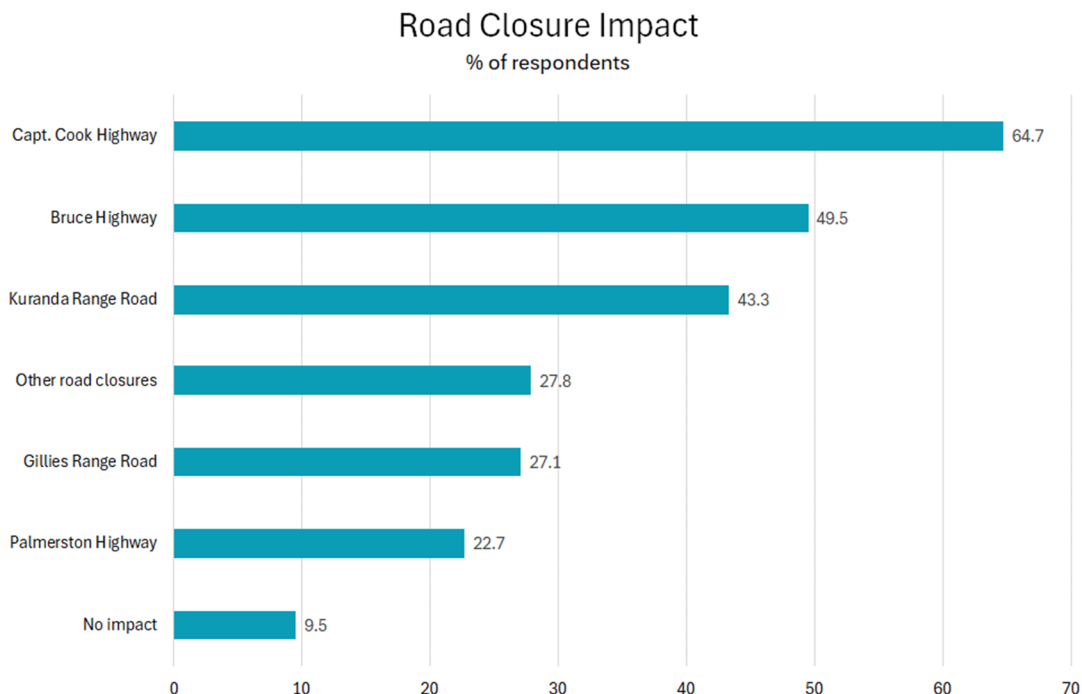
crossings providing access to the Northern Tablelands were closed and there was no road access to Cooktown or Port Douglas.

By December 22nd more than 650kms of state-controlled roads had been reopened across Far North Queensland following crews working as quickly as possible to clear and re-open critical transport routes to reconnect communities with essential services. Crews completed urgent works on numerous roads, including emergency reconstruction, bridge, culvert and geotechnical inspections. Literally thousands of tonnes of debris and landfill were cleared.

However, a number of sections of the Captain Cook Highway received significant damage as a result of flooding and a section between Buchan’s Point and Oak Beach remained closed due to numerous significant land slips for the period up to January 20th 2024.

In addition, critical work along the Palmerston Highway was required. This route did not reopen until February 10th 2024. Work on the Kuranda Range Road is continuing at the time of the writing of this report.

Survey respondents were asked to identify the roads whose closure impacted their business. The extent, and length, of the closure of the Captain Cook Highway between Cairns and Port Douglas clearly had a dramatic effect on most businesses (65%) with significant impacts being felt from the closure of the other two main highways into Cairns and up the range to the Tablelands (i.e. The Bruce Highway and the Kuranda Range Road).



The primary effects noted by respondents were;

- the impact of visitors being unable to access areas such as Port Douglas and the Tablelands.
- the impact on staff being unable to access work sites and clients.

- the additional costs incurred in transporting goods to market.

11 Insurance

Many businesses are still unsure of what their insurance company will cover, with a significant number indicating they are still awaiting assessment or an outcome of an assessment. To date, the median insurance payout has been only \$15,000 across both regions. Concerningly only a little over 50% of asset damage appears to have been insured.

Table 11 Business Insurance Outcomes ⁴⁵				
Area	Value of Assets Damage \$	Insurance \$	Net Asset Damage after Insurance \$	% of Assets Damage covered by Insurance
Cairns SA4	101,031,600	55,143,550	45,888,050	54.6
CRC	97,248,800	54,053,150	43,195,650	55.6

This is not only a reflection of insurer response to claims but rather the fact that a large portion of businesses (56.0%) indicated that they were not insured for the damage suffered.

Feedback from businesses on insurance indicates:

- Some insurance providers have provided valuable assistance to progress claims.
- Other businesses are having difficulties getting clear positions on where they stand.
- Claims and inquires are moving at a slow pace.
- There has been a reluctance to claim as doing so impacts premium or is not worth doing given excess payable.
- Reported difficulties in getting cover/compensation outright or at an affordable price.

⁴⁵ These figures do not include \$113 million of asset damage and \$2 million of insurance reported by CRC

12 Abbreviations

ANZSIC – Australian and New Zealand Standard Industry Classification

BOM – Bureau of Meteorology

CCIQ – Chamber of Commerce and Industry Queensland

CCRC – Cassowary Coast Regional Council

CEO – Chief Executive Officer

CRC – Cairns Regional Council

DRFA – Disaster Recovery Funding Arrangements

DSC – Douglas Shire Council

EIA – Economic Impact Assessment

GRP – Gross Regional Product

GSP – Gross State Product

LGA – Local Government Area

MSC – Mareeba Shire Council

NIEIR – National Institute of Economic and Industry Research

QRIDA – Queensland Rural and Industry Development Authority

SA4 – Statistical Area Level 4

TC – Tropical Cyclone

TRC – Tablelands Regional Council

TTNQ – Tourism Tropical North Queensland

YASC – Yarrabah Aboriginal Shire Council

13 References

ABS; National, state and territory population

ABS; Regional population

ABS; Australian Industry 2021-22

Australian Mango Industry Assn; Cyclone Jasper Impact Assessment Summary – Mango, Mar 2024

CCIQ; Six Months on from Queensland's Natural Disasters; A Report to the Queensland Government 2011

Conus; Cairns Airport, Economic Assessment and Airport Census 2022

Conus; Conus/CBC Staff Selection Regional Trend Employment

Conus; Conus Regional Industry Employment Trend

economy.id.com.au

Ergon Energy; Cyclone Jasper Restoration Plan

Queensland Government; Population Projections, 2023 update edition: Queensland SA4

Queensland Government; Population Projections, 2023 edition: Queensland LGA

Tourism Research Australia; National and International Visitor Surveys

www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-industrial-classification-anzsic/latest-release

www.abs.gov.au/websitedbs/D3310114.nsf/home/geography

www.qff.org.au/presidents-column/north-queensland-flooding-has-significantly-impacted-farmers-and-supply-chains/

14 Appendix – Survey Questions

Survey question with **question logic in red**.

TC Jasper Flooding Event Economic Impact Assessment

Introduction

Cairns Regional Council is developing a Recovery Plan to rebuild infrastructure, address the environmental impacts of the event, and implement a range of initiatives necessary to support economic and social recovery following the Tropical Cyclone Jasper Flooding event.

This survey will help inform the Recovery Plan and its range of actions, works and activity to help our community reach a point where they are sustainable and resilient.

To ensure that the EIA provides the most robust data possible it is imperative that data is collected from as many businesses as possible; businesses of all sizes, in all industry sectors, in all geographical areas and whether they have been impacted by the event or not.

- Estimated time to complete if you have been impacted - up to 10 mins***
- Estimated time to complete if you have not been impacted - 2 mins***

We thank you for your participation.

**Cairns Regional Council
Economic Recovery Sub-Committee**

**All data collected will be anonymised and treated in the strictest confidence.
If you have any questions regarding this survey please contact Pete Faulkner, Conus Business Consultancy Services at pete@conus.com.au**

TC Jasper Flooding Event Economic Impact Assessment

Local Council Area

* 1. In which of these Local Government Areas does your business **principally** operate?

- Cairns Regional Council
- Douglas Shire Council
- Tablelands Regional Council
- Mareeba Shire Council
- Cassowary Coast Regional Council
- Yarrabah Aboriginal Shire Council
- Other

TC Jasper Flooding Event Economic Impact Assessment

General Information

* 2. In which Industry Sector does your business operate?

* 3. How many employees did your business employ before TC Jasper?

* 4. What was your approximate annual turnover for the 12 months prior to the weather event? \$

TC Jasper Flooding Event Economic Impact Assessment

Impact on Operations

* 5. Were your business operations impacted in any way (directly or indirectly) by TC Jasper and the subsequent flooding event?

Yes

No

TC Jasper Flooding Event Economic Impact Assessment

Impact on Operations 2

6. In what way was your business physically impacted? (select all that apply)

- Full inundation
- Partial inundation
- Cyclone/wind damage
- Loss of power supply
- Loss of communications
- None of these

TC Jasper Flooding Event Economic Impact Assessment

Physical Impacts

7. Which parts of your business were physically impacted? (select all that apply)

- Plant and equipment
- Stock
- Office furniture and fittings
- Buildings
- Motor Vehicles
- Other (please specify)

8. What was the total estimated cost of physical damages to business assets? \$

TC Jasper Flooding Event Economic Impact Assessment

Other Impacts

9. In what way was your business impacted? (select all that apply)

- Temporary closure of business
- Affected suppliers
- Affected customers
- Employee inability to attend work
- Permanent closure of business
- None of these
- Other (please specify)

TC Jasper Flooding Event Economic Impact Assessment

Revenue Impacts

* 10. Please indicate approximately what lost revenues your business has **experienced to date** as a result of this event. \$

* 11. Please indicate what you expect **will be the total lost revenues** to your business as a result of this event. \$

TC Jasper Flooding Event Economic Impact Assessment

Business Viability

12. How do you expect that this weather event will impact on the viability of your business over varying time-frames?

Short-term (up to April 2024) Medium-term (May 2024 - May 2025) Long-term (June 2025 - June 2026)

Impact level	<input type="text"/>	<input type="text"/>	<input type="text"/>
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TC Jasper Flooding Event Economic Impact Assessment

Road Closures

13. Was your business impacted by the closure (or partial closure) of any of the following roads? (select all that apply)

- No impact
- Bruce Highway
- Capt. Cook Highway
- Palmerston Highway
- Kuranda Range Road
- Gillies Range Road
- Other road closures

TC Jasper Flooding Event Economic Impact Assessment

Road Closures 2

14. Please describe the financial impact felt by your business as a result of these road closures.

TC Jasper Flooding Event Economic Impact Assessment

Length of Impact

15. How long after the event do you think it will be before your business is back to normal (pre-Jasper) operations?

TC Jasper Flooding Event Economic Impact Assessment

Impact on Employment

* 16. Has the event impacted, or is it likely to impact, on employment in your business?

Yes

No

TC Jasper Flooding Event Economic Impact Assessment

Impact on Employment 2

* 17. Please estimate the following in terms of FTE (full-time equivalents) in the different time-frames

	Staff placed on leave	Reduced staffing levels	Increased staffing levels
Short-term (up to April 2024)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Medium-term (May 2024 - May 2025)	<input type="text"/>	<input type="text"/>	<input type="text"/>

TC Jasper Flooding Event Economic Impact Assessment

Insurance

18. If your business suffered any damage to assets, were you insured for any of that damage?

- Yes
- No
- Did not suffer any damage

TC Jasper Flooding Event Economic Impact Assessment

Insurance 2

19. Please estimate the level of any insurance payouts you are likely to receive. \$

TC Jasper Flooding Event Economic Impact Assessment

Support

20. How easy do you feel it has been for you to get information about, and access to, available Government support?

- Very easy
- Somewhat easy
- Neither easy nor difficult
- Somewhat difficult
- Very difficult

21. Are there any specific suggestions you would like to make to improve getting information about, and access to, Government support in the future?

* 22. Have you received any direct financial support from any Government assistance measures?

- Yes
- No

TC Jasper Flooding Event Economic Impact Assessment

Support 2

23. Please estimate the level of any Government support you are likely to receive. \$

TC Jasper Flooding Event Economic Impact Assessment

Final Questions

24. Do you anticipate requiring any further financial support to assist with recovery? (please provide any commentary or further details)

25. You may wish to provide a general statement of how the weather event has affected your business.