

State of the Environment

MORE THAN 1,650
PEOPLE ATTENDED
OUR SUSTAINABLE
SEPTEMBER
ECO FESTIVAL
FEATURING OVER
40 EVENTS.





67 free sustainable living workshops



3,000 subscribers to Sustainable Living Newsletter



2.7 million recycling bins collected...
140,170 tonnes of waste

State of the Environment

We aim to provide local spaces that are clean and healthy, turn awareness into action to address environmental threats and work in collaboration with our community and other stakeholders.

Our State of the Environment reports on 6 focus areas:

- **Focus area 1:** Blacktown City leads by example through integrating sustainability into core business and reducing its ecological footprint in its day-to-day operations
- **Focus Area 2:** Encourage healthy and sustainable living opportunities for the community
- **Focus Area 3:** Enhance the wellbeing and amenity of the community and promote a clean and attractive city
- **Focus Area 4:** Pursue best practice sustainable water management to protect and improve the water quality of the local environment
- **Focus Area 5:** Conserve, restore and enhance the city's biological diversity and ecosystem health, particularly threatened species, populations and communities
- **Focus Area 6:** Mitigate and adapt to the impacts of climate change for the benefit of current and future generations.

FOCUS AREA 1

BLACKTOWN CITY LEADS BY EXAMPLE THROUGH INTEGRATING SUSTAINABILITY INTO CORE BUSINESS AND REDUCING ITS ECOLOGICAL FOOTPRINT IN ITS DAY-TO-DAY OPERATIONS

We used a range of water-saving and energy-saving initiatives, including:

- Establishing the Cool Streets project to reduce urban heat by planting more street trees and community engagement
- Partnered with the Western Sydney Regional Organisation of Council for the Light Years Ahead project
- Installing a 40 kW solar power system at our depot
- Upgrading LED lights in our offices
- Starting an audit of our top 20 water consuming sites
- Monitoring our energy and water use through the Planet Footprint data tool
- Commissioning the Angus Creek stormwater harvesting scheme
- Looked into the feasibility of geothermal for pools, however not currently viable. Will revisit in 5 years.

The Angus Creek stormwater harvesting scheme will harvest 200 megalitres of water annually from Angus Creek and use a gross pollutant trap, ponds, wetlands and ultraviolet light to clean the water. It will then be used to irrigate the Blacktown International Sports Park, Anne Aquilina Reserve, Kareela Reserve and Charlie Bali Reserve, as well as being used to top up the ornamental ponds at Nurragingy Reserve.

ENVIRONMENTAL UPGRADE AGREEMENTS

In 2015, we resolved to give in-principle support to offer Environmental Upgrade Agreements, which will allow approved owners of commercial and light industrial buildings to borrow money at attractive terms from a finance provider for energy, water and other environmental improvements, and repay the borrowings through a mechanism linked to their council rates repayments. By participating we have an opportunity to help local businesses to reduce their greenhouse gas emissions, and improve their environmental performance.

STAFF SUSTAINABILITY AWARENESS PROGRAM

We launched a program in 2015 to inspire staff from across the organisation and encourage general participation in activities that will reduce our consumption of waste, water and energy and improve our environmental performance.

FOCUS AREA 2

ENCOURAGE HEALTHY AND SUSTAINABLE LIVING OPPORTUNITIES FOR THE COMMUNITY

We ran a range of programs to inspire our community to take positive steps towards becoming more sustainable.

SUSTAINABLE LIVING WORKSHOPS AND ACTIVITIES

We hosted 67 free sustainable living workshops and activities between July 2015 and June 2016. These were attended by around 1,300 residents. Our series of workshops forms a major part of our environmental engagement program to help residents learn about our local environment and encourage them to live more sustainably.

Workshops and activities delivered in 2015–16 included keeping backyard chickens, mushroom cultivation, growing your own food and organic gardening. We also

held a number of evening spotlight walks, bird watching tours, and waterway education events.

MY COMMUNITY MY ENVIRONMENT PROGRAM

In 2015 we partnered with Dharma Karta, a not-for-profit organisation and SydWest Multicultural Services to deliver a program of sustainability workshops to culturally and linguistically diverse community members. Topics included energy saving, recycling, biodiversity, waterways and stormwater and growing food sustainably at home. The aim was to increase environmental awareness and help individuals reduce their environmental footprint at home.

Between July and December 2015 we delivered 51 workshops to over 190 people from Chinese, Filipino, Indian, Iranian, and African backgrounds.

COMMUNITY GARDENS

We support community gardens in the local government area. Gardens run by volunteers and which we manage include:

- Blacktown Showground Community Garden
- Bungarabee Community Garden
- Grantham Community Garden
- Lethbridge Park Community Garden.

We also support Bidwill Community Garden with Community Greening, a branch of the Botanic Gardens Trust that works with gardens in Housing NSW areas.

We offer varying levels of support and encouragement to the following established gardens:

- Lalor Park Community Garden
- Marist Youth Care Community Garden
- Riverstone Community Garden
- Quakers Hill Uniting Church Community Garden
- Willmot Public School.

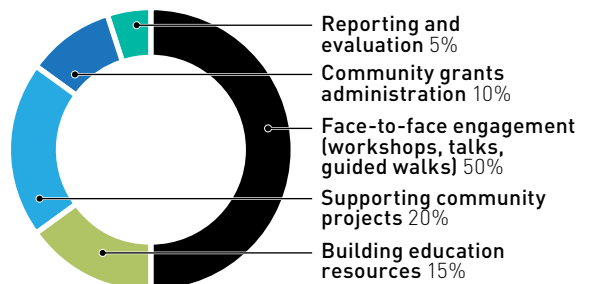


Environmental Projects Officer My working day serving the community

AIMEE

Environmental Projects Officer

Responsibilities: delivering education to the community about reducing stormwater pollution and keeping our creeks clean and healthy.



State of the Environment continued

FOCUS AREA 2

TAFE OUTREACH PROGRAM

This program has been operating at Grantham Heritage Park since early 2011. In 2013 the program was extended from offering a Statement of Attainment in Sustainable Horticulture to offering trade-level qualifications – Certificates of Horticulture II, III and IV. In early 2016, new units of study were introduced to complement the existing courses and provide more specialised learning for students. The outreach program is a partnership between Blacktown City and Nirimba and Blue Mountains TAFE colleges. About 80 students were enrolled in 2015 and about 400 students have graduated since the program began.

ECO ACTIVE SCHOOLS PROGRAM

Our Eco Active Schools program is an environmental sustainability grants program tailored to schools in our LGA.

The 2015–16 program focused on:

- Creating habitat – supporting wildlife by establishing a natural environment for local fauna, such as insects, birds, frogs and mammals
- Sustainability education – engaging students in being more sustainable at home and other environmental themes linked to the K–12 curriculum.

The following schools completed their projects in 2015–16.

SCHOOL	PROJECT TITLE
Glenwood High School	Bush Regeneration and Habitat Creation
Plumpton Public School	Take 3 – litter awareness and action education
Shalvey Public School	Stephanie Alexander – kitchen garden project
St Clare's Catholic High School	R-Eco@Clare – recycling project
William Rose	Sensory Habitat Garden
Willmot Public School	Willmot Is Home (WisH) – garden project
St Agnes Catholic High School	St Agnes Native Garden – creating habitat project
Lethbridge Park Public School	Habitats and Homes – creating habitat project

The following schools received funding in 2015–16 and will complete their projects in the next 12 months.

SCHOOL	PROJECT TITLE
Chifley College, Bidwill Campus	Temperate rainforest and frog habitat
Loyola Senior High School, Mount Druitt	Water bottle refill station
Parklea Public School	Revegetating Cumberland Plain Ecological Communities
Seven Hills High School	Creating a habitat garden
Seven Hills West Public School	Garden greenies – vegetable garden
Shalvey Public School	School and community vegetable garden
William Rose School, Seven Hills	Growing our learning
Willmot Public School	Yarning circle

FOCUS AREA 2

YOUTH PROGRAMS

In 2015, we formed the Blacktown Sustainable Schools Network for early childhood, primary and secondary school educators. It helps teachers incorporate environmental and sustainability learning into their school through ideas and resource sharing. The group now has 43 members and meets once every term.

EnviroMentors, Knowaste and Radical Recyclers visited local preschools, primary and high schools. In 2015–16, 70 schools, 131 days, 7,339 students were taught about recycling, waste disposal, worm farming, composting and reusing old items.

COMMUNITY EVENTS

LOCAL GOVERNMENT WEEK

Local Government Week is held each August. We gave away 4,009 plants in Blacktown and Mount Druitt.

SUSTAINABLE SEPTEMBER

The Sustainable September Eco Festival was held in September 2015. It included a comprehensive program of over 40 activities, including hands-on skills workshops, environmental tours, educational activities, family-friendly events, plant giveaways, and environmental displays. The festival attracted over

TABLE 1: OUR CITY'S WASTE DIVERSION RATE (REFER TO PAGE 68)

	2012-13	2013-14	2014-15	2015-16
Percentage of waste diverted from landfill	61%	65%	64%	63%

EACH SUSTAINABLE SEPTEMBER ECO FESTIVAL ACTIVITY HAD A SPECIFIC EDUCATIONAL OUTCOME ASSOCIATED WITH IT, ENSURING EVERY PARTICIPANT EXPANDED THEIR ENVIRONMENTAL KNOWLEDGE.



State of the Environment continued

FOCUS AREA 2

6,500 residents. Each activity had a specific educational outcome associated with it, ensuring every participant expanded their environmental knowledge. The three major events held during the festival were:

- The bat night native wildlife experience at Nurraging Reserve
- The Pop-up Garden Party at the Blacktown Arts Centre, celebrating the end of the recycled pop-up garden project
- Farmers Market and Family Fun Day at Grantham Heritage Park.

COMPOST AWARENESS WEEK

To celebrate compost awareness week in May 2016, we set up a display in the Blacktown Village Green where residents were able to take part in composting and worm farming demonstrations, and learn how to reduce their waste. Several hundred people visited the stall during the day.

CLEAN UP AUSTRALIA DAY

About 800 volunteers from across Blacktown City collected 10.68 tonnes of waste from 44 registered sites on Clean Up Australia Day 2016. More than 11,500 students from 49 schools also took part.

DIVERSION OF WASTE FROM LANDFILL

We are committed to the Western Sydney Regional Waste Avoidance and Resource Recovery Strategy, which seeks to divert waste from landfill across the region.

The strategy sets the targets for 2021–22, which include:

- Increasing recycling rates to 70% for municipal solid waste
- Increasing waste diverted from landfill to 75%.

Our waste diversion and recycling rates are on track to meet the NSW target of 70% by 2021 (refer to page 67 on page 1).

COMPOST AWARENESS WEEK IN MAY 2016



FOCUS AREA 2

We are currently experiencing a decline in diversion rates as the amount of household clean up material collected has significantly increased over the last 2 years and only mattresses from this collection are recycled.

We anticipate we will get to 70% by:

- 1% – through educational programming to improve service use (e.g. GreenMoney)
- 1% – through efficiency from current technology changes forecast at our garbage processing facility UR-3R

- 5% – through increase in resource recovery from household clean up when sent to a construction and demolition material recovery facility (in place by 2018).

The introduction of the NSW government's container deposit scheme to start in 2017 will also have an impact on the amount of recycling we collect and potentially the diversion we achieve.

HOUSEHOLD CHEMICAL CLEANOUT

In 2015–16, 588 residents correctly disposed of 29.6 kg of unwanted household chemicals through the Environment Protection Authority's Chemical CleanOut program.

MOUNT DRUITT RESTORIA

Our Mount Druitt Restoria project is a joint initiative with Whalan Community Action Group and Housing NSW in which unwanted furniture is diverted from landfill, restored and distributed to people in need.

In 2015–16, five volunteers restored 162 pieces of furniture.

We are investigating new ways to redistribute the furniture.

588 RESIDENTS DISPOSED OF 29.6 KG OF HOUSEHOLD CHEMICALS THROUGH THE CHEMICAL CLEANOUT PROGRAM.



State of the Environment continued

FOCUS AREA 2

BICYCLE RECYCLE PROGRAM

Launched in 2008, unwanted bicycles are repaired and restored and donated back to the community at local community festivals and events through a lottery system.

More than 750 bikes have been given away since the program began. In 2015–16, volunteers attended weekly sessions to recondition bicycles that were given to children and young people.

During 2015–16 we had bike giveaways at:

- Bidwill Funpark – August 2015
- Farmers Market and Family Fun Day – September 2015
- Bidwill Funpark April 2016.

We also gave bikes to Emerton Youth Centre in July 2015 and Tyndale Christian School in April 2016.

BETTER WASTE AND RECYCLING FUND

We are eligible for financial support under the NSW Government's Better Waste and Recycling fund for activities that will improve waste avoidance and resource recovery, and tackle litter and illegal dumping.

The following table outlines our projects that have received funding.

TABLE 2: BETTER WASTE AND RECYCLING FUNDED PROJECTS AND ACTIONS

NAME OF PROJECT OR ACTION	BRIEF DESCRIPTION	FUNDED IN 2013–14	FUNDED IN 2014–15	FUNDED IN 2015–16	COMMENT
Bins in public places	Install modern enclosed vandal-proof bins to minimise street litter	Yes	Yes	Yes	Ongoing 166 bins have been installed.
Upgrade bins at Nurragingy Reserve	Replace all bins to ensure they are scavenger and vandal-proof for two years	Yes	Yes	No	Complete 80 bins have been installed.
Illegal dumping clean-up program	Replace current street clean-up crane with a skid-steer loader, trailer and tow bar attachment	Yes	No	No	Ongoing Equipment has been purchased.
Illegal dumping infrared cameras	Purchase of night-time remote area surveillance cameras	Yes	No	No	Complete 16 cameras were purchased. 44 incidents of illegal dumping were captured with our cameras. Resulting in \$38,000 in penalties being issued.

FOCUS AREA 2

NAME OF PROJECT OR ACTION	BRIEF DESCRIPTION	FUNDED IN 2013-14	FUNDED IN 2014-15	FUNDED IN 2015-16	COMMENT
Illegal dumping officer	Temporary position that will target specific types of dumping	Yes	Yes	No	Ongoing 185 incidents of illegal dumping investigated by Council between 1 July 2015 and 30 June 2016. This is a decrease of 14 % compared to our baseline year.
Clean cities project officer	Temporary position aimed at implementing our Clean Cities Strategy and Action Plan	Yes	Yes	Yes	Ongoing The Clean Cities Strategy 2015-20 was adopted and actions have commenced.
Garden waste processing feasibility and environmental assessment	Prepare a business case to determine whether a dedicated depot will help address this waste	Yes	No	No	Complete Business case is complete. Development application process has commenced.
Community recycling rewards program	Described as a 'frequent flyer' program for recycling and the environment, it will provide incentives to reward good recycling behaviour	Yes	Yes	Yes	Ongoing As of 30 June 2016, 11,052 households had registered.
Keep our centre beautiful art project	Engage young people in positive litter behaviour through an art competition at Emerton Youth Recreation Centre	Yes	No	No	Ongoing 50 young people have been engaged. Project will be completed in October 2016.
Youth litter awareness project	Blacktown City Libraries will work closely with young people to educate and raise community awareness about the importance of managing litter	Yes	No	No	Complete 80 young people were engaged as part of the program.
Photographic competition on finding solutions for waste	Competition for children and adults showcasing waste solutions	Yes	No	No	Complete 150 entries were submitted only 47 were eligible. 1567 people participated in the people's choice award. 10 winners were announced.

State of the Environment continued

FOCUS AREA 2

NAME OF PROJECT OR ACTION	BRIEF DESCRIPTION	FUNDED IN 2013-14	FUNDED IN 2014-15	FUNDED IN 2015-16	COMMENT
Illegal dumping deterrence	Fencing, mounding (planted out), gates and surveillance (motion sensor) to reduce illegal dumping on our reserves	No	Yes	No	Complete Deterrence measures were implemented at the following locations: Holbeche Road, Arndell Park; Eskdale Street Wetland, Minchinbury; Doonside Crescent Reserve, Doonside; Clunies Ross Road, Prospect; Durham Street, Mount Druitt and Harvey Park, Quakers Hill.
Adopt a Park	This two-year pilot project will see interested groups commit to looking after a park or reserve by reducing litter and rubbish, planting and regenerating bush. We will give participants the materials and help they need to best look after their nominated area.	No	Yes	Yes	Ongoing 88 volunteers participated in 17 events, a total of 258 volunteer hours. Here are currently 8 adopt a park groups at Lions Park, Riverstone; The Ponds; Plumpton Park, Plumpton; Lake Woodcroft Reserve, Woodcroft; Pat Zikan Park/Gleeson Trees Reserve, Blacktown; Olsen Reserve/Hanna Reserve, Oakhurst; RAAF Park, Mount Druitt; Mittaggar Reserve, Hassall Grove.
Regional Illegal Dumping (RID) squad	This covers our annual membership to Western Sydney Regional Illegal Dumping squad	No	Yes	Yes	Ongoing Illegal dumping collections increased by 4 tonnes, out of 220 investigations 24 led to successful prosecutions.
Multi Unit Dwelling (MUD) Officer	Temporary position to implement our multi-unit dwelling waste program.	No	No	Yes	Ongoing The Multi Unit Dwelling Project Officer commenced in January 2016. 320 people were engaged and 376 MUD information packs were provided.

FOCUS AREA 3

ENHANCE THE WELLBEING AND AMENITY OF THE COMMUNITY AND PROMOTE A CLEAN AND ATTRACTIVE CITY

We monitor businesses and properties to ensure they are clean, safe and not polluting the environment. The following tables summarise the number and type of inspections we do.

TABLE 3: POLLUTION INVESTIGATIONS

TYPE OF INVESTIGATION	2012-13	2013-14	2014-15	2015-16
Water pollution – domestic	106	104	132	60
Water pollution – commercial/industrial	92	65	99	58
Water pollution – spills	3	23	33	41
Water pollution – sewage complaint	87	101	86	102
Total water pollution	288	293	350	261
Air pollution – commercial/industrial	40	58	45	78
Air pollution – backyard burning	10	79	122	125
Air pollution – wood heaters	30	29	28	34
Air pollution – odour	173	125	89	55
Total air pollution	352	292	284	292
Noise pollution – commercial/industrial	92	88	109	96
Noise pollution – air conditioners	29	34	33	58
Noise pollution – alarms	31	54	40	25
Noise pollution – music	215	244	293	268
Noise pollution – pool filters	13	9	14	8
Total noise pollution	380	409	489	455
Land pollution – unauthorised fill	23	15	32	19
Land pollution – illegal dumping	206	166	151	116
Land pollution – overgrown premises	789	719	865	1,038
Total land pollution	1,018	900	1,048	1,173
Total pollution investigations	2,038	1,894	2,171	2,181

State of the Environment continued

FOCUS AREA 3

TABLE 4: ENVIRONMENTAL HEALTH INVESTIGATIONS

TYPE OF INVESTIGATION	2012-13	2013-14	2014-15	2015-16
Food – hygiene and handling	53	69	49	35
Food – contaminated	26	26	14	9
Food – food quality	28	49	43	72
Food – food poisoning	34	47	26	26
Food – food labelling and advertising	6	6	5	5
Food – other	16	17	13	13
Food – itinerant vendors	9	4	0	3
Total inspections	172	218	150	163

TABLE 5: SURVEILLANCE OF ENVIRONMENTAL HEALTH ISSUES

ENVIRONMENTAL HEALTH SURVEILLANCE	2012-13	2013-14	2014-15	2015-16
Onsite sewerage management systems – routine inspections	541	402	238	183
Routine skin penetration premises inspections	246	250	287	231
Routine cooling tower inspections	75	78	159	161
Routine food premises inspections	990	1,157	1,330	1,350
Total Environmental Health Surveillance	1,852	1,887	2,014	1,925

TABLE 6: NOTICES AND FINES ISSUED

NOTICE OR FINE TYPE	2012-13	2013-14	2014-15	2015-16
Noise pollution notices	8	21	20	10
Noise pollution fines	3	5	4	1
Water pollution notices	55	62	171	92
Water pollution fines	0	14	51	49
Land pollution	30	17	2	3
Land pollution fines	0	0	5	1
Air pollution notices	19	53	71	84
Air pollution fines	0	10	6	7
Environmental health notices	100	104	63	171
Environmental health fines	88	121	71	52
Total notices/fines	303	407	464	470

FOCUS AREA 4

PURSUE BEST PRACTICE SUSTAINABLE WATER MANAGEMENT TO PROTECT AND IMPROVE THE WATER QUALITY OF THE LOCAL ENVIRONMENT

We run a range of programs that work towards protecting and improving the water quality in our local waterways.

WATERWAYS HEALTH MONITORING PROGRAM

We regularly monitor the health of our waterways through 16 monitoring sites on 14 creeks across the city. The data is analysed and a waterway health grade is issued for each creek. We use this information to monitor the impacts of increased urbanisation and the effectiveness of our water quality planning controls over time.

The ecological condition of our creeks varies, but is rated as fair overall.

We continue to use the 'reference creek' – a minimally disturbed creek, representative of what would have existed before European settlement – to set local water quality objectives. The creek is a tributary of Little Creek at the Shanes Park Airservices Australia site.

WATER SENSITIVE URBAN DESIGN CAPACITY BUILDING PROGRAM

This program provided us with effective sustainable stormwater management principles. During 2015–16, the program runs the water working group and included activities and training sessions in water sensitive urban design (WSUD) and integrated water management. Resources and guides continue to be developed to help Blacktown City staff and developers more easily apply sustainable stormwater management.

WATER SENSITIVE URBAN DESIGN AUDITING PROGRAM

This program proactively inspects developments, including privately owned water quality treatment systems, such as bioretention systems (raingardens), to ensure they are being maintained.

We have been focusing on WSUD assets maintained by developers that will be owned by Blacktown City. This has included resolving issues from construction of the assets, to ensuring maintenance takes place during the agreed maintenance period. Over the past year, we have also helped in handing over the WSUD assets for The Ponds and Bunya developments by making sure they were built to specification and are in a satisfactory condition before they are handed over to Blacktown City to maintain.



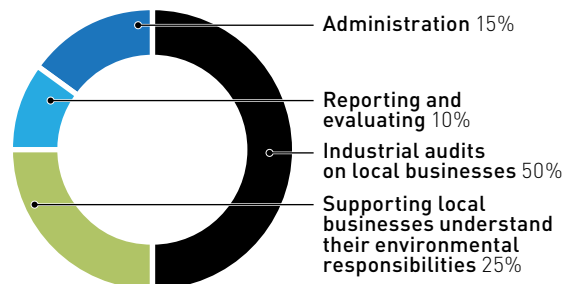
Environmental Health Officer My working day serving the community

YAEL

Environmental Health Officer

Responsibilities:

Monitor, maintain and protect public health and our environment.



State of the Environment continued

FOCUS AREA 4

TROUBADOUR RESERVE CREEK RESTORATION

The creek restoration work at Troubadour Reserve, Kings Langley was completed. We used sandstone boulders and installed native plants to stabilise this section of Lalor Creek, reducing both erosion and flooding impacts in the area. The work also provided habitat for local wildlife, while improving the amenity for our local community.

NEW WATER QUALITY OFFSETS SCHEME FOR INFILL DEVELOPMENT

In 2015, we were awarded the Stormwater NSW Excellence Award in Strategic or Master Planning category for our Water Quality Offsets Scheme for Infill Development.

An independent review found it was more cost effective for developers to contribute to a precinct scale offsite water quality offset scheme rather than constructing and maintained water quality treatment measures on-site. After public consultation, Blacktown City adopted a new precinct-scale water quality offsets scheme for existing developed areas.

The change to Blacktown City's Development Control Plan (DCP) Part J will allow developers to pay an offset instead of providing water quality treatment measures on individual development sites.

The contributions collected from developers will allow 11 stormwater harvesting and reuse projects to be built across the city.

SUCCESSFUL GRANTS

BUILDING RESILIENCE TO CLIMATE CHANGE GRANT 2015-16

We received an \$80,000 grant from the Office of Environment and Heritage (OEH) for our Water Sensitive Urban Design (WSUD) Capacity Building program. In addition to this funding from OEH, we received funding from Sydney Water. This allowed us to build on our existing program and to work with neighbouring councils to build regional understanding and knowledge of effective stormwater management and how it can help in mitigating climate change.

DEPARTMENT OF PRIMARY INDUSTRIES HABITAT ACTION GRANT 2015-16

We received a \$40,000 grant from the Department of Primary Industries (DPI) to investigate removing a weir on Eastern Creek that had been installed pre-1950. Its removal would allow native aquatic wildlife to migrate along the creek.

STORMWATER EDUCATION

During 2015-16, 3,535 families, school students and people from 5 language groups took part in a range of education and engagement activities that included: rain garden workshops, Duck Detective events, spotlight walks, waterways bus tours, community festivals, and a citizen science project investigating the threatened species *Myotis macropus* as an indicator of water quality in our local creeks and waterways.

We also produced a school curriculum package 'What happens to the rain', which includes teaching resources and a school excursion to Blacktown Showground, and a multi-touch interactive iBook developed in partnership with Brewongle Environmental Education Centre.

We evaluated our education program and found that 86% of participants surveyed reported "increased knowledge about water issues" following engagement with the education program, with 80% of participants saying "they would change their behaviour to improve water quality as a result of what they have learnt".



CASE STUDY

FINDING FLAPPY: THE FISHING BAT

We launched a new project *Finding Flappy: the fishing bat*. With the help of volunteers, citizen scientists and experts we are investigating the threatened species *Myotis macropus*, the Large-footed Myotis, as a potential indicator of waterway health.

These tiny echolocating bats are closely associated with water. They use their large feet to catch small fish and aquatic insects and so are sensitive to water pollution. We studied the bats by catching and releasing them and radio-tracking their movements at Nurragingy Reserve.

We partnered with the NSW Department of Primary Industries, Greater Sydney Local Land Services, Riverstone Local Dig Men's Shed and the Sathya Sai Organisation to build and install over 30 nest boxes and wildlife cameras at Nurragingy Reserve.

We recruited 25 community volunteers who collectively provided 821 hours to the project. They helped us survey waterways across the city and installed bat detectors at urbanised channels, natural channels and wetlands.

The results indicate that sites with high *Myotis* activity are associated with: low density of dwellings; high woodland cover; and many drainage lines in the local area (connectivity).

State of the Environment continued

FOCUS AREA 5

CONSERVE, RESTORE AND ENHANCE THE CITY'S BIOLOGICAL DIVERSITY AND ECOSYSTEM HEALTH, PARTICULARLY THREATENED SPECIES, POPULATIONS AND COMMUNITIES

Biodiversity refers to all life forms: plants, animals and microorganisms, their genes and the ecosystems of which they are a part. Protecting biodiversity and land resources is important because it helps in sustaining natural processes, such as nutrient cycling, soil formation and pollination, which ensure the survival of healthy ecosystems. We apply a range of programs aimed at conserving our biodiversity.

VOLUNTEER BUSHCARE PROGRAM

Bushcare groups are made of residents who volunteer to participate in practical activities to improve the health and aesthetics of local bushland reserves. The groups extend our ability to revegetate and regenerate the bush, as well as increasing understanding of biodiversity issues.

Bushcare groups weeded, revegetated and regenerated:

- Banks Reserve, Kings Langley
- Bill Colbourne Reserve, Doonside
- Duncan Park, Seven Hills
- Faulkland Crescent Reserve, Kings Park
- Reserve 813, Kellyville Ridge
- Knudsen Reserve, Riverstone
- Pied Piper Playground, Seven Hills
- RAAF Memorial Park, Mount Druitt
- Snowy Reserve, Seven Hills
- Timbertop Reserve, Prospect
- Tregear Reserve, Tregear
- Tuscan Waters, Glenwood
- Whitehaven Reserve, Quakers Hill.

Volunteer numbers are down in 2015-16 because one group ceased activities. Volunteers stopped attending Morgan Power Bushcare group activities due to other commitments.

The loss of one bushcare group attributed to the decrease in areas under restoration by volunteers.

NATIONAL TREE DAY

We proudly support National Tree Day, which is run nationally by Planet Ark. The number of plants and the participation rate varies each year due to media coverage, volunteer group involvement, the number of planting sites and the weather.

Our activities included:

- Hosting National Tree Day on 26 July 2015 – 4,678 native plants were planted at five sites across the city
- Supporting schools Tree Day on 24 July 2015 – we gave away 580 plants to 29 schools and community groups.

TABLE 7: OUR VOLUNTEER BUSHCARE GROUPS

	2012-13	2013-14	2014-15	2015-16
Number of bushcare groups	13	14	14	13
Number of registered bushcare volunteers	202	161	148	144
Number of natives planted by volunteers	2,933	5,809	4,653	5,619
Number of hectares under restoration by volunteers	30.75	39.96	30.30	27.80
National Tree Day volunteers	300	211	136	337

FOCUS AREA 5

BIODIVERSITY STRATEGY 2011–20

Our Biodiversity Strategy is a centralised, comprehensive record of information about biodiversity. It directs actions to protect biodiversity values across the city. We developed our strategy to ensure the effective long-term management and viability of remnant vegetation and ecosystems.

In 2015–16, we:

- Completed 90 high priority actions
- Continued 6 high priority actions
- Completed 18 medium priority actions
- Began or continued 19 medium priority actions
- Completed 1 low priority action.

BUSH REGENERATION AND REVEGETATION PROJECTS

Restoration projects in 2015–16 include:

- Nurragingy Reserve, Lorikeet Marsh and Power Street, Doonside
- Metella Reserve, Toongabbie
- Eskdale Street Wetland Reserve, Minchinbury
- Mitchell Reserve Wetland, Blacktown
- International Peace Park (Blacktown Creek), Blacktown
- Pied Piper Playground, Seven Hills

- Plumpton Park, Plumpton
- Sherwood Park, Quakers Hill
- Timbertop Reserve, Prospect
- Knudsen Reserve, Riverstone
- Orana Park, Blacktown
- Doonside Crescent Reserve, Woodcroft
- Refalo Reserve, Glenwood
- Knightsbridge Reserve, Glenwood
- Laing Reserve, Glenwood
- Douglas Siding Reserve, Quakers Hill
- Melrose Park, Quakers Hill
- Yarramundi Reserve, Dean Park
- Upperby Reserve, Dean Park
- Cudgegong Reserve, Rouse Hill
- Viewbrook Reserve, Seven Hills
- William Lawson Wetland, Prospect.

COMMUNITY PLANT GIVEAWAYS

We promote the greening of our city to nurture our native flora and fauna and improve the natural environment. We propagate a wide range of native and non-native plants at our nursery in Blacktown.

In 2015–16, we gave away 31,180 free plants to our community to plant in their gardens.

Uptake by schools and community groups was lower in 2015–16. This was because the usual notification program was not carried out. This has been rectified for future years.

TABLE 8: PLANT GIVEAWAYS

PLANT GIVEAWAYS	2012–13	2013–14	2014–15	2015–16
Travelling	9,129	10,105	11,389	11,076
Local Government Week	4,179	4,018	5,000	4,009
General – nursery giveaway	13,116	14,820	11,401	10,349
School and community groups	8,889	8,800	10,626	5,746
TOTAL	35,313	37,743	38,416	31,180

State of the Environment continued

FOCUS AREA 6

MITIGATE AND ADAPT TO THE IMPACTS OF CLIMATE CHANGE FOR THE BENEFIT OF CURRENT AND FUTURE GENERATIONS

We continue to address the issue of climate change and we work for maximum efficiency and best practice. We used several initiatives to reduce atmospheric pollutants and improve air quality in the Western Sydney basin.

BLACKTOWN CLIMATE CHANGE ACTION AND ADAPTATION PLAN

We continue to explore ways to reduce our greenhouse gas emissions.

LIGHT YEARS AHEAD PROJECT

As a partner with the Western Sydney Regional Organisation of Councils we replaced 2,250 mercury vapour streetlights with energy efficient LED lights. This will reduce our emissions by

over 14,000 tonnes of CO₂ over the next 20 years and save Blacktown City \$215,000 each year.

Our greenhouse gas emissions are represented in the following table.

COMMUNITY EDUCATION

COOL STREETS PROGRAM

The Cool Streets urban heat project has developed alternative street tree designs that can do the most to lower temperatures and lower residential energy consumption. The initiative also engaged residents about street trees and urban heat, generating positive attitudes towards urban vegetation.

In 2015–16, we developed street tree designs based on scientific research and consultation with residents in local streets that have no street trees. We have applied those designs in a trial in Glenwood. The trees planted will mature to provide shade, lower surface temperatures, and reduce home energy usage.

SUSTAINABLE FLEET

Our total fuel consumption (petrol, diesel and gas) for our fleet of cars and trucks is represented in Table 11.

We have 294 cars in our fleet; this is an increase of 20 cars since last year. The average fuel consumption is about 8.8 litres per 100 km.

We continue to support and educate our drivers about fuel efficiency and encourage low-emission vehicles. Our fleet of hybrid vehicles is also expanding: we lease 8 plug-in hybrid electric cars that travel 55 km on a full charge and are powered through solar energy.

BLACKTOWN CITY IS COMMITTED TO CLIMATE CHANGE WHICH INCLUDES THE USE OF GREEN FUELS IN OUR TRUCKS.

TABLE 9: GREENHOUSE GAS EMISSIONS

	2012–13	2013–14	2014–15	2015–16
Quantity of greenhouse gas emissions in tonnes CO ₂ -e	39,076	38,322	34,737	34,709

TABLE 10: TOTAL FUEL CONSUMPTION FOR OUR CARS AND TRUCKS

	2012–13	2013–14	2014–15	2015–16
Total fuel consumption GJ	68,491	69,102	70,216	77,527

