

Cairns Regional Council  
State of the Environment Report  
2011/12



This report has been produced by Cairns Regional Council.

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**Cover photograph:** Southern Cassowary (*Casuarius casuarius johnsonii*)  
Photographer Martin Cohen, photo courtesy of Wild About Australia.



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Stockwellia (*Stockwellia quadrifida*) Photographer Jeremy Little



*Beach stone curlew*

Photo courtesy of Commonwealth of Australia (GBRMPA)

This is Cairns Regional Council's fourth State of the Environment Report (SOE). In Queensland there is no legislative requirement for Councils to produce an SOE, however Council believes in the importance of transparent reporting and accountability of its performance to the community.

The State of the Environment Report uses data collected for various indicators, including indicators relating to broader sustainability aspects such as community well-being and governance, and monitors Council's performance against them.

## Structure of Report

This report includes "Snapshots" of key data, a table which summarises all data, explanations of what the data means and related Council stories. The data snapshots should be read together with the explanations to ensure full understanding of the trends for this year.

This report aims to provide the community with an indication of Council's performance against indicators grouped under the following four themes of sustainability:

- Improving Resource Efficiency
- Conserving Biodiversity
- Enhancing Community health and Wellbeing
- Delivering sound economic management and governance

These themes correspond with Council's Sustainability Scorecard framework which is used to assess internal projects and decisions. For more information on this framework please see the State of the Environment —Sustainability Scorecard Report 2010/11.



View over Wonga Beach, photographer Daryl Jones

## Waste

- 49,249 tonnes of domestic kerbside waste collected, around 2% less than the previous year.
- 10,096 tonnes of domestic kerbside recycling collected, around 11% less than the previous year.
- 12,744 tonnes of soil conditioner exported from Bedminster, 38% more than the previous year.
- 35,219 tonnes of Green Waste processed, 7% less than the previous year.
- 6,009 tonnes of metal recycled, 109% more than the previous year.
- 204 tonnes of commercial waste was recycled, 21% less than the previous year.
- 61,000 litres of oil sent for recycling, 33% less than the previous year.

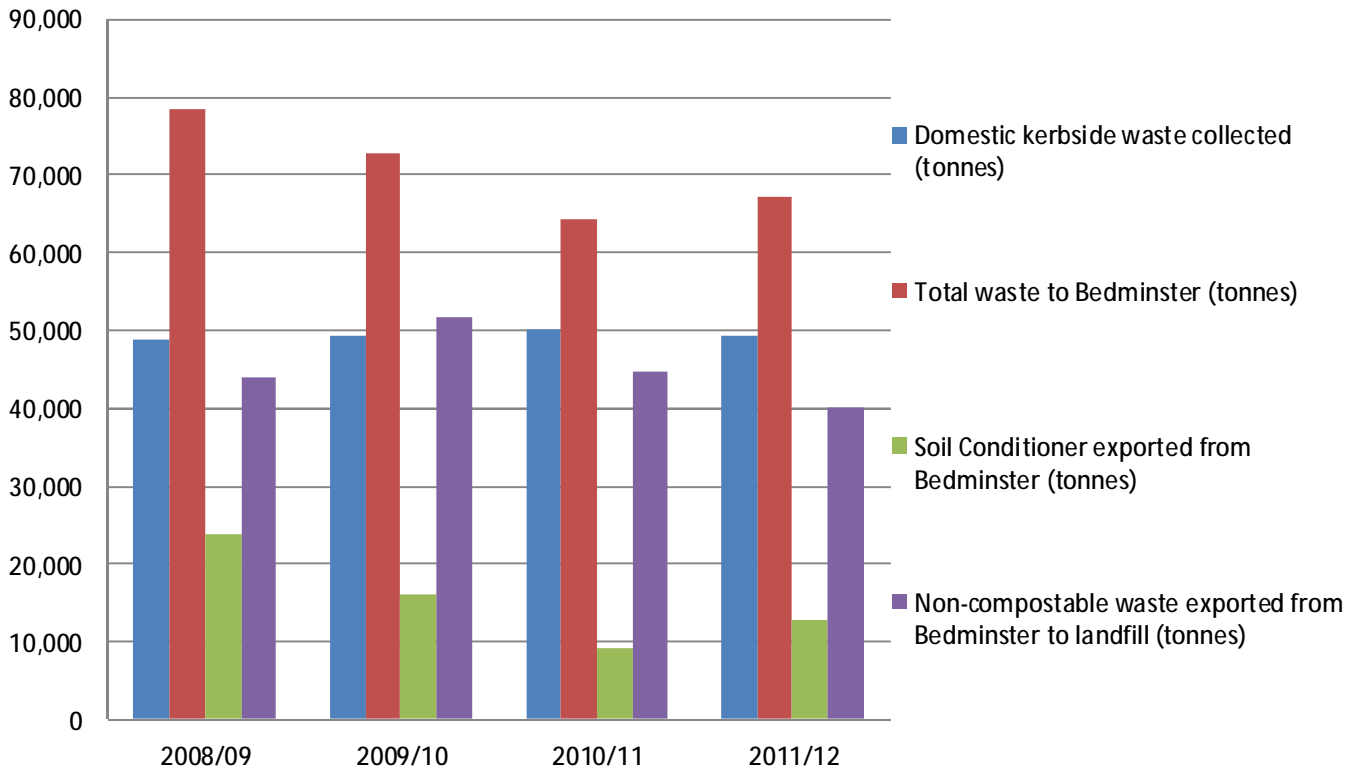
\* Waste commentary on page 15



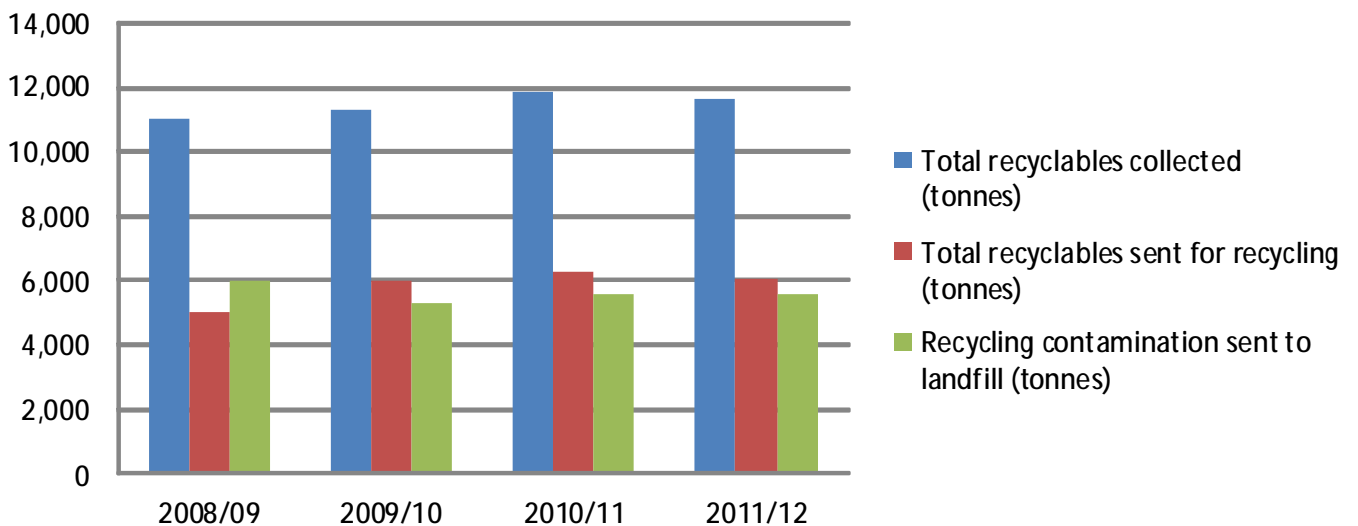
Portsmouth landfill, Cairns



## General waste processing



## Recycling



## Water

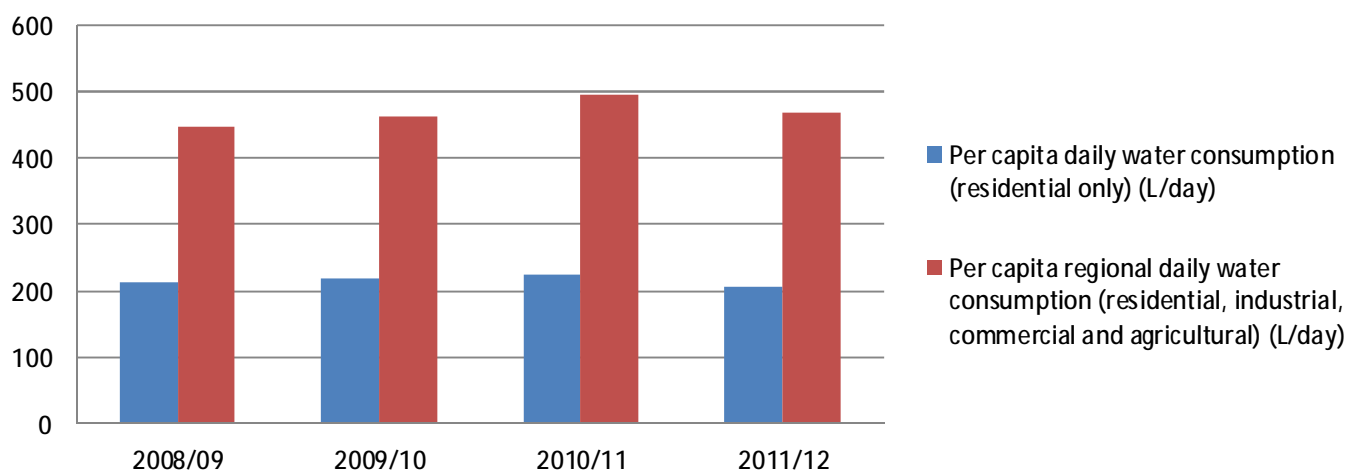
- Per capita daily water consumption (residential, only) 206 litres per day, 8% less than the previous year.
- Per capita daily water consumption (residential, industrial, commercial and agricultural) 469 litres per day, 6% less than the previous year.
- 1320 megalitres of recycled water used, 27% more than previous year.

\* Water commentary on page 15



View from Babinda Creek, photographer Craig Harriss.

## Per capita daily water consumption





## Energy and emissions

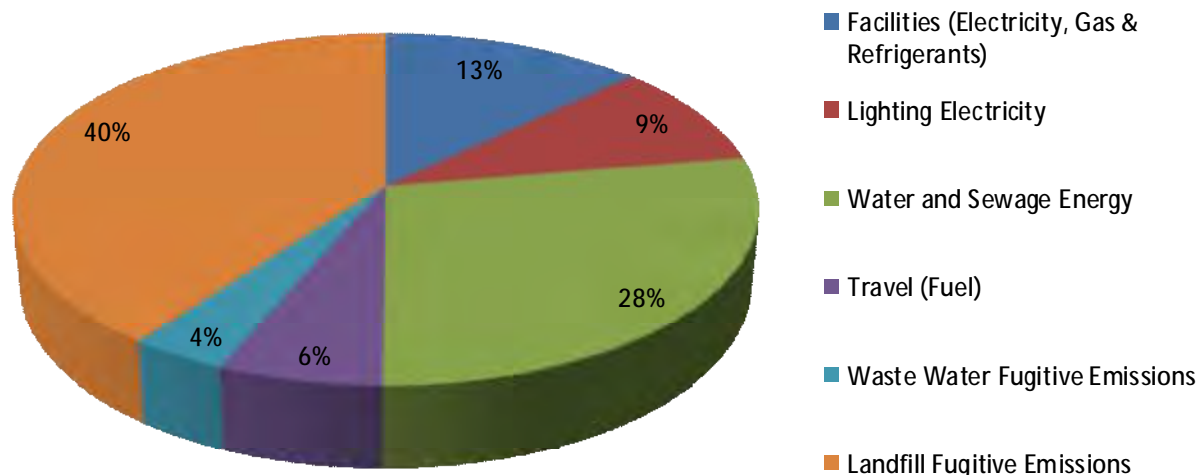
- Council used 39,764,570 kilowatt hours of electricity, 4% less than the previous year.
- Council's electricity use emitted a total of 35,886 tonnes of carbon dioxide equivalent, (CO<sub>2</sub>e), 4% less than the previous year.
- Council's new Energy and Emissions System resulted in improved data collection and monitoring.
- Council vehicles emitted a total of 4,411 tonnes of CO<sub>2</sub>e, about the same as the previous year.
- Landfill emissions were 27,929 tonnes of CO<sub>2</sub>e, 33% less than the previous year.
- Council activities emitted an overall total of 70,859 tonnes of CO<sub>2</sub>e, 18% less than the previous year.

\* *Energy & emissions commentary on page 16, 17*

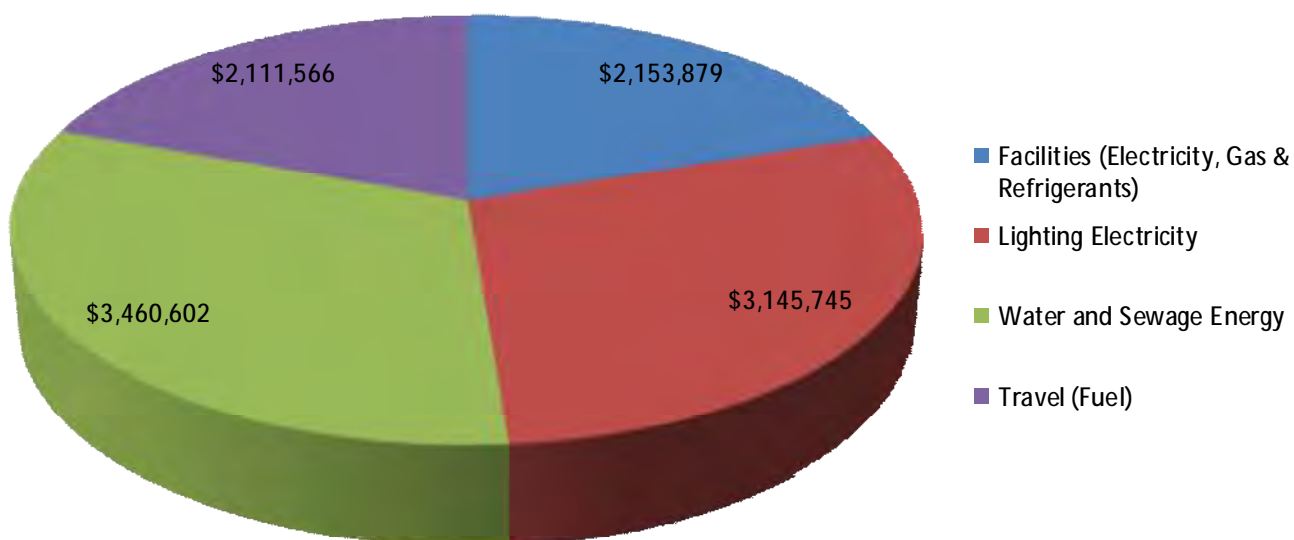


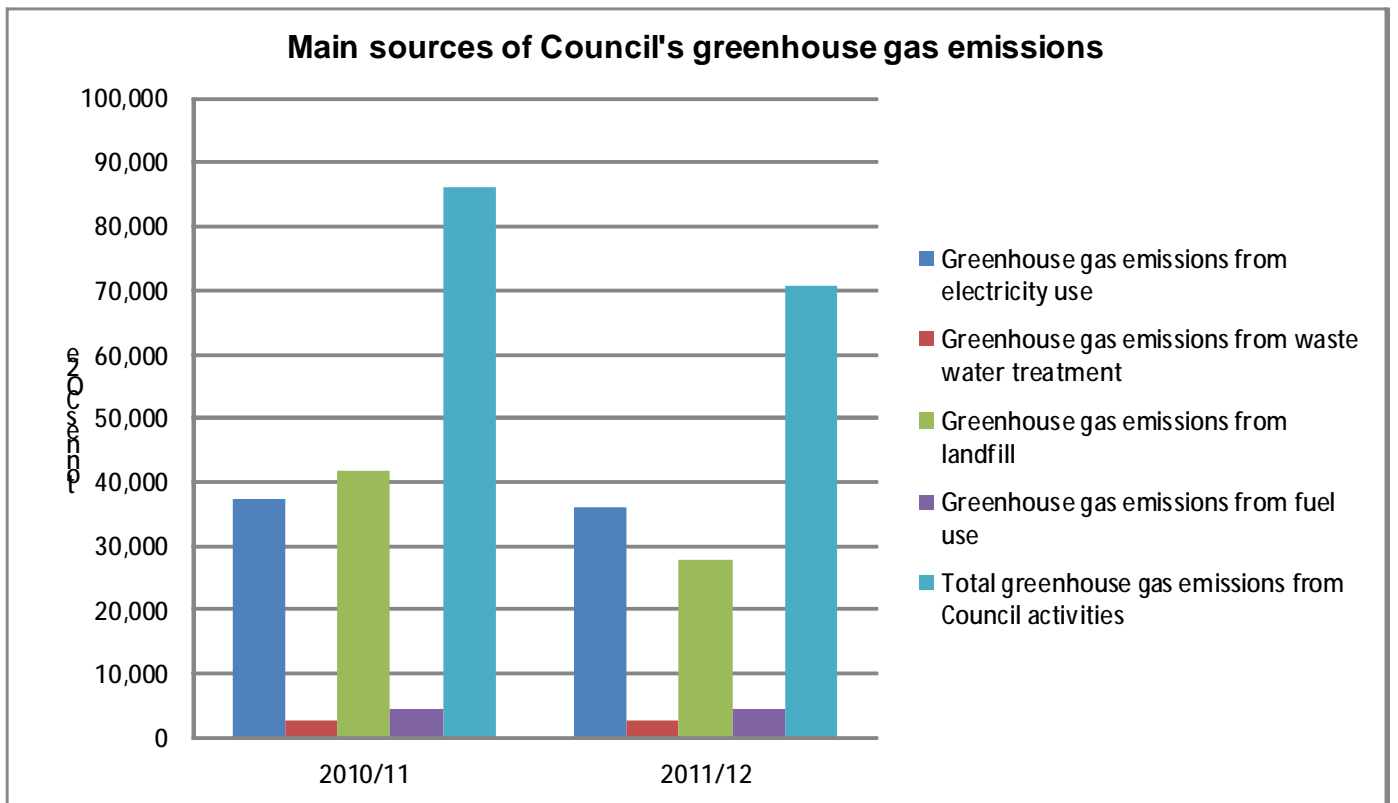
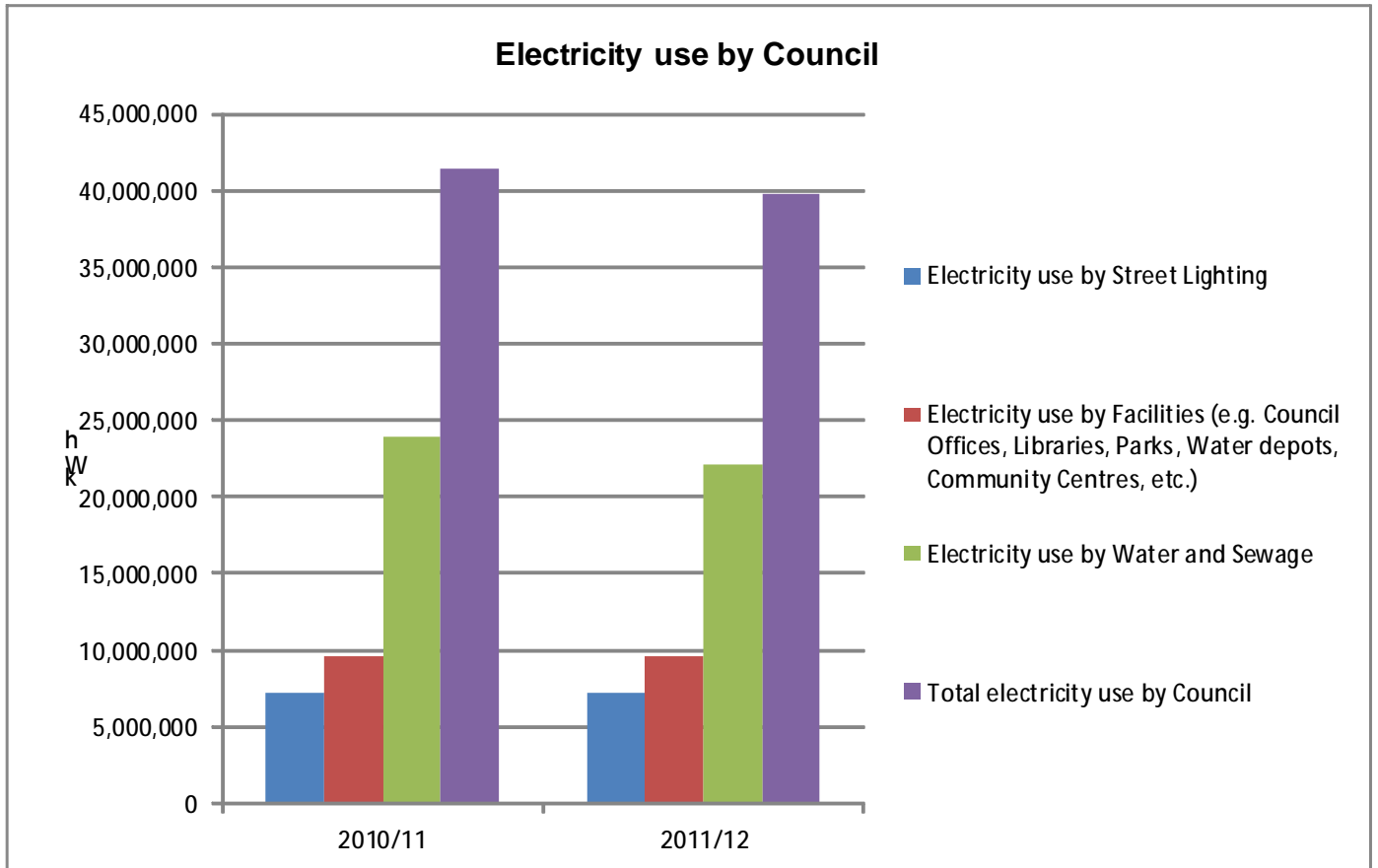
*20kW solar array Botanical Gardens Visitor Centre, Edge Hill*

**Council's greenhouse gas emissions by activity (2011/2012)**



**Energy cost by activity (2011/2012)**





## Conserving biodiversity

- 25,263 trees planted, 42% less than the previous year.
- 11,473 trees donated to the community, 3.3% more than the previous year.
- 42,266 seedlings potted, 33% less than the previous year.
- 652 feral pigs destroyed, 23% less than the previous year.
- 0.8% of total Council budget was spent on management of natural areas, 17% less than the previous year.

\* *Conserving biodiversity commentary on page 18*



*Ficus racemosa*, photographer Bob Jago

## Governance & Economic management

- 384 Planning Applications received, 2% more than previous year.
- 2,572 Building Approvals issued, 3% less than previous year.
- Council staff turnover rate 15.52%, around 50% higher than the previous year.
- On average 7 days sick leave taken per Council employee, 9% less than the previous year.

\* Governance commentary on page 16



Gordonvale community hall energy efficiency upgrade launch

## Community wellbeing

- 96.3 square kilometres of Council area is accessible as parks and land for community use, around the same as the previous year.
- 476 kilometres of shared cycle/pedestrian pathway and 6km of dedicated cycleway in the Council area.
- 2.6% of total annual Council budget was spent on community events and cultural services, events and facilities, around 14% less than the previous year.

\* Community commentary on page 16



Sustainable Living Expo 2012, Cairns Esplanade

# Data - Improving Resource Efficiency

Indicator	2008/09	2009/10	2010/11	2011/12	Trend	ü Positive û Negative - Neutral^
<b>WASTE</b>						
Domestic Kerbside Waste collected (tonnes)	48,913	49,412	50,103	49,249	-1.7%	ü
General domestic waste dropped at Transfer Stations (tonnes)	9,556	9,350	11,291	9,454	-16.3%	ü
Construction waste to Transfer Stations (tonnes)	2,318	677	Not available	542	-	-
Construction waste to landfill (tonnes)	2,318	677	Not available	542	-	-
Commercial waste to Transfer Stations (tonnes)	5,222	3,847	4,307	3,828	-11.1%	ü
Commercial waste to landfill (tonnes)	3,084	2,363	2,041	2,197	+7.6%	û
Total waste to Bedminster (tonnes)	78,504	46,550	64,188	67,256	+4.8%	û
Total residential waste directly to landfill (tonnes)**	0	22,777	18,295	0	-100.0%	ü
Soil Conditioner exported from Bedminster (tonnes)	23,797	16,024	9,226	12,744	+38.1%	ü
Non-compostable waste exported from Bedminster to landfill (tonnes)	44,033	28,836	44,723	39,983	-10.6%	ü
Green waste processed (tonnes)	25,550	28,098	37,943	35,219	-7.2%	ü
<b>RECYCLING</b>						
Total recyclables collected (tonnes)	11,028	11,306	11,855	11,644	-1.8%	ü
Total recyclables sent for recycling (tonnes)	5,031	6,008	6,307	6,045	-4.2%	û
Proportion of collected recyclables sent for recycling	46%	53%	53%	52%	-2.4%	û
Domestic kerbside recycling collected (tonnes)	10,877	11,075	11,357	10,096	-11.1%	ü
Commercial waste recycled (tonnes)	21	34	257	204	-20.6%	û
Metal recycled (tonnes)	2,903	2,882	2877	6,009	+108.9%	ü
Tyres recycled (tonnes)	15,494	11,861	18,047	4,646	-74.3%	û
Oil sent for recycling (litres)	51,760	78,885	91,430	61,000	-33.3%	û
Batteries sent for recycling (tonnes)	80	86	77	77	-	-

# Data - Improving Resource Efficiency

Indicator	2008/09	2009/10	2010/11	2011/12	Trend	ü Positive û Negative - Neutral^
<b>WATER &amp; WASTEWATER</b>						
Per capita daily water consumption (residential, industrial, commercial and agricultural) (litres/day) <sup>#</sup>	447 L/day	461 L/day	497 L/day	469 L/day	-5.6%	ü
Per capita daily water consumption (residential only) (litres/day) <sup>#</sup>	212 L/day	217 L/day	223 L/day	206 L/day	-7.6%	ü
Total wastewater treated (megalitres)	Not available	Not available	24,849 ML	21,413 ML	-13.8%	ü
Total wastewater discharged (not reused) (megalitres)	Not available	Not available	23,667 ML	21,162 ML	-10.6%	ü
Recycled Water Used (megalitres)	650 ML	1042 ML	1042 ML	1320 ML	+26.7%	ü
<b>WATER QUALITY</b>						
Compliance with EPA Sewerage Licensing requirements (%)	97%	98%	99%	99%	-	ü
Number of Litter Traps (FLT)/Gross Pollutant Traps (GPTs) installed in Cairns region waterways	Not available	Not available	Not available	178 GPTs 2 FLT	-	-
Volume of waste/sediment collected in litter traps/gross pollutant traps in the Cairns Region	Not available	Not available	Not available	50 m <sup>3</sup> of sediment and 3.5m <sup>3</sup> of rubbish from GPTs. 130 m <sup>3</sup> of rubbish from FLT.	-	-



Babinda Creek, photographer Campbell Clarke.

# Data - Improving Resource Efficiency

Indicator	2008/09	2009/10	2010/11	2011/12	Trend	ù Positive ð Negative - Neutral^
<b>ENERGY &amp; EMISSIONS</b>						
Fuel use by Council vehicles – Diesel (litres)	1,311,024	1,216,921	1,336,811	1,366,865	+2.2%	ù
Fuel use by Council vehicles – Unleaded (litres)	422,609	331,065	344,980	318,065	-11.0%	ù
Greenhouse gas emissions from fuel use (tonnes CO <sup>2</sup> e)*	4,854	4070	5,210	4,411	-0.2%	-
Electricity use by Street Lighting (kWh)	7,119,125	7,323,386	7,242,776	7,256,980	+0.2%	-
Electricity use by Water and Sewage (kWh)	14,640,973	21,085,947	23,954,007	22,170,598	-7.4%	ù
Electricity use by Facilities (kWh) (Includes - Council Offices, Libraries, Council Depots, Unspecified, Museum/ Arts, Parks, Water depots, Community Centres, Amenities, Waste Facilities, Other)	Not collected	Not collected	9,601,869	9,646,640	+0.5%	-
Electricity use by Council offices (kWh)	Not collected	Not collected	2,187,256	2,116,375	-3.2%	ù
Electricity use by Council pools (kWh)	Not collected	Not collected	1,534,916	1,644,805	+7.2%	ù
Electricity use by Council Libraries (kWh)	Not collected	Not collected	1,050,917	1,006,158	-4.3%	ù
Electricity use by Council Depots (kWh)	Not collected	Not collected	1,096,881	921,309	-16.0%	ù
Electricity use by Community Centres (kWh)	Not collected	Not collected	283,431	434,218	+53.2%	ù
Total electricity use by Council (kWh)	32,094,847	38,614,446	41,456,567	39,764,570	-4.1%	ù
Total energy cost to Council (\$)	Not collected	Not collected	10,393,254	10,942,889	+5.3%	ù
Greenhouse gas emissions from electricity use (tonnes CO <sup>2</sup> e)*	33,761	35,310	37,278	35,886	-4.0%	ù
Greenhouse gas emissions from waste water treatment (tonnes CO <sub>2</sub> e)	Not collected	Not collected	2,632	2,632	-	-
Greenhouse gas emissions from landfill (tonnes CO <sub>2</sub> e)	Not collected	Not collected	41,781	27,929	-33.2%	ù
Total greenhouse gas emissions from Council activities (tonnes CO <sub>2</sub> e)	Not collected	Not collected	86,197	70,859	-17.8%	ù



## Data - Conserving biodiversity

Indicator	2008/09	2009/10	2010/11	2011/12	Trend	ù Positive ð Negative - Neutral^
<b>ENVIRONMENTAL RESTORATION</b>						
Number of trees planted by Council	49,166	44,243	43,680	25,263	-42.2%	ù
Number of trees donated to the community	27,689	13,687	11,108	11,473	+3.3%	ù
Number of trees under management	74, 150	123, 316	167, 559	192,822	+15.1%	ù
Days spent on watering/maintenance/site preparation	242	310	1442	575	-60.1%	ù
Number of seedlings potted	105,675	78,246	63489	42,266	-33.4%	ù
Number of hours spent on seed collection	248	225	226	210	-7.1%	ù
Per cent of annual Council budget spent on natural areas management	0.5%	0.89%	0.96%	0.80	-16.5%	ù
Number of hours spent on revegetating riparian areas	Not collected	Not collected	Not collected	5,716	-	-
<b>PEST MANAGEMENT</b>						
Number feral pigs destroyed	706	671	849	652	-23.2%	-
Number feral pigs destroyed (Daintree)	602	589	547	283	-48.3%	-
High Priority Weeds (days)	138	164	1128	578	-48.8%	ù
<b>MOSQUITO CONTROL</b>						
Number of Eastern Rainbow Fish Released	0	12,250	0	0	-	-
Number of Mosquito Complaints Received	Not collected	227	588	210	-64.3%	ù
Number of Midge Complaints Received	Not collected	20	2	0	-100.0%	ù
Amount of pesticide sprayed for mosquito control (Reslin and Pyrecide) (litres)	Not collected	431	531	452	-14.8%	ù

# Data - Community, Governance and Economy

Indicator	2008/09	2009/10	2010/11	2011/12	Trend	Ü Positive Û Negative - Neutral <sup>^</sup>
<b>OPEN SPACE</b>						
Council land area accessible as parks and lands for community (square kilometres)	Not available	Not available	96.1	96.3	+0.2%	-
<b>COMMUNITY PROGRAMS</b>						
Kilometres of shared cycle/ pedestrian pathways within Council region	Not available	423	475 <sup>##</sup>	476	+0.3%	-
Kilometres of dedicated bikeways within Council region	0	0	6	6	-	-
Total cyclist count for Super Tuesday bike count	Not available	Not available	1139	1,267	+11.2%	Û
Per cent of Council budget spent on cultural service events, facilities and programs <sup>+</sup>	Not available	Not available	3.03%	2.6%	-14.3%	Û
<b>COMMUNITY SATISFACTION</b>						
Community Overall Satisfaction rating (% of respondents rating overall satisfaction as average or above average)	Not available	Not available	77.5	Not available	-	-
<b>ECONOMIC SUSTAINABILITY</b>						
Building Applications approved	3,724	3,557	2,653	2,572	-3.1%	-
Planning Applications received	539	521	376	384	+2.1%	Û
<b>STAFF WELLBEING</b>						
Staff turnover rate (%)	Not available	12.22	10.34	15.52	+50.1%	-
Average days of sick leave taken per Council staff member	Not available	7	7.7	7	-9.1%	Û
Employee Overall Satisfaction Rating (out of 7)	Not available	4.22	4.38	Not available	-	-

- <sup>^</sup> Elements for which the trend has neither positive or negative environmental impacts, or for which impacts are unclear.
- <sup>\*</sup> Using NGER methodology for GHG emissions calculations (*National Greenhouse and Energy Reporting (NGER) Act 2007*).
- <sup>#</sup> Data is for the Cairns city region (excluding Division 10, previously Douglas Shire)
- <sup>\*\*</sup> Due to Bedminster being out of operation.
- <sup>##</sup> This data has been altered from the previous year due to introduction of a more accurate data set.
- <sup>+</sup> Due to a restructure of the Creative Cairns branch, some re-calculations have been made to allow a comparison with the previous years data.

# Sustainability Performance Summary

## Improving Resource Efficiency

### Waste

The amount of domestic kerbside waste collected decreased by around 2% from the previous year. The amount of waste dropped at transfer stations decreased significantly, by around 16%, from the previous year. This decrease is most likely because of a higher than average amount of waste dropped to transfer stations in 2010/11 due to damage from cyclone Yasi, with the current data representing a return to average levels. Construction waste taken to transfer stations is not currently being reused or recycled, and is instead going to landfill. This is an area that Council can work to address in future.

The Bedminster is the system used to process the household waste from the Cairns region (from green wheelie bins) and some other waste from the region. This system sorts the waste, with some content going to landfill and some being converted to the end product which is 'Soil Conditioner'. This 'Soil Conditioner' is then used on farmland in the region.

Total waste to Bedminster increased by around 5% from the previous year, most likely due to the Bedminster being out of operation for a period of 2010/11. The Bedminster system was operational for the entire reporting period (2011/12 financial year). The amount of Soil Conditioner exported from the Bedminster increased by 38% from the previous year, again most likely because the Bedminster was out of operation for part of the previous year.

Total recyclables collected decreased by around 2% from the previous year. 52% of the volume of recyclables collected was actually sent off for recycling, with the remainder going to landfill. This represents a decrease of 2.4% in the proportion of recyclables sent for recycling.

The significant increase in the amount of metal being recycled can be explained by improved data collection in this area. This represents a more accurate figure for metal recycling than previous years.

### Water and wastewater

Per capita residential and overall water consumption both decreased from the previous year (by around 8% and 6% respectively). This may be due to water efficiency education campaigns in the Cairns region, particularly in the Port Douglas and Mossman area.

The amount of recycled water used increased by 27% due to the gradual expansion of infrastructure to carry this water to points of use and increasing demand for recycled water (see related story page 21).

Total wastewater treated and total wastewater discharged are new indicators that were added this year to monitor the rate of wastewater discharge to the environment, which is a significant pressure on the health of local waterways and the reef lagoon. Cairns Regional Council's four largest wastewater treatment plants (Northern, Southern, Edmonton and Marlin Coast) were recently upgraded so that wastewater discharged from these plants is A+ standard. This means that the discharged water has significantly reduced nutrient loads (5 x less nitrogen, 10 x less phosphorous). The Mossman wastewater treatment plant will also be upgraded in the near future to A class standard. Remaining plants are the Gordonvale and Port Douglas wastewater treatment plants.

Two new water quality indicators have been added this year: number of litter and gross pollutant traps and amount of rubbish and sediment collected in these traps. This will give an indication of the effort to protect and restore waterways in the region.

# Sustainability Performance Summary

## Improving Resource Efficiency

### Energy and emissions

Council's new Energy and Emissions system makes it easier to monitor and report on Council's greenhouse gas emissions. This intranet based system has recently been developed, and incorporates data from 2010 to present. For this reason data from 2008/09 and 2009/10 are not included in the data spreadsheet for some indicators.

Overall, Council activities emitted a total of 70,859 tonnes of carbon dioxide equivalent (CO<sub>2</sub>e) in 2011/12. This was around 18% less than the previous year and 26% less than 2007/08. Given these figures, Council is currently on track to meet its Carbon Emissions Reduction Target of 50% by 2020.

#### *Why did Council's emissions decrease?*

This reduction was due in part to reduced energy use across all areas of Council, but particularly to a reduction in landfill emissions as a result of the Portsmouth methane gas flaring trial (see page 17).

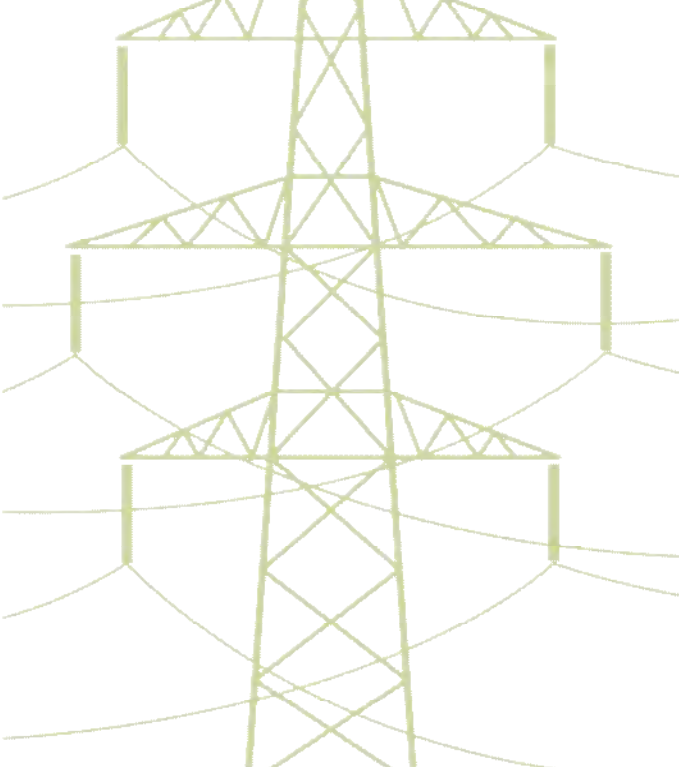
#### *What are activities are the greatest emissions contributors?*

Landfill has the highest emissions out of all of the activity groups followed by water and sewage, facilities, lighting, travel and wastewater (fugitive emissions).

#### *What is the cost of Council's energy use?*

Council's total energy cost for 2011/12 was \$10.9 million, an increase of 4.3% from the previous year. This figure includes all electricity plus generator fuel and gas. Electricity consumption, which accounts for the bulk of this cost, actually decreased by around 4% from the previous year. The increased overall energy cost is a result of increasing electricity, fuel and gas prices.

In terms of annual operational energy costs per activity, water and sewage treatment contributes the greatest amount to this total energy cost at around \$3.5 million per year, followed by lighting, facilities and travel.



#### Greenhouse inventory summary:

- Council's overall corporate emissions have reduced by 18% over the past financial year;
- Council's emissions have reduced by 26% since 2007/08;
- Council's largest two emissions sources are electricity consumption at 49% and landfill at 39%;
- Emissions have reduced in each of Council's business activities however energy costs have increased;
- Council's Energy and Emissions System has enabled council to improve its energy management, reporting and identification of key energy trends.

# Sustainability Performance Summary

## Energy and emissions—detailed activities

### *Facilities*

In most groups of Council facilities, greenhouse emissions have decreased. This is largely due to energy efficiency actions that have been undertaken.

Energy consumption decreased in “Council offices” even with the addition of the new Botanic Garden Visitor Centre. The use of the Sustainability Scorecard which was introduced in March 2011 has embedded the consideration of energy consumption into Council projects and decisions and Council’s *Energy Smart* program reminds officers of day to day energy smart behaviour.

There was increased electricity consumption in ‘community centres’ due to the new Woree Disaster Coordination Centre.

### *Lighting*

Energy use and greenhouse emissions for street lighting from 2010/11 to 2011/12 has remained relatively constant, however there has been an increase of over 6% in lighting expenditure. This is primarily due to electricity price increases, as there has not been a significant increase in the number of lights. Energy consumption and greenhouse emissions are calculated based on estimated average daily electricity consumption information provided by Ergon, as the streetlights are an unmetered supply.

### *Water and Sewage*

There have been significant reductions in energy consumption for wastewater treatment, wastewater pumping and water pumping. There have been increases in water treatment, water storage and unspecified accounts. Actions have been undertaken to optimise efficiency of pumps, blowers and other equipment. The figure for fugitive emissions from wastewater treatment is the same as the previous year, as calculations for the current reporting period have not yet been completed.

### *Travel*

Diesel consumed by the Council vehicle fleet is the greatest source of both fuel emissions and cost. 23 petrol light commercial vehicles have been replaced with diesel vehicles and 27 diesel light commercial and light trucks have been replaced with more fuel efficient vehicles. Overall fuel consumption has reduced slightly from one year to the next, but the fuel spend has increased by nearly 9% due to fuel price increases.

### *Fugitive waste emissions*

A very significant reduction in fugitive emissions from landfill has been achieved by ‘flaring’ of landfill methane at the Portsmith Landfill. This process involves extracting the gases from the landfill and burning it to destroy the methane and thereby avoid the release of this potent greenhouse gas. Flaring began at the landfill site in February 2012 and is estimated to eliminate 81% of the landfill gas fugitive emissions.

### *Top sites*

The electricity consumption of Council’s top 17 electricity accounts, contribute 75% of the total electricity consumption from all of Council.

The complete greenhouse inventory is available on Council’s website [www.cairns.qld.gov.au](http://www.cairns.qld.gov.au).

## Conserving Biodiversity

The number of trees planted and propagated each year fluctuates according to phases of revegetation planting and maintenance. During some years, Council staff concentrate on weed management and tree maintenance rather than propagating and planting new trees.

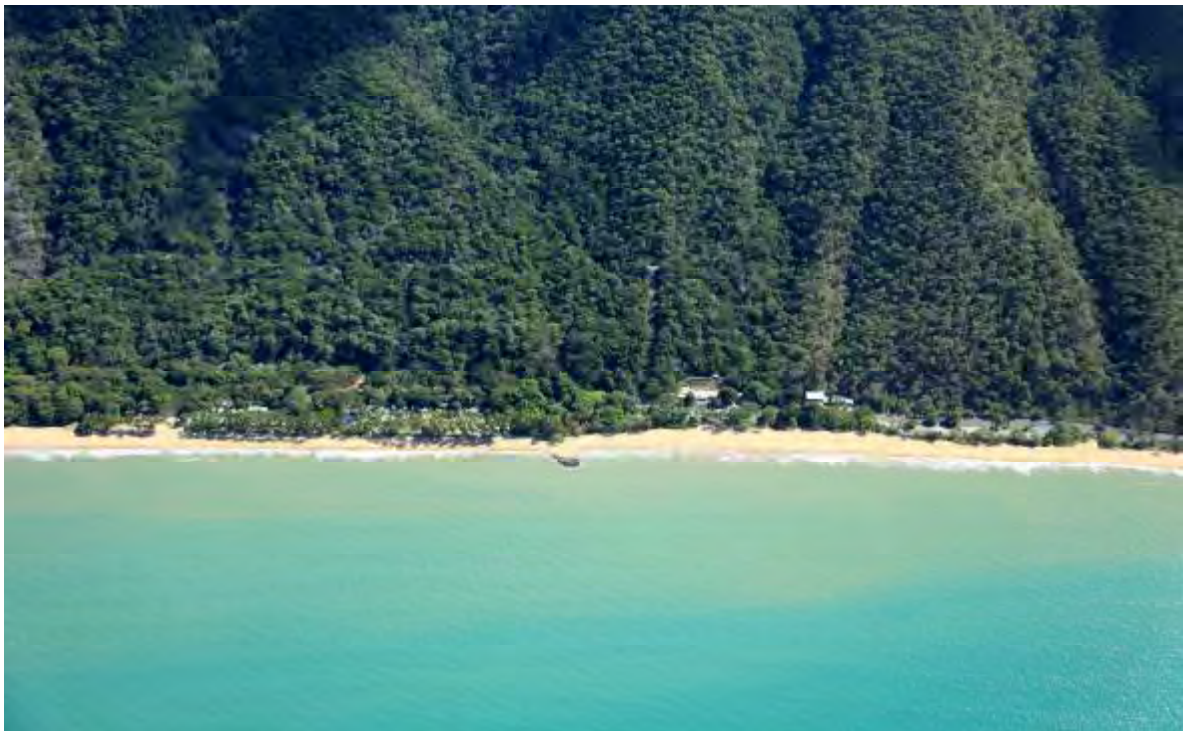
The number of trees planted by Council decreased by 42% from the previous year, the number of seedlings potted decreased by 33%, and hours spent on seed collection decreased by 7%. This is due to a large planting project at Cattana Wetlands, with trees planted over the past few years now requiring maintenance and weed management. Also the departure of a staff member at the Stratford nursery resulted in decreased plant propagation.

The number of trees under Council management increased by 15%, as new areas have been revegetated. The per cent of annual Council budget allocated to natural areas management decreased by 17%.

The number of feral pigs destroyed decreased by 23% in the Cairns region, but this decrease was driven by a 48% decrease in the Daintree area, with figures in all other areas increasing. The amount of effort put into trapping of feral pigs in these areas was the same as the previous year, so this decrease in the Daintree is a positive sign of reduction in overall pig numbers in this area.

The 49% reduction in High Priority Weeds days and 60% decrease in days spent on watering and maintenance is partly due to the end of the "Green Choice" program which added 25 workers to the staff team for weed control and plant maintenance. The completion of this project and loss of these workers reduced capacity for weed control.

The number of mosquito complaints received decreased by 64%, and the amount of pesticide sprayed for mosquito control also decreased.



View over Ellis Beach, photographer Daryl Jones

## Enhancing community health and wellbeing

The amount of land area available to the community as parks and lands for community remained the same as the previous year.

The amount of shared cycle/pedestrian pathways remained the same, at around 476 km. The Super Tuesday Bike Count, which started in Cairns in 2010, recorded a total of 1,267 cyclists, 11% more than last year. Council will be employing an Active Transport Officer in 2012 to encourage pedestrian and cycling as a healthy transport option in the region.

2.6% of Council's total budget was allocated to the 'Creative Cairns' branch (a decrease of 3% from the previous year). As mentioned on page 14, the data previously reported for last year has been altered following a restructure of the relevant Council area to allow an accurate comparison between years. The newly formed Creative Cairns branch is responsible for delivering a large number of the cultural activities and services provided by Council, including running the Civic Theatre, the Tanks Arts Centre, and organising events such as the Cairns Festival, Carnival on Collins, and youth arts programs.

The Community Survey was not conducted during this reporting period, but will be conducted again in 2013.

## Delivering sound governance and economic management

The number of planning applications received increased by 2% from the previous year, while the number of building applications approved fell by 3%. These figures have been low for the past couple of years as a result of the economic downturn which has affected the building industry in the region. While these indicators provide some idea of economic growth in the region, Council is working to source a more holistic economic sustainability indicator for inclusion in future reports.

The percentage turnover for Council staff increased by around 50%. This increase is due primarily to a voluntary redundancy program which saw 43 staff leave Council. This program is designed to help Council reduce staff costs across the organisation, and a second round of the program will be offered in 2012.

The average days of sick leave taken per Council employee decreased by around 9% from the previous year, back to the 2009/10 figure.

The employee survey was not conducted during this reporting period, as more time was needed to implement the recommendations from the previous survey.



View over Trinity Beach

### Sustainable Building Design Guidelines

In October 2011 Cairns Regional Council adopted a Sustainable Building Design Policy which means that all new and renovated Council buildings need to meet a set of sustainable design requirements.

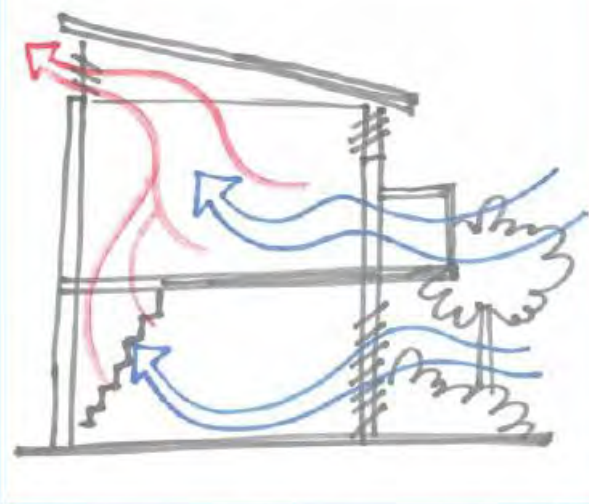
The Policy is part of a framework which also includes a Sustainable Building Design Checklist and Guidelines. The Checklist is designed to ensure that the objectives of the Policy are met, and the Guidelines provide background information on sustainable tropical building design to assist Council staff to implement the Policy. These documents were developed internally by Council staff, with some input and review from external consultants and industry groups.

While the primary aim of the framework is to improve the sustainability performance of Council buildings, the project is also aiming to encourage sustainable building design within industry and the community. All of the documents are publicly available on Council's website, and the Guidelines publication is being promoted for use by industry and community members. The second phase of the project will be to develop a residential version of the Guidelines document.

The Guidelines are available to the public on Council's website at <http://www.cairns.qld.gov.au/buildings> and contain useful tips and information on sustainable building design and construction.



Figure 3. Convection Air Flow







Rex Creek, Mossman



Eubenangee Swamp, photographer  
Campbell Clarke

### Our water our 'world famous' backyard

Our Water Our 'World Famous' Backyard

A water conservation campaign was developed for the Port Douglas and Mossman to help sustain a secure water future for the region. The existing water supply for Port Douglas and Mossman is 'run of river' with no major storage and is dependent on seasonal river flow levels.

The \$7.5 million 'Big Picture' campaign was partially funded by the Australian Government under the National Water Security Plan for Cities and Towns program. Initiatives included:

- Water Smart Home Service
- Commercial Water Advisory Service
- Leak repair program
- District metered areas
- Pressure managed areas
- Advanced water metering
- Leak detection program
- Recycled water scheme

The Water Smart Home Service had outstanding success, with 944 or 16% of Mossman and Port Douglas households taking up the service of a licensed plumber installing a water efficient showerhead, flow control aerators and replacement of washers. As well, 20% of businesses took up the Commercial Water Advisory Service, who then received a detailed report outlining water saving measures. The leak detection program identified 150 customers with leaks, saving money for customers as well as substantial carbon emission savings, as a direct result of a reduction in water usage and chemicals used to treat the water.

Since the start of the campaign the Council has seen a positive change in residents' attitude and better understanding of their water supply, the reasons for conserving water and protecting their ecosystem. Residents have learnt that conserving water doesn't mean doing without; but finding ways of saving the resources they already have.



### Council adopts the *Biodiversity Strategy 2012-2022*

The *Biodiversity Strategy 2012-2022* was adopted by Council in April 2012. This strategy outlines a clear plan for how Council will work to protect and restore biodiversity in the region over the next 10 years. The strategy also includes information about plants, animals and ecosystems that are found in the region.

The Cairns region is renowned for its high biodiversity of international significance, and areas of tropical rainforest that are among the oldest continually surviving areas of rainforest on the planet. There are an estimated 3000 plant species found in the region, and around 250 of these are rare or threatened. The iconic wildlife of the region includes cassowaries, tree kangaroos, quolls, echidnas, tree frogs and crocodiles among many other species.

We are lucky to have this diversity of life in our region and Council is committed to protecting and restoring natural areas to conserve this biodiversity.

Council's key strategies for protecting biodiversity in the region are:

- Protect and restore ecological integrity and habitat connectivity;
- Protect and restore waterway health and aquatic biodiversity;
- Minimise the impacts of urban development on biodiversity;
- Minimise negative downstream impacts on the Great Barrier Reef; and
- Encourage Council staff and community members to value, protect and restore biodiversity.

The Biodiversity Strategy is available on Council's website [www.cairns.qld.gov.au](http://www.cairns.qld.gov.au).



The rainforests of the Wet Tropics contain some of the oldest continually surviving tracts of tropical rainforest in the world and contain many plant and animal species found nowhere else on the planet.



## Related stories - *Conserving biodiversity*

### Restoring our creeks

Cairns Regional Council undertakes riparian restoration in areas of disturbance such as clearing, weed infestation and erosion.

Council takes a holistic approach to riparian repair (system repair) where issues such as bank stability and weed control are addressed from top of catchment down whilst replanting native species to ensure connectivity and linkages with remnant vegetation. Partnerships with community groups, schools and adjoining landowners are fundamental to achieving results due to the large areas requiring attention.

Council's current projects include:

- Freshwater Creek - In 2010, Council begun work on Class 2 declared weed "Thunbergia" along Freshwater Ck at Redlynch. Over 8000 trees have now been planted.
- Cassowary Creek – Mossman over 8500 trees planted
- Giddens Creek – Babinda over 3000 trees planted



Freshwater Creek—before



Freshwater Creek—after



Rufous Owl at Centenary Lakes Cairns

### Fauna Risk Management Procedure

This procedure has been created to assist Council undertake native fauna assessments as part of the Environmental Management Plan (EMP) for all Council related works.

The purpose of a Fauna Assessment is to evaluate the risk of possible adverse affects on native fauna and their habitats from proposed council works. The procedure contains a list of Protected species with information to assist identification. An onsite Initial Field Fauna Risk Assessment Sheet assists Council Officers to determine the level of risk the works pose. A qualified ecologist is engaged on this basis.

### The annual Sustainable Living Expo doubles in size

Coordinated by Cairns Regional Council and Tropical North Queensland Tafe, the annual Sustainable Living Expo aims to bring people together to celebrate, learn and have fun.

The 2012 Sustainable Living Expo saw over 2000 people visit the 45 exhibitors who displayed their products and services ranging from renewable energy, permaculture, local tropical foods, 'upcycled' wares and community groups representing conservation, climate change and sustainable living.

The day was a community celebration of sustainability - there were colourful recycled fashion installations by Tafe fashion students, delightful roving performers, and local musicians the Montgomery Brothers and Reggae Bliss entertained the crowd. Most popular were the children's "Junk into Funk" tent and demonstration area where every half hour there was a demonstration on topics including how to make your own hot water service, how to make a hay bale garden, designing a sustainable home, solar thermal power and more.

Council and Tafe would like to thank everyone involved in the 2012 Expo who helped make the day a wonderful success.



For further information regarding Council's programs and activities please visit Council's website <http://www.cairns.qld.gov.au>



### Beautiful Art Spaces

The Beautiful Art Spaces initiative aims to invigorate vacant shops and other empty spaces in our local business centres by creating partnerships with property owners, artists and local creative industries. The project assists small business development within the creative sector with over 25 business assisted over the past 2 years.

These spaces are temporarily tenanted by emerging, developing and professional artists to enliven and complement existing retailers in the area. Beautiful Arts Spaces is an initiative of Cairns Regional Council's Creative Partnerships Team.



### Tropical Innovation Awards

Now in its third year, the Tropical Innovation Awards provide an opportunity for local inventors, innovators and businesses to showcase their inventive and innovative ideas, projects and processes to potential investors, mentors, government officials and the public.

There are three overarching aims of the Tropical Innovation Awards:

- To recognise, reward and support innovation, invention and commercialisation across the Tropical North Queensland region;
- To build economic diversification, sustainability and resilience into the regional economy;
- To showcase and brand Tropical North Queensland as the centre of tropical expertise and knowledge for the tropical world.

The Tropical Innovation Awards have received entries from a diverse range of businesses; from cyclone resistant homes, to biodegradable lunch products, to algae for biological carbon capture, to solar energy generation on power poles.

Initiated in 2010 as a product of Cairns Regional Council's "innovation agenda", the Awards have firmly established Tropical North Queensland as a world-leading centre for tropical expertise, innovation and sustainable development.

Cairns Regional Council  
State of the Environment  
2011/12



Ant plant (*Myrmecodia beccarii*), photographer Bob Jago.