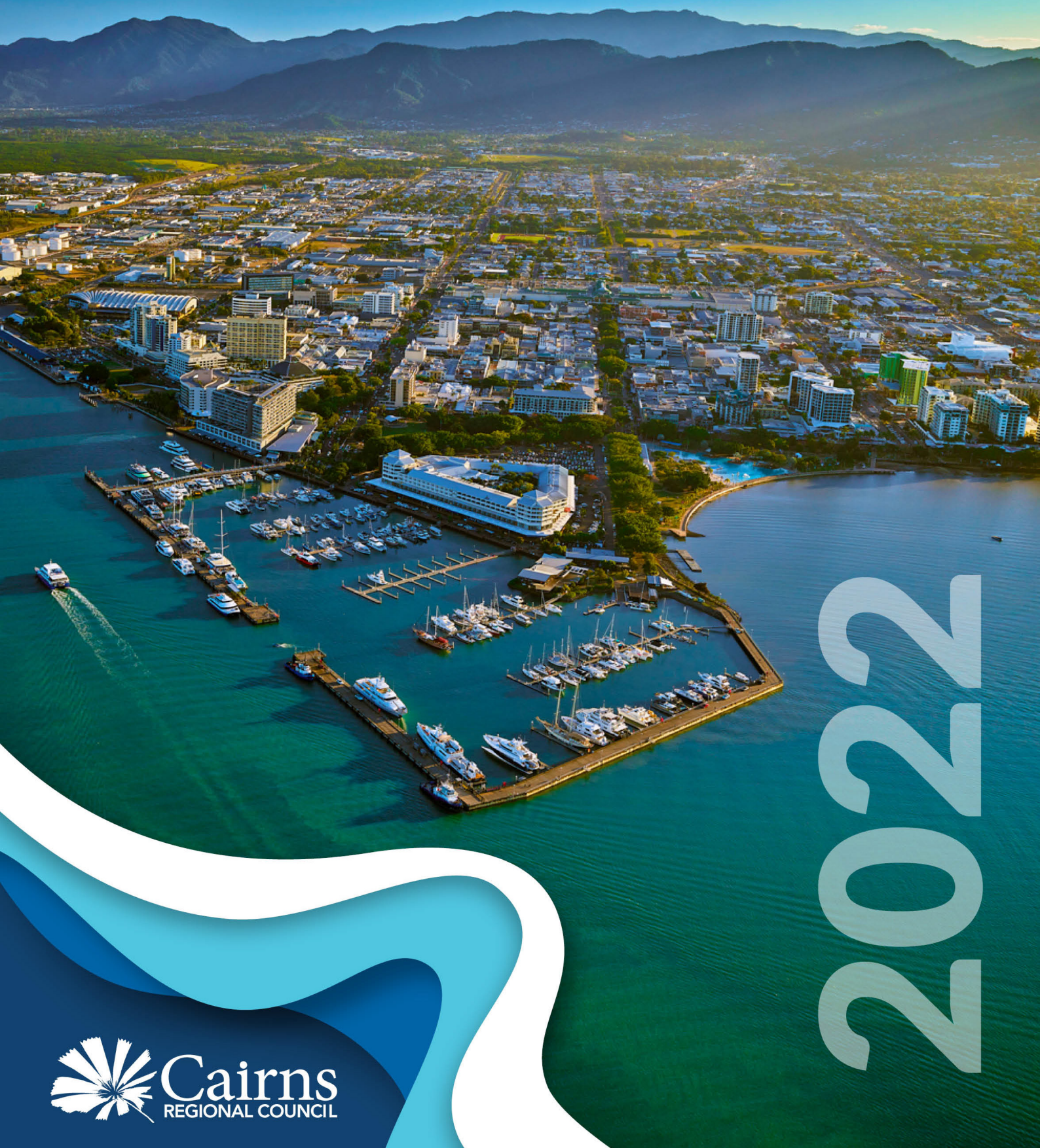


State of Environment

REPORT 2022



2022

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STATE OF ENVIRONMENT REPORT 2022

This document has been created in an interactive format. There are links embedded throughout that can be used to navigate to different parts of the document, or to other pages on the internet, when viewed on a computer or mobile device.

About the State of Environment 2022

This State of Environment (SoE) report provides an overview of Cairns Regional Council's environmental and urban sustainability initiatives and performance in 2021/22. It describes the condition of the local natural environment, the pressures on it and Council's responses to those pressures - an approach commonly used in State of Environment reports.

While State of Environment reporting is not a statutory requirement of local governments in Queensland, Council considers this to be best practice. This is the 16th release of the report, and the second since moving to an interactive online format. Both the [Queensland Government State of Environment](#) and [Australian Government State of Environment](#) reports can be accessed online for further information at wider bioregional and national levels.

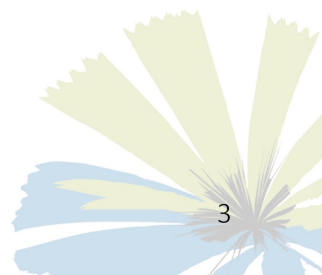
This report does not provide a complete summary of work done by other agencies in local catchments within the Cairns Local Government Area boundary. Further information on these agencies can be found on the relevant websites and many are linked to from within these pages.

Unless otherwise specified, all averages presented here have been calculated according to the last nine-years of Cairns Regional Council State of Environment data. Selections of this data can be found in the [Data tables](#) section at the end of this document. Links to many of the publicly available sources of the data used in this report can be found in the [Cairns Regional Council State of Environment Report 2022 Resource List](#).

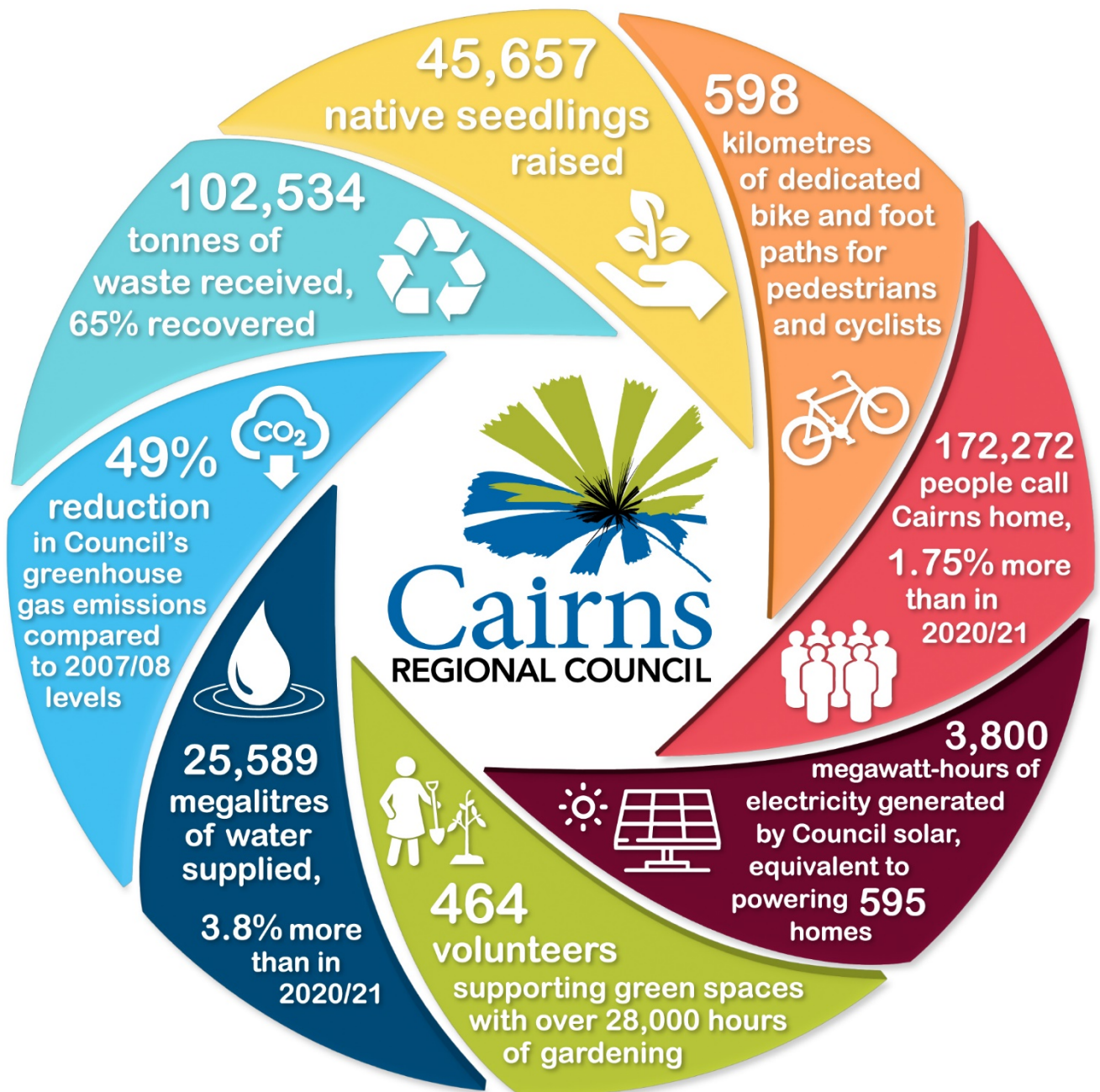
Disclaimer

This report has been produced by Cairns Regional Council and endorsed at the Planning and Environment Committee meeting on 12 July 2023.

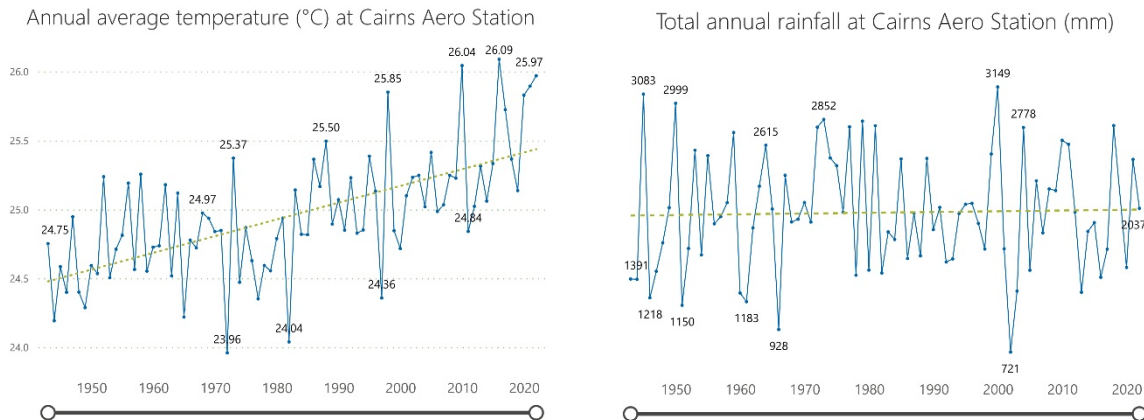
While every effort has been made to ensure that the information contained within this report is correct and up to date, Cairns Regional Council and all persons acting on its behalf in preparing this report accept no liability for the accuracy or inferences from the material contained in this publication, or for any action as a result of any person's or group's interpretations, deductions or conclusions relying on this material. Cairns Regional Council accepts no liability for any loss, damage or injury (including consequential loss, damage or injury) from the use of this information.



State of Environment Snapshot 2022



Climate Condition



Click on the graphs to view the interactive versions on the Cairns Regional Council website.

Pressures

In the years since the Bureau of Meteorology records began in 1942, annual average air temperatures at the Cairns Aero Station have trended up by about 1 °C. The 2021/22 year was a warmer than average year, with an average annual maximum temperature of 30.5 °C, 1.4 °C higher than the average since 1942. Additionally, there were 12 days recorded over 35 °C, twice as many as the previous year, and far exceeding the average of 3.3 days per year. The average annual minimum temperature was high as well, at 22 °C, compared to the all-years average of 20.8 °C.

In 2021/22, rainfall at Cairns Aero Station was 32% below the previous year and 11% below the average since 1942, with records showing just 1,729.2 mm over the year.

Higher than average ocean temperatures led to a marine heatwave in February 2022, with mass coral bleaching observed across 91% of the Great Barrier Reef (GBR). This was the fourth such event since 2016, and the first to occur during a La Niña cycle, normally associated with cooler waters. The [Great Barrier Reef Marine Park Authority's Reef Snapshot](#) described the pattern of bleaching across the region around Cairns as varying from major to severe. Much of the coral is expected to recover in the absence of further heat stress.

The ocean continues to absorb most of the heat caused by greenhouse gases, which can cause ocean acidification and [sea level rise](#) - the latter increasing risks to coastal infrastructure, community values and ecosystems.

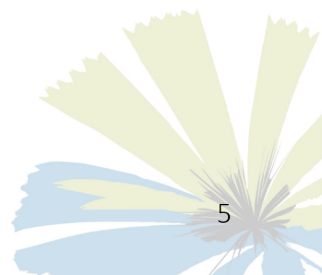
Response

Click the titles of the responses below to find more information on the Cairns Regional Council website.

Climate Change Strategy 2030

To address climate pressures, Council developed the Cairns [Climate Change Strategy 2030](#), which outlines actions to reduce greenhouse gas emissions, transition to a low carbon economy and adapt to a changing climate. This includes commitments to power Council operations by 100% renewable electricity, to achieve net zero emissions for Council operations, and to support the community to reduce emissions and build resilience in a changing climate.

See [Council Operations](#) to find out more about Councils' emissions reduction progress.



Coastal Hazards Adaptation Strategy

Council continued significant engagement and technical planning studies to develop its [Climate Hazards Adaptation Strategy](#), to proactively manage the risks of coastal hazards between now and 2100. This allowed for 0.8 M sea level rise, consistent with Queensland Government requirements.

Reef Guardian Action Plan

As a Reef Guardian Council, Council developed the [2020-2024 Reef Guardian Action Plan](#) which outlines actions in response to key threats to the Reef. This includes managing greenhouse gas emissions, land-based run off, coastal development, fishing and marine debris.

Further information

[Bureau of Meteorology State of the Climate 2022](#)

[Bureau of Meteorology Datasets](#)

[Cairns Carbon Emissions Snapshot](#)

[Reef Snapshot: summer 2021-22](#)

Water

Condition



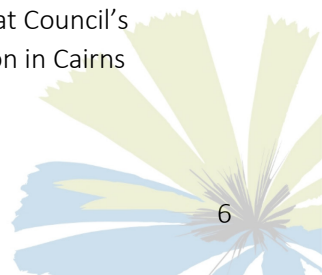
Click on the graphs to view the interactive versions on the Cairns Regional Council website.

Pressures

The Cairns LGA sits within two major river drainage basins, the Barron and Russell-Mulgrave, with more than 90km of wetlands, including 9km which are nationally important. These support biodiversity, filter sediment, provide recreational and cultural values and protect against extreme climate events such as storm surges and floods. These basins flow into the Great Barrier Reef catchment, which is internationally recognised for its exceptional biodiversity.

Pressures on waterways can typically include water extraction rates, the quality of effluent and stormwater, habitat disturbance, invasive species and unsustainable fishing. Council manages water extraction for drinking water purposes, wastewater treatment processing and resource recovery within statutory guidelines to ensure pressures on the region’s environment remains at acceptable levels.

Water for Cairns’ residents is sourced from [10 rainforest locations](#) before being processed at Council’s treatment plants and stored for use in reservoirs across the region. Total water consumption in Cairns





was 25,589 ML in 2021/22, 3.8% above the previous year. This increase is partly explained by population growth, but also includes losses in the water network.

Council's wastewater facilities processed 20,440 megalitres of wastewater in 2021/22, recycling 9% for use in the Botanic Gardens and nearby golf courses.

Response

Click the titles of the responses below to find more information on the Cairns Regional Council website.

Reef Guardian Action Plan

As a Reef Guardian Council, Council developed the [2020-2024 Reef Guardian Action Plan](#) which outlines actions in response to key threats to the Reef. This includes actions to manage greenhouse gas emissions, land-based run off, coastal development, fishing and marine debris.

Smart Water Meters

Smart Water Meters (SWMs) are digital devices that transmit real-time water use data to Council to identify patterns in water usage and help with early leak detection. Phase 1 of Council's SWMs project saw the installation of 697 SWMs in Palm Cove and the development of approximately 50% of the associated communications network. Since their installation, Council has detected over 120 leaks and saved an estimated 50 megalitres of water. Phase 2 will see the installation of 55,000 SWMs by 2026.

Smart Catchments

Environmental sensors are installed in Saltwater Creek to monitor, in near real-time, the quality of water flowing through the catchment into the receiving waters of the Great Barrier Reef lagoon. [This live data is published](#) on Council's website to inform management responses.

Our water security

The [Cairns Water Security - Stage One project](#) is crucial to the future growth and prosperity of the region. The [Business Case Options Analysis Report](#) confirms that there could be a shortage of drinking water in Cairns as soon as 2026 and that the Mulgrave River, with a water treatment plant is the preferred source for overcoming this. In comparison to the Tinaroo or proposed Nullinga Dam options, it will meet the 2026 need, have a lighter environmental footprint and be less expensive.

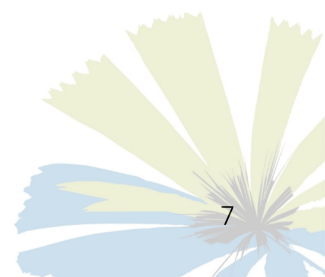
Further information

[Water Demand Management Strategy 2016-2025](#)

[Cairns Region Water Usage Data](#)

[Annual Drinking Water Quality Report](#)

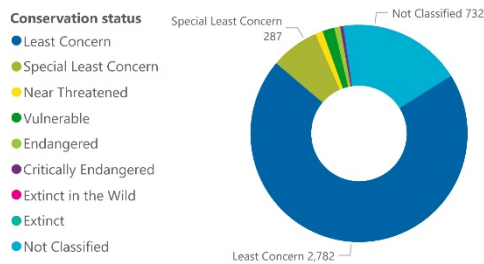
[Wet Tropics Waterways](#)



Biodiversity

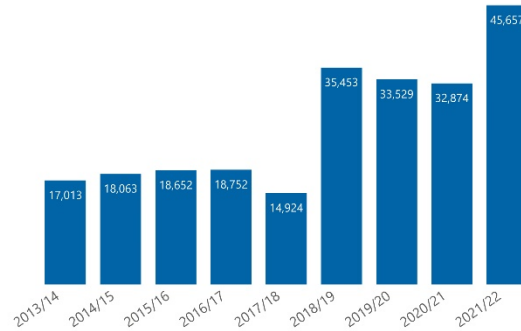
Condition

Species found in Cairns, grouped by Queensland conservation status



There were a total of 422 Introduced Species in Cairns in 2021/22. Almost all of them are counted in the Not Classified conservation status.

Number of seedlings raised by Council nursery for revegetation works



Click on the graphs to view the interactive versions on the Cairns Regional Council website.

Pressures

[Queensland Government Remnant Vegetation surveys](#) show that close to 68% of the Cairns region is covered by remnant vegetation. With 36 hectares impacted over the last decade, and 113,548 hectares remaining, the proportion of remnant vegetation has remained almost constant since 2013.

The Wet Tropics are a biodiversity hotspot, with more species being discovered in the region each year. Pressures on biodiversity can include land clearing, pollution, domestic animals, vehicle strikes, roads fragmenting habitat connectivity, and climate change. The over 90,000 additional residents projected to join the region in the next 30 years represent further indirect pressures.

Response

Click the titles of the responses below to find more information on the Cairns Regional Council website.

Biosecurity

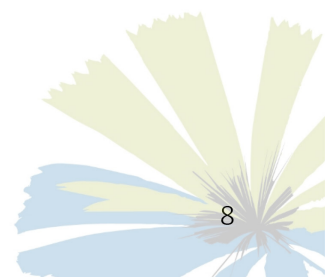
Council and landowners have responsibilities regarding regional management of pest plant and animal species. The Cairns Region Biosecurity Plan is the guiding document for managing biosecurity in the region, providing strategic direction for the management of invasive biosecurity matters and priority pests. In 2021/22, Council contributed over 6,400 staff hours to manage pests in the region, including 3,972 hours managing 94 feral pig and wild dog project sites, and a further 2,444 staff hours managing pest plants across 1,221 hectares of land. Council also offers motion sensors and traps [for wild cats](#), [wild dogs and feral pigs](#) for loan to the public.

Flying-foxes

Council works with wildlife experts, carers and staff to address flying-fox management issues in urban areas with the aim of balancing the protection of flying-foxes, the health of roost trees and the amenity of residents.

Re-vegetation of natural areas grant

This grant program provides not-for-profit organisations with funding between \$5,000 and \$20,000 to undertake on-ground activities to rehabilitate degraded landscapes, protect and improve habitat/biodiversity and improve the climate resilience of the Cairns natural environment.

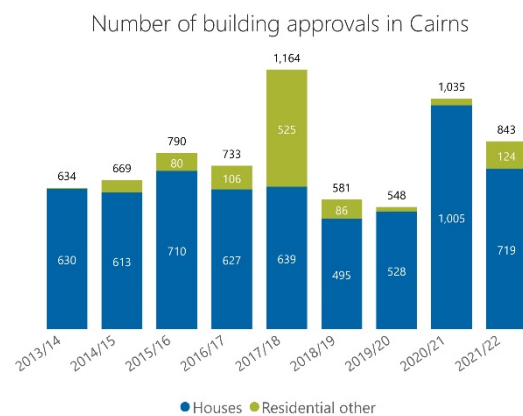
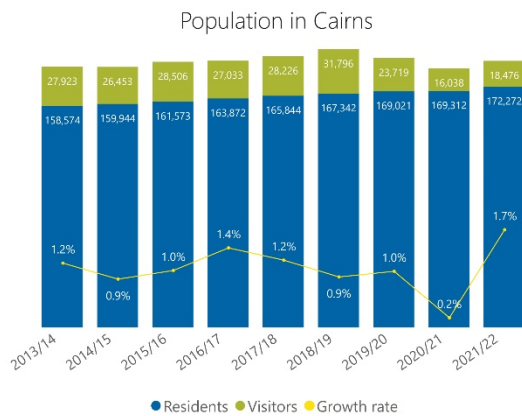


Further information
[WildNet Species Profile Search](#)

[Queensland Government Remnant Regional Ecosystem Vegetation](#)

[2021-22 State of Wet Tropics Report](#)

Built Environment Condition



Click on the graphs to view the interactive versions on the Cairns Regional Council website.

Pressures

Growth in the built environment can be associated with pressures such as an increased urban footprint encroaching on ecosystems, waste generation, air pollution and greenhouse gas emissions, waterway pollution and increased demands on fresh water sources.

The population in Cairns grew by an estimated 2,960 residents in 2021/22, to 172,272 residents. The relaxing of domestic and international travel restrictions associated with the Covid pandemic likely contributed to Cairns' rate of population growth reaching 1.75%, its highest since 2012/13.

Tourism may contribute to environmental pressure in the form of additional population. As a popular tourist destination, Cairns typically received an average of 28,500 visitors per day in years prior to Covid. Despite the easing of travel restrictions, Cairns didn't see tourism return to these levels in 2021/22, with an average of 18,476 visitors per day.

Response

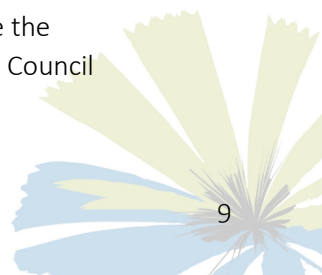
Click the titles of the responses below to find more information on the Cairns Regional Council website.

Tropical building design

Designing for the tropics is essential in our climate. Use our resources to help design a home or building that responds to our environment, climate, local character and community needs, including the [Designing for Density in the Tropics Design Guide](#).

TreePlotter database

Council is aiming to plot every tree on Council land, but with an estimated 500,000+ trees in the Cairns region's parks and streets, mapping them all is a big job. Council's arborists, contractors and volunteers have plotted more than 30,000 trees already. Residents and visitors can also use the [TreePlotter database](#) to find information about trees they encounter in the region, and Council encourages volunteers to [get involved in plotting new areas](#).



Green Space Our Place

The Green Space Our Place program has 10 supervised groups that meet regularly to work alongside volunteer supervisors to learn new skills, develop their understanding of plants and meet like-minded members of the community. In 2021/22, over 460 volunteers contributed more than 28,000 hours to plant 5,500 plants in Cairns' green spaces. Everyone is welcome to [get involved](#) and contribute to the improvement and upkeep of the region's open spaces.

Further information

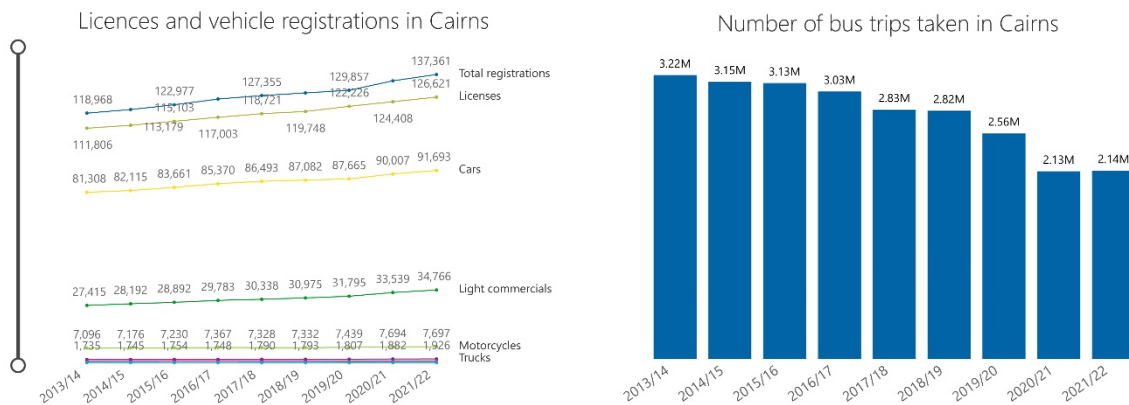
[Cairns Economic Profile - Population](#)

[Solar Power Systems Installed In Cairns](#)

[COVID-19 Cairns Local Recovery Plan summary](#)

Transport

Condition



Click on the graphs to view the interactive versions on the Cairns Regional Council website.

Pressures

Personal motor vehicles remain a very popular choice of transport for Cairns' residents, with over 137,000 vehicles registered in the region, and an average of 1.08 vehicles for every driver. Cairns' preference toward fossil fuel-based vehicles contributes to noise and air pollution, including the release of greenhouse gases. In some cases, the creation of new roads may also place pressure on native species through habitat fragmentation, along with risks of weed dispersal and vehicle strikes.

While less popular than personal vehicles, public transport offers a means of mobility with a much lower environmental impact. In Cairns, public transport is provided via a network of buses. Its usage has trended down since Queensland Government records began in 2012/13, with the lowest point in 2020/21. Passenger data shows 2,136,546 trips were taken in 2021/22, a 0.4% increase in patronage compared to last year.

Electric Vehicles (EVs) avoid operational emissions and noise. There were 178 EVs registered in the region in 2021/22. Though ownership is very low compared to traditional internal combustion engines, the number of EVs in the region has more than doubled year on year since 2018/19.

Response

Click the titles of the responses below to find more information on the Cairns Regional Council website.

Cycling and walking

Cairns is a great place to get outdoors and be active. The [cycling and walking maps](#) show a range of paths and cycle ways that allow you to explore this beautiful region at your own pace.

Active Transport Strategy

The Cairns active transport network is a series of shared paths and on-road bicycle lanes connecting the south and west to the Cairns CBD. The [Active Transport Strategy](#) provides a coordinated approach to planning and developing future additions to the walking and cycling networks by identifying missing links and proposing extensions to the networks in future.

Footpath Renewal Program

Council is responsible for nearly 600 km of footpaths across the city and plans to invest \$1.4 million in 2022/23 to improve the network. The program involves the renewal of footpaths that are reaching the end of their useful life, with sites identified via regular inspection as well as through customer service requests.

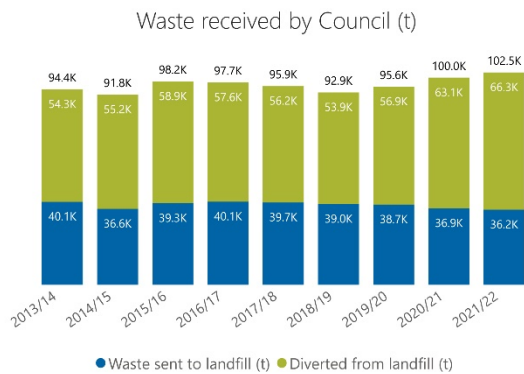
Further Information

[Queensland Government Cairns Regional Bus Patronage](#)

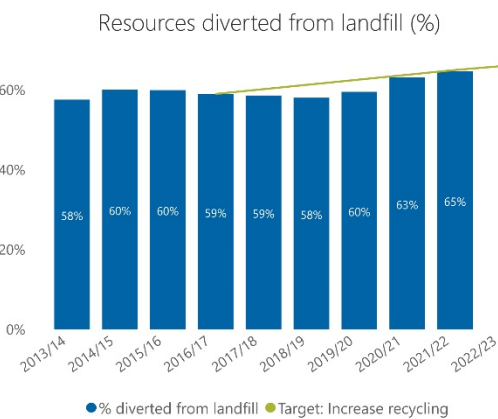
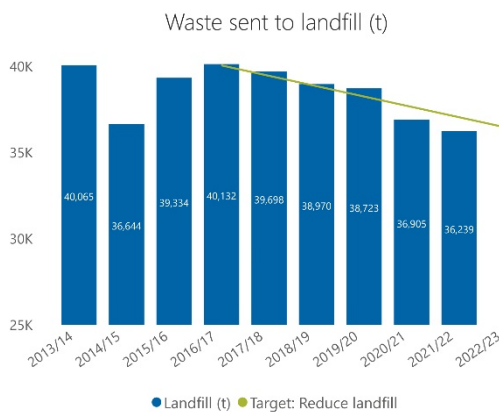
[Queensland Department of Transport and Main Roads Registration Statistics](#)

Waste and Recycling

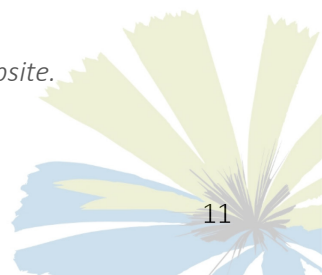
Condition



A small amount of material may be lost to natural processes, resulting in minor differences between the total waste received and the sum of resources diverted and waste sent to landfill.



Click on the graphs to view the interactive versions on the Cairns Regional Council website.



Pressures

Waste generation and disposal typically has significant social, economic and environmental impacts. Council receives waste at four major facilities, while three smaller private waste disposal facilities also operate in the Cairns LGA. Only domestic waste received by Council are included in this report.

A total of 102,534 tonnes of waste were received by Council in 2021/22, marking the highest tonnage on record and adding to four years of sustained increases. Within the context of Cairns' increasing population, this represents 583 kg of waste generated per person. However, Council's resource recovery initiatives have contributed to a higher percentage being diverted from landfill. In 2021/22, 65% of waste received was diverted, leaving just 36,239 tonnes sent to landfill – the lowest since at least 2013/14.

Council receives waste primarily through [kerbside collected waste and recycling bins](#) and through the [transfer station network](#). This waste goes through further separation processes at the transfer stations to recover useful materials that would otherwise be sent to landfill. Council's current 65% recovery rate is the result of four consecutive years of increases and is tracking well towards its 70% target by 2027.

Regular audits are conducted to track kerbside waste and recycling bin composition. The 2021/22 audit shows that 18.5% of waste that goes into the waste bin could be recycled, and almost 15% of recycling put in the recycling bin should have been put in the waste bin.

Response

Waste Reduction and Recycling Strategy

Council's Waste Reduction and Recycling Strategy 2018-2027 takes a circular approach to the waste hierarchy with the aim of keeping waste materials at their highest value in the economy for as long as possible, rather than being seen as having no value and buried in landfill.

Materials Recovery Facility

Council's \$16 million Materials Recovery Facility (MRF) completed its first full year of operation in 2021/22. It can handle up to 30,000 tonnes of recycling each year, and in 2021/22 delivered an 81% recovery rate, a 30% improvement on the previous facility. The MRF includes a new shed, glass-sorting and processing plant, and education centre.

Waste education

Council's Waste Education Officer engages with the community through a range of events, programs and partnerships, reaching over 5,500 in 2021/22. Our [Waste Education Program](#) provides services to help Cairns schools and community groups reduce, reuse their waste and recycle right. These include [presentations for students, teachers and community groups](#), free [Waste & Resource Recovery facility tours](#) (via the Rediscovery Centre) and free recycling services for schools.

Cairns Litter & Illegal Dumping Action Plan

The [Cairns Regional Council Litter and Illegal Dumping Action Plan](#) sets goals and associated actions to address litter and illegal dumping through infrastructure, education and enforcement. Council participates in the Waste Partnership program, supported by the Department of Environment and Science, to provide education to the community, investigate illegal dumping reports and collate data regarding illegal dumping. In 2021/22, Council received 512 reports about illegal dumping in the Cairns region which is a reduction from 580 in 2020/21.

Clean Up Cairns

Council facilitates a month of community clean-ups in September to remove the litter from parks and streets before the wet season washes it out to sea. This is a way all Cairns residents can help to protect the Reef from plastic pollution. There are clean-ups held in various locations across Cairns,

and everyone is welcome to [join in](#). In 2021/22, over 200 volunteers removed 138 bags of rubbish from our green spaces.

Single Use Plastics Policy

Council is committed to reducing single use plastics and demonstrating leadership on this issue, with over 2.1 million pieces avoided in its operations since 2021, from reductions or switches to better alternatives. Additionally, Council encourages the avoidance of unnecessary plastic waste in partnership with [Plastic Free Cairns and Douglas](#), who have signed up over 170 local businesses to their program and eliminated nearly 2.5 million pieces of plastic across the Cairns and Douglas regions.

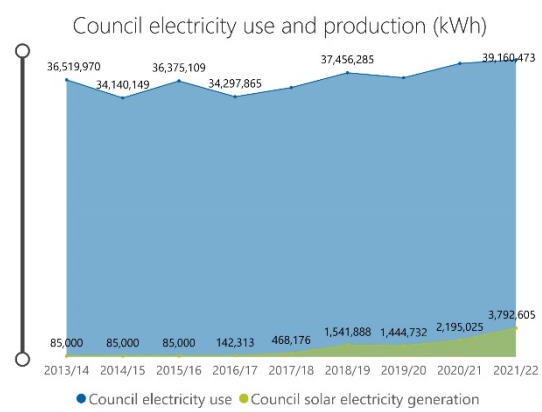
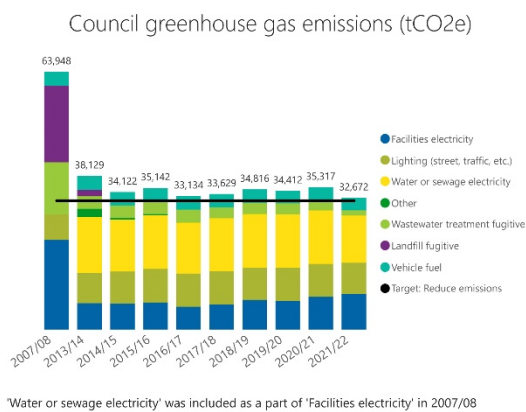
Further information

[CRC A-Z of Waste](#)

[Virtual Tours of waste and resource recovery facilities](#)

Council Operations

Condition



Click on the graphs to view the interactive versions on the Cairns Regional Council website.

Pressures

Council manages a range of services, programs and infrastructure on behalf of the community. This includes community infrastructure (like parks, sporting fields, footpaths etc.), arts and cultural services (libraries, events, performing and visual arts facilities), sewerage and wastewater treatment, water supply, waste collection, disposal and recycling, cemeteries, animal management, town planning, building approvals, local roads, kerbing and drainage. More information is available in [Council's 2021-2022 Annual Report](#).

Council's greenhouse gas emissions were down 7.5% this year, at 32,672 tonnes of carbon dioxide equivalents (tCO₂e), a 49% reduction on scope 1 and 2 emissions compared to 2007/08. The generation of nearly 3,800 MWh of electricity by [Council's various solar PV installations](#) contributed to this outcome. This ended four years of emissions increases, some of which were associated with the development of new large-scale facilities.

Favourable rainfall led to Council's water use being lower than last year's nine-year high, but remains 7.4% above average at 1,123 ML.

Total fuel consumed by Council vehicles in 2021/22 was slightly lower than the previous year, continuing a reduction of over 24% since 2013/14.

Response

Renewable Energy

Council has now installed over 3 MW of solar PV on its facilities, which contributed significantly to its greenhouse gas emissions reductions. The 2021/22 year was the first full year of generation since the additional systems were installed. Onsite renewables provided nearly 10% of Council's electricity needs and reduced emissions by over 3,000 tCO₂e.

LED streetlighting

In recent years, both Council and Ergon have been replacing traffic lights and streetlights with energy-efficient LEDs. LEDs currently make up approximately 58% of the total traffic and street lighting in the Cairns region. Each light replaced has its electricity consumption halved from 400 W to 200 W.

Further information

[Cairns Regional Council Annual Report](#)

[Cairns Region Water Usage Data](#)

Data tables

Average air temperature at Cairns Aero Station

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Average maximum (°C)	29.2	29.9	29.7	25.7	29.7	29.9	29.8	29.1	30.5
Average minimum (°C)	21.1	20.9	19.7	21.8	21.2	21.2	20.9	21.4	22.0
Overall average (°C)	25.2	25.4	24.7	23.8	25.5	25.6	25.4	25.2	26.2
Days over 35 °C	0	5	6	5	2	16	8	2	12

Total annual rainfall at Cairns Aero Station

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Annual rainfall - Cairns Aero (mm)	2,010.0	1,501.6	1,652.4	1,578.3	2,321.6	2,787.3	1,324.6	2,541.6	1,729.2
Annual rainfall - Babinda Post (mm)	4,708.5	3,069.3	3,806.4	3,574.7	5,170.7	4,622.2	3,017.7	4,616.2	4,314.7

Water supplied

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Residential (ML)	16,545.0	17,965.0	16,954.1	16,977.0	17,250.6	17,473.3	18,141.2	17,427.4	17,914.6
Commercial, industrial, municipal (ML)	5,338.9	6,360.5	6,173.0	6,134.6	6,383.3	6,413.2	6,295.7	6,217.6	6,156.9
Other (ML)	1,334.7	724.9	289.8	412.6	544.4	1,050.3	781.9	1,006.9	1,517.5
Total (ML)	23,218.5	25,050.4	23,416.8	23,524.2	24,178.3	24,936.7	25,218.8	24,651.9	25,588.9



Wastewater processed

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Total volume treated (ML)	20,653.4	18,987.9	18,568.7	19,257.5	20,821.2	22,981.7	18,515.8	20,435.0	20,440.3
Volume discharged – Includes additional rainwater (ML)	19,553.4	17,810.5	17,541.0	18,484.6	20,211.1	22,618.1	18,138.9	20,773.1	20,142.6
Proportion recycled	11.1%	11.6%	12.3%	11.3%	10.2%	8.4%	2.9%	8.5%	9.0%

Species found in Cairns, by Queensland conservation status

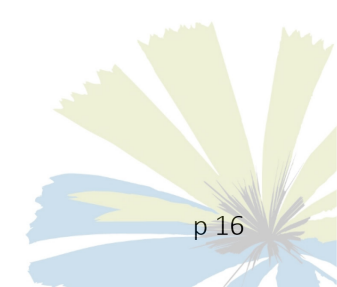
Least Concern	Special Least Concern	Near Threatened	Vulnerable	Endangered	Critically Endangered	Extinct in the Wild	Extinct	Not Classified
2,782	287	45	71	35	17	1	0	732

The Cairns Local Government Area features 422 introduced species:

- 421 in the Not Classified conservation status
- 1 in the Least Concern conservation status.

Seedlings raised by Council for revegetation works

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Number of seedlings raised	17,013	18,063	18,652	18,752	14,924	35,453	33,529	32,874	45,657





Council pest management

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Staff hours on pest plant management	4,652	4,914	3,189	2,960	3,270	2,859	2,006	1,304	2,444
Staff hours on pest animal management	1,880	1,880	1,691	1,727	1,880	2,921	3,972	3,972	3,972
Total staff hours on pest management	6,532	6,794	4,880	4,687	5,150	5,780	5,978	2,243	6,416
Area under pest plant surveillance (ha)	Data not available	Data not available	Data not available	371	2,223	934	519	939	1,221
Number of coordinated feral pig or wild dog project sites	Data not available	Data not available	Data not available	Data not available	62	93	89	104	94

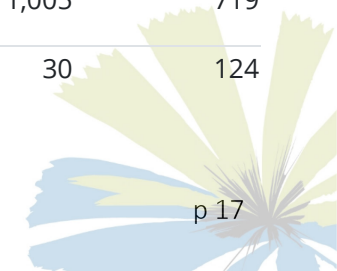
Population of Cairns

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Estimated resident population	158,574	159,944	161,573	163,872	165,844	167,342	169,021	169,312	172,272
Average visitor population	27,923	26,453	28,506	27,033	28,226	31,796	23,719	16,038	18,476

Population estimates for previous years have been revised in response to the release of the [2021 Australian Bureau of Statistics Census](#) data. Previous editions of the State of Environment reporting show past estimates and should be disregarded in favour of the figures shown here.

Number of building approvals

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Houses	630	613	710	627	639	495	528	1,005	719
Residential other	4	56	80	106	525	86	20	30	124

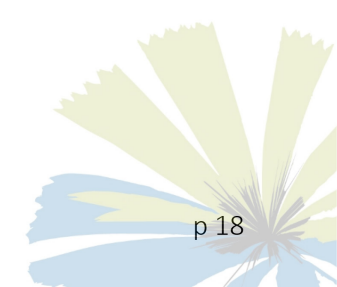


Vehicle registrations and licences

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Cars	81,308	82,115	83,661	85,370	86,493	87,082	87,665	90,007	91,693
Trucks	1,735	1,745	1,754	1,748	1,790	1,793	1,807	1,882	1,926
Prime movers	260	251	228	230	243	262	255	260	265
Buses	955	1,031	1,057	1,037	1,022	1,018	751	826	858
Mobile machinery	199	175	155	141	141	142	145	152	156
Motorcycles	7,096	7,176	7,230	7,367	7,328	7,332	7,439	7,694	7,697
Light commercial vehicles	27,415	28,192	28,892	29,783	30,338	30,975	31,795	33,539	34,766
Total vehicles	118,968	120,685	122,977	125,676	127,355	128,604	129,857	134,360	137,361
Licences	111,806	113,179	115,103	117,003	118,721	119,748	122,226	124,408	126,621

Public transport usage

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Patronage (in persons)	3,219,731	3,145,647	3,130,368	3,034,330	2,828,762	2,816,009	2,559,231	2,128,692	2,136,546





Waste and resource recovery rates

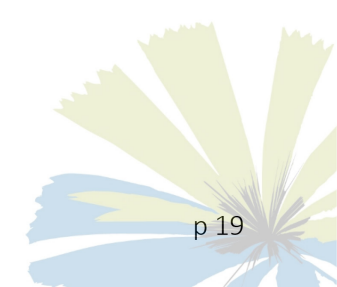
	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Diverted from landfill (t)	54,319	55,179	58,860	57,571	56,224	53,896	56,918	63,077	66,295
Sent to landfill (t)	40,065	36,644	39,334	40,132	39,698	38,970	38,723	36,905	36,239
Total received (t)	94,807	91,827	98,199	98,000	96,185	92,569	95,532	99,982	102,534
Waste generated per capita (kg)	600	572	603	594	576	547	556	576	583
Recovery rate	57.3%	60.1%	59.9%	58.7%	58.5%	58.2%	59.6%	63.1%	64.7%

A small amount of material may be lost to natural processes, resulting in minor differences between the total waste received and the sum of resources diverted and waste sent to landfill.

Contamination rates

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Proportion of waste in recycle bins	10.8%	9.4%	9.9%	8.9%	11.5%	11.0%	9.8%	12.1%	14.8%
Proportion of recycling in waste bins	23.3%	23.0%	20.0%	17.1%	16.4%	15.3%	20.3%	17.4%	18.5%

These figures are based on waste audits conducted annually around the same time of year and on similar geographic regions. As the audits are limited in scope, they are not necessarily indicative of region-wide waste disposal behaviour.



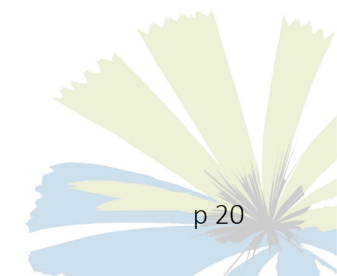


Carbon emissions (tonnes of CO₂ equivalent) from Council operations

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Electricity from facilities	6,558	6,402	6,721	5,658	6,158	7,362	7,152	8,145	8,857
Electricity from street, traffic and public lighting	7,443	8,025	8,337	8,249	8,357	8,020	8,162	8,146	7,710
Electricity from water or sewerage	13,900	12,871	13,347	12,648	13,126	13,322	13,322	13,265	11,727
Other	2,086	365	264	86	36	28	0	0	0
Wastewater treatment fugitive emissions	3,120	3,096	3,096	3,120	3,127	2,682	2,689	2,682	1,299♦
Landfill fugitive emissions	1,591	0	0	0	0	0	0	0	0
Fuel use emissions	4,003	3,455	3,363	3,353	3,366	3,270	3,395	3,094	3,079
Total Council emissions	38,701	34,214	35,128	33,114	34,170	34,684	34,720	35,332	32,672
Council's portion of Cairns' total emissions ☼						1.5%	1.6%	1.7%	1.5%

♦ Updates to [National Greenhouse and Energy Reporting scheme \(NGERS\)](#) methodologies provided by the [Clean Energy Regulator](#) led to improved accuracy in wastewater treatment fugitive emissions calculations. The updated methodology suggests that previous figures for this emissions source were overestimated, as can be seen in the data for years prior to 2021/22.

☼ Compared to municipal emissions estimates provided by [Snapshot Climate](#) (developed by [Ironbark Sustainability](#) & [Beyond Zero Emissions](#)).



Fuel, water and electricity used by Council operations

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Total Council electricity use (MWh)	36,520	34,140	36,375	34,298	35,503	37,456	36,798	38,684	39,160
Council electricity use supplied by onsite solar generation (MWh)	85	85	85	142	468	1,542	1,445	2,195	3,793
Proportion of Council electricity supplied by onsite solar	0.2%	0.2%	0.2%	0.4%	1.3%	4.1%	3.9%	5.7%	9.7%
Council fuel use (L)	1,501,563	1,290,902	1,246,232	1,242,389	1,246,554	1,209,301	1,257,557	1,145,863	1,139,847
Council water use (ML)	777	1,074	904	877	1,067	1,077	993	1,520	1,123
Council water use as a percentage of total regional use	3.3%	4.3%	3.9%	3.7%	4.4%	4.3%	3.9%	6.2%	4.4%



Resource List

General

Australian Government State of the Environment Report 2021:

<https://soe.dcceew.gov.au/about-soe/downloads>

Queensland Government State of the Environment Report 2020:

<https://www.stateoftheenvironment.des.qld.gov.au/about#previousReports>

Cairns Regional Council Annual Report 2021-2022:

<https://www.cairns.qld.gov.au/council/corporate/publications-and-reports>

Climate

Bureau of Meteorology State of the Climate 2022:

<http://www.bom.gov.au/state-of-the-climate/2022/>

Bureau of Meteorology Climate Data Online:

<http://www.bom.gov.au/climate/data/?ref=ftl>

Snapshot Climate Municipal Emissions – Cairns 2020/21:

<https://snapshotclimate.com.au/locality/municipality/australia/queensland/cairns/>

Reef Snapshot: summer 2021-22:

<https://elibrary.gbrmpa.gov.au/jspui/handle/11017/3916>

Water

Water Demand Strategy 2016-2025:

https://www.cairns.qld.gov.au/_data/assets/pdf_file/0016/11824/DemandStrategy.pdf

State-wide Water Information Management (SWIM) Annual Data*:

<https://www.cairns.qld.gov.au/water-waste-roads/water-supply-and-use/water-strategies-and-projects>

**This resource is updated annually, so the data will reflect the current year, not necessarily 2021/22.*

Cairns Regional Council Drinking Water Quality Annual Report*:

<https://www.cairns.qld.gov.au/water-waste-roads/water-supply-and-use/sources-and-supply>

**This resource is updated annually, so the data will reflect the current year, not necessarily 2021/22.*

Wet Tropics Waterways:

<https://wettropicswaterways.org.au/>

Biodiversity

WildNet Species Profile Search:

<https://apps.des.qld.gov.au/report-request/species-list/>

Queensland Government Remnant Regional Ecosystem Vegetation:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/remnant-vegetation/maps-and-statistical-data-by-local-government-area>





2021-22 State of Wet Tropics Report:

<https://www.wettropics.gov.au/annual-reports>

Built environment

.id Economic Profile – Cairns Regional Council – Population:

<https://economy.id.com.au/cairns/population>

Australian PV Institute – Mapping Photovoltaic installations:

<https://pv-map.apvi.org.au/historical>

COVID-19 Cairns Local Recovery Plan summary:

https://www.cairns.qld.gov.au/data/assets/pdf_file/0004/488830/Summary-Cairns-Local-Recovery-Plan-August-2020.pdf

Transport

Queensland Government Cairns Regional Bus Patronage:

<https://www.data.qld.gov.au/dataset/qconnect-urban-bus-patronage/resource/583cf2db-9e9c-478f-921a-84b30418ee96>

Queensland Department of Transport and Main Roads Registration statistics:

<https://www.tmr.qld.gov.au/Safety/Transport-and-road-statistics/Registration-statistics>

Waste and recycling

Cairns Regional Council A-Z of Waste:

https://www.cairns.qld.gov.au/data/assets/pdf_file/0007/361933/54563-CRC-Recycle-Right-A-Z-of-Waste-A4-LR.pdf

Materials Recovery Facility Virtual Tour:

<https://www.cairns.qld.gov.au/water-waste-roads/waste-and-recycling/what-happens-to-my-waste/materials-recovery-facility-virtual-tour>

Council operations

Cairns Regional Council Annual Report 2021-2022:

<https://www.cairns.qld.gov.au/council/corporate/publications-and-reports>

State-wide Water Information Management (SWIM) Annual Data (updated annually)*:

<https://www.cairns.qld.gov.au/water-waste-roads/water-supply-and-use/water-strategies-and-projects>

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