



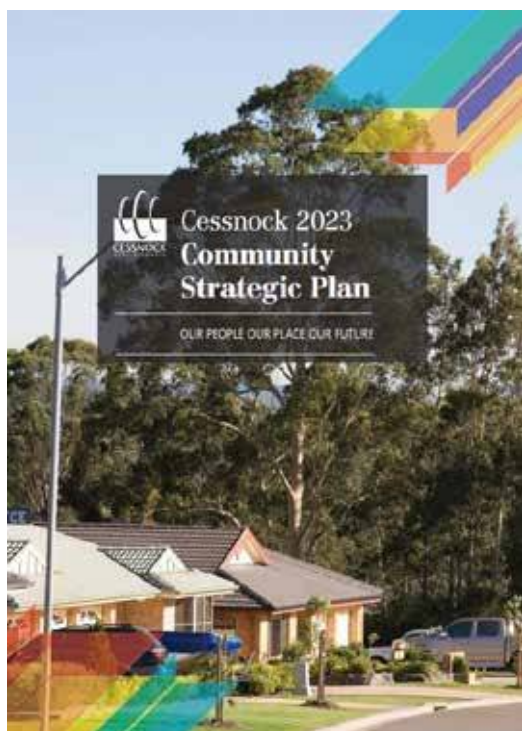
# State of the Environment Report

## Introduction

Section 428A of the *Local Government Act 1993* requires a report as to the state of the environment in the local government area for the environmental objectives established by the community strategic plan.

The state of the environment report reports on the environmental measures identified in the community strategic plan and identifies major environmental impacts and trends in the local government area.

This report contains information about the condition of the local environment, pressures the local environment is subject to and the measures being taken to alleviate those pressures during the period from July 2012 to June 2016. It outlines what has been done to address adverse impacts and whether those actions have been successful in delivering results.



Peace Park Weston

### COMMUNITY STRATEGIC PLAN

Council undertook a comprehensive program of community consultation activities during 2010 to develop Cessnock's original community strategic plan *Cessnock 2020*. During 2013 the vision, outcomes and objectives from the original document were confirmed with the community and *Cessnock 2023* was adopted. This document is the community's plan for the future of the Cessnock local government area and it provides the strategic directions for our community over the next 10 years.

The desired environmental outcome in the *Cessnock 2023 community strategic plan* – a sustainable and healthy environment – was supported by three environmental objectives:

- Protecting and enhancing the natural environment and rural character of the area
- Better utilisation of existing open space
- Better waste management and recycling.

This desired outcome focuses on the conservation and preservation of the natural environment whilst balancing the impact of development to ensure a sustainable and healthy community.

In community research (undertaken with a random sample of local people) residents were asked to indicate the extent to which they agreed or disagreed that the statement '**A sustainable and healthy environment**' described the Cessnock local government area.

47% of residents 'agreed or strongly agreed' with this statement, consistent with the result in 2014.

### 3.35 – Moderate agreement

1	2	3	4	5
Strongly Disagree	Disagree	Neither	Agree	Strongly Agree

#### Mean Rating Trend

2012	2014	2016
3.41	3.26	3.20

Cessnock City Council Community Research 2016

#### Environmental indicators from the community strategic plan

The following targets were adopted as part of *Cessnock 2023*, they are sourced from Council operational data and community research.

MEASURES	CONTEXT/BENCHMARK	BASE	TARGET	RESULT
Open Space & Green Corridors	This measure is the number of lots zoned residential (R2, R3, R5 and RU5) within 500m of open space and green corridors (zoned RE1, RE2 and E1).	15,844 lots		16,675 lots
	This measure identifies the number and proportion of residents with access to open space for passive and active recreation purposes.	79.2%		80.0%
	This measure is sourced from Council's geographic information system.	(2013)		(2016)
Waste & Recycling	This is a measure of the number of tonnes recycled via the kerbside recycling service. The kerbside recycling service was provided to 18,881 properties in 2011-12. This measure is sourced from Hunter Resource Recovery.	4,447t 2011-12		5,501t 2015-16

To further gauge community perceptions residents were also ask to rate their agreement with the following statements on a scale of 1 to 5 where 1 = strongly disagree and 5 = strongly agree.

QUALITATIVE MEASURES	2012	2014	2016
The area has an attractive appearance	3.23	3.50	3.49
The natural environment is well managed	3.06	3.26	3.14
Environmental issues are handled well	2.89	3.03	2.71
The bushland that supports a diversity of native plants and animals is valuable	4.19	4.11	4.04
The area's heritage is well conserved	3.62	3.61	3.65
Development overall is well planned and well managed	2.71	2.85	2.82
Residential development is well managed	2.76	2.94	2.89
There are enough good quality open spaces	3.21	3.34	3.35
There is a wide range of recreation and leisure opportunities	3.10	2.98	3.07
Waste collection and disposal are well managed	3.61	3.64	3.67

Cessnock City Council Community Research 2012, 2014 and 2016

## Sustainability action plan

Council's Sustainability Action Plan was developed as part of the Waste and Sustainability Improvement Payments program funded by the NSW government and administered by the Office of Environment & Heritage. This program has now become the Better Waste and Recycling Program and is administered by the NSW Environment Protection Authority.

The Sustainability Action Plan has identified sustainability actions across adopted Council documents in the areas of waste, energy, water, biodiversity, climate change, procurement and transport.



Solar panels installed at the Council Works Depot

### Partnerships

Council partners with non-government, government and community organisations to manage the environment and achieve shared environmental objectives. Council is responsible for implementing various elements of environmental legislation and collaborates with a range of organisations to implement its own, and others', environmental plans and policies.

Some of the collaborative relationships in the Cessnock local government area and Hunter Region include:

- Council's Environment Committee:

Council convenes an Environmental Strategy & Management Committee as an advisory body

on environmental matters. This committee has representation from the local community and met five times annually throughout the term of Council. The committee received guest presentations from staff of Council and from a range of agencies and organisations including the Office of Environment & Heritage and Local Land Services. The committee spearheaded the Coal Seam Gas forum whereby around a hundred community members received information regarding coal seam gas from government and industry.

- Local Land Services (LLS) Hunter –

Local Land Services (LLS) Hunter replaced the Catchment Management Authority in 2014 to deliver quality, customer-focussed services to farmers, landholders and the community across rural and regional New South Wales. LLS bring together agricultural production advice, biosecurity, natural resource management and emergency management into a single organisation. The guiding document of LLS Hunter is their Local Strategic Plan 2016-21 which sets the vision and goals for Local Land Services for the next 10 years and outlines the strategies through which these goals will be achieved. A series of key performance indicators provides guidance on what success will look like and how investors and stakeholders will be able to measure performance.



- Hunter Central Coast Regional Environmental Management Strategy

The Hunter Central Coast Regional Environmental Management Strategy is a framework to guide and coordinate the efforts of the 11 member councils (of which Cessnock is one) in addressing a range of environmental issues that are best managed within a strategic regional context. The Strategy is reviewed and updated every three years under the guidance of Council General Managers and Directors of Planning & Environment. The program has been operating successfully for over 18 years and attracts significant funding and partners to develop and implement regional scale projects in theme areas including biodiversity, climate change, roadside environments, water, weeds, sustainability, environmental compliance, and community education.

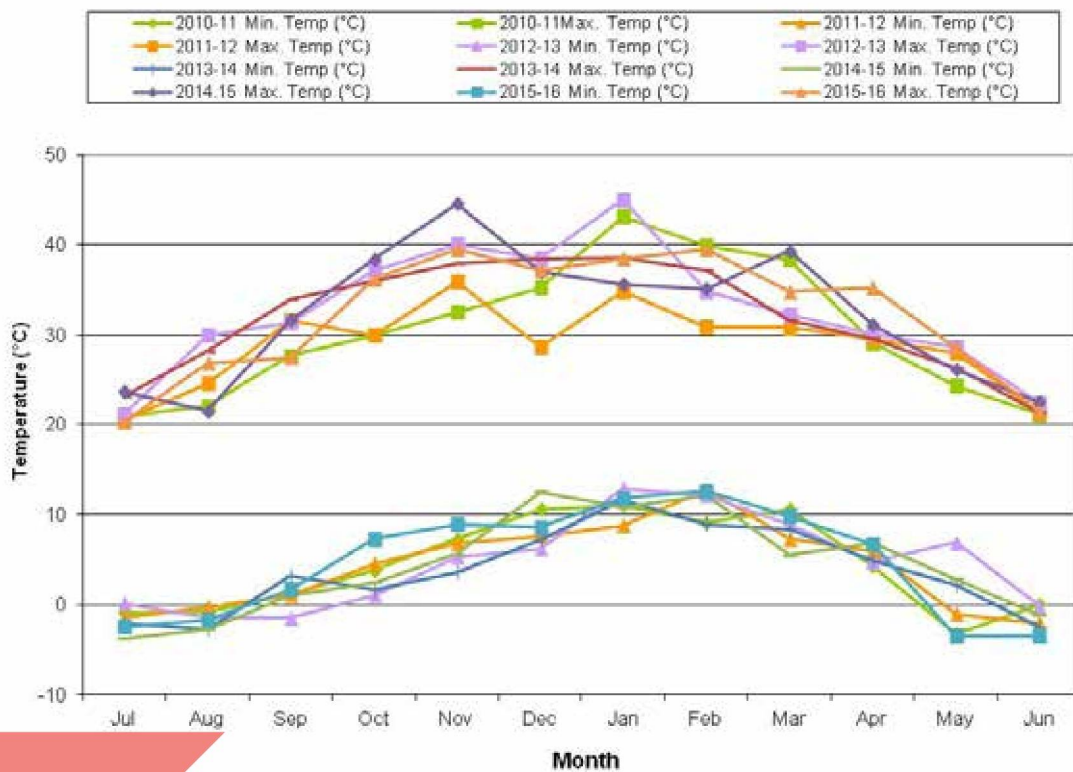
- Tom Farrell Institute for the Environment

The Tom Farrell Institute for the Environment is based at the University of Newcastle and aims to integrate the University's teaching, research and community engagement into regional solutions for a sustainable future. Their focus is on developing partnerships with and building support from governments, community groups, and business and industry interests.

#### CLIMATE CHANGE

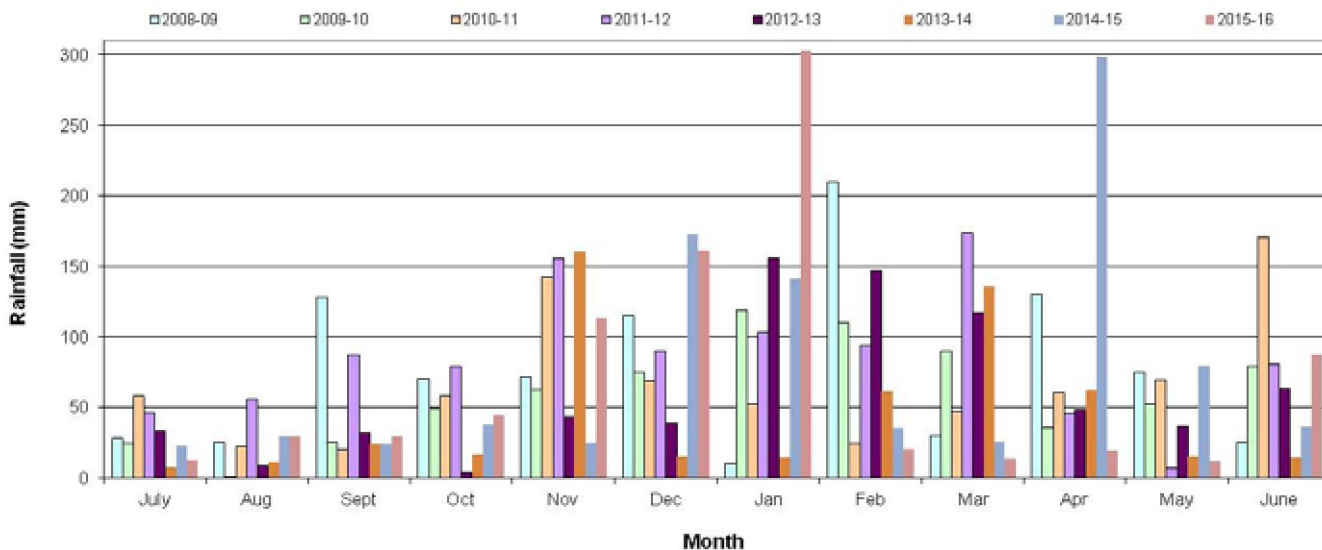
The Cessnock local government area is subject to a temperate climate, characterised by mild winters and hot summers. Records of temperature and rainfall for July 2008 till June 2016 are shown below. Further summaries of weather extremes in the Cessnock local government area are contained in the table on the following page.

**Cessnock Monthly Minimum and Maximum Temperatures**





**Cessnock Monthly Rainfall Totals**



Summary of weather data from Cessnock Airport weather station.

Year	Maximum Temperature (°C)		Minimum Temperature (°C)		Total Rainfall (mm)	No. Days over 40°C
2008-09	40.6	15/02/2009	-2.8	12/07/2008	930.8	4
2009-10	43.2	20/11/2009	-2.1	9/08/2009	724.4	4
2010-11	43.1	26/1/2011	-3.2	16/5/2011	794.4	1
2011-12	35.9	14/11/2011	-2.1	25/06/2012	1018.3	0
2012-13	45	18/12/2012	-0.2	22/06/2013	730	6
2013-14	38.6	18/01/2014	-2.7	16/08/2013	540	0
2014-15	44.5	23/11/2014	-3.7	9/07/2014	927.8	1
2015-16	39.5	25/02/2016	-3.5	30/5 & 30/6/16	845.9	0

Council has implemented actions with respect to climate change mitigation, including solar installations across a number of its site. Council incorporates adaptation elements within its planning approach primarily in the area of floodplain management and response to severe weather events. Council will be increasing its concentration on the area of climate change and

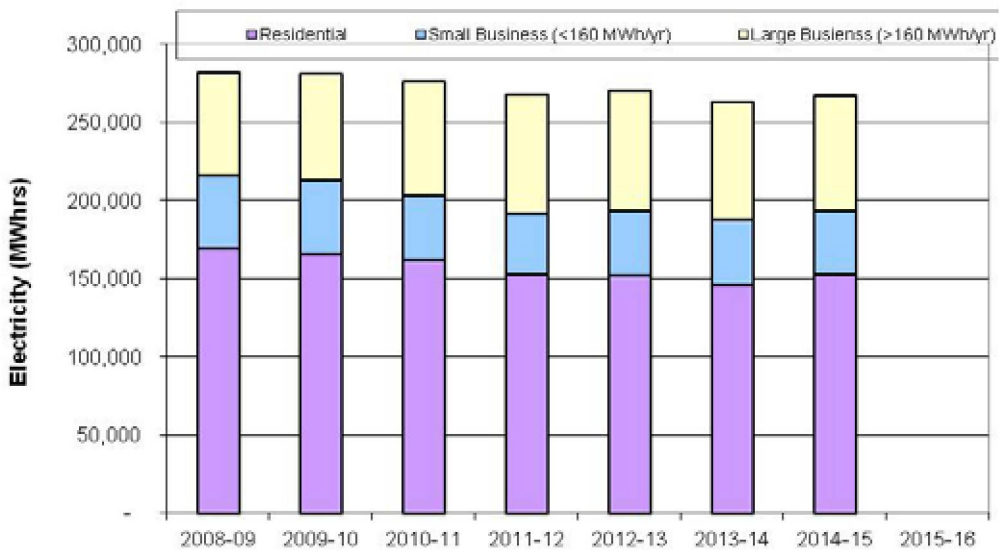
associated natural hazards as it begins the integration of Direction 16 of the Hunter Regional Plan 2036. This will include the consideration of a holistic Climate Change Policy and implementation of its Carbon Management and Energy Reduction Strategy.



Council has been undertaking energy efficiency programs for several years. Initially as part of the Cities for Climate Protection program and more recently as part of the Waste and Sustainability Improvement Payment program.

Year	2012-13	2013-14	2014-15	2015-16
Total electricity consumption in LGA (MWh) *A breakdown of this by section is shown below.	270,609	263,369	267,664	TBC
Total Council electricity consumption (MWh) *A breakdown of this by site is shown on the next page.	4,871	4,904	4,998	4,879
Total solar power generated in LGA (MWh)	4,129	5,155	5,837	TBC

### Electricity Consumption

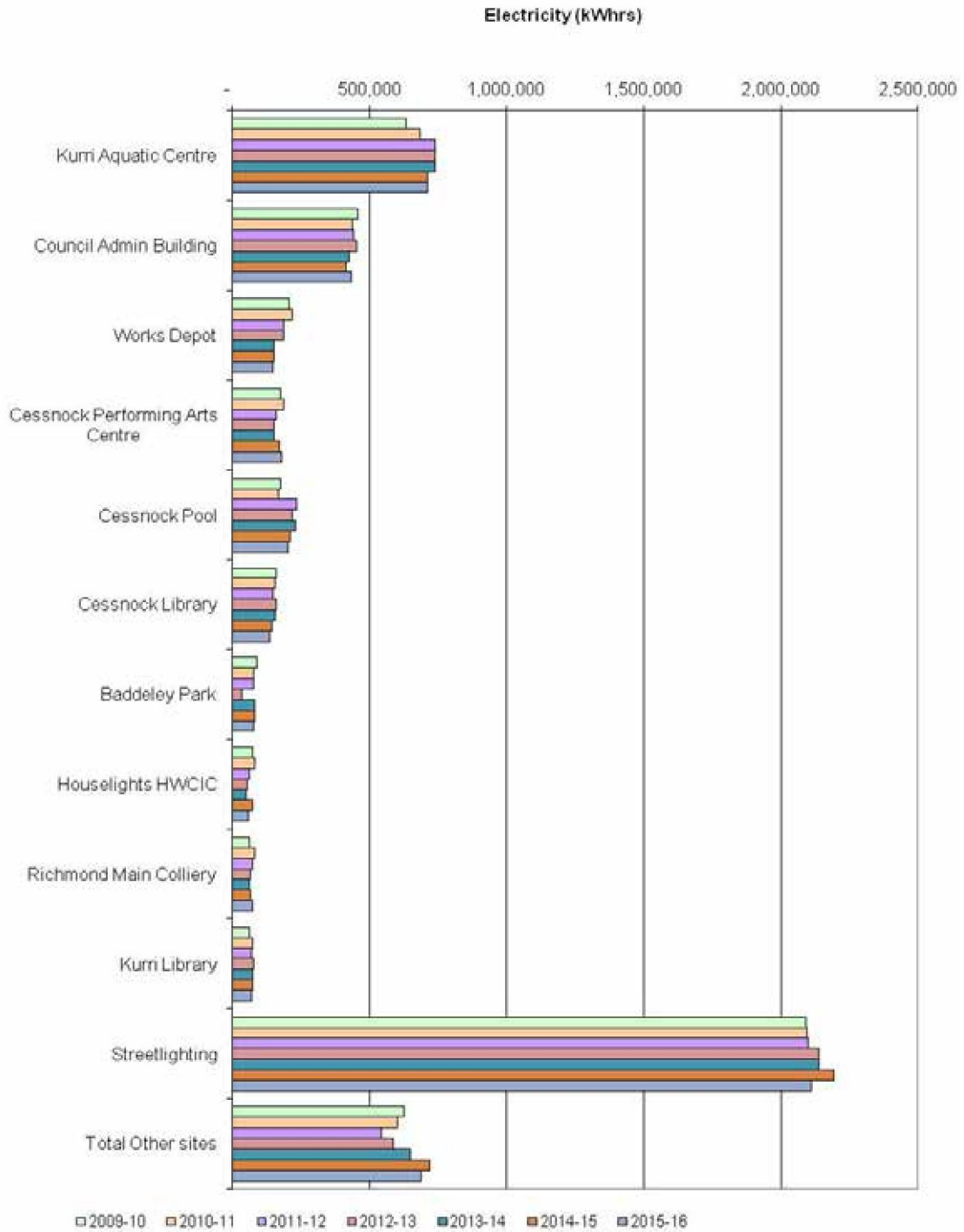


Cessnock local government area electricity consumption



Kurri Kurri Aquatic Centre

## Cessnock Council Electricity Consumption



Council top 10 sites for electricity consumption



## Protecting and enhancing the natural environment and the rural character of the area

### STRATEGIC DIRECTIONS:

- Our area's rural character and heritage is protected.
- Our community is aware of the value of natural resources and biodiversity.
- Our environmental amenity is protected and enhanced.
- Our waterways and catchments are maintained and enhanced.

### PRESSURE:

Human population growth is a potential cause of environmental change worldwide. A higher population has generally translated into an amplified demand for resources, a larger physical footprint for our settlements and more waste going back into the environment (Australian SoE, 2011 p.52). In the five years between 2006 and 2011 the population of the Cessnock local government area has grown by almost 5,000 people. During this period 2,165 residential dwellings were approved to be built.

In terms of planning for future development, the Lower Hunter Regional Strategy (LHRS) identifies Cessnock as a major regional centre and proposes to double the population of the Cessnock local government area. The projections are for 21,700 new dwellings to largely be achieved through significant greenfield residential land rezonings, providing for an additional 29,600 people over the next 25 years (NSW DoP 2006).

Over the last five years Council has approved 7,100 allotments for residential purposes. The major release areas where planning is well advanced are Bellbird (3,500 new dwellings), Greta (1,364 new dwellings) and Cliftleigh (977 new dwellings).

This is in addition to the Branxton-Huntlee area (Cessnock and Singleton Councils), where a concept plan for a total 7,200 new residential dwellings and up to 300 rural-residential lots have been approved by the Department of Planning.

Threats to existing biodiversity need to be actively managed. Areas of native vegetation that are healthy and functioning have the potential to decline if threats to their viability are not actively managed. In Cessnock local government area, the main threats are pest animals and weeds, urban development, inappropriate fire (including wildfire) and climate change.



Kitchener Reserve

It is important to prioritise biodiversity investment to ensure that the greatest benefit can be achieved in the most cost-efficient way. It is equally important to recognise the value of agricultural production and other land uses in the Cessnock local government area.

In balancing the management of development with the adequate protection of biodiversity, mechanisms such as offsetting need to be considered and tailored to ensure the outcomes are sustainable for the future viability of both.

## Biodiversity

### STATE:

Approximately 27% of the land within the local government area is National Park (Watagan, Werakata, and Yengo National Park with much of the latter listed as World Heritage Area), a further 13% State Forest.

Another 52% of the local government area is rural land (with the balance being industrial, commercial or residential land).

**Table 1:** Area and percentage of land in each land zone for Cessnock local government area.

	ZONE	AREA (Ha)	%
B1	Neighbourhood Centre	11.45	>0.01%
B2	Local Centre	25.64	0.01%
B3	Commercial Core	21.13	0.01%
B4	Mixed Use	323.04	0.16%
B7	Business Park	23.97	0.01%
E1	National Parks and Nature Reserves	54,587.59	27.76%
E2	Environmental Conservation	2,638.99	1.34%
E3	Environmental Management	165.48	0.08%
IN1	General Industrial	878.18	0.45%
IN2	Light Industrial	67.61	0.03%
IN3	Heavy Industrial	75.69	0.04%
R1	General Residential	233.06	0.12%
R2	Low Density Residential	2,570.07	1.31%
R3	Medium Density Residential	543.47	0.28%
R5	Large Lot Residential	1,380.31	0.70%
RE1	Public Recreation	565.11	0.29%
RE2	Private Recreation	88.01	0.04%
RU2	Rural Landscape	90,498.22	46.03%
RU3	Forestry	25,654.62	13.05%
RU4	Primary Production Small Lots	13,251.98	6.74%
RU5	Village	513.48	0.26%
SP2	Infrastructure	1,825.67	0.93%
SP3	Tourist	669.66	0.34%
	TOTAL	196,624.75	100.00%



### RESPONSE:

In 2014 Council adopted a Biodiversity Strategy which identified the local government area as supporting a range of ecosystems, ecological communities and vegetation types, many of which are of exceptional value. The strategy identified a number of activities to be undertaken to better protect and manage these assets.

The potential introduction of coal seam gas mining across rural and vineyard areas in 2014 posed a threat to the local government area's rural character. In response, Council, on behalf of the community, (effectively exercising the precautionary principle) articulated a policy position and subsequently the industry relinquished its Petroleum Exploration Licence in 2015.

Weed management is one part of protecting the natural environment and, in 2015 the Hunter Regional Weeds Committee was established to reduce the impact of weeds on productive and natural environments.

To mitigate and adapt to climate change a range of measures have been put in place including heatwave resilience programs to better prepare for extreme weather events.

## Water

### STATE:

Water availability depends on rainfall and temperature and the volume of water held in storage varies with climatic conditions. Hunter Water supplies potable water and treats wastewater to most residences in the Cessnock local government area. The drinking water they supply is regularly tested throughout the water supply system, and complies with the National Health and Medical Research Council (NHMRC) Australian Drinking Water Quality Guidelines.

### RESPONSE:

From 1 July 2014 permanent Water Wise Rules were introduced for all Hunter Water customers to secure the water supply for the next 20 years under the Lower Hunter Water Plan.

The Water Wise Rules require:

- Watering with a sprinkler, irrigation system or trigger nozzle hose, is permitted any day before 10am or after 4pm to avoid the heat of the day.
- All hand held hoses must have a trigger nozzle.
- No hosing of hard surfaces such as concrete, paths and driveways.



Chinaman's Hollow Weston

## Environmental Objective:

# Better utilisation of existing open space

### STRATEGIC DIRECTIONS:

- Our open spaces are distributed where people live.
- We have green corridors connecting our open space areas.
- We have high quality, centralised multi-purpose sporting and recreation facilities.
- Our open spaces have suitable amenities and plenty of shade.

### PRESSURE:

Local councils are responsible for contributing to the health and well-being of their communities through the provision of recreation and sporting facilities. The provision of safe and appealing environments suitable for sport and recreation activities are just a few ways that councils can encourage physical activity within the community.

Council's current population is expected to grow to over 68,000 by the year 2031 and subsequently, Council needs to plan to provide appropriate recreation opportunities for the increased number of residents in a sustainable manner.

### STATE:

Council can influence positive outcomes through its role as a strategic and land use planning authority; a provider and manager of facilities and services; a community leader and as an employer at a local level. As the tier of government closest to the local community, council leadership on sport, recreation and open space can complement the role of other government agencies and non-government organisations.

The following recreation facilities are provided across the local government area:

FACILITY	NUMBER
Athletics	3
Cricket ovals	24
Football (soccer fields)	23
Hockey	2
Netball courts	22
Rugby league fields	12
Tennis courts	36

Draft Recreation Needs Analysis - May 2016

### RESPONSE:

To ensure Council meets the future needs of residents in regard to recreation, it will need to include the provision of low/no cost opportunities, especially in regard to informal recreation. Through the provision of walk- and cycle-ways, recreation parks offering a range of activities (passive and active) and access to natural areas, Council can provide these opportunities for relatively low infrastructure costs and cater for the prevalent social characteristics of its population into the future.



Margaret Johns Park

Generally, Council is well placed to meet future open space demands, through both recreation and sport parks, and the level of embellishments/features within. The rationalisation of some facilities/parks will be needed in the future, as will a range of improvements to existing facilities, but the required amount of recreation land to be acquired to meet the community's future needs is not significant.

Environmental Objective:

# Better waste management and recycling

## STRATEGIC DIRECTIONS:

- We divert more of our waste for recycling or re-processing.

Waste is generally defined as any product or substance that has no further use and which is, or will be, discarded. It is what is thrown away because it is no longer needed or wanted and is a by-product of almost every human activity.

STATE:

Council is included in the NSW waste regulatory framework established under the Protection of the Environment Operations Act 1997. The key objective of this framework is to ensure a healthy and clean environment by regulating pollution and other adverse environmental impacts that may result from waste activities.

Cessnock local government area is identified as being in the Extended Regulatory Area and our Waste and Reuse Centre is a licensed waste facility that is required to pay a contribution in respect of each tonne of waste received for disposal at the facility.

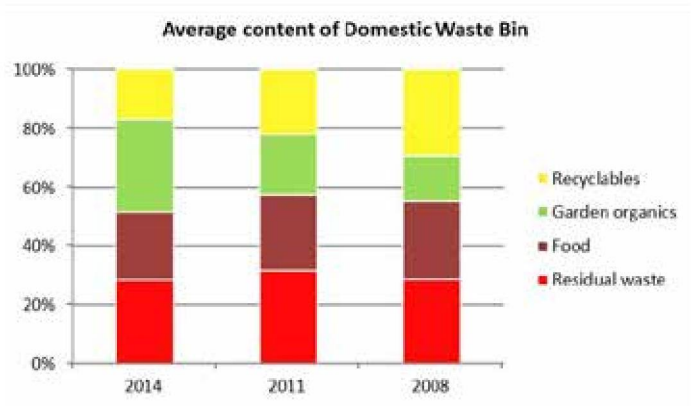
Monitoring of waste streams is undertaken with audits of domestic waste bins being conducted every few years and programs developed to increase diversion of material from landfill. The results of the 2014 waste bin audit (depicted below) provided further data to support the introduction of a kerbside collection for garden organics and an education campaign called Recycle Right to increase the recovery of dry recyclable materials.



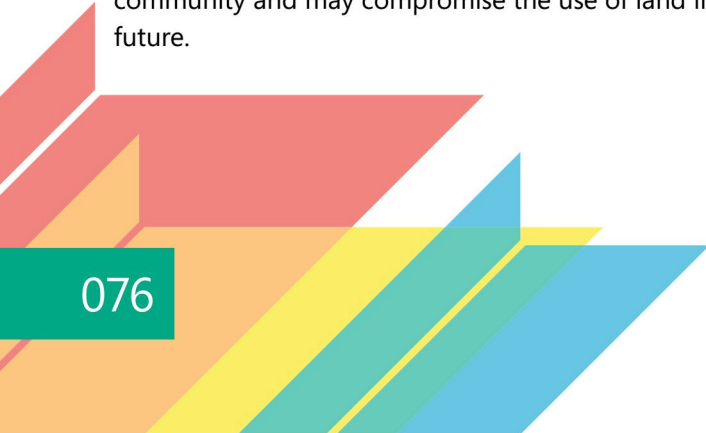
Waste display - Spring Awakening 2016

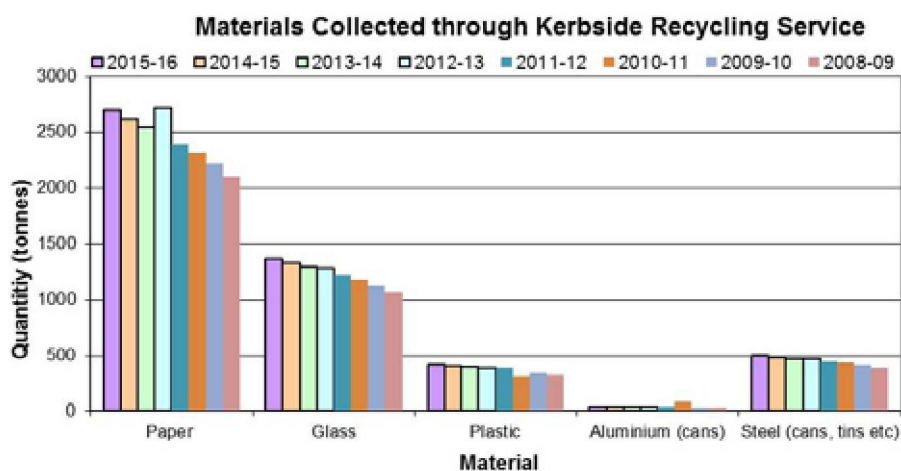
PRESSURE:

Improper management of waste presents issues for the environment, the economy and the community. Impacts of waste include odour, noise, dust, greenhouse gas emissions and harm to flora and fauna. Hazardous wastes can cause serious health problems, significant pollution and the leaching of toxins or nutrients into groundwater and land. Litter and illegal dumping are anti-social behaviours that reduce the amenity of public spaces. Landfill facilities remove space from the community and may compromise the use of land in the future.



Summary of Domestic Waste bin contents 2014, 2011 and 2008





Materials Collected through Kerbside Recycling Service

Hunter Resource Recovery is the joint provider of household recycling collection to Cessnock, Lake Macquarie, Maitland and Singleton Councils. A summary of the quantities of recyclable materials collected in the Cessnock local government area is contained in the figure above. Hunter Resource Recovery has also carried out a number of programs and activities aimed at increasing recycling recovery rates including:

- Schools Program - 20 schools in the Cessnock local government area now participate in the free schools recycling service. Community group and schools talks and school waste audits are undertaken on request.
- Advertising Program - advertisements were placed in newspapers, radio and TV.
- Sponsorship – of the Mayoral Academic Awards and the Mayoral Schools Challenge.
- Provision of recycling at events such as the Postie Bike Challenge and Stomp Festival.

For more information on Hunter Resource Recovery go to [www.hrr.com.au](http://www.hrr.com.au)

#### RESPONSE:

The economy depends on the environment and natural resources to provide raw materials and absorb the waste and emissions we produce. Recycling such raw materials, keeps them in the productive economy for longer. This has the dual benefit of lowering demand for new resources and reducing the need to dispose, treat or manage waste. (NSW SoE, 2015 section 7).

Council's adopted Waste Management Strategy 2014-19 aims to encourage and maximise opportunities for residents to minimise waste going to landfill. Convenience, cost and consistency are recognised as factors that can influence attitudes to waste reduction and resource recovery. Council's overriding objective is to develop a sustainable waste management strategy. In quantitative terms, Council is aiming to, as a minimum, achieve the 2014 New South Wales Waste and Resource Recovery target of 66% diversion of waste from landfill and commence achievement of the 2022 target of 70%.

Council currently diverts approximately 27% of kerbside domestic waste from landfill. System analysis has shown that the introduction of a kerbside organics collection (initially for garden organics (GO) then for both food and garden organics (FOGO)) will significantly increase Council's diversion from landfill. Council has worked with Maitland and Singleton Councils to tender for this service which will commence in March 2017.



The Mayor at mattress collection - September 2015

Information about all Council's waste and recovery programs is available on Council's website. Regional projects with other Councils through the Hunter Waste Education Group currently overseen by Hunter Councils under the Hunter Region Waste Strategy are also undertaken (see Small Acts Big Change at <http://smallactsbigchange.com.au/>).

Council's litter program is multi-layered and includes:

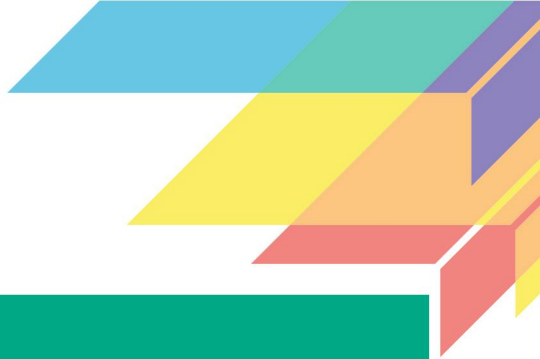
- Main Road Litter Collection Program undertaking regular clean ups of litter on major roads around the local government area working on the premise that litter attracts litter and that clean roadsides discourage litter.

- The Adopt-a-Road Program (commenced in 1996) currently has 17 sponsors covering 47.1kms of roadside. These sponsors are a mixture of corporate and community groups and are recognised through road signs that are highly visible.
- NSW EPA Hey Tosser program participation including encouraging resident to report littering from vehicles and distribution of reusable car garbage bags.
- Annual promotion and assistance with national Clean up Australia Day.

Cessnock is a founding member of the Hunter/Central Coast Regional Illegal Dumping (RID) squad established in 2014 to reduce the costs of illegal dumping and build capacity within the region. The Hunter/Central Coast RID Squad covers a wide geographical area and works with other public land managers (such as National Parks and Crown Lands) to combat illegal dumping.



Live with less chemicals at Cessnock Library



WASTE MANAGEMENT MEASURES:

YEAR	2012-13	2013-14	2014-15	2015-16
Total waste deposited into landfill (tonnes)	32,456	38,071	32,875	35,617
State Government Waste and Environment Levy (\$/tonne)	\$93.00	\$107.80	\$120.90	\$133.10
Kerbside recycling collection (summary of breakdown by type in figure 3 below)	4,717	4,734	4,686	5,012
Recycling at Cessnock Waste and Reuse Centre:				
• Paper and cardboard (tonnes)	187	~50	136	210
• Greenwaste (tonnes)	1,853	1,753	2,694	1,854
• Tyres (each)	761	891	832	163
• Mattresses* (each)	1,016	851	1,206	3,627*
• Electronic waste (tonnes)	195	193	137	134
• Concrete (tonnes)	781	850	1,053	610
• Metal (tonnes)	~1,100	~1,500	~1,300	~2,700
Clean up Australia Day:				
• No. registered sites	20	21	18	20
• No. schools	7	10	12	14
• Waste collected (tonnes)	6.7	8.9	5.7	10.4
Adopt-a-Road Program:				
• No. of sponsors	19	-	-	17
• kms road covered	51.3	-	-	47.1
No. of illegal dumping reports on public land	-	-	-	460

\* Note: 2,421 mattresses collected at drop off events, rest delivered to landfill



Grow your own food workshop





## Conclusion

People value the environment and progress towards the community's desired outcome of a sustainable and healthy environment is being achieved.

The local government area has 223.92ha of open space and is well serviced with recreation facilities.

The entire community benefits from the commitment of participants in Tidy Towns and Keep Australia Beautiful activities; as well as the positive response to recycling initiatives by both residents and businesses.

Climate change adaptation programs are being put in

place to reduce the risks and improve preparedness for heatwaves and other extreme weather events.

There is strong state, regional and local support to protect important agricultural land and retain and enhance the rural character and amenity of the local government area. However, regional growth strategies have signalled significant population growth and development to cater for that growth which poses a threat to the continuation of commercial agriculture and protection of the rural landscape.

## Recommendations and future directions

It is recommended that Council:

1. Reaffirm its sustainability aspirations as part of the 2017-2021 Delivery Program.
2. Incorporate into its 2017-21 Delivery Program a focus on climate change adaptation and mitigation.
3. Adopt a Climate Change Policy.
4. Continue to collect appropriate data to provide a meaningful indication of the state of the environment to complement the community indicators adopted in the community strategic plan.
5. Continue to partner with organisations such as Local Land Services & the Tom Farrell Institute for the Environment to value add to local environmental programs.
6. Prioritise and determine appropriate conservation mechanisms for areas of high biodiversity value and integrate these priorities into Council's planning and operational activities.
7. Engage with the local community and visitors on the value of the environmental assets within the Local Government Area and implement behaviour change actions to sustain increased awareness.
8. Ensure appropriate recreation facilities are provided by developers to address the deficiencies identified in the gap analysis (of the Recreation Needs Analysis).
9. Rationalise recreation and sport parks that do not meet standards/are surplus to requirements as part of the Strategic Property Review.
10. Continue to implement the adopted Waste Management Strategy 2014-19.
11. Continue to implement the Carbon Management and Energy Reduction Strategy.

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