



Supplementary State of the Environment Report 2006 -2007

ANNEXURE 1 - Cessnock City Council Annual Report



Acknowledgments

This report was prepared and written by Tricia Donnelly, with editing assistance from Alison Lawrence.

The following people gave generously their time and expertise in contributing information for inclusion into this report:

Steve Wilson – Hunter and Central Coast Regional Environmental Management Strategy
Ken Gillespie – Department of Natural Resources
Ingrid Berthold – Hunter-Central Rivers Catchment Management Authority
Roger Lewis – Hunter Resource Recovery
Angus Seaberry - Hunter Water Corporation
Adam Fawcett – NSW State Forests
Elizabeth Roberts – The Convict Trail Project
Environment Protection and Regulation Division, DECC
Roads and Traffic Authority

COUNCIL STAFF

Michael Alexander	Jennifer Andrews
Nicole Benson	Greg Chapple
Jessica Forbes	Kate Jordan
Jenny Lange	Alison Lawrence
Renaë Leayr	Bo Moshage
Michael O'Connor	Kavita Payall
Barry Shephard	Annette Stewart
Leah Stothard	Gerard Young

**Printed on
100% Recycled Paper**

ABBREVIATIONS

ANZECC	Australian and New Zealand Environment and Conservation Council
AS	Australian Standard
CCC	Cessnock City Council
CCRS	Cessnock Community Renewal Strategy
CYCOS	Cessnock Youth Centre & Outreach Service
DCP/DCPs	Development Control Plan/s
DEC	Department of Environment and Conservation NSW
DECC	Department of Environment and Climate Change
DIPNR	Department of Infrastructure, Planning and Natural Resources
DNR	Department of Natural Resources NSW (formerly DIPNR)
DO	Dissolved Oxygen
DoH	Department of Housing
EEC	Endangered Ecological Community
EPA	Environment Protection Authority (now the DEC)
EPBC Act	Environment Protection and Biodiversity Conservation Act
ESD	Ecologically Sustainable Development
GPT	Gross Pollutant Trap
Ha	Hectare
HCRCMA	Hunter – Central Rivers Catchment Management Authority
HEZ	Hunter Economic Zone
HIR	Hunter Integrated Resources
HRR	Hunter Resource Recovery
HWC	Hunter Water Corporation
ICAC	Independent Commission Against Corruption
IMS	Integrate Management System
ISO	International Standards Organisation
KABC	Keep Australia Beautiful Council
kL	Kilolitres
kWh	Kilowatt hours
L	Litre
LEP/LEPs	Local Environmental Plan/s
LGA	Local Government Area
HCCREMS	Hunter and Central Coast Regional Environmental Management Strategy
ML	Megalitres
MoU	Memorandum of Understanding
MWhrs	Megawatt hours
NO ₃	Nitrate Nitrogen
NPWS	National Parks and Wildlife Service NSW
NHMRC	National Health and Medical Research Council
NSW FB	New South Wales Fire Brigade
NTU	Nephelometric Turbidity Units
OH&S	Occupational Health and Safety
OP	Orthophosphate
PVP	Property Vegetation Plans
RFS	Rural Fire Service
RTA	Roads and Traffic Authority
SoE	State of the Environment Report
TCM	Total Catchment Management
WWTP/WWTW	Wastewater Treatment Plant/Wastewater Treatment Works

INDEX

INTRODUCTION 1

TOWARDS SUSTAINABILITY 3

ENVIRONMENTAL EDUCATION..... 3

 Sustainability Snapshots at Events3

 Environment Grants.....3

 Schools Environment Education Program.....3

 Learning for Sustainability 2007-104

COMMUNITY AND SOCIAL DEVELOPMENT..... 4

 Social and Community Plan.....4

 Community Facilities5

 Youth Services.....5

 Off Leash Dog Exercise Areas5

 Main Street Improvement Program5

 Tidy Towns Program.....5

 Cessnock Community Renewal Strategy6

 Affordable Housing Strategy.....7

ECONOMIC DEVELOPMENT 7

 Wine and Tourism Statistics7

 Lower Hunter Business Excellence Awards8

GOVERNANCE..... 8

 Integrated Management System.....8

HUMAN SETTLEMENTS 9

AT A GLANCE..... 9

RESPONSES TO POPULATION AND SETTLEMENT PATTERNS ISSUES..... 10

 Development Planning 10

RESPONSES TO DRINKING WATER ISSUES..... 12

 Refit Program 12

 Envirosaver Program 13

RESPONSES TO TRANSPORT ISSUES..... 13

 Vehicle Registrations 13

 LGA Pathways Program 14

 Transport Initiatives..... 14

RESPONSES TO WASTE MANAGEMENT ISSUES..... 16

 Solid Waste Management 16

 Liquid Waste Management 19

RESPONSES TO TRANQUILITY AND NOISE ISSUES 19

LAND..... 20

AT A GLANCE..... 20

RESPONSES TO LANDUSE ISSUES 21

 Development Activities..... 21

 Development Control..... 21

 Open Space..... 21

RESPONSES TO LAND DEGRADATION/INTERVENTION ISSUES 22

 Vegetation Clearing..... 22

 Land Management..... 22

 Landcare Activities..... 22

 Fire History and Management..... 23

AIR (ATMOSPHERE) 24

AT A GLANCE..... 24

RESPONSES TO GREENHOUSE GAS EMISSIONS ISSUES..... 25

 Energy Consumption 25

 Cessnock Council Energy Improvement Program 25

 Refit Program 26

 Envirosaver Program 26

 HCCREMS - Climate Action Project..... 26

 Pathways/Cycleways..... 26

 Energy Efficiency Provisions in Building Code of Australia 26

RESPONSES TO AIR QUALITY ISSUES..... 27

 Outdoor Air Quality 27

 National Pollution Inventory 28

 Indoor Air Quality..... 28

WATER	29
AT A GLANCE.....	29
RESPONSES TO WATER QUALITY ISSUES	30
Water Quality.....	30
Waterwatch Activities.....	31
Water Pollution Complaints/Incidents.....	33
RESPONSES TO WASTEWATER ISSUES	33
<i>Protection of the Environment Operations Act, 1997</i> Scheduled Premises.....	33
Cessnock LGA Wastewater Treatment Plants	33
On-site Effluent Disposal	34
RESPONSES TO WATER USAGE ISSUES	35
Surface and Groundwater Extraction.....	35
HCCREMS - Regional Water Program.....	35
Rainwater Tank Rebates.....	35
Refit Program	35
Envirosaver Program.....	35
BIODIVERSITY	36
AT A GLANCE.....	36
RESPONSES TO BIODIVERSITY ISSUES.....	37
Amendments to Environmental Protection and Biodiversity Conservation Act 1999	37
Draft Lower Hunter Regional Conservation Plan	37
Threatened Fauna Species.....	37
Threatened Flora Species.....	39
Threatened populations.....	39
Threatened Ecological Communities	40
Key Threatening Processes.....	41
Conservation of Land for Habitat.....	41
Habitat Fragmentation and Clearing	41
Introduced Species - Weeds.....	41
Fire and Fuel Reduction	43
Tree Giveaways and Plantings.....	43
Landcare Activities.....	43
Hunter-Central Rivers Catchment Management Authority Activities.....	44
HCCREMS - Roadside Environmental Management	44
HCCREMS – Regional Vegetation Mapping Project.....	44
HERITAGE	45
AT A GLANCE.....	45
RESPONSES TO ABORIGINAL HERITAGE ISSUES	46
RESPONSES TO NON-ABORIGINAL HERITAGE ISSUES	46
Heritage LEP and Revision of Heritage Study.....	46
Cultural Community Development Dollar for Dollar Grant Program.....	46
Heritage Dollar for Dollar Grant Program.....	46
The Convict Trail Project	46
Great North Road World Heritage Nomination	47
REFERENCES.....	48
APPENDIX 1 - WATER QUALITY GUIDELINES	49
APPENDIX 2 – WATERWATCH WATER QUALITY MONITORING RESULTS FOR CESSNOCK LGA	50
APPENDIX 3 – THREATENED SPECIES LISTINGS FOR CESSNOCK LGA	52
APPENDIX 4 – NOXIOUS WEED DECLARATIONS FOR CESSNOCK LGA.....	54
APPENDIX 5 - ENVIRONMENTAL WEBSITES.....	56
NOW IT'S YOUR TURN.....	58

INTRODUCTION

The New South Wales (NSW) *Local Government Act 1993* (section 428 (2) (c)) requires all Local Government Councils to produce an annual report on the State of the Environment (SoE). This report covers the period from 1st July 2006 to 30th June 2007 and is a supplementary report to provide additional information to support the comprehensive report completed for the year 2003-04 and supplementary reports of 2004-05 and 2005-06. As outlined by the Department of Local Government, a supplementary SoE report must:

- Identify any new environmental impacts since the last comprehensive SoE report,
- And, update the trends in environmental impacts that are important to each environment sector.

For the greatest information about the environment in the Cessnock LGA it is necessary to read this report in conjunction with the 2003-04, 2004-05 and 2005-06 reports as not all background information and programs are included in this report (i.e. only those that have occurred during 2006-07 appear in this report).

SoE Reports contain information about the condition of the environment (state), pressures the environment is subject to (pressure) and measures taken to alleviate those pressures (response) during the reporting period. They outline what is and has been done to address adverse impacts and whether those actions are or have been successful in delivering results.

This report is structured into several environmental sectors in accordance with the *Local Government Act 1993*. These are:

- Towards Sustainability
- Human Settlements
- Land
- Air
- Water
- Biodiversity
- Heritage

“At a Glance” tables provided at the start of each section follow the usual State-Pressure-Response model (developed by the Department of Local Government), giving a brief summary of the key points and identifying any data gaps that need to be explored in the future.

This report also continues the process of the transition from environmental reporting to sustainability reporting with the inclusion of economic and social development information in the new Towards Sustainability chapter. Future reports will continue this process by including more details on social and economic factors affecting the LGA as well as environmental factors.

CESSNOCK LGA PHYSICAL PROFILE

The Cessnock City Council (CCC) Local Government Area (LGA) encompasses 1,970 square kilometres of the lower Hunter Valley in eastern New South Wales (CCC, 1994). In August 2006 a census was conducted reporting the population of the Cessnock LGA as 46,206. The City lies approximately 50km northwest of Newcastle and 120km north of Sydney and has boundaries “extending from the watershed between the Hawkesbury and Hunter Rivers in the south, through to Branxton and the New England Highway in the north” (Advitech, 1996).

Climate

The Cessnock LGA is subject to a temperate climate, characterised by mild winters and hot summers (Advitech, 1996). Records of temperature and rainfall for 2006-07 are shown in Figures 1 and 2. The maximum temperature recorded for the year at Cessnock was 42.0°C on 12th January 2007 and the minimum temperature was -2.1°C on 9th June 2006. Total rainfall for 2006-07 was 266mm higher than in 2005-06 (a 63% increase on 2005-06).

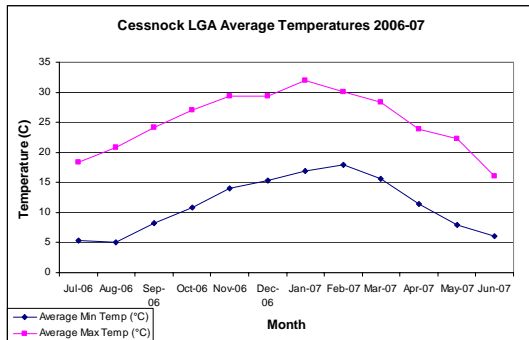


Figure 1: 2006-07 Cessnock Average Temperatures

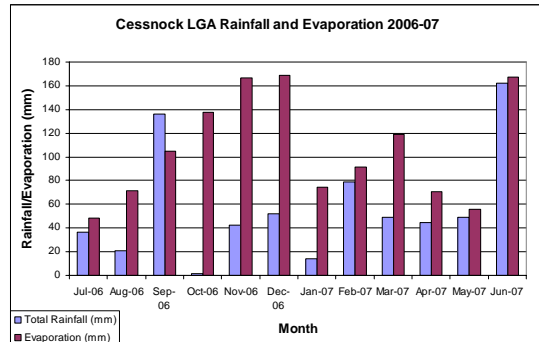


Figure 2: 2006-07 Cessnock rainfall and Evaporation

Cessnock City Council – Our Vision, Our Goals

The *Local Government Amendment (Ecologically Sustainable Development) Act 1997* took effect on January 1, 1998. The Act strengthens the environmental management role of Councils by incorporating the principles of Ecologically Sustainable Development (ESD) throughout all key aspects of the *Local Government Act, 1993*.

With this in mind, Cessnock City Council has adopted the following statement as its vision:

“Cessnock City Council’s vision is for a safe, healthy environment where residents can enjoy a high quality of life.”

Corporate objectives and measures to reach those objectives have been formulated and are reviewed and updated annually.

LINKS TO CITY MANAGEMENT PLAN

It is important to note that it is not the role of this report to document what actions will be taken to respond to the issues identified, but simply to highlight those issues that need to be addressed. Some issues will require responses from different government departments or community organisations. Council encourages those departments/organisations to take steps to incorporate responses to these issues within their own planning processes.

The inclusion of the “Data Gaps” column in the “At-a-Glance” tables is intended to help facilitate the development of projects to source this information and assist the integration of this report into other Council management plans, by making the integration explicit throughout the report. This year’s “data gaps” will include:

- Suggestions for addressing major data gaps. It should be noted that suggestions in this year’s SoE have been limited due to the complexity and impacts of addressing the major data gaps.
- Projects to be considered for funding in the Council budget the following year.

TOWARDS SUSTAINABILITY

ENVIRONMENTAL EDUCATION

SUSTAINABILITY SNAPSHOTS AT EVENTS

Sustainability Snapshots was a Hunter Waste Education Group (HWEG) initiative that aimed:

- To demonstrate the simple actions individuals and families can take to save money as well as saving our environment “in the home”; “in the yard”; “at the shops” and “on the move”.
- To provide people with practical ideas and advice on how to live more sustainably.
- To make it easier for people to understand what sustainability really means in terms of their everyday actions.

During 2006-07, Council took the Snapshots display and performer (William Doodrop, performing “magic acts of sustainability”) to Maitland markets (1st April), Wollombi Markets (9th April), and Kurri Kurri Markets (14th April – pictured across). The response from the community at these events was very positive.



ENVIRONMENT GRANTS

In December 2006, Stanford Merthyr Infants School was announced as being successful in receiving an Environmental Trust Ecoschools grant of \$2,500 to develop an Aboriginal Bush Tucker Garden and create an Aboriginal mural.

SCHOOLS ENVIRONMENT EDUCATION PROGRAM

During 2006-07 activities in the Schools Environment Education Program included:

- Prepared and distributed 4 newsletters (1 per term, available on Council’s website) to every school and pre-school in the LGA.
- Undertook 1 Energy, 4 Water (at Ellalong pictured below) and 1 Biodiversity audits with 4 schools.
- Participated in an Upper Hunter Environment Teachers workshop held at Maitland Council on 1st June 2007 and attended by 5 Cessnock LGA schools.
- Assisted 9 schools submit round 2 Community Water Grant applications (none successful).
- Assisted 4 schools submit round 3 Community Water Grant applications (results not available yet).
- Provided plants and planting information to 14 schools who participated in Schools Tree Day on 28th July 2006.



LEARNING FOR SUSTAINABILITY 2007-10

On 14th November 2006 the NSW Government released a new 3 year plan for environmental education in NSW "Learning for Sustainability 2007-10" (following on from its previous plan adopted in 2002). Developed by the NSW Council on Environmental Education the Plan aims to set out a strategic framework for developing environmental education in NSW that is more effectively integrated with other environmental management tools, fosters collaborative learning and reflective practice, and has the capacity to purposefully progress society towards a sustainable future.

COMMUNITY AND SOCIAL DEVELOPMENT

SOCIAL AND COMMUNITY PLAN

During 2006-07 the following actions were undertaken from the Social and Community Plan focusing on the target groups of 'women and men', 'older people and people with a disability' and 'Aboriginal and Torres Strait Islanders'.

- Computers were provided to the East Cessnock Cottage for general community use such as homework, résumé writing and online access. It is anticipated that in the future the computers will be used for training and short courses.
- A community directory is available on Council's website that has information on various services in the Cessnock LGA. The directory is available on-line and in hard copy on request.
- The Cessnock Youth Development Officer coordinated a trip to Calvary Retirement Community with young people to encourage mentoring. The trip included games and a BBQ.
- Services for older people are continuing to be promoted by Council. Examples include support to local Senior Citizen's Associations, Seniors on the Net classes at Cessnock Library and the coordination of the Cessnock City Senior Citizen of the Year each March during Seniors Week.
- Cessnock Community Transport received a small amount of funding from the Department of Health to offer increased access to out of town medical services.
- Families First increased its links with Aboriginal people through the establishment of a Families First Coordinator at Mindribba.
- Awabakal Pre-school has been established at the East Cessnock Cottage.
- Drug and Alcohol classes are provided on an outreach basis to Cessnock TAFE.
- A 'Get to It' program funded by Hunter Area Assistance Scheme received money to assist young people access services out of town.
- The Cessnock Anti Violence Network has continued its support of events such as Stop Domestic Violence Day through the distribution of white ribbons to business in Cessnock in 2006.
- A Shop Smart Train the Trainer program run in conjunction with Coalfields Healthy Heartbeat 'Budget Bites Cook Book' offers training to services on how to utilise the resource with clients.

As part of the review of the Cessnock Social and Community Plan surveys were distributed as a means to gather information for consideration in a new plan. Target groups surveyed to date include:-

- Older People
- Young People
- Indigenous Peoples

Survey of target groups including children, men, women, people with disabilities and people from culturally and linguistically diverse backgrounds will continue in 2007.

COMMUNITY FACILITIES

Each year Council allocates funds towards related capital works and planned maintenance of its community facilities. In 2006-07, the following works to community facilities were undertaken:

- Maintenance of exit/emergency lights, floors, grounds and signage and a review of planning documents for all facilities.
- Kurri Kurri Ambulance Hall - Bird proofing, internal and external painting.
- Marthaville Cultural Centre - External painting.
- Refurbishment of Cessnock Library.
- Laguna Community Hall - Completion of hall upgrade including flooring, wall lining and installation of several doors.
- Pokolbin Community Hall - Painting of the exterior and interior and installation of interior timber facades.

In addition to the above works, Council also provides additional funding through their Community Dollar for Dollar Grants program. In 2006-07 the following projects were funded through this program:

- Lighting for the preparation of gem stones for the Cessnock Gem and Mineral Club
- 170 new seats for the Weston Civic Centre.
- An awning for the BBQ area of the North Cessnock Community Hall
- New timber bench seats and timber wall sheeting for Bellbird Community Hall.
- New carpet for foyer of Branxton Community hall.
- A lawn mower, whippersnipper, garden shed and concrete for Branxton Playgroup.
- Replacement carpet for Kurri Kurri Community Centre.
- Chairs for Laguna Community Hall.
- 2 display units for Marthaville Guildry.
- A new oven for Wollombi Community Hall.

YOUTH SERVICES

In the past twelve months Cessnock Youth Centre and Outreach Service (CYCOS) had just over 9,000 young people attending and participating in structured programs and drop-in services.

OFF LEASH DOG EXERCISE AREAS

Council has continued to maintain its 6 off leash dog exercise areas within the Cessnock LGA. Recent works include fencing at Hall Park (West Cessnock); the installation of signage within each of the off leash dog areas outlining codes of conduct whilst in these areas (to further clarify off leash areas); and, the installation of water points at Manning Park (Cessnock), Stanford Merthyr, Varty Park (Weston) and Greta Central Oval

MAIN STREET IMPROVEMENT PROGRAM

In February 2007 Council adopted Masterplans for the main streets of Greta, Branxton and Weston. Each plan is linked to existing strategic plans and their subsequent programs are currently being implemented. These Masterplans will be implemented over several years depending on funding.

TIDY TOWNS PROGRAM

Council continues to support the Tidy Towns Program through a Dollar for Dollar Grant Program, payment of annual fees to the Keep Australia Beautiful Council (KABC), supply of plants, paint and materials for approved maintenance works on public land and the promotion of the program through a regular newsletter, and media.

Projects funded from the Dollar for Dollar Grants during 2006-07 include:

- Work to Snake Gully water refuge and photos for Neath noticeboard.
- Signage for the Convict Trail on Heritage Rd, Bucketty.
- Upgrading of the garden at Log of Knowledge, Kurri Kurri.
- Construction of a concrete path to the Mill Pond, Wollombi.
- Construction of garden beds near the picnic shelter on Wollombi Rd, Millfield.

During 2006-07 a new Tidy Towns group was formed in Bellbird bringing the total in the LGA to 12.

A number of Tidy Towns groups received awards/commendations at the 2006 KABC Awards for outstanding community and environmental projects:

- Greta Tidy Towns was awarded:
 - Winner in population Category C for a project called “We Collect our Refuse” in the Litter Prevention Category.
 - A Highly Commended award for the project of “Our Communal Oasis (Whitburn Dam)” in the Wildlife Corridors and Conservation Category.
 - A Highly Commended award for the project “Your Aim Will Help” in the Waste Minimisation Category
- Greta Workers Sport and Recreation Club Limited received a Highly Commended award in population Category C in the Clubs Partnerships Category.
- Abermain – Neath Tidy Towns won an award in population Category C for projects completed as part of “Abermain Neath Tidy Towns and Cessnock City Council Community Partnership” in the Tony McCrane Memorial Category for Civic Partnerships.
- Kurri Kurri Tidy Towns received a Highly Commended award in population Category D for the “Towns with Hearts Community Mural Project” in the Tony McCrane Memorial Category for Civic Partnerships.
- Cessnock Tidy Towns was awarded:
 - Winner of the Tony McCrane Memorial Category for Civic Partnerships for “Conway’s Corner Park Improvements” in population Category E
 - 1st place (population Category E) in the Friendly Town award.
 - 3rd place over all (in population Category E) in the State Award.

CESSNOCK COMMUNITY RENEWAL STRATEGY

Transport

The Transport Working Group researched and funded the development of a local transport guide that aims to increase awareness of transport options within the Cessnock LGA and funded a Taxi Voucher Scheme that was administered for the community by Cessnock Community Transport.

Early Intervention and Prevention

The Pit Stop for Youth Project was held at Mount View and Cessnock High Schools in October 2006. A variety of displays, information, activities and competitions were involved with the delivery of the project which was designed to increase awareness and knowledge of the young people involved of the dangers of smoking and drinking, mental health, consent, etc. The total participants from Yrs 8 & 9 from the two schools were 176. Most feedback from the day was positive with young men in attendance stating they had enjoyed the day and had obtained at least one beneficial piece of information.

Community Ownership and Pride

The Cessnock Skills Shed is located on a site at Calvary Aged Care Complex. The shed has received approximately \$60,000 from the Premiers Department, Hunter Area Assistance Scheme and Coal & Allied to undertake further works to the site, such as refurbishing their greenhouse, a seedling project, furniture restoration and upgrading of the shed’s training room.

The East Cessnock Cottage has many groups utilising it on a regular basis.

- The Benevolent Society is running a 'Bright Ideas for Play' supported playgroup once a week.
- Samaritans Information & Neighbourhood Centre (in conjunction with Coalfields Healthy Heartbeat) coordinate a Healthy Eating Workshop.
- Cessnock Family Support runs counselling outreach to the cottage.
- Cessnock Youth Centre & Outreach Service, Youthlink and the Cessnock Youth Development Officer are continuing to paint murals at the cottage with the young people in the area.

AFFORDABLE HOUSING STRATEGY

During 2006-07 the following actions have been undertaken in development of the Affordable Housing Strategy:

- The Strategy document is 75% complete with the full document due for delivery by 30 July 2007.
- An Internal Reference Group has held a number of informal meetings with Council's Land Use Planning Manager and staff.
- The External Reference Group has had formal meetings with major stakeholders.
- In addition, meetings have been held with 2 major residential developers in the region to develop affordable housing initiatives in their major subdivisions.
- Formal meetings have been held with NSW Department of Housing (DoH) regarding the public housing strategy within the LGA and its impact on the CCC Affordable Housing Strategy.
- A Memorandum of Understanding (MoU) has been signed with Newmacq Community Housing to give preferred affordable housing supplier status.
- Negotiations and substantial progress on the development of the tender response for \$6 million dollars of Debt Equity Funding from NSW DoH have been undertaken for affordable housing in LGA with Newmacq Housing as Community Housing provider and joint venture partner and Hebburn Estate as first project.
- A MoU has been signed with Newcastle University for design of an affordable housing project. To date there has been substantial progress on the design brief.
- Negotiations have commenced with a local builder on an "affordable housing project home", which will be the first house built and open for inspection in LGA.

ECONOMIC DEVELOPMENT

WINE AND TOURISM STATISTICS

The Hunter Valley Wine Country Annual Report for 2006 reports the following major outcomes:

- Accommodation Occupancy Percent decreased by 5.0% for 2006 compared to 2005. When adjusted to the increase of 338 additional unit numbers for 2006, equates to a real growth of +8.1%.
- More than 2.5 million visitors were recorded for day-tripper and visitor/night stays, being an increase of 6.2% over 2005.
- Cellar Door sales have increased by 3.0% using the weighted average measure.

The interim report for January 2007 to June 2007 notes:

- The storms and floods of the Queens Birthday weekend had an impact on the month and half year outcomes which will continue to be monitored for the rest of 2007.
- A slight decrease (5.1%) in the combined average occupancy percent for 2007 over 2006.
- A total visitor number growth of 9.5% has been recorded for the six months to date ending June 2007.

- The monthly weighted average sales for Cellar Door sales decreased -0.7% in comparison to the same period in 2007.

LOWER HUNTER BUSINESS EXCELLENCE AWARDS

The winners of the 2006 Lower Hunter Business Excellence Awards included the Cessnock businesses of Calais Estate (in cellar door category), Max Ostermann (in health services category), Johanne's Hairtique (in hairdressers/beauticians category) Cronan's Design and Drafting (in constructions/home improvement category), Murphy Real Estate (in real estate category), Banjo's Bushland retreat (Business of the Year and in accommodation category) and John Pearson's Meats (in fresh produce category).

GOVERNANCE

INTEGRATED MANAGEMENT SYSTEM

Council's Integrated Management System (IMS) has been developed by the Works and Services Department to meet the requirements of the RTA Single Invitation Contract and the requirements of the International and Australian Standards for Quality ISO 9001:2000, Environmental (ISO 14001:2004) and OH&S Management Systems (AS 4801:2001). The documentation has also been written to comply with the NSW Government OH&S and Environmental Management System Guidelines.

During August 2006 an external surveillance audit of the System and its implementation was undertaken by SAI-Global across the areas of Administration, Recreation Operations, Depot Operations, Road Maintenance and Construction and Design. From this audit only 1 non-conformance was raised with regard to the management of OH&S Communications (i.e. dissemination of minutes of meetings) within Council's operations. A procedure to address this matter has been implemented and in March 2007 the Non-conformance was downgraded to an improvement request. No further non-conformances were raised. SAI-Global has approved Council's ongoing Certification until October 2007. At this time Council will undergo further auditing to retain its Certification.

In November 2006, Council achieved Prequalification to R5 which allows Council to Tender for Projects with the RTA to \$5 million. The prequalification status also means that Council's Integrated Management System meets the requirements of RTA Specifications Q6 (Quality), G22 (Occupational Health & Safety) and G36 (Environmental Management Systems). This makes Council one of only three Local Government Councils in NSW to achieve this level of prequalification.

During 2006-07, Council carried out 37 internal audits against the requirements of the above Standards including reviews against environmental issues such as sediment control, water management, noise, flora and fauna disturbance, dust etc.

HUMAN SETTLEMENTS

AT A GLANCE

Population and Settlement Patterns			Data Gaps: On-site wastewater treatment systems requiring maintenance or working effectively is unknown. Noise quality monitoring data for the LGA is required. Recommendations: Future SoE reports include data on on-site wastewater treatment system inspections including levels of non-compliance of systems.
State	Increasing	Continued urban, rural and rural-residential expansion.	
Pressure	Increasing	Demand for land in LGA is placing pressure on undeveloped areas. Few local employment opportunities, isolation and lack of public transport adding to this issue.	
Response	Good	Cessnock DCP 2006 adopted.	
Drinking Water			
State	Increasing	5,583,784kL of water consumed in the LGA during 2006-07, an increase of 5 % on last year's consumption.	
Pressure	Increasing	Demand continues to increase with population and development. Additionally, average household consumption increased by 2% on 2005-06.	
Response	Limited	Hunter Water continues to undertake programs such as Refit (with Energy Australia and Hunter Councils), envirosaver and water tank rebates .	
Transport			
State	Poor	41,494 vehicles registered in the LGA. Private vehicles continue to be the main mode of transport in the area.	
Pressure	Increasing	Lack of public transport and isolation are increasing pressure on this issue.	
Response	Limited	New Pathways Program adopted in 2006-07 with 0.8kms of pathway constructed. Transport initiatives (including Road Safety program) continues being implemented.	
Waste Management			
State	Increasing	34,505 tonnes of waste was landfilled; 3,763 tonnes of recyclables were collected from kerbsides; a further 5,496 tonnes was diverted from the landfill; and 4,078 ML of waste water was treated during 2006-07.	
Pressure	Stable	The amount of solid and liquid waste has remained constant on a per person basis.	
Response	Good	Numerous waste reduction and recycling programs being undertaken in the LGA.	
Tranquillity and Noise			
State	Unknown	No noise quality monitoring has been undertaken in the LGA. 217 noise complaints (65% about dogs) received by Council.	
Pressure	Stable	Noise issues have remained stable on past years.	
Response	Limited	Issues of noise are considered in the development consent process and the EPA regulates noise generating premises.	

RESPONSES TO POPULATION AND SETTLEMENT PATTERNS ISSUES

DEVELOPMENT PLANNING

Environmental Planning Legislation Amendment Bill 2006

On 26th October 2006 the Minister for Planning introduced the *Environmental Planning Legislation Amendment Bill 2006* into Parliament. The bill amends six pieces of planning and building legislation such that:

- It strengthens existing enforcement provisions of the *Environmental Planning and Assessment (EP&A) Act* for all developments, including major projects.
- Clarifies the administration of certain provisions relating to developer contributions in the *EP&A Act*.
- Accredited certifiers and councils are required to have regard to objective criteria in issuing occupation, construction, subdivision and compliance certificates under the *EP&A Act* and applies similar amendments to strata legislation relating to the issue of strata subdivision certificates.
- Local Councils are required to accept appointment, if appointed initially or as a replacement, as a principal certifying authority.
- The time limits for Crown development applications under Part 5A of the *EP&A Act* is reduced from 60 days to 40 days for determination of applications; and from 40 days to 21 days for the submission of consent conditions to the Minister.
- A range of amendments are introduced to the provisions of Part 3A – major projects of the *EP&A Act*.
- The *City of Sydney Act* is amended in relation to the appointment of members to the Central Sydney Planning Committee and other matters.
- The *Local Government and Environmental Planning and Assessment Amendment (Transfer of Function) Act* is amended to enable reform of regulations for places of public entertainment and temporary structures to be completed.

Cessnock DCP 2006

On 1st December 2006 the Cessnock Development Control Plan (DCP) 2006 came into effect. There is now only 1 DCP that applies to any 1 single parcel of land in the Cessnock LGA.

As such the following DCPs have been repealed:

- DCP 1 - Hungry Creek Rural/Residential Subdivision
- DCP 10 - Identilite Land Use Code
- DCP 12 - Nulkaba Village Smallholdings area
- DCP 13 - Illalong Smallholdings
- DCP 14 - Village of Greta North
- DCP 15 - Abermain South Smallholdings
- DCP 16 - Mulbring South Smallholdings
- DCP 19 - Edden Street Bellbird
- DCP 20 - Blackhill Quarry Section 94 Contributions Plan
- DCP 23 - Greta Main Smallholdings Area
- DCP 24 - Abermain North Smallholdings
- DCP 25 - North Rothbury South Smallholdings
- DCP 27 - Mulbring North Smallholdings
- DCP 30 - Paxton East Rural Smallholdings
- DCP 46 - Hunter Lakes
- DCP 48 - Energy Smart Homes

Additionally, a number of site specific DCPs have been “adopted by reference” into the Cessnock Development Control Plan 2006 and the updated versions of these plans will still need to be consulted:

- DCP 21 - Ellalong Lagoon Catchment Area
- DCP 26 - Vintage Country Club Resort
- DCP 28 - Vineyards District
- DCP 44 - Stanford Main
- DCP 45 - Gingers Lane, Weston Rural Smallholdings
- DCP 47 - Hunter Employment Zone
- DCP 53 - Cessnock Aerodrome
- DCP 57 - Bow Wow Creek Gorge Catchment and Habitat Corridors
- DCP 59 - Millfield Smallholdings

Cessnock Development Control Plan 2006 can be accessed on Council's web site.

Hebburn Estate

In September 2006, Council announced that it would be developing 18.5ha of land behind Peace Park in Weston. The area to be called Hebburn Estate will consist of 86 residential sites to be released in 6 stages. Included in the development will also be the regeneration of 5ha of Kurri Sand Swamp Woodland endangered ecological community.

Lower Hunter Regional Strategy

The Lower Hunter Regional Strategy was released by the Department of Planning (DoP) on 17th October 2006. The Strategy is a guide for local planning in the 5 local government areas of Newcastle, Lake Macquarie, Port Stephens, Maitland and Cessnock. The Strategy is for 25 years with 5 yearly reviews. For Cessnock the Strategy:

- Provides for 21,700 new dwellings (19,700 of these in Greenfield sites)
- Forecasts a population increase of 45,000.
- Promotes Cessnock as one of six regional centres and designated growth areas.
- Identifies additional land outside the City Wide Settlement Strategy (CWSS) at Heddon Greta, Gingers Lane, Anvil Creek, Branxton-Huntlee and Paxton/Millfield for residential development.
- Highlights the importance of the Vineyards District and Hunter Employment Zone as employment centres and their protection.
- Identifies the development of a freight hub precinct at Stony Pinch and Black Hill in conjunction with DoP, Newcastle and Maitland Councils.
- Provides for additional 2,200ha of land to the Werakata National Park
- Provides for an additional 6,000ha of land to Wollombi and Yengo National parks.

Catchment Action Plan

The Hunter Central Rivers Catchment Management Authority (HCRCMA) Catchment Action Plan (CAP) has been adopted. The CAP is a guide to protecting and improving the region's natural resources over the next 10 years. The CAP identifies and prioritises the natural resource issues currently facing land managers in the region to ensure that investment is made in areas of greatest need for the best outcomes for our environment and communities.

RESPONSES TO DRINKING WATER ISSUES

Domestic water consumption for the Cessnock LGA was 3,638,342kL averaging out to 229kL per household and 130kL per flat/unit. Industrial, Commercial and Agricultural users consumed another 1,945,442kL. This data was supplied by Hunter Water based on the water year which is 20 April 2006 to 19 April 2007. This represents an increase in water consumption in the LGA from 2005-06 as displayed in the Figure 3 over.

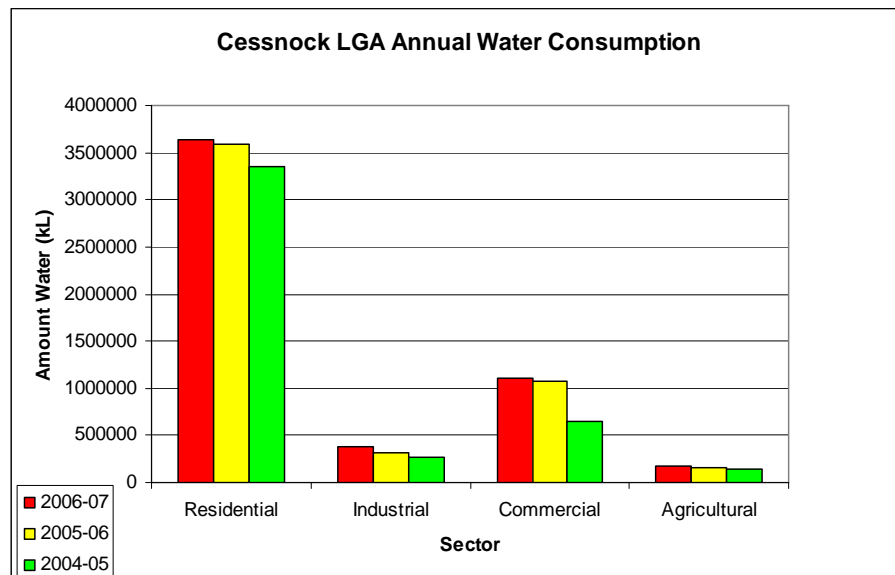


Figure 3: Annual Water Consumption in the Cessnock LGA

REFIT PROGRAM

The Refit program was an initiative of Energy Australia, Hunter Water and the Lower Hunter Councils. The kit contained an AAA-rated water-saving showerhead, 2 compact fluorescent light bulbs (increased to 6 in early 2007), a garden-hose spray gun and an energy and water home audit which was all fully installed from \$39.

During 2006-07, only 14 Refit kits were installed (a decrease of 95% on 2005-06 installations) in homes in the Cessnock LGA equating to savings of 420kL of water. It should be noted that in the whole Hunter region Refit installations decreased 71% in 2006-07 from 2005-06. The reasons for this decrease were investigated through a survey undertaken by the Hunter Valley Research Foundation in March 2007 which found that:

- 84% of respondents already had energy saving light globes and 61% had water saving showerheads.
- 51% of respondents were aware of Refit (with 15% having purchased a kit).
- Of respondents who had purchased a kit 28% cited 'saving the environment' as their main reason.
- Of respondents who had not purchased a kit, 21% were not interested, 8% did not see a need for one, 15% already had the items included in the kit, and 8% had received a similar free kit.
- Of respondents who were aware of the kit and not purchased one, 17% said there was nothing that could be done to entice them to purchase a kit, 13% would purchase if the cost was lowered or made free, and 12% would purchase out of 'concerns for the environment'.

As a result of the decline in installations and the growing trend in the community for different products the Refit program will not continue in 2007-08 but a new program has been developed and will be promoted as a replacement through the "Together Today" regional program.

ENVIROSAVER PROGRAM

The Envirosaver program is the refit program replacement. Envirosaver is a FREE service that changes all light globes for compact fluorescent globes and all showerheads to AAA-rated water-saving showerheads in homes. In addition other services at reduced costs, such as dual flush toilets and rainwater tanks, are also available through the program.

The program commenced in the Lower Hunter region in early 2007 with little publicity. For the 4 months till June 2007 58 homes in the Cessnock LGA participated in the program installing 1,024 compact fluorescent globes and 17 AAA-rated water-saving showerheads. These installations resulted in saving of 1,218kL of water in the Cessnock LGA.

RESPONSES TO TRANSPORT ISSUES

VEHICLE REGISTRATIONS

During 2006-07, there was an increase of 819 vehicles registered in the LGA from 2005-06. Figure 6 shows a breakdown of types of vehicles registered in the LGA as at 30th June 2007 and Figure 7 a comparison with the 2005-06 and 2004-05 registrations. Additional data on fuel types of registered vehicles was also provided by the RTA for 2006-07, this is displayed in Figure 8. It is interesting to note that while 76% of vehicles run on unleaded fuel, 8% still require leaded petrol (indicating the age of vehicles in Cessnock LGA) and only 1.5% on LPG.

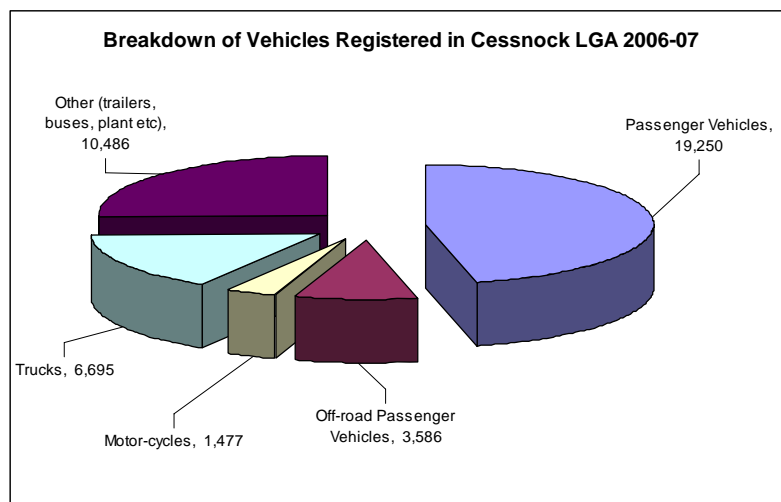


Figure6: Breakdown of types of vehicles registered in the Cessnock LGA.

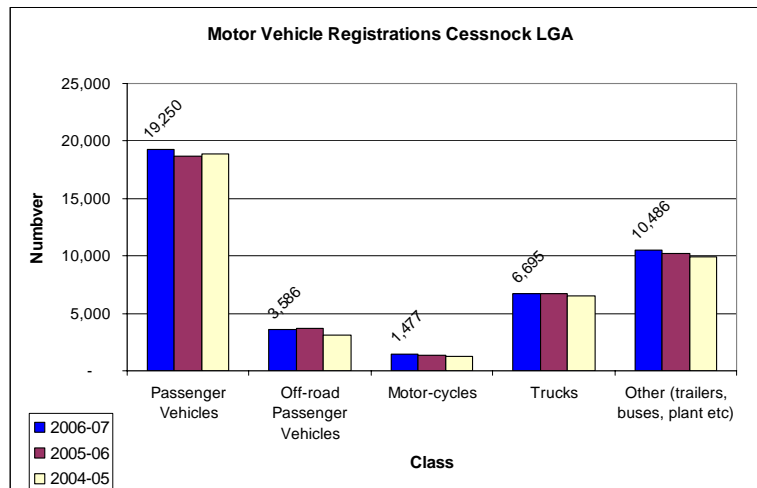


Figure 7: Comparison of vehicles registered in Cessnock LGA over time

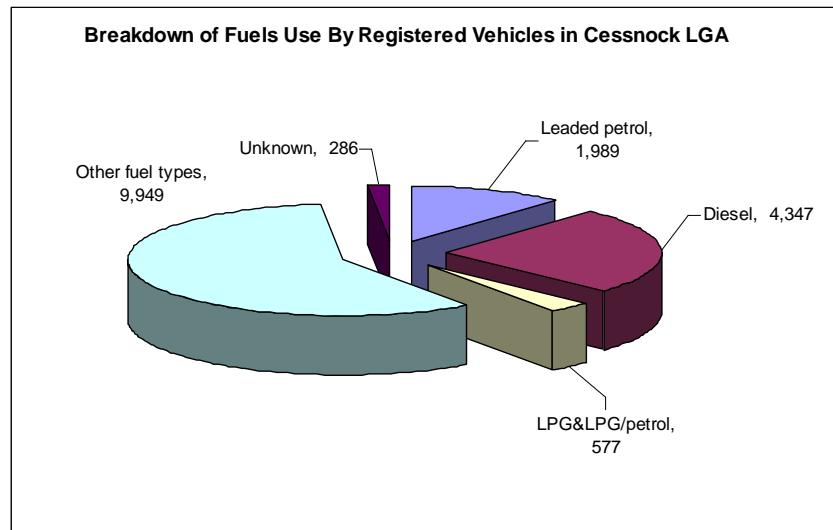


Figure 8: Breakdown of fuel types used by vehicles registered in the Cessnock LGA.

LGA PATHWAYS PROGRAM

In March 2007 Council adopted an LGA Pathways program which brought together the 3 separate programs of footpaths, cycleways and parkland paths. The LGA Pathways Program aims to provide a clear and consistent strategic direction for the construction of pathways across the LGA through the consolidation of funds from the previous 3 programs.

As part of the 2006-07 Pathways Program, approximately 818 metres of cement pathway/cycleway was installed at Bailey Park, Abermain.

TRANSPORT INITIATIVES

Bus Shelter Construction Program

During 2006-07, Council adopted a bus shelter construction program which provided funds towards the maintenance of existing shelters and the construction of new shelters. In addition, a grant was received from the Ministry of Transport which enabled the installation of 18 new bus shelters.

Lower Hunter Transport Working Group

Cessnock Council is a member of the Lower Hunter Transport Working Group which also includes Newcastle, Port Stephens, Maitland and Lake Macquarie Councils. During 2006-07,

this group produced a transport guide for the Lower Hunter which provides information on ticketing, fares, maps, major transport facilities, nigh transport options and operator contact details for the regions buses, ferries, coaches, taxis and Newcastle airport.

Road Safety Program

The Road Safety Strategic Plan has identified key areas of concern in our area. The major concerns identified relate to driver or road user behaviour i.e. Speed, Drink Driving, non-use of seatbelts and Young Driver issues.

Road Safety Programs run successfully during 2006-07 include:

- **Alcoliser Program** - Council continued to provide a free service to Clubs, Hotels and Cellar Doors in its Alcoliser Program. Three alcolisers are rostered to be moved on a fortnightly basis around hotels, clubs and Cellar Doors with the option to relocate when Special Public Events are held in the area.
- **Child Safety** - Council managed two programs focusing on child safety on the road. "Seatbelt Saturdays" offered two free child restraint checking days where parents had the opportunity to ensure vehicle child restraints were correctly fitted. "Orientation Days" were offered to all local schools and assists parents of new school starters develop road safety behaviours. Parents were also educated in the areas of parking, pedestrian issues and facilities, speeding and 'in-car' issues.
- **Guide to 0.05 and wine tasting** – council supplies pocket sized cards to wineries and cellar doors in the area to inform patrons of the legalities of drinking and to recognise the differing alcohol contents. The card informs patrons of the number of sample tastings that are allowed to remain under the legal Blood Alcohol Concentration limit.
- **Lower Hunter Speed** - Council in conjunction with other Lower Hunter Councils implemented a program to reduce speed on Local Streets. The Program involved partnering with Police to provide enforcement after council had provided targeted education to motorists in selected streets. The Program "Lower Hunter Speed" won the prestigious IPWEA (Institute of Public Works Engineering Australia) Road Safety award as it demonstrated effective measures to minimise speeding in local streets while utilising and targeting limited police resources. Speed continues to be of concern around schools and our new Courtesy Speed Check Trailer has started to be valued across the community.
- **RBT Education** – Council works with police to educate motorists about the dangers and consequences of drinking and driving. Motorists registering under the limit were given information packs with a promotional gift by Council's Road Safety Officer as a reward for driving under the limit around our community.
- **Seniors as Pedestrians** - Council has implemented a program for Seniors called Older Wiser Walkers and has presented throughout the community as a result of disturbing statistics identifying the over 64 age group at risk in pedestrian fatalities. The presentation offers easy strategies to assist seniors to recognise the risks associated with aging.
- **Young Driver Safety** – 'Youth on the Move' is an educational course for young drivers. This program offers an educational approach to reducing risk taking behaviour whilst improving hazard perception and increasing knowledge of road rules, regulations and legal consequences. Two courses were offered in 2006-07 and both were very popular with young drivers. In 2007 the program was professionally evaluated with results pending.

RESPONSES TO WASTE MANAGEMENT ISSUES

SOLID WASTE MANAGEMENT

Landfill Extension

Negotiation continued with Dept of Lands during 2006-07 relating to the area and value of land required for the extension proposal. Negotiations were completed and agreement adopted by Council at its meeting in March 2006. Work continues on the preparation of an Environmental Impact Statement expected to be completed late 2007.

Investigation is also being carried out to include this development as part of an overall proposal to develop the Cessnock Resource Management Park that will include possible future development of crown land adjoining the current industrial subdivision and a dedicated environmental protection zone linking National Parks and State Forest.

Landfill "infill" Proposal

As a short term measure to meet the immediate (1-3 year) needs of the community, Council has gained approval from DECC for a License Variation to reconfigure the current landfill site. The reconfiguration will see the relocation of current stormwater and leachate dams to the north and provide additional landfill capacity on the current site. The additional area is expected to provide approx 3 years capacity and work in conjunction with the extension proposal.

Waste Disposal

During 2006-07, 34,505.75 tonnes of waste was landfilled at the Cessnock Waste and Reuse Centre. From the 1st June 2006 the first of 5 annual State Government Waste and Environment Levy increases (aimed at significantly reducing the amount of waste sent to landfill) was imposed on fees charged at the Waste and Reuse Centre. Looking at the data presented in table 4 below showing the quantity of waste landfilled at the Cessnock Waste and Reuse Centre over the last three years, there is as yet no evidence of this decrease occurring.

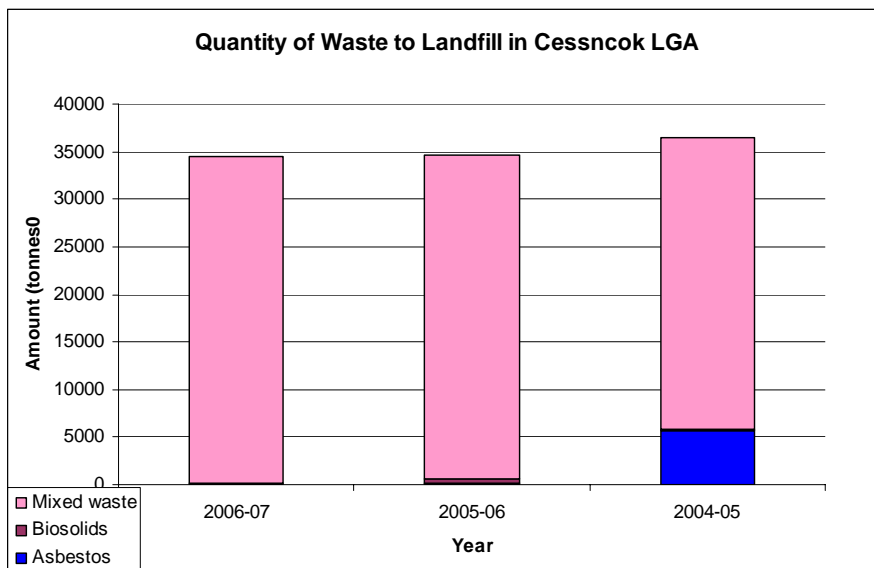


Table 4: Quantity of waste Landfilled at Cessnock Waste and Reus Centre for last 3 years.

Domestic waste expressed per person (using 2006 population) is equivalent to 0.75 tonnes (an increase of 0.04 on 2005-06) of waste produced during 2006-07. Note this does not include greenwaste, reprocessables or recyclables.

Waste Minimisation at the Cessnock Waste and Reuse Centre

During 2006-07, 210 tonnes of paper and cardboard, 2,314 tonnes of greenwaste, and 3,182 tonnes of concrete waste was reprocessed and diverted from landfill. In addition, approximately 13,200L of used motor vehicle oil was collected from the waste oil recycling station at the Waste and Reuse Centre.

Kerbside Recycling

During 2006-07, 3,763 tonnes of recyclables (up 3.1% from 2005-06 with an additional 407 households commencing the service) were collected through the kerbside service. The breakdown of the types and amounts of recyclables collected from the Cessnock LGA are shown in Figure 5 (along with a comparison to 2005-06, 2004-05 and 2003-04 collection amounts). The recycling of these materials equates approximately to saving enough electricity to power 3,180 homes; enough water to fill 27 Olympic swimming pools; and, removing 510 cars worth of greenhouse gas emissions from the roads for the year. During 2006-07, the HRR Board extended its recycling agreement with Solo Waste for a further 2 years until June 2009.

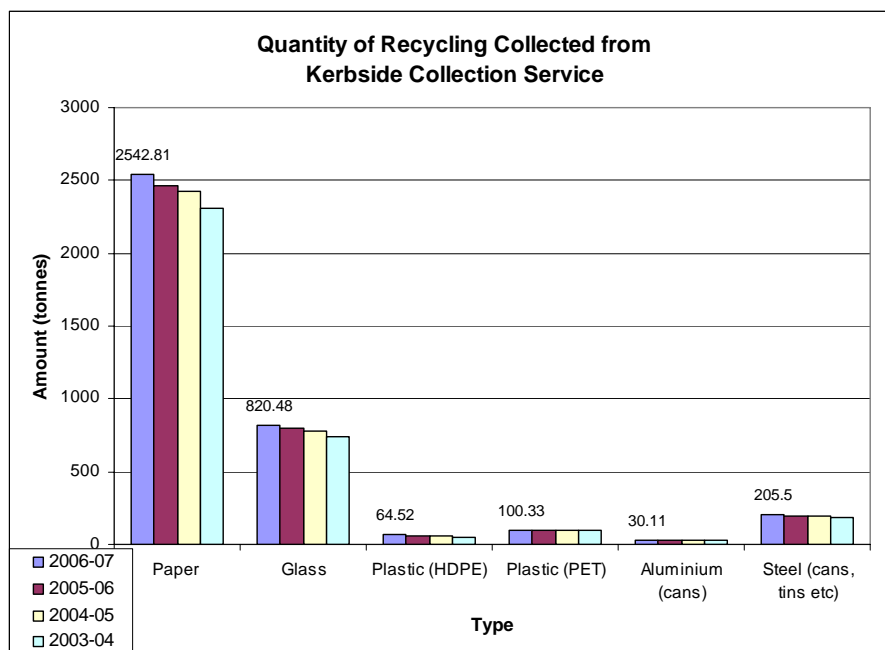


Figure 5: Cessnock LGA Recyclables Stream (tonnes for 2006-07 displayed and compared to 2005-06, 2004-05 and 2003-04 collection)

Hunter Resource Recovery Activities

Over the past 12 months, Hunter Resource Recovery (HRR) has carried out a number of programs and activities aimed at increasing recycling recovery rates including:

- **Schools Program** - 26 schools in the Cessnock LGA now participate in the free schools recycling service. In addition all schools received a DVD version of the “Recycling Lets get it Right” video for educational use. In addition a presentation was given to Cessnock Christian College years 2-3 students at their request.
- **Advertising Program** - advertisements were placed in the Cessnock Advertiser with positive reinforcement messages being used to coincide with National Recycling Week 2006 and the 10-year anniversary of kerbside recycling in the LGA. In addition HRR purchased space in the White pages Directory with the “How to recycle correctly” ad and the 1800 number appearing on page 278.
- **Sponsorship** – of one of the Mayoral Academic Awards in 2006 was undertaken and a contribution to the Mayoral Schools Challenge was made.
- **Adopt-a-Road Program** - HRR continued to sponsor Ellalong roadways through this Council program.

- **Community Presentations** – this year presentations to community groups was trialled and 1 presentation to Cessnock Lions Club was undertaken.
- **Website Revamp** – The HRR website has been updated and given a new look.
- **Community Survey** – a community survey was developed and undertaken to assist in development of the new service agreement to take effect from 2009.
- **Commercial recycling** – in November 2006 the introduction of commercial kerbside recycling was commenced on a voluntary basis for businesses already receiving a Council waste collection service.
- **Kerbside Audits** - were undertaken within the LGA of 419 bins in Paxton and Millfield in November 2006 achieving an average of 97% conformance of all presented bins to the correct use of the recycling service.

For more information on Hunter Resource Recovery go to www.hrr.com.au.

Clean Up Australia Day

This year approximately 240 community volunteers took part in Clean Up activities at 22 registered sites across the LGA. An impressive 9.36 tonnes of rubbish was collected from these sites. In addition, 13 schools registered for participation in the schools Friday Clean Up activities. As in previous years, residents getting into the Clean Up spirit were also able to take waste to the depot free of charge which contributed a further 89.84 tonnes, bringing the 2006 Clean Up total to 99.2 tonnes.

Hunter Region Waste Project

This project is a joint initiative of the 4 member Councils (Cessnock, Lake Macquarie, Maitland & Newcastle) assessing the opportunity to apply technology in lieu of landfill to process the organic rich fraction of the current domestic waste stream via anaerobic digestion. Outputs from the process will include a soil enhancer (compost), electricity production and metal recovery.

Negotiation on the Heads of Agreement (HoA) continued throughout 2006-07 with an agreement between HIR & the contractor reached in May 2007. The Heads of Agreement provides 'agreement in principle' to the project with the detail to be developed in the contract proper. The Board of HIR will consider the agreement (HoA) further in July 2007 and make recommendation to member Councils. It is expected that member Councils will make a decision by September 2007.

If the agreement is adopted negotiation will continue to further develop the operating contract. If agreement continues full operation is expected by 2010.

drumMUSTER Program

During the 2006-07, the drumMuster Program in Cessnock collected 1,400 containers.

For further information on the drumMUSTER program go onto www.drummuster.com.au.

Waste as Art

This years Waste as Art Competition ran from February till June 2007. The event attracted 223 entries by 204 artists (an increase of 33% on artists who participated in 2006) which were displayed at the Newcastle Museum from the 13th May 2007 till 1st July 2007 with over 7,300 people viewing the displays.

The 2006 Waste as Art program received a Highly Commended in the LGSA Excellence in Environment Awards (picture of award being presented across) and was promoted to Environmental Educators from across NSW at a DECC forum in November 2006.



Adopt-a-Road Program

During 2006-07 4 new agreements were entered into bringing the total number of sponsors to 17 covering 69.1kms of roadside.

LIQUID WASTE MANAGEMENT

Wastewater Treatment Plants (WWTP)

Hunter Water operates five wastewater treatment plants within the Cessnock LGA and treated 4,078 ML of effluent during 2006-07. Of the wastewater treated in the Cessnock LGA 12.2% was reused for irrigation. This is approximately the same amount as was reused in 2005-06.

Refer to [Water Section](#) for further information on volumes of wastewater treated.

Extension to Sewerage Network

During 2006-07, HWC completed sewerage extension services to Kitchener with the pumping station being commissioned in December 2006. Planning and design work has now been commenced for the extension of sewerage services to Millfield and Ellalong.

Use of Recycled Water on Gardens and Sporting Ovals

In April 2007 a report was put to Council to address the issue of using grey and black water for the irrigation of gardens and sporting ovals. The report concluded that for use in areas of high human contact the risks of contamination are very high and so unsuitable for civic gardens and sporting ovals.

RESPONSES TO TRANQUILITY AND NOISE ISSUES

During the 2006-07, the number of complaints received by Council in relation to noise pollution totalled 217. Of these, approximately 65% were associated with barking dogs. Council also issued 28 Public Entertainment Licences to premises in the LGA.

An external noise monitoring survey conducted by Hydro Aluminium during 2006 concluded that measurements at all sites during the daytime and night-time were below NSW EPA recommended levels for industrial noise sources (McNaughton, 2006).

Regulatory Impact Statement on Proposed Protection of the Environment Operations (Noise Control) Regulation 2007

This Regulation will control noise from motor vehicles and marine vessels and set community standards on acceptable noise intrusion in homes from appliances such as intruder alarms, music amplifiers, air conditioners and powered garden tools.

Under the Subordinate Legislation Act 1989, the existing Protection of the Environment (Noise Control) Regulation 2000 is scheduled for automatic repeal on 1 September 2007. As required under this Act, DECC has prepared a Regulatory Impact Statement to assess the economic, social and environmental costs and benefits associated with the revised regulation and consider the alternatives. The Regulatory Impact Statement demonstrates that the revised Regulation will provide the greatest net benefits to the community compared with possible alternatives.

The aim of the review is to update the Regulation and provide simple, straightforward and enforceable noise controls that match community expectations. Further information about the Regulation review can be found at www.environment.nsw.gov.au/noise/rispoenoise07.htm

LAND

AT A GLANCE

Landuse Change			Data Gaps: Rate of landuse change over the LGA is required. Full extent of vegetation clearing in the LGA is required. Amount and rate of soil erosion in the LGA is required. Review of the current state and extent of river/stream banks is required. Recommendations: Council consider creating a position to undertake Land and Biodiversity investigations and programs.
State	Increasing	Continued development with 1,225 development applications, 945 construction certificates and 106 sub-division certificates approved/issued in 2006-07.	
Pressure	Increasing	Demand for land in LGA is placing increased pressure on undeveloped areas.	
Response	Improving	Cessnock DCP 2006 adopted.	
Open Space			
State	Decreasing	No change to the area of land under Council Management.	
Pressure	Increasing	Growing population continually demanding open space for year round recreational purposes.	
Response	Unchanged	Continuing to implement Draft Recreation and Open Space Plan .	
Vegetation Removal			
State	Increasing	CMA approved no clearing and State Forests harvested 58 ha within the LGA during 2006-07. Other clearing (i.e. for 1(a) rural zone or development) is unknown but assumed to be increasing.	
Pressure	Increasing	Demand for land in LGA is placing increased pressure on clearing land for other purposes.	
Response	Limited	Landcare groups are active in many areas and several strategies/plans have been developed and are being implemented.	
Soil Salinity			
State	Unknown	Salinity identified as an issue in Black Creek and Wollombi Brook Catchments.	
Pressure	Unknown	Little data is available on salinity in the LGA.	
Response	Limited	CMA Salinity Monitoring program operating.	
Contaminated Land			
State	Unknown	Full extent of contaminated land unknown.	
Pressure	Unknown	Activities posing contamination risk regulated by <i>Protection of the Environment (Operations) Act 1997</i> .	
Response	Limited	Clean up of Hebburn No. 2 Colliery site.	
Soil Erosion			
State	Increasing	Several sites identified as having steambank erosion.	
Pressure	Unknown	No data available on amount of soil lost to erosion in the LGA annually.	
Response	Improving	CMA and community groups implementing several strategies and plans to address this issue.	

RESPONSES TO LANDUSE ISSUES

DEVELOPMENT ACTIVITIES

During 2006-07, Cessnock City Council received 1,225 Development Applications (a 10% decrease from 2005-06) with a total value of \$140,544,227. A further 945 applications were received for Construction Certificates (a 6% decrease from 2005-06), and 106 applications for Subdivision Certificates (the same as 2005-06).

DEVELOPMENT CONTROL

From 1st July 2006, the BASIX (Building Sustainability Index) requirements also apply to house additions and alterations and from 1st November 2006 energy efficiency provisions for commercial buildings became mandatory.

OPEN SPACE

Recreation

Recreation works that were completed during 2006-07:

- Birralelee Junior Oval, Kurri Kurri - Installation of Stage 2 of concrete tiered seating.
- Hedleigh Park, Heddon Greta - Completed Park upgrade including installation of new playground items, and installation of picnic settings, advanced stock trees and a bubbler.
- Peace Park/Chinaman's Hollow, Weston - Carparking and access improvements to large picnic shelter as well as the installation of 150m of concrete pathway further expanding Peace Park towards Hebburn Dam.
- Jeffries Park, Kearsley - Completed Stage 1 refurbishment including garden renovations, picnic settings and seating upgrade.
- Varty Park, Weston - Completed boundary fencing and was successful with a Capital Assistance Program grant to install two (2) floodlights.
- East Cessnock Oval - Completed an amenity upgrade including the installation of water saver and vandal proof showerheads and taps, lining of toilet ceilings, retaining wall and pathways.
- Cessnock Pool - Completed Stage 2 amenity upgrade including the installation of family room in female toilets and a total upgrade to male and female change rooms.
- Cessnock Civic and Indoor Sports Centre - Commenced the redevelopment of Cessnock Basketball Stadium, works include - construction of additional storage on the western side of the facility, construction of additional community space including a small meeting room as well as a large community meeting room. Works also include the establishment of a first aid room/referees room and the construction of a new larger kiosk on the western side of the facility. It is expected these works will be completed prior to Christmas 2007.

Sporting Facilities and Equipment \$4\$ Grants:

- Kurri Kurri Tennis Club - Fencing improvements
- Wollombi Valley Pony Club - Portable cross country show jumps
- Weston Workers Cricket Club - Bowling machine, scoreboard
- Cessnock City Soccer Club - Field Improvements and kitchen upgrade
- Greta Branxton Minor Rugby League - Kitchen Upgrade and line-marker
- Cessnock Rugby League Club - Ride on mower

RESPONSES TO LAND DEGRADATION/INTERVENTION ISSUES

VEGETATION CLEARING

The area sustainably harvested by Forests NSW in 2006-07 was 58 ha, which is only 0.2% of the total State Forests area in the Cessnock LGA. Additionally, Forests NSW have cleared 90 ha of native hardwood plantation due to highly defective timber within plantation. The plantation areas are to be re-established within the next 12 months

During 2006-07, the authority to approve land clearing was removed from the Department of Natural Resources (DNR) and placed with the Catchment Management Authorities. No clearing applications were received by the CMA during 2006-07.

Native Vegetation Regulation

Information on Property Vegetation Plans (PVP's) was not available from the CMA at time of publishing.

LAND MANAGEMENT

Land Conservation

During 2006-07, no new additional areas of public land in the Cessnock LGA were added to the National Estate (i.e. national parks, reserves, etc.). The number of conservation agreements for private land, and the area of land covered under these agreements, is listed in table 1 below.

Table 1: Conservation agreements in Cessnock LGA (Source: DEC's Conservation Partnership Programs) during 2006-07.

Program	Number	Total Area (ha)
Conservation Agreement	Nil	Nil
Wildlife Refuge	Nil	Nil
Land for Wildlife	13	179

Wallis and Fishery Creeks Total Catchment Management (TCM) Strategy

The Wallis Fishery and Four Mile Creek Catchment Management Forum was scheduled to fold on 30th June 2007. No further information from the CMA was available at the time of printing.

HCCREMS – Rural Residential Landowners Education Program

Development of this program during 2006-07 has concentrated on the production of the Rural Residential Resource Guide. The process of developing the guide has included:

- Distribution of approximately 2,900 surveys to rural residential landowners in the region. The overall response rate to the survey was 21% with the key issues identified being water and weed management.
- Completion of a comprehensive audit and review of existing information and materials for inclusion in the Guide. This process identified 390 resources potentially relevant for inclusion, with 200 being selected for inclusion.
- Development of the Guide as both a ring bound folder and on CD.

In addition to the Guide, 4 landowner workshops were also scheduled throughout the region for June 2007 but had to be postponed to July 2007 after the flooding experienced in early June.

LANDCARE ACTIVITIES

Refer to [Biodiversity Section](#) for detailed information for Landcare Activities.

FIRE HISTORY AND MANAGEMENT

During 2006-07 there were 111 fires reported within the Cessnock LGA by the Rural Fire Service affecting 975ha. An additional 1,056ha of land underwent bushfire hazard reduction. In State Forest areas wildfires affected 34.5ha and hazard reduction burns were undertaken over 140 ha.

AIR (ATMOSPHERE)

AT A GLANCE

Greenhouse Gas Emissions			Data Gaps:
State	Increasing	3,042,779 MWhrs electricity consumed in the LGA during 2006-07. 0.8kms pathways constructed.	
Pressure	Increasing	Electricity consumption is assumed to increase in line with population growth. Heavy reliance on motor vehicles for transportation.	
Response	Limited	Council Energy Improvement Program, Refit, EnviroSaver, REMS Climate Action Project and pathways program being implemented to address this issue.	
Diffuse Air Pollution Sources			Further information on travel to work is required. Information on volume of pollutants produced in bushfires or wood fires is unknown. Impact of Upper Hunter coal burning power stations on Cessnock LGA air quality unknown. More data required on impact of indoor air quality.
State	Unknown	EPA regional pollution index ranked air pollution as low for over 94% of time. 50 odour complaints (16 from animals and 9 from Chicken sheds) reported to Council. National Pollutant Inventory identified 45 substances from 49 sources.	
Pressure	Unknown	Difficult to identify sources of pollution and odour but assumed to be increasing with development growth.	
Response	Poor	No resources identified to undertake comprehensive monitoring or analysis of air pollution or odour issues.	
Point Source Air Pollution			Recommendations: Council fund initiatives that have outcomes aimed at savings in energy, water, waste, etc.
State	Unknown	Only 1 industry reporting on air pollution emissions. RFS reported no wildfires and 28 hazard reduction burns covering 1,056ha. State Forests reported hazard reduction burns covering 14 ha. 11 NSW EPA licensed premises for air discharge.	
Pressure	Unknown	Impacts of domestic heating and burning associated with agriculture or forestry unknown.	
Response	Limited	Woodsmoke reduction program continued.	
Indoor Air Quality			
State	Unknown	60 regulated air-conditioning systems in the LGA. 1 Legionnaires' death reported but not attributed to cooling towers.	
Pressure	Unknown	Increased reliance on air conditioning systems expected as temperatures continue to rise from climate change.	
Response	Limited	Council maintains a register of regulated air cooling systems and conducts routine inspections of commercial facilities, tourist and wine production premises.	

RESPONSES TO GREENHOUSE GAS EMISSIONS ISSUES

ENERGY CONSUMPTION

Data received from Energy Australia for 2006-07 showed that there were 15,958 residential customers who consumed 127,989 MWhs of electricity and 1,320 non-residential customers who consumed 2,914,790 MWhrs of electricity in the Cessnock LGA. It should be noted that Energy Australia advise that these numbers include some estimates and that this is only electricity consumed by Energy Australia customers. Data from other energy retailers in the LGA was not available at time of publishing of this report however Energy Australia's customer numbers have consistently dropped over the last 3 years indicating a growing number of other providers in the LGA.

Based on the above electricity consumption data the Cessnock LGA contributed approximately 2,891,670 tonnes of greenhouse gases (including carbon dioxide) to the atmosphere.

CESSNOCK COUNCIL ENERGY IMPROVEMENT PROGRAM

A summary of the electricity consumption data since the Energy Improvement Program commenced for Council's 4 highest consumers is provided in figure 6 below.

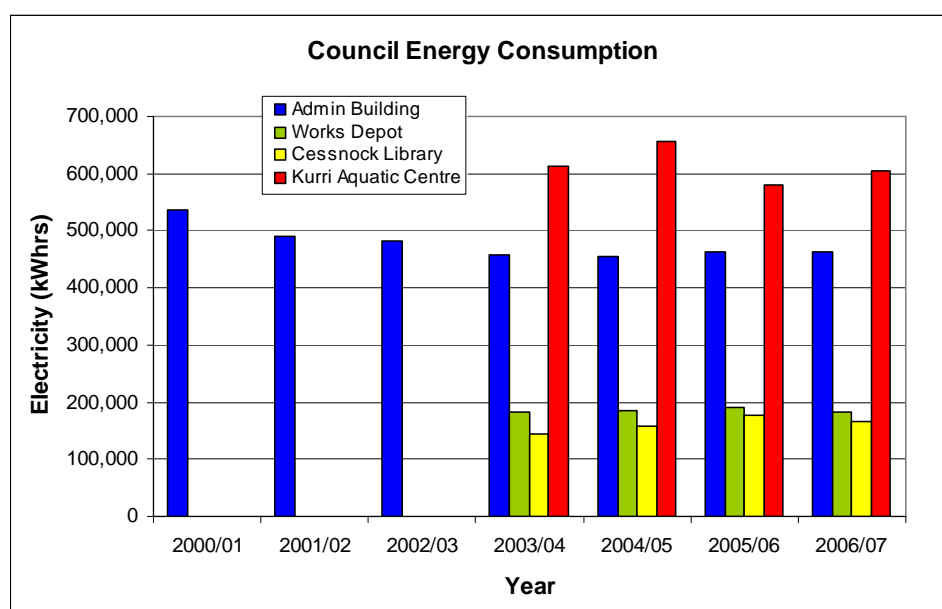


Figure 6: Council Energy Consumption History

Average daily use for these 4 sites is displayed in table 2 below.

Table 2: Council Energy Consumption History

Year	Admin Building	Works Depot	Cessnock Library	Kurri Aquatic Centre
2000/01	1,470	-	-	-
2001/02	1,346	-	-	-
2002/03	1,326	-	-	-
2003/04	1,255	498	396	1,674
2004/05	1,247	508	412	1,796
2005/06	1,272	520	486	1,587
2006/07	1,272	503	457	1,652

REFIT PROGRAM

During 2006-07, only 14 Refit kits were installed (a decrease of 95% on 2005-06 installations) in homes in the Cessnock LGA. This equates to savings of 8 tonnes of greenhouse gas emissions, 7,980 kWhrs of electricity and 420 kL of water. It should be noted that in the whole Hunter region Refit installations decreased 71% in 2006-07 from 2005-06.

Over the last 3 years a total of 628 Refit kits were installed in homes in the Cessnock LGA. This equates to cumulative savings of 373 tonnes of greenhouse gas emissions, 357,960 kWhrs of electricity and 18,840 kL of water.

More information on the Refit program is available in the Human Settlements chapter.

ENVIROSAVER PROGRAM

From February till June 2007, the envirosaver program installed 1,024 compact fluorescent globes and 17 AAA-rated water-saving showerheads in 58 homes in the Cessnock LGA. This equates to saving of 58 tonnes of greenhouse gas emissions and 1,218 kL of water.

The envirosaver program has replaced the Refit program and more information is available in the Human Settlements chapter.

HCCREMS - CLIMATE ACTION PROJECT

Stage 1 of the four research stages being undertaken by the University of Newcastle for the Regional Climate Change Project has been completed. Stage one included 2 key activities:

- Identification and analysis (including quality assurance checking) of climate and climate related data sources for the whole area – the climate variables of daily rainfall, maximum and minimum temperature, average temperature, relative humidity, average windspeed, maximum wind thrust and pan evaporation have been chosen as they impact assessments of drought, evaporation, bushfire risk, heat stress, frost and streamflow.
- Development of a method of identifying the key synoptic patterns that drive climate variability in the region – 35 synoptic types have been identified and each month from January 1948 to April 2007 has been classified according to these types.

Over the next 12 months stages 2 (determining how the synoptic types drive climate and climate related variability in the region) and 3 (downscaling of CSIRO Global Climate Model predictions for NSW to the region scale) of this project will be undertaken.

PATHWAYS/CYCLEWAYS

Refer to Human Settlements Section for further detailed information.

ENERGY EFFICIENCY PROVISIONS IN BUILDING CODE OF AUSTRALIA

Changes to the Building Code of Australia to incorporate energy efficiency requirements have gradually been implemented. From 1st July 2006, the BASIX requirements also apply to house additions and alterations and from 1st November 2006 energy efficiency provisions for commercial buildings became mandatory.

RESPONSES TO AIR QUALITY ISSUES

OUTDOOR AIR QUALITY

Diffuse Source Air Pollutants

During 2006-07 Council received 3 reports of air pollution incidents and another 50 complaints in relation to odour (of these 16 were due to animals and 9 due to chicken sheds).

The Environment Protection Authority's Regional Pollution Index at Beresfield indicates that during 2006-07 the regional pollution index was ranked as low for 94.7% and medium for 5.2% of the year (note: there was only 1 high reading and no readings reported for 21 days (i.e. 5.5% of the year) during the year).

Point Source Air Pollutants

During 2006-2007, there were no major wildfires in the Cessnock LGA but there was significant pollution impact from 2 wildfires surrounding the LGA (1 in Wollemi National Park and 1 in Yengo National Park). In addition, 1,056 hectares of land was affected in 28 hazard reduction burns. State Forests also undertook hazard reduction burns impacting a further 14 ha.

Air quality monitoring at Hydro Aluminium smelter during 2006-07 reports fluoride levels in the air at Kurri Kurri are acceptable (i.e. below the prescribed ANZECC guideline). Total reported smelter emissions during 2006-07 were below EPA licence levels (Hydro, 2006).

Monitoring of vegetation in the Hydro Aluminium smelter buffer zone in September 2006 shows that fluoride effects extend further towards the north-west than other directions (attributed to the prevailing wind direction during the summer growing season). Visible injury to fluoride-sensitive flora was generally confined to the buffer zone except for some slight injury to trees along portions of Bishops Bridge Road. The report concluded that this was unlikely to cause any adverse effect on the plants function or ability to regenerate (Doyle, 2006).

Notification of Pesticide Use

From February 2007 it became compulsory for 3 key pesticide user groups (public authorities, professional pesticide treatments and pest management technicians) to give notice of their plans to use pesticides. The aim of this notification is to let people choose to reduce their exposure to pesticides as they wish.

Woodsmoke Reduction Program

The Woodsmoke Reduction Program was ongoing in 2006-07 with displays in the Council foyer and libraries. Complaints were attended with Council officers acting in largely an educational capacity, no notices or orders were issued

Local Government Air Quality Toolkit

The Local Government Air Quality Toolkit has been developed as a response to the many requests from local government for authoritative information and guidance on the air pollution issues faced on a daily basis. The comprehensive set of resources provided in the toolkit will assist officers in managing local air quality issues; it has information on:

- air pollution, its sources and impacts
- the regulatory framework for protecting air quality in NSW
- general information about air quality management procedures and technologies
- specific information in the form of guidelines for managing a number of air polluting activities that have been identified by council officers as priority issues.

For more information visit: <http://www.environment.nsw.gov.au/air/lgaqt.htm> .

Amendment to Control of Burning Regulation

From 1st September 2006, the Protection of the Environment Operations (POEO) (Clean Air) Regulation 2002 was changed to incorporate provisions of the POEO (Control of Burning) Regulation 2000. The amended regulation continues to provide a comprehensive range of controls on burning in the open, including a framework for councils to exercise a level of control that is appropriate to local conditions. This is achieved by councils nominating their LGA for listing in Schedule 8 of the Regulation such that:

- Part 1 lists LGA's having the highest level of control where all open burning is effectively prohibited.
- Part 2 lists LGA's where the burning of vegetation requires approval by council
- Part 3 lists LGA's where domestic waste burning is prohibited.

The Regulation also imposes a general obligation to prevent or minimise air pollution when burning in the open or in an incinerator.

NATIONAL POLLUTION INVENTORY

Within the Cessnock LGA, 45 substances were identified from 49 sources. Seven facilities reported to the NPI in 2005-06 (the most recent data available).

More information on the National Pollutant Inventory can be found at www.npi.gov.au.

INDOOR AIR QUALITY

There are currently 60 cooling towers registered in the Cessnock LGA, (there was one death attributed to Legionnaires' disease in the LGA however the source of the infection was unidentified and is not believed to be related to any cooling towers) during 2006-07. Routine inspections of all regulated commercial facilities, tourist and wine production premises are undertaken to ensure the equipment is installed, and that plant maintenance schedules are in compliance with legislative requirements.

WATER

AT A GLANCE

Water Quality			Data Gaps: Verified water quality data is required in the LGA to accurately assess state. Information on the impact of on-site sewage systems on groundwater is unknown. Information on environmental flows of LGA waterways is unknown - including impacts of landuse change and management of runoff. Information on unlicensed water extractions and farm dams and their impacts is unknown. Wastewater outputs from licensed premises other than WWTP's are unknown. Information on the number of GPT's in the LGA is unknown. Recommendations: A register of GPT's in the LGA be established providing the location, type, maintenance schedule and materials collected data for reporting and planning purposes.
State	Fair	LGA water quality varies within each catchment (affected by the level and type of development). 15 Waterwatch groups monitored 34 sites and reported 211 datasets. 26 complaints to Council on water quality (19 regarding wastewater/effluent discharges) were received.	
Pressure	Increasing	Increasing development for a variety of landuses in the LGA and continued land degradation affects water quality.	
Response	Improving	Hunter Water and Community water quality monitoring programs. Several strategies/plans are being implemented at selected sites.	
Wastewater			
State	Improving	WWTP's monitor water quality above and below discharge points. Continued reliance on on-site effluent treatment.	
Pressure	Increasing	Much of the LGA is rural and as such is outside the reach of the reticulated sewerage system. As the demand for rural and rural-residential development continues to increase additional pressure will be placed on on-site effluent treatment systems.	
Response	Fair	14 NSW EPA licensed premises for water discharge. WWTP's monitor water quality above and below discharge points.	
Ground and Surface Water			
State	Unknown	Little data exists on the current groundwater quality. Ground and surface water extractions are regulated by DNR through licensing . Currently 243 surface water licences and 248 groundwater licences.	
Pressure	Increasing	Groundwater quality is under continual pressure from agricultural activities and on-site effluent disposal. Changing landuses from grazing to viticulture are increasing pressure on water resources.	
Response	Limited	Water tank rebate, refit and environsaver programs and REMS Regional Water Project are addressing some surface water issues.	
Stormwater			
State	Fair	All new developments must meet requirements in relation to stormwater management.	
Pressure	Increasing	In line with increasing development.	
Response	Improving	Council Stormwater Management Plan and HCCREMS Regional Water Program .	

RESPONSES TO WATER QUALITY ISSUES

WATER QUALITY

The Hunter Water Corporation (HWC) conducts a water quality monitoring program to assess the impact of point sources of wastewater pollution from their wastewater treatment works on the aquatic environment. This data has been used to assess the compliance of Cessnock's waterways to ANZECC and NHMRC water quality guidelines (see Appendix 1) for potable water supply, the maintenance of aquatic ecosystems and agricultural uses (see Table 3). The mean of the data set for each parameter has been used as the value to assess the water quality guidelines against.

Table 3: Water Quality Monitoring Data 2006-07 for upstream and downstream of HWC wastewater treatment plants.

Water Quality Sampling Site	Water Quality Parameter						
	pH	Turbidity	Conductivity	Nitrate Nitrogen	OP	Faecal Coliforms	Chlorophyll-a
Anvil Creek – Upstream							
Potable Water Supply	-	-	-	✓	-	-	X
Agriculture	-	-	-	✓	-	-	*
Maintenance of aquatic ecosystems	-	-	-	✓	-	*	✓
Anvil Creek – Downstream							
Potable Water Supply	-	-	-	✓	-	-	X
Agriculture	-	-	-	✓	-	-	*
Maintenance of aquatic ecosystems	-	-	-	✓	-	*	X
Congewai Creek – Upstream							
Potable Water Supply	✓	-	X	✓	-	X	-
Agriculture	✓	-	✓	✓	-	✓	*
Maintenance of aquatic ecosystems	✓	-	✓	✓	-	*	-
Congewai Creek – Downstream							
Potable Water Supply	✓	-	X	✓	-	X	-
Agriculture	✓	-	✓	✓	-	✓	*
Maintenance of aquatic ecosystems	✓	-	✓	✓	-	*	-
Swamp Creek – Upstream							
Potable Water Supply	✓	X	X	✓	-	X	X
Agriculture	✓	✓	X	✓	-	X	*
Maintenance of aquatic ecosystems	✓	✓	✓	✓	-	*	✓
Swamp Creek – Downstream							
Potable Water Supply	✓	✓	X	✓	-	X	✓
Agriculture	✓	✓	✓	✓	-	✓	*
Maintenance of aquatic ecosystems	✓	✓	✓	✓	-	*	✓
Swamp Creek – VAW/Hydro							
Potable Water Supply	✓	-	X	✓	X	X	✓
Agriculture	✓	-	✓	✓	X	✓	*
Maintenance of aquatic ecosystems	✓	-	✓	✓	X	*	✓
Black Creek – Upstream							
Potable Water Supply	✓	X	X	✓	✓	X	X
Agriculture	✓	✓	✓	✓	✓	X	*
Maintenance of aquatic ecosystems	✓	✓	✓	✓	✓	*	✓
Black Creek – Downstream							
Potable Water Supply	✓	X	X	✓	X	X	✓
Agriculture	✓	✓	✓	✓	X	✓	*
Maintenance of aquatic ecosystems	✓	✓	✓	✓	X	*	✓

- ✓ denotes compliance with ANZECC and NHMRC guidelines
- x denotes non-compliance with ANZECC and NHMRC guidelines
- * denotes no guideline available
- denotes information unavailable

WATERWATCH ACTIVITIES

The Waterwatch program in the Cessnock LGA has grown rapidly during 2006-07. Overall 15 groups (11 in 2005-06) undertook waterwatch sampling at 34 sites (18 in 2005-06) reporting a total of 211 datasets (63 in 2005-06). The full report of Cessnock LGA Waterwatch group's results for 2006-07 are summarised in Appendix 2. In addition, 7 groups participated in Quality Assurance testing in 2006 to verify the results they were recording.

Water Bug Surveys

The results of Water Bug surveys carried out in the Cessnock LGA in 2006-07 are included in Table 4.

Table 4: Water Bug Survey Results for the Cessnock LGA

Group	Stream	Stream Pollution Index	
		Spring 2006	Autumn 2007
Ellalong Public School	Ellalong Lagoon	-	Fair
2 nd Abermain Brownies and Guides	Centenary Park, Abermain	Good	Fair
Cessnock West Public School	Black Ck, Campbell St Reserve	-	Fair
Laguna Public School	Wollombi Brook	-	Good
Bellbird Public School	Bellbird Ck, cnr Kendall & Pitman St	-	Fair
Congewai Public School	Congewai Ck Congewai Rd bridge	-	Fair

Phosphorus Day

Abermain Guides and Wollombi Public School both participated in Phosphorous Day (15th and 16th November) 2006. Abermain Guides result at Peace Park was in the medium range, and Wollombi Brook had a low result (both the same as for 2005). Waterwatch Coordinators also tested at Payne's Crossing, which had a low result.

Catchment Crawl

On 30th August 2006, Waterwatch conducted a Catchment Crawl of the Wallis and Fishery Catchment. The event involved students and teachers from 7 schools in the catchment (2 from Cessnock LGA and 5 from Maitland LGA) conducting water quality and environmental health assessments from the top of the catchment (at Mt Vincent) to the bottom of the catchment (at the Hunter River, Maitland) in an attempt to provide a complete picture of the health of the catchment.



In general, the snapshot results from the Wallis Creek Catchment Crawl showed that:

- At 7 sites pH readings were acidic.
- The turbidity at Maitland Floodgates was above the trigger value of 50 NTU.
- Total phosphate levels at four sites were above the recommended level of 0.15mg/L.
- The upper sites had good bank stability and vegetation. The downstream sites were poor.
- The bug surveys showed good results with a very sensitive bug, the mayfly nymph, present at two sites.



The main areas of concern arising from the Catchment Crawl were:

- Testers Hollow and Mary St Abermain had a particularly low acidic pH of 4.
- Testers Hollow had an extremely high total dissolved solids reading of 3650ppm.
- High turbidity levels at Maitland floodgates.

- Very high phosphorus readings at Twin Bridges, Maitland Floodgates, Horton Rd Kurri Kurri and Mount Dee Rd Maitland.
- Faecal coliform levels at five sites were too high for swimming.
- Lack of riverbank vegetation and habitat at Maitland Floodgates and Dagworth Rd, Louth Park.

For further information on NSW Waterwatch visit www.waterwatch.nsw.gov.au and Water Bug Surveys visit www.bugsurvey.nsw.gov.au .

Hunter Community Stream Salinity Project

The Bureau of Rural Science (BRS) Community Stream Salinity Project is a community based water quality monitoring program in the Black Creek catchment funded by the Commonwealth through the Bureau of Rural Sciences. The project commenced in early 2007 and is being coordinated and undertaken by the Hunter-Central Rivers Catchment Management Authority (CMA) and community volunteers through the Waterwatch program. The project is intended to:

- Improve community awareness and knowledge of salinity (and other water quality issues) within the catchment;
- Provide spatial and temporal data on salinity concentrations across the catchment;
- And, provide baseline datasets that can be used to monitor trends and variability in salinity within the catchment.

This knowledge of stream salinity will assist in identifying priority salinity areas for mitigation and remediation actions. Community volunteers have been provided with equipment and training to undertake the water quality sampling. To date, more than 15 volunteers monitor 15 sites in the catchment on a monthly basis and a further 21 sites are being monitored by the CMA. The monitoring data is publicly available from web-based databases and will be mainly used by farmers, landowners, community groups, research institutions and various local, state and federal government natural resource managers including the CMA. A summary of this projects results to date is provided in table 5.

Table5: Hunter Community Stream Salinity project results for 2006-07

Salinity Sampling Site	Water Quality Parameter		
	pH	Conductivity	Turbidity
BCWW1 Anvil Creek upstream of Black Creek	Readings: 3		
Potable Water Supply	✓	X	X
Agriculture	✓	X	✓
Maintenance of aquatic ecosystems	✓	✓	✓
BCWW2 Black Creek at Wilderness Rd	Readings: 4		
Potable Water Supply	✓	X	X
Agriculture	✓	X	✓
Maintenance of aquatic ecosystems	✓	✓	✓
BCWW3 Black Ck downstream of Deadmans Creek	Readings: 4		
Potable Water Supply	✓	X	X
Agriculture	✓	X	✓
Maintenance of aquatic ecosystems	✓	✓	✓
BCWW5 Rothbury Creek upstream tributary	Readings: 4		
Potable Water Supply	X	X	X
Agriculture	X	X	✓
Maintenance of aquatic ecosystems	✓	X	X
BCWW7 Rothbury Creek downstream tributary	Readings: 4		
Potable Water Supply	✓	X	X
Agriculture	✓	X	✓
Maintenance of aquatic ecosystems	✓	X	✓
BCWW9 Bellbird Creek upstream of Black Creek	Readings: 3		
Potable Water Supply	X	X	X
Agriculture	X	X	✓
Maintenance of aquatic ecosystems	X	✓	✓
BCWW11 Black Creek at Davlea	Readings: 3		
Potable Water Supply	✓	X	X
Agriculture	✓	X	✓
Maintenance of aquatic ecosystems	✓	✓	✓

BCWW12 Nulkaba Wetlands			Readings: 2
Potable Water Supply	X	✓	X
Agriculture	✓	✓	✓
Maintenance of aquatic ecosystems	X	✓	✓
BCWW14 Black Creek at Lomas Lane			Readings: 5
Potable Water Supply	✓	X	X
Agriculture	✓	✓	✓
Maintenance of aquatic ecosystems	✓	✓	✓
BCWW15 Deadmans Creek at Lovedale Rd			Readings: 6
Potable Water Supply	✓	X	X
Agriculture	✓	X	✓
Maintenance of aquatic ecosystems	✓	X	✓
BCWW18 Black Creek at Vintage 8 wetland			Readings: 3
Potable Water Supply	✓	X	X
Agriculture	✓	✓	✓
Maintenance of aquatic ecosystems	✓	✓	✓
BCWW19 Black Creek at Vintage 12 Wetland			Readings: 3
Potable Water Supply	✓	X	X
Agriculture	✓	X	✓
Maintenance of aquatic ecosystems	✓	X	✓

✓ denotes compliance with ANZECC and NHMRC guidelines * denotes no guideline available
 x denotes non-compliance with ANZECC and NHMRC guidelines - denotes information unavailable

WATER POLLUTION COMPLAINTS/INCIDENTS

Council received 26 water pollution incident reports, of which 19 were related to wastewater, effluent or sillage discharge, in 2006-07.

RESPONSES TO WASTEWATER ISSUES

PROTECTION OF THE ENVIRONMENT OPERATIONS ACT, 1997 SCHEDULED PREMISES

In relation to the Protection of the Environment Operations Act 1997 there are currently 14 scheduled premises (for water) within the Cessnock LGA (these are listed in table 6 below).

Table 6: EPA licensed premises (in relation to water pollution) under the Protection of the Environment Operations Act in Cessnock LGA during 2006-07.

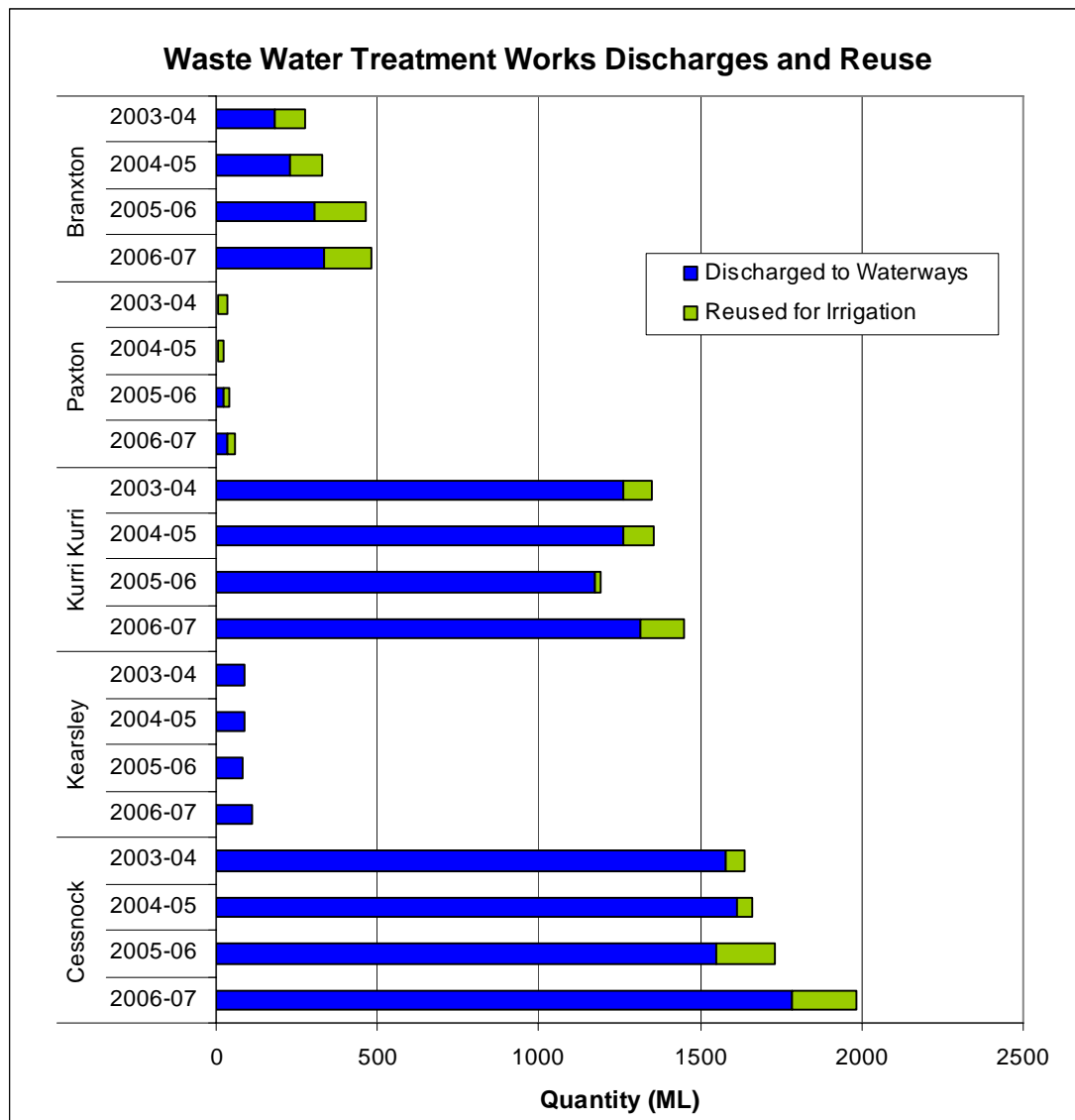
Business Name	Activity
Austar Coal Mine P/P	Coal Mining
Bloomfield Collieries	Coal Mining
Cessnock City Council	Landfilling
Cessnock City Council	Herbicide Application
HWC – Branxton WWTW	Sewerage Treatment
HWC – Kurri WWTW	Sewerage Treatment
HWC – Cessnock WWTW	Sewerage Treatment
HWC – Kearsley WWTW	Sewerage Treatment
HWC – Paxton WWTW	Sewerage Treatment
Hydro Aluminium Kurri P/L	Aluminium Production
J R Burnett P/L	Animal Slaughter
Leaway P/L	Waste Landfilling
Nationwide Oil P/L	Waste Generation/Storage
Orica Australia P/L	Explosives

During 2006-07 two trade waste permits were issued by Hunter Water in the Cessnock LGA.

CESSNOCK LGA WASTEWATER TREATMENT PLANTS

The effluent discharge for 2006-07 (with comparison to 2005-06, 2004-05 and 2003-04) of each of the wastewater treatment plants in the Cessnock LGA is summarised in Figure 7. The increase in reuse for the Kurri Kurri Plant is due to addition of the Kurri Kurri Golf Course to the users of treated water in that area.

Figure7: Effluent treated and disposed of at HWC wastewater treatment plants during 2006-07, 2005-06, 2004-05 and 2003-2004 in the Cessnock LGA.



ON-SITE EFFLUENT DISPOSAL

During 2006-07, an additional 148 on-site effluent disposal systems were approved in the Cessnock LGA (representing a 10% decrease from the 2005-06 reporting period). It should be noted that the June long weekend storms and floods caused a number of on site sewage systems to surcharge/discharge from holding tanks in the areas of Abermain, Ellalong, Congewai, Wollombi, Millfield, Payne’s Crossing and Laguna.

Council has also commenced a process of notifying and educating on-site equipment service providers and property owners, with disposal areas for aerated systems, of some commonly identified problems associated with surface irrigation. In particular, addressing issues of concern such as having only a single hose, having no sprinklers and how to manage ponding and runoff. The main objective of this process for Council is that both service providers and property owners will become more proactive in managing these issues.

RESPONSES TO WATER USAGE ISSUES

SURFACE AND GROUNDWATER EXTRACTION

DNR records indicate that there are currently 243 surface water extraction licenses and 248 groundwater extraction licenses in the Cessnock LGA. The most common use for this water is for irrigation, stock and grape vines.

HCCREMS - REGIONAL WATER PROGRAM

During 2006-07, the HCCREMS Regional Water Program undertook the following activities:

- Revised the Water Smart Model Planning Provision (prepared in 2003) to include changes in legislation and best practice. This included also revising the eleven Practice notes that accompanied these provisions.
- Released planning guidelines/provisions for implementing Water Sensitive Urban Design (WSUD) Above Wetland Environments to ensure that the natural hydrology and ecological functioning of wetlands are protected.
- Developed a register of demonstration sites in the region to profile WSUD and urban Integrated Water Cycle Management (IWCM) which is available in CD format.
- Undertook 6 field days and workshops across the region of a variety of topics to demonstrate the practical applications of WSUD/IWCM practices.
- Continued the Central Coast Public Schools Integrated Water Program which included the installation of 10 smart water meters in 10 schools. Since the commencement of this program in February 2007 2.5 million litres of water have been saved primarily through the detection of leaks.

The Regional Water Program also received an award from the Stormwater Industry Association for excellence in stormwater education in October 2006 and was winner of the Partnerships in the Business and Government division of the Newcastle and Hunter Environmental Achievement Awards.

RAINWATER TANK REBATES

During 2006-07, Hunter Water Corporation provided rainwater tank rebates to 2 homes in the Cessnock LGA (this represents approximately 3% of the total water tank rebates issued by HWC during 2006-07). The rebates apply to existing homes only not new homes. For details of eligibility and amounts of water tank rebates see the Hunter Water website at www.hunterwater.com.au/WaterSavingScheme.asp.

REFIT PROGRAM

During 2006-07, only 14 Refit kits were installed (a decrease of 95% on 2005-06 installations) in homes in the Cessnock LGA equating to savings of 420kL of water. It should be noted that in the whole Hunter region Refit installations decreased 71% in 2006-07 from 2005-06.

Refer to [Air Section](#) for detailed information.

ENVIROSAVER PROGRAM

From February till June 2007, the envirosaver program installed 17 AAA-rated water-saving showerheads in 58 homes in the Cessnock LGA. This equates to saving of 1,218 kL of water.

The envirosaver program has replaced the Refit program and more information is available in the [Air chapter](#).

BIODIVERSITY

AT A GLANCE

Terrestrial Biodiversity			Data Gaps: Information required on impacts of habitat fragmentation (i.e. fauna corridors, core koala habitat) and rate of vegetation clearing. Long-term monitoring of riparian vegetation required to develop management strategies. Data on aquatic species composition and distribution is unknown. Wetlands mapping in the LGA, condition of flora and fauna and associated impacts/ threats (i.e. aquatic noxious weeds, stormwater, effluent, industrial processes, cattle grazing) is unknown. Information on the impact of feral animals on local fauna populations is unknown. The full distribution of weed species and their extent of competition with native species is unknown. Recommendations: Council consider creating a position to undertake Land and Biodiversity investigations and programs.
State	Declining	Various developments pose threats to terrestrial biodiversity in the LGA. Currently listed under the <i>Threatened Species Conservation Act 1995</i> for the LGA are 61 fauna species, 16 flora species, 2 threatened populations and 7 endangered ecological communities . CMA approved no clearing and State Forests sustainably harvested 58 ha within the LGA during 2006-07.	
Pressure	Increasing	Demand for rural, rural residential, industrial and urban expansion as a result of population growth increasingly affects biodiversity.	
Response	Fair	Landcare and Land for Wildlife programs, Threatened Flora of Lower Hunter Recovery Program , Tree plantings and giveaways and REMS Roadside Environmental Management and Vegetation Management programs are having effects.	
Aquatic Biodiversity			
State	Unknown	Little is known of the aquatic biodiversity in the LGA.	
Pressure	Increasing	Increasing development is placing pressure on aquatic ecosystems through disturbance, pollution and changes in water quality and quantity.	
Response	Limited	Salvinia removal programs are continuing to address this menace but are limited by resources.	
Introduced Flora and Fauna			
State	Unknown	New weeds classes were implemented in the State. Complete numbers of introduced species are unknown.	
Pressure	Increasing	Development in the LGA is increasing the incidence of weed infestation and introduction of feral animals into natural bushland.	
Response	Fair	Council employs 2 Weeds Officers and participates in many regional weed programs as well as receiving grant funding to initiate programs. State Forests are participating in pest management programs.	

RESPONSES TO BIODIVERSITY ISSUES

AMENDMENTS TO ENVIRONMENTAL PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999

On 7th December 2006 the Federal Parliament passed amendments to the *Environmental Protection and Biodiversity Conservation (EPBC) Act 1999*. These changes aim to:

- Ensure matters of national significance continue to receive the highest possible level of protection.
- Cut red tape and enable quicker and more strategic action to be taken on emerging environmental issues.
- Provide greater certainty for industry.
- Make environmental decision-making more efficient and cost-effective.
- Strengthen compliance with, and enforcement of, the EPBC Act.
- Encourage the use of regional plans to create more certainty about the outcomes of environmental decisions.
- Increase the general understanding of the process and mechanisms of the EPBC Act.

DRAFT LOWER HUNTER REGIONAL CONSERVATION PLAN

In October 2006 the Department of Environment and Climate Change released its Draft Lower Hunter Regional Conservation Strategy setting out a 25 year program to direct and drive conservation efforts in the Lower Hunter Valley. The Conservation Plan was developed to assess the extent of the biodiversity impacts of the Lower Hunter Regional Strategy and recommend priority areas for investment in biodiversity conservation and environmental repair and restoration to offset these impacts. The Conservation Plan also recognises that development certainty and conservation outcomes are best achieved by good strategic planning at a regional scale (rather than at the development application stage), and assists with the implementation of the amendments (June 2006) to the *Threatened Species Conservation Act 1995*, including biodiversity certification of environmental planning instruments and biobanking.

In the Cessnock LGA this Plan includes:

- Additions of approximately 2,200ha to the Werakata National Park.
- A new park containing under-reserved endangered ecological communities near Branxton
- A new park encompassing Ellalong Lagoon, which contains important freshwater wetland communities.

THREATENED FAUNA SPECIES

There were no new fauna species listed as “vulnerable”, “endangered” or “critically endangered” under the provisions of the *Threatened Species Conservation Act, 1995* recorded in the Cessnock LGA during 2006-07.

A complete listing of threatened fauna species in the Cessnock LGA can be found in appendix 3. The local status of these species is not known however reports on the NSW NPWS Wildlife Atlas (shown in table 7) show that the following threatened or endangered fauna species have been recorded in the LGA during 2006-07.

Table 7: Sightings of Threatened fauna in the Cessnock LGA during 2006-07

Reptiles		Birds		Mammals	
Name	Sightings	Name	Sightings	Name	Sightings
Giant Burrowing Frog	1	Speckled Warbler	4	Yellow-bellied Sheathtail Bat	1
Giant Barred Frog	1	Square-tailed Kite	4	Brush-tailed Rock Wallaby	10
Red-crowned Toadlet	2	Black Bittern	2	Eastern Freetail Bat	5
Rosenberg's Goanna	3	Gang-gang Cockatoo	19	Yellow-bellied Glider	19
		Glossy Black Cockatoo	8	Squirrel Glider	4
		Black-necked Stork	9	Koala	18
		Brown treecreeper	1	Grey-headed Flying Fox	3
		Black-chinned Honeyeater	5	Large-eared Pied Bat	13
		Grey-crowned Warbler	19	Eastern False Pipistrelle	2
		Turquoise Parrot	3	Little Bentwing Bat	4
		Barking Owl	5	Eastern Bent Wing Bat	12
		Powerful Owl	2	Large Footed Myotis	9
		Masked Owl	1	Greater Broad-nosed Bat	18
		Sooty owl	1	Eastern Cave bat	3

Furthermore, State Forests report having detected the threatened species listed in Table 8 below and have reserved 8,853 ha for large forest owls.

Table 8: State Forest threatened species sightings during 2006-07 in Cessnock LGA.

Species	Common Name	No. Observations
<i>Petrogale penicillata</i>	Brush-tailed Rock Wallaby	13
<i>Phascolarctos cinereus</i>	Koala	1
<i>Calyptorhynchus lathami</i>	Glossy Black Cockatoo	6
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	6
<i>Pomatostomus temporalis</i>	Grey-crowned Babbler	4

Draft Management Plan – Green & Golden Bell Frog Key population in the Middle Hunter

The Draft Middle Hunter Green and Golden Bell Frog (GGBF) Management Plan was released by DECC in June 2007. The purpose of the Plan is to ensure that the Middle Hunter (encompassing Cessnock and Maitland LGA's) population of GGBF continues to persist in the area and that measures of the population's viability are maintained or improved over time. The Plan was prepared to satisfy action 11.3.4 of the NSW GGBF Recovery Plan which identifies key populations as conservation management units and gives recognition and focus for conservation to 43 such populations across the former extent of the species almost state-wide distribution.

In the Cessnock LGA there are suspected populations of GGBF at Cliftleigh and Ellalong. Under the *Local Government Act 1993*, Cessnock City Council is required to develop and implement management plans where GGBF occur on public land under our care, control and management. It is suggested that this GGBF Management Plan may satisfy Council's requirement and provide guidance, direction and coordination for other stakeholders and/or landowners/managers within the area where the frog and/or its habitat occurs.

Fox and Feral Dog Controls

During 2006-07, Hunter Economic Zone participated in a program of feral dog and fox control with NSW NPWS to protect the native fauna in Werakata National Park and surrounds. In addition, NSW NPWS undertook fox baiting in the Watagans National Park and surrounding private properties.

Forests NSW Pest Control

No pest control activities were undertaken in Forests NSW lands during 2006-07. However, a majority of State Forests within Cessnock LGA are now declared as hunting areas under the Game Council of NSW.

Indian Myna Bird Control

Green Corps and the Hunter Region Landcare Network are undertaking a program to help eradicate Indian Myna Birds in the Wollombi area. No results of this program are currently available.

THREATENED FLORA SPECIES

There were no new flora species listed in the Cessnock LGA as “vulnerable” under the *Threatened Species Conservation Act, 1995* during 2006-07. However, the NSW Scientific Committee made a preliminary determination to support the proposal to list *Persoonia pauciflora* (North Rothbury Persoonia) as a Critically Endangered Species (previously listed as endangered) under Schedule 1A of the *Threatened Species Conservation Act, 1995*.

A complete listing of threatened flora species in the Cessnock LGA can be found in appendix 3. The local status of these species is not known however reports on the NSW NPWS Wildlife Atlas (shown in table 9) show that the following threatened or endangered flora species have been recorded in the LGA during 2006-07.

Table 9: threatened Flora reported on NPWS Atlas during 2006-07

Scientific Name	Common Name	No. Reports
<i>Acacia bynoeana</i>	Bynoe's Wattle	11
<i>Callistemon linearifolius</i>	Nettled Bottlebrush	4
<i>Eucalyptus parramattensis</i> subsp. <i>decadens</i>		77
<i>Grevillea parviflora</i> subsp. <i>parviflora</i>	Small-flowered Grevillia	25
<i>Olearia cordata</i>		1
<i>Rutidosis heterogama</i>	Heath winklewort	3

Persoonia Walk

To coincide with Threatened Species Day 2006, DECC, the HCRCMA and Cessnock Council hosted a walk through the local bushland at North Rothbury 17th September 2006. The event provided information for interested persons on the endangered North Rothbury Persoonia, its habitat, what is being done to conserve it and what residents can do to help. Approximately 40 people attended the day and provided favourable feedback on the event.

THREATENED POPULATIONS

There were 2 new threatened populations listed in the Cessnock LGA as “vulnerable” under the *Threatened Species Conservation Act, 1995* during 2006-07.

Cymbidium canaliculatum in the Hunter Catchment

The Scientific Committee has made a Final Determination to list the population of the orchid *Cymbidium canaliculatum* in the Hunter Catchment as an Endangered Population under Schedule 1 of the *Threatened Species Conservation Act, 1995*. The population of *C. canaliculatum* in the Hunter Catchment is at the south-eastern limit of the geographic range for this species. This population is of significant conservation value because it is one of the few epiphytic orchids occurring at temperate latitudes. The number of plants of *C. canaliculatum* in the Hunter Catchment is currently estimated to be very low, as few as 90. There could be as many as 300 to 500 individuals in the population, assuming an average density of about one plant per 30 square kilometres of estimated habitat for *C. canaliculatum* population in the Hunter Catchment. Threats to the population of *C. canaliculatum* in the Hunter Catchment include land clearing and the associated fragmentation of habitat, on-going removal of remnant trees, and illegal collecting.

***Leionema lamprophyllum* subsp. *Obovatum* in the Hunter Catchment**

The Scientific Committee has made a Final Determination to list a population of *Leionema lamprophyllum* subsp. *obovatum* in the Hunter Catchment as an Endangered Population under Schedule 1 of the *Threatened Species Conservation Act, 1995*. The Hunter Catchment population occurs near Pokolbin, where it is found on a rocky cliff line in a dry eucalypt forest and is considered to be highly genetically isolated due to the distance to the nearest recorded occurrence of this taxon, and the lack of specialised mechanisms for long distance dispersal of seed or pollen. The total number of mature individuals of *L. lamprophyllum* subsp. *obovatum* in the Hunter Catchment population is estimated to be very low with only 4 individuals currently known to occur in Pokolbin State Forest.

THREATENED ECOLOGICAL COMMUNITIES

During 2006-07 1 additional Endangered Ecological Community (EEC) in the Cessnock LGA was listed by the NSW Scientific Committee - Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregion.

Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregion

The Scientific Committee has made a Final Determination to list Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions as an Endangered Ecological Community under Schedule 1 of the *Threatened Species Conservation Act 1995*. Lowland Rainforest may be associated with a range of high-nutrient geological substrates, notably basalts and fine-grained sedimentary rocks, on coastal plains and plateaux, footslopes and foothills. In the north of its range, Lowland Rainforest is found up to 600m above sea level, but in the Sydney Basin bioregion it is limited to elevations below 350 m. Extensive clearing of Lowland Rainforest has resulted in fragmentation and loss of ecological connectivity. The integrity and survival of small, isolated stands is impaired by the small population size of many species, enhanced risks from environmental probability, disruption to pollination and dispersal of fruits or seeds, and likely reductions in the genetic diversity of isolated populations.

Currently the following 8 EEC's are listed to occur in the Cessnock LGA and more information on these is available at www.nationalparks.nsw.gov.au :

- Kurri Sand Swamp Woodland
- Quorrobolong Scribbly Gum Woodland
- Hunter Lowlands Redgum Forest
- Lower Hunter Spotted Gum – Ironbark Forest
- Freshwater Wetlands on Coastal Floodplains
- River Flat Eucalypt Forest
- Swamp Oak Floodplain Forest
- Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregion

Threatened Flora of the Lower Hunter Recovery Program

During 2006-07, the Threatened Flora of the Lower Hunter Recovery Program put on public exhibition the Draft Recovery Plan for the Kurri Sand Swamp Woodland (KSSW) EEC. The Plan considers the conservation requirements of the community across its known range and identifies the actions to be taken to ensure the long-term viability of the KSSW in nature, including the parties who will undertake these actions. The overall objective of the recovery plan is to maintain and improve the current extent, condition and ecological function of the KSSW across its entire pre-European settlement distribution.

The Plan will be implemented over 5 years with Cessnock Council expected to be involved through:

- Encouraging community group involvement in activities such as rubbish removal, weed control, bush regeneration, site protection and community education.
- Assisting community groups and landholders obtain funding to undertake actions.

- Preparation and implementation of management statements for specific sites know to support KSSW under Council management.

KEY THREATENING PROCESSES

The Scientific Committee has made a Final Determination to list the invasion, establishment and spread of Lantana (*Lantana camara L. sens. lat*) as a Key Threatening Process under Schedule 3 of the *Threatened Species Conservation Act 1995*. *L. camara* is an 'aggregate species' and there are several natural variants of *L. camara* across its presumed native range in the tropical Americas. In addition, some hundreds of horticultural colour and habit varieties have been developed around the world, with over 650 varietal names coined. *L. camara* is native to Central and tropical South America. The earliest record for Australia is from 1841 in the old Botanic Gardens in Adelaide, and cultivated plants are known to have been grown in NSW by John Macarthur at Camden Park in 1843. It was reported by 1879 as a "most troublesome weed" in Queensland and "equally abundant all round Port Jackson". *L. camara* is "regarded as one of the worst weeds in Australia because of its invasiveness, potential for spread, and economic and environmental impacts". *L. camara* is one of the initial 20 Weeds of National Significance declared under the National Weeds Strategy, and a national Lantana Strategic Plan has been adopted (ARMCANZ ANZECC&FM 2001). *L. camara* is also a declared Noxious Weed under the NSW Noxious Weeds Act 1993 in most areas of eastern NSW.

CONSERVATION OF LAND FOR HABITAT

In 2006-07, Forests NSW dedicated 3,505ha (including 2,972ha of reserve) of their land in the Cessnock LGA to the National Park Estate to be managed by the NSW NPWS.

Land for Wildlife Program

Land for Wildlife is a support program run by the Community Environment Network (CEN) (on behalf of NSW NPWS) that encourages and assists landholders to conserve wildlife and habitat on their land. The program has been run for a couple of years on the Central Coast but in December 2006 permission from the funding body was given to expand the program into the Wollombi area in response to landholder requests. The program aims to reverse the decline in loss of vegetation and biodiversity through the promotion of habitat protection by private landholders. Private landholders are assisted in conservation activities on their land and in the local area.

During 2006-07 there have been 23 site visits conducted in Cessnock with 15 people signing up covering 445 ha of land to be protected under the program. There have also been a number of enquiries into more binding agreements including Voluntary Conservation Agreement's which are in perpetuity. Additionally, the bush regeneration team has collected seed from three properties in the area for propagation.

HABITAT FRAGMENTATION AND CLEARING

During 2006-07, the authority to approve land clearing was removed from the Department of Natural Resources (DNR) and placed with the Catchment Management Authorities. No clearing applications were received by the CMA during 2006-07.

INTRODUCED SPECIES - WEEDS

During 2006-07, Council received 20 complaints regarding noxious weeds and Councils Weeds Officers conducted 1,860 property inspections for a variety of noxious weeds, issued 5 Weed Control Notices (for Weed Control Notices not complied with, where Weeds Officers undertake the required actions and charge the landholder).

The 2006-07 Council weed control program concentrated on terrestrial weeds such as Green Cestrum, Mother of Millions, Lantana, Blackberry and Crofton Weed, with some aquatic weeds such as Salvinia, Water Hyacinth and Alligator Weed. Funding of \$3,200 was received from the Department of Lands for weed control activities conducted on Crown Lands.

It was noted that in July 2006 that there was an increase in weeds due to the lack of rain and warmer conditions and waterways were being reduced in size as creeks and dams dried up leaving bare areas along the edges. Weeds were then moving into these areas.

As well as these activities, Council's Weeds Officers:-

- Continued a program of community education on weeds through monthly newspaper ads highlighting a particular weed, and making available a poster on major weeds of the area and printed factsheets at Councils administration building and libraries.
- Developed a pamphlet on all new noxious weeds declarations and categories in Cessnock LGA and promotional material on keeping machines clean to reduce the spread of weeds (this pamphlet was also supported with a calico bag available from customer service). These are available on Councils website.

Salvinia Control

During 2006-07 coordination of the strategy and work plan for the control of salvinia in Wollombi Brook was handed over to the Environment Division of Hunter Councils. Elements of the strategy implemented include:

- Engaging and consulting stakeholders regarding the strategy and control plan.
- Establishing landholder agreements to provide financial assistance to undertake control works.
- Implementing on ground works such as floating booms, chemical treatment and physical removal via pumps scoops and rakes.
- Releasing salvinia weevils as a biological control agent.

The flooding in June 2007 resulted in the remaining infestations on Wollombi Brook being broken up and no longer covering the waterway. However, results of post-flood assessments have identified salvinia fragments in stream bank trees, vegetation and floating downstream with the potential to reinfest the Brook.

National Weed Spread Prevention Draft Action Plan

The National Weed Spread Prevention Draft Action Plan was open for public comment during February 2007 and is available on the Weeds Australia website at www.weeds.org/awcnews.htm. The aim of the National Weed Spread Prevention Draft Action Plan is to reduce the risk of weed spread caused by human activity within Australia. The rationale for the draft action plan can be summarised in four key statements:

- Pathways for weed spread need to be identified and addressed.
- Effective consistent and complementary measures to prevent weed spread need to be developed.
- Government, industry and communities need to be encouraged and empowered to undertake effective preventative actions.
- The implementation of strategic action of the proposed Australian Weed Strategy (AWS) needs to be supported.

Six broad goals have been developed to achieve the aim of the draft action plan. The draft action plan identifies several outcomes and management actions in order to meet each goal. It prioritises these management actions and allocates the primary responsibility for the implementation of each one. Key performance indicators and deliverables have been developed to measure how well each goal has been achieved. In this way, the draft action plan will provide clear direction to all parties involved in addressing the problem of weed spread, enabling them to make the best use of available resources.

NSW Weed Awareness Plan 2007-2011

The NSW Weed Awareness Plan is one component of the NSW DPI State-wide Weeds Communication Strategy aimed at developing a NSW Weed Awareness Program. The overall objective of the Program is to increase the awareness of the impact of weeds in NSW. Specific objectives are to:

- Increase the availability of weed information and community engagement resources to NSW weed professionals.
- Increase the participation of local government, State agencies and non-government organisations in NSW weed awareness activities.
- Increase support for weed awareness initiatives by the decision makers in NSW.

The NSW Weed Awareness program 2007-2011 will undertake a significant planning phase prior to implementation to ensure success in meeting the objectives. It will also undertake on-going evaluation and planning once implementation commences to ensure the program activities remain relevant over time and achieve positive benefits for the State of NSW.

HCCREMS Regional Weeds Program

During 2006-07, the Regional Weeds Program undertook the following activities:

- Developed a centralised Regional Weeds database which holds records of 9,000 weed occurrences. This allows distribution to be mapped, knowledge gaps to be identified and management actions to be strategically arranged (such as identifying areas a risk of invasion of weeds and identifying outlying infestations to focus control efforts on).
- Applied to NSW Noxious Weeds Advisory Committee for amendments to declared control classes for a number of noxious weeds in the region. Changes resulting to this have been incorporated in the weeds listing in appendix 4.
- Piloted weed mapping and survey training package for Weeds Officers. This was successful and is being developed into an accredited module for inclusion in the Diploma of Conservation and Land Management course.

FIRE AND FUEL REDUCTION

During 2006-07 there were 111 fires reported within the Cessnock LGA. The area of land affected by these fires was 975 ha. An additional 1,056 ha of land underwent bushfire hazard reduction.

TREE GIVEAWAYS AND PLANTINGS

National Tree Day 2006

Council undertook distribution of plants and planting information to 14 schools who participated in Schools Tree Day on 28th July 2006.

City Entry Streetscapes Project

Due to the drought no major projects have been undertaken in 2006-07. Funds were directed towards the replacement of existing trees (particularly along Aberdare and Mount View Roads) as well as maintenance of existing trees.

Schools Tree Planting

Students from 3 local schools undertook planting of 36 trees at Chalmers Park and Log of Knowledge Park in a project supported by the Kurri Weston Greening Group in September 2006.

LANDCARE ACTIVITIES

The Hunter Region Landcare Network is actively promoting the CarbonSMART program in the region. CarbonSMART is a carbon trading program which connects businesses that want to offset their emissions with farmers who are willing to plant extra trees. Under the program farmers can then sell the carbon credits they generate. For more information on this program go to www.carbonsmart.com.au.

The following reports from Landcare groups operating in the Cessnock LGA have been provided:

Abermain Landcare

Unfortunately the June 2007 flood wiped out 3 of the 4 Abermain Landcare sites. On the positive side the most recent riparian works stood up to the flood very well and held the bank together beautifully. This was because the vegetation consisted of shrubs and lomandras with no large trees.

Wollombi Valley Landcare

Wollombi Valley Landcare continues to disseminate land management information to over 70 members and the community by way of bi monthly newsletters, emails and the local newsletter. They have also started a landholder resources stall at the monthly Laguna market and are investigating the installation of a community group's noticeboard in Wollombi. They have promoted sustainable land use practices with farm visits about organic fruit and vegetable gardening, olive growing, lavender and salt bush production and native pastures. They have helped identify and protect our local native plants and animals by way of a presentation about Birds of the Hunter from the Hunter Bird Observers Club and regular botanical walks organized in conjunction with Burrellong Valley Landcare. They have fox and cat traps available to members and hope to extend the fox and wild dog control program. Many local landholders have joined the Land for Wildlife program which offers information and advice on enhancing on-farm habitats. They will be working closely with Green Corps and the Hunter Region Landcare Network to help eradicate Indian Mynas in the valley. They are planning a demonstration site to promote the value of healthy, native vegetation along streams, with a walking trail connecting it to the village. Large slugs of sand moving downstream in the recent storms and resultant flooding has highlighted that many of the streams are unstable. They have scheduled a presentation on climate change and the overuse of energy resources to seek a better understanding of the issues and how they can all address them with relatively simple changes to the way we use energy.

HUNTER-CENTRAL RIVERS CATCHMENT MANAGEMENT AUTHORITY ACTIVITIES

No information was not available on HCRCMA activities at time of publication.

HCCREMS - ROADSIDE ENVIRONMENTAL MANAGEMENT

Results of roadside vegetation surveys were presented at a meeting held on 4th June 2007. In the Cessnock LGA surveys were conducted at 2 locations – Great North Rd (4.5km from Bucketty) and Black Hill Rd (near John Renshaw Dr intersection). The Great North Rd site was relatively intact and undisturbed (possibly due to the slope of the site preventing mowing) with a high number of plant species present offering many opportunities for wildlife habitat and having no major management issues. The Black Hill Rd site had several management issues including rubbish dumping, minor erosion and weed invasion.

HCCREMS have drafted a Roadside Environmental Management Strategy for the region which aims to provide the strategic framework, direction and priorities for the ongoing implementation of this program. The Strategy incorporates recommendations to meet and address the needs and management issues that have been identified by Councils. The program has also developed a GIS-based Regional Roadside Environmental Assessment Tool.

HCCREMS – REGIONAL VEGETATION MAPPING PROJECT

Stage 2 of the Catchment-wide Vegetation Community Mapping project commenced in 2006-07 in collaboration with Hunter-Central Rivers CMA. The project aims to produce a regional scale vegetation community classification scheme that cross-references other existing schemes and provided a consistent approach to describing vegetation throughout the community. During 2006-07 data collation and evaluation has been undertaken for 5,870 systematic surveys distributed throughout the region; vegetation mapping of datasets of varying scale, accuracy and coverage; and, the development of a range of abiotic datasets to assist gap analysis and modelling.

HERITAGE

AT A GLANCE

Aboriginal Heritage			Data Gaps:
State	Unknown	686 sites are recorded on the NPWS Aboriginal Sites register. The location of sites within the LGA is generally kept confidential for security reasons.	
Pressure	Increasing	Many identified areas are on land not in Aboriginal control and may be subject to disturbance through various activities including agriculture, forestry, mining and urban development.	
Response	Limited	NPWS are the lead agency for protection of aboriginal artefacts.	
Non-Aboriginal Heritage			
State	Stable	There are 6 items of State Environmental Heritage, 24 items of Local Environmental Heritage and 160 items listed in the Hunter Heritage Regional Environmental Plan 1989.	
Pressure	Increasing	Increased development activity places increased pressure on both identified and unidentified sites.	
Response	Increasing	A Heritage LEP is being developed and a revision of the Heritage Study undertaken. Convict Trail Project and local heritage groups actively working on restoration, education and protection of some sites.	

RESPONSES TO ABORIGINAL HERITAGE ISSUES

As at July 2007, 686 sites (an increase of 41 sites from 2005-06) were recorded on the National Parks and Wildlife Service's Aboriginal Sites Register for the Cessnock LGA. More than half these sites are shelter sites that contain art and/or archaeological deposits.

During 2006-07, 29 reports of sites being altered, destroyed or damaged was reported by DECC (it should be noted however that some of these activities could have had positive impacts on sites).

RESPONSES TO NON-ABORIGINAL HERITAGE ISSUES

HERITAGE LEP AND REVISION OF HERITAGE STUDY

As part of the Comprehensive LEP, Council engaged a consultant to review the 1994 Cessnock Heritage Study and existing Regional and Local Environmental Plan schedules of Heritage Items. The consultant has made recommendations about potential additional listings in the new comprehensive LEP. A number of additional listings are proposed for inclusion in the Comprehensive LEP. The LEP must utilise the heritage provisions contained in the Department of Planning Standard Instrument.

CULTURAL COMMUNITY DEVELOPMENT DOLLAR FOR DOLLAR GRANT PROGRAM

Each year Council provides funding for the Cultural Community Development Projects Dollar for Dollar Grant Program. Projects funded through the scheme during 2006-07 include:

- Purchase of microfilm from 1868-1899 Maitland Mercury for Cessnock District Historical and Family History Society Inc.
- Removal of loose brickwork in the bell tower of Cessnock RSL.
- Kulnura Community Arts and Entertainment Program workshops for children and families.
- Purchase of PA system for Cessnock Youth Development Committee.
- A mural at Kurri Kurri Golf Club.
- Amenities improvements to Marthaville.
- Promotion and launch of "Lets Read Cessnock" program.
- Flag poles for Rotary Park, Kurri Kurri as part of the Towns with Heart project.
- Stage curtains for Valley Artists.
- A mural for Weston Public School.
- Support for Sculpture in the Vineyards.
- Support for Emerging Artists Awards run by Wollombi Valley Arts Council.
- A monument in Wollombi being constructed by the Wollombi Valley Progress Association.

HERITAGE DOLLAR FOR DOLLAR GRANT PROGRAM

Each year Council provides funding for the Heritage Dollar for Dollar Grant Program. Projects funded through the scheme during 2006-07 focused on external painting of heritage buildings listed on the Council's Inventory of Heritage Places and were capped at a maximum of \$1,000 per project with 10 projects being funded.

THE CONVICT TRAIL PROJECT

In 2006-07 the Convict Trail Project worked in conjunction with Cessnock City Council on updating the Councils Heritage Inventory Database. Considerable time was spent on upgrading the information through driving and walking large sections of the Great North Road as it passes through the LGA. A substantial amount of additional evidence of the original 1830's road was found and recorded during this exercise. An exciting later find was walling supporting the remaining gravel section of road between Cunnens and Williams Bridges. As a

result of these investigations the Convict Trail Project wrote up and submitted an application for state listing for Ramsey Leap.

In April 2007 the Convict Trail Project launched another two (of a series of eleven) area specific brochures to enhance the tourist experience when driving on sections of the Great North Road. One of these covers the area from Bucketty to Mt Manning and complements the Bucketty to Broke and Cessnock through Wollombi brochure launched last year. The new brochure allows tourists who are travelling to the Hunter vineyards via Tourist Route 33 which leaves the expressway at Calga and travels via Peat's Ridge, Mangrove Mountain and Bucketty to the Wollombi Valley to appreciate the Bucketty precinct and to make a short 4 kilometre detour to experience driving on a section of the Great North Road that is little altered since it was built.

The Convict Trail Project has also provided comment to Council for the replacement of Cunnens Bridge. This includes suggestions that address issues acceptable to the various parties concerned, protects the main heritage items, retains the line of the road and gives the visual impact of crossing an old bridge even though it is a modern concrete one.

The Convict Trail Project also attended a meeting about a New Tourist Drive that will be passing through the Cessnock LGA. This new tourist drive forms part of the Greater Blue Mountain World Heritage Area Drives and Discovery Trails. This affects the Cessnock LGA (and the Great North Road) as Yengo National Park is part of the Greater Blue Mountain World Heritage Area with the road from Bucketty to Wollombi (and on to Broke) being part of one of the Discovery Trails. The drive organisers are not planning on signposting the routes as a separate drive but through the provision of maps that use existing roads and road signs to direct tourists to various sites and walks.

GREAT NORTH ROAD WORLD HERITAGE NOMINATION

In early 2007, part of the Great North Road was nominated by the Federal Government for World Heritage Listing.

REFERENCES

Advitech, 1996, *Cessnock City Council State of the Environment Report - 1996*, Advitech, Tighes Hill.

Australian Bureau of Statistics, 2001, *2001 Census*, Australian Bureau of Statistics.

Australian Bureau of Statistics, 2006, *2006 Census*, Australian Bureau of Statistics

Australian and New Zealand Environment and Conservation Council, 1992, *Australian Water Quality Guidelines for Fresh and Marine Waters*, ANZECC.

Bureau of Meteorology, 2006-07, - *Rainfall, Temperature and Wind Statistics*.

Cessnock City Council, 1994, *Community Profile*, Cessnock City Council.

Cessnock City Council, 2004, *Cessnock City Council State of the Environment Report 2003-04*, Cessnock City Council.

Cessnock City Council, 2005, *Cessnock City Council State of the Environment Report 2004-05*, Cessnock City Council.

Cessnock City Council, 2006, *Cessnock City Council State of the Environment Report 2005-06*, Cessnock City Council.

Doyle, D., 2006, *Vegetation Health Survey of Hydro Aluminium Kurri Kurri Ltd Smelter Buffer Zone*, Indooroopilly, Qld

Hydro Primary Metal Kurri Kurri, 2006a, *Quarterly Environment Report Quarter 3 – 2006 Kurri Kurri Smelter*, Hydro Primary Metal Kurri Kurri.

National Health and Medical Research Council and the Australian Water Resources Commission, 1987, *Guidelines for Drinking Water Quality in Australia – 1987*, Australian Government Publishing Service.

APPENDIX 1 - WATER QUALITY GUIDELINES

	Potable Water Supply	Agricultural Purposes – Irrigation and Stock Watering	Maintenance of Aquatic Ecosystems
pH	6.5 – 8.5	4.5 – 9	6.5 – 9
Turbidity (NTU)	<5	>100	>50
Electrical Conductivity (μ S/cm at 25°C)	<280	280 – 800 (up to 5500 for salt tolerant crops)	<1500
Total Dissolved Solids (mg/L)	*	175 – 500	0 – 175
Orthophosphate (mg/L)	<0.05	<0.05	<0.05
Nitrate Nitrogen (mg/L)	<10	<10	<10
Chlorophyll-a (g/L)	<5	*	<20
Faecal Coliforms (count/100mL)	<10	1000	*

* No Guideline Available

Adapted From ANZECC (1992), NHMRC (1987)

APPENDIX 2 – WATERWATCH WATER QUALITY MONITORING RESULTS FOR CESSNOCK LGA

Water Quality Sampling Site	Water Quality Parameter			
	pH	Conductivity	Turbidity	Total Dissolved Solids
^Congewai Landcare – Congewai Creek (at ford on Congewai Rd) (WBN005)				Readings: 2
Potable Water Supply	✓	-	x	*
Agriculture	✓	-	✓	✓
Maintenance of aquatic ecosystems	✓	-	✓	x
^Congewai Landcare – Dam at 'Glenbori' (WBN008)				Readings: 2
Potable Water Supply	✓	-	x	*
Agriculture	✓	-	✓	✓
Maintenance of aquatic ecosystems	✓	-	✓	x
^Congewai Landcare – Congewai Creek (along entrance to Reedy Creek) (WBN010)				Readings: 11
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	✓	✓
Maintenance of aquatic ecosystems	✓	✓	✓	x
Congewai Public School – Congewai Creek (1 km south of school) (WBN030)				Readings: 10
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	✓	✓
Maintenance of aquatic ecosystems	✓	✓	✓	x
^Congewai Landcare – Congewai Creek (Thursby Rd bridge) (WBN040)				Readings: 2
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓x	✓	✓
Maintenance of aquatic ecosystems	✓	✓	x	x
^Congewai Landcare – Ellalong Lagoon (WBN055)				Readings: 9
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	✓	✓
Maintenance of aquatic ecosystems	✓	✓	x	x
^Millfield Public School & ^Congewai Landcare – Wollombi Brook North Arm at Millfield (WBN070/080)				Readings: 10
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	✓	x
Maintenance of aquatic ecosystems	✓	✓	✓	x
^Wollombi Public School – Wollombi Brook (waterhole) at Wollombi (WBN090)				Readings: 15
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	✓	✓
Maintenance of aquatic ecosystems	✓	✓	✓	x
^Hunter Community Salinity Monitoring – Wollombi Brook Big Arm, Broke Rd, Wollombi (WBT060)				Readings: 16
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	✓	✓
Maintenance of aquatic ecosystems	✓	✓	✓	x
Hunter Community Salinity Monitoring & Burralong Valley Landcare – Will'o'Wyn, Burralong Valley (WBS010)				Readings: 6
Potable Water Supply	x	✓	x	*
Agriculture	✓	x	x	x
Maintenance of aquatic ecosystems	x	✓	x	✓
Hunter Community Salinity Monitoring & Burralong Valley Landcare – Tuckers pond, Murray's Run (WBS020)				Readings: 7
Potable Water Supply	x	✓	x	*
Agriculture	x	x	x	✓
Maintenance of aquatic ecosystems	x	✓	x	x
Wollombi Nutrient Monitoring Project – Wollombi Brook (Payne's Crossing) (WBT070)				Readings: 8
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	✓	✓
Maintenance of aquatic ecosystems	✓	✓	x	x
Wollombi Nutrient Monitoring Project – Wollombi Brook (North Arm below Cedar Ck) (WBN085)				Readings: 7
Potable Water Supply	x	x	x	*
Agriculture	✓	✓	x	✓
Maintenance of aquatic ecosystems	x	✓	x	x
Wollombi Nutrient Monitoring Project – Quorrobolong Creek (End Truro St) (WBN050)				Readings: 9
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	x	✓
Maintenance of aquatic ecosystems	✓	✓	x	x
Wollombi Nutrient Monitoring Project – Wollombi Brook (North Arm) (WBN100)				Readings: 7
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	x	✓
Maintenance of aquatic ecosystems	✓	✓	x	x
Wollombi Nutrient Monitoring Project – Watagan Creek (at bridge on Watagan Ck Rd) (WBS090)				Readings: 8
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	x	✓
Maintenance of aquatic ecosystems	✓	✓	x	x
Laguna Public School – Wollombi Brook, Laguna (WBS100)				Readings: 11
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	✓	✓
Maintenance of aquatic ecosystems	✓	✓	x	x

Water Quality Sampling Site	Water Quality Parameter			
	pH	Conductivity	Turbidity	Total Dissolved Solids
^Bellbird Public School – Bellbird Creek, cnr Kendall & Pittman Streets, Bellbird				Readings: 4
Potable Water Supply	✓	-	x	*
Agriculture	✓	-	✓	✓
Maintenance of aquatic ecosystems	✓	-	x	x
Hunter Community Salinity Monitoring Group, Nulkaba – Black Creek, Nulkaba				Readings: 11
Potable Water Supply	✓	x	x	-
Agriculture	✓	✓	✓	-
Maintenance of aquatic ecosystems	✓	✓	x	-
^Abermain Guides – Centenary Park Constructed Pond, Abermain				Readings: 1
Potable Water Supply	✓	x	x	-
Agriculture	✓	x	✓	-
Maintenance of aquatic ecosystems	✓	x	x	-
^Friends of Werakata, Tumblebee and Buttai – Peace Park, Weston (SWA020)				Readings: 6
Potable Water Supply	✓	x	x	*
Agriculture	✓	x	✓	x
Maintenance of aquatic ecosystems	✓	✓	x	x
^Friends of Werakata, Tumblebee and Buttai – Black Hollows				Readings: 5
Potable Water Supply	✓	✓	x	-
Agriculture	✓	✓	✓	-
Maintenance of aquatic ecosystems	✓	✓	x	-
^Friends of Werakata, Tumblebee and Buttai – Wallis Creek, John Renshaw Drive (WAL050)				Readings: 8
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	✓	✓
Maintenance of aquatic ecosystems	✓	✓	x	x
^Friends of Werakata, Tumblebee and Buttai – Swamp Ck, Kearsley (Abermain 2 Colliery)				Readings: 8
Potable Water Supply	x	x	x	*
Agriculture	x	✓	✓	✓
Maintenance of aquatic ecosystems	x	✓	x	x
^Friends of Werakata, Tumblebee and Buttai – Swamp Ck (along Willai firetrail)				Readings: 1
Potable Water Supply	x	x	x	-
Agriculture	x	x	x	-
Maintenance of aquatic ecosystems	x	✓	x	-
Greta Public School – Anvil Creek				Readings: 10
Potable Water Supply	✓	x	x	*
Agriculture	✓	x	✓	✓
Maintenance of aquatic ecosystems	✓	✓	x	x
Hunter Community Salinity Monitoring (Nulkaba) – Black Creek (footbridge between Baddley Pk & football field)				Readings: 5
Potable Water Supply	x	x	x	-
Agriculture	x	✓	x	-
Maintenance of aquatic ecosystems	x	✓	x	-
Mulbring Public School – Wallis Creek, Mulbring				Readings: 1
Potable Water Supply	✓	-	x	*
Agriculture	✓	-	x	✓
Maintenance of aquatic ecosystems	✓	-	x	x
^Hunter-Central Rivers Waterwatch – Wallis Creek (off Vermont Rd) (WAL020)				Readings: 1
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	x	✓
Maintenance of aquatic ecosystems	✓	✓	x	x
^Hunter-Central Rivers Waterwatch – Wallis Creek, Mt Myall (Emily Rd causeway) (WAL010)				Readings: 1
Potable Water Supply	x	-	x	*
Agriculture	x	-	x	✓
Maintenance of aquatic ecosystems	x	-	x	x
^Hunter-Central Rivers Waterwatch – Wallis Creek, Mt Vincent (property off Emily Rd) (WAL005)				Readings: 1
Potable Water Supply	x	x	x	*
Agriculture	x	x	x	✓
Maintenance of aquatic ecosystems	x	x	x	x
^Hunter-Central Rivers Waterwatch – Swamp Creek, Abermain (Mary St) (SWA010)				Readings: 1
Potable Water Supply	x	-	x	*
Agriculture	x	-	x	x
Maintenance of aquatic ecosystems	x	-	x	x
^Hunter-Central Rivers Waterwatch – Swamp Creek (Horton Rd) (SWA030)				Readings: 2
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	x	✓
Maintenance of aquatic ecosystems	✓	✓	x	x
^Hunter-Central Rivers Waterwatch – Testers Hollow, Cliffeigh (TES010)				Readings: 2
Potable Water Supply	x	-	x	*
Agriculture	x	-	x	x
Maintenance of aquatic ecosystems	x	-	x	x

- ✓ denotes compliance with ANZECC and NHMRC guidelines * denotes no guideline available
x denotes non-compliance with ANZECC and NHMRC guidelines - denotes information unavailable
^ denotes group undertook Quality Assurance Certification during 2006

APPENDIX 3 – THREATENED SPECIES LISTINGS FOR CESSNOCK LGA

Flora listed under Schedule 1 and Schedule 2 *Threatened Species Conservation Act 1995* as at 1 July 2006 occurring or predicted to occur in Cessnock LGA

Scientific Name	Common Name	Classification TSC	Classification EPBC
<i>Acacia bynoeana</i>	Bynoe's Wattle	E1	V
<i>Persoonia hirsuta</i> subsp. nov.? Yengo National Park	Hairy Geebung	E1	E
<i>Persoonia pauciflora</i>	North Rothbury Persoonia	E1	CE
<i>Zannichellia palustris</i>	Aquatic plant – Black Ck	E1	-
<i>Callistemon linearifolius</i>	Nettled Bottlebrush	V	-
<i>Eucalyptus glaucina</i>	Slatey Red Gum	V	V
<i>Eucalyptus parramattensis</i> subsp. <i>decadens</i>		V	V
<i>Eucalyptus pumila</i>	Pokolbin mallee	V	V
<i>Grevillea parviflora</i> subsp. <i>parviflora</i>	Small-flowered Grevillia	V	V
<i>Melaleuca groveana</i>	Grove's Paperbark	V	-
<i>Olearia cordata</i>		V	V
<i>Persicaria elatior</i>	Tall Knotweed	V	V
<i>Prostanthera cineolifera</i>	Singleton Mint Bush	V	V
<i>Rutidosis heterogama</i>	Heath winklewort	V	V
<i>Tetratheca juncea</i>	Black-eyed Susan	V	V
<i>Velleia perfoliata</i>		V	V

Flora listed as a "protected native plant" under Schedule 13 of the *National Parks and Wildlife Act, 1974*.

Scientific Name	Common Name	Classification
<i>Actinotus helianthi</i>	Flannel Flower	P13
<i>Adiantum aethiopicum</i>	Common Maidenhair	P13
<i>Adiantum formosum</i>	Giata Maidenhair	P13
<i>Adiantum hispidulum</i>	Rough Maidenhair	P13
<i>Boronia ledifolia</i>	Sydeny Borinia	P13
<i>Bulbophyllum exiguum</i>		P13
<i>Bulbophyllum shepherdii</i>	Wheat-leaved Orchid	P13
<i>Caustis flexuosa</i>	Curly Wig	P13
<i>Ceratopetalum gummiferum</i>	Christmas Bush	P13
<i>Cymbidium suave</i>	Snake Orchid	P13
<i>Dipodium punctatum</i>		P13
<i>Livistona australis</i>	Cabbage Palm	P13
<i>Lomatia silaifolia</i>	Crinkle Bush	P13
<i>Philotheca hispidula</i>	waxflower	P13
<i>Platyterium bifurcatum</i>	Elkhorn	P13
<i>Plectorrhiza tridentata</i>	Tangle Orchid	P13
<i>Xylomelum pyriforme</i>	Woody Pear	P13

Fauna listed under Schedule 1 and Schedule 2 *Threatened Species Conservation Act 1995* as at 1 July 2006 occurring or predicted to occur in Cessnock LGA

Scientific Name	Common Name	Classification TSC	Classification EPBC
Amphibians			
<i>Crinia tinnula</i>	Wallum Froglet	V	-
<i>Heleioporus australiacus</i>	Giant Burrowing Frog	V	V
<i>Litoria aurea</i>	Green and Golden Bell Frog	E1	V
<i>Litoria brevipalmota</i>	Green-thighed Frog	V	-
<i>Litoria littlejohni</i>	Littlejohns Tree Frog	V	V
<i>Mixophyes balbus</i>	Stuttering Barred Frog	E1	-
<i>Mixophyes iterates</i>	Giant Barred Frog	E1	E
<i>Pseudophryne australis</i>	Red-crowned Toadlet	V	-
Reptiles			
<i>Varanus rosenbergi</i>	Rosenberg's Goanna	V	-
<i>Hoplocephalus bitorquatus</i>	Pale-headed Snake	V	-
<i>Hoplocephalus stephensii</i>	Stephen's Banded Snake	V	-
Birds			
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	V	-
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	V	E
<i>Climacteris picumnus</i>	Brown Treecreeper	V	-
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E1	-
<i>Erythrotriorchis radiatus</i>	Red Goshawk	E1	V
<i>Grantiella picta</i>	Painted Honeyeater	V	-
<i>Haematopus longirostris</i>	Pied Oystercatcher	V	-
<i>Hamirostra melanosternon</i>	Black-breasted Buzzard	V	-
<i>Irediparra gallinacea</i>	Comb-crested Jacana	V	-
<i>Ixobrychus flavicollis</i>	Black Bittern	V	-
<i>Lathamus discolor</i>	Swift Parrot	E1	E
<i>Lophoictinia isura</i>	Square-tailed Kite	V	-
<i>Melanodryas cucullata</i>	Hooded Robin	V	-
<i>Melithreptus gularis gularis</i>	Black-chinned Honeyeater (eastern subsp.)	V	-
<i>Neophema pulchella</i>	Turquoise Parrot	V	-
<i>Ninox connivens</i>	Barking Owl	V	-
<i>Ninox strenua</i>	Powerful Owl	V	-
<i>Pachycephala olivacea</i>	Olive Whistler	V	-
<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subsp.)	V	-
<i>Ptilinopus magnificus</i>	Wompoo Fruit-Dove	V	-
<i>Ptilinopus regina</i>	Rose-crowned Fruit-Dove	V	-
<i>Pyrrholaemus sagittatus</i>	Speckled Warbler	V	-
<i>Stagonopleura guttata</i>	Diamond Firetail	V	-
<i>Stictonetta naevosa</i>	Freckled Duck	V	-
<i>Tyto novaehollandiae</i>	Masked Owl	V	-
<i>Tyto tenebricosa</i>	Sooty Owl	V	-
<i>Vespadelus troughtoni</i>	Eastern Cave Bat	V	-
<i>Xanthomyza phrygia</i>	Regent Honeyeater	E1	E
Mammals			
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V	V
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V	-
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V	-
<i>Kerivoula papuensis</i>	Golden-tipped Bat	V	-
<i>Macropus parma</i>	Parma Wallaby	V	-
<i>Miniopterus australis</i>	Little Bentwing Bat	V	-
<i>Miniopterus schreibesii oceanensis</i>	Eastern Bentwing Bat	V	-
<i>Mormopterus norfolkensis</i>	Eastern Freetail Bat	V	-
<i>Myotis adversus</i>	Large-footed Myotis	V	-
<i>Nyctophilus timoriensis</i>	Greater Long-eared Bat (south eastern form)	V	V
<i>Petaurus australis</i>	Yellow-bellied Glider	V	V
<i>Petaurus norfolcensis</i>	Squirrel Glider	V	-
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	E1	V
<i>Phascolarctos cinereus</i>	Koala	V	-
<i>Planigale maculata</i>	Common Planigale	V	-
<i>Potorous tridactylus</i>	Long-nosed Potoroo	V	V
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V
<i>Saccolainus flaviventris</i>	Yellow-bellied Sheath-tail Bat	V	-
<i>Scoteanoax ruepellii</i>	Greater Broad-nosed Bat	V	-
<i>Thylogale stigmatica</i>	Red-legged Pademelon	V	-
Other			
<i>Petalura gigantea</i>	Giant Dragonfly	E1	-

APPENDIX 4 – NOXIOUS WEED DECLARATIONS FOR CESSNOCK LGA

Class	Legal Requirements	All NSW Declaration	Cessnock LGA Declaration
1	<p>State prohibited weeds The plant must be eradicated from the land and the land must be kept free of the plant.</p>	<p>Anchored water hyacinth Black knapweed Chinese violet East Indian hygrophila Eurasian water milfoil Hawkweed Horsetail Hymenachne Karoo thorn Kochia] Lagarosiphon Mexican feather grass Miconia Mimosa Parthenium weed Pond apple Prickly acacia Rubbervine Senegal tea plant Siam weed Spotted knapweed Water caltrop Water lettuce Water soldier Witchweed Yellow burrhead</p>	
2	<p>Regionally prohibited weeds The plant must be eradicated from the land and the land must be kept free of the plant.</p>		<p>Hygrophila Alligator weed</p>
3	<p>Regionally controlled weeds The plant must be fully and continuously suppressed and destroyed.</p>		<p>Columbus grass Giant Parramatta grass Green cestrum Groundsel Bush Mother-of-millions Salvinia]</p>
4	<p>Locally controlled weeds The growth and spread of the plant must be controlled according to the measures in a management plan published by the local control authority.</p>	<p>Blackberry Golden Dodder Harrisia cactus Lantana Prickly pear Prickly pear Rhus</p>	<p>African boxthorn Bathurst/Noogoora/Californian/ cockle burrs Bitou bush/ Boneseed Cape tulip Chilean needle grass Crofton weed Johnson grass Long-leaf willow primrose Mistflower Pampas grass Paterson's curse, Vipers bugloss, Italian bugloss Serrated tussock Spiny burrgrass Spiny emex St. John's wort Water hyacinth</p>

Class	Legal Requirements	All NSW Declaration	Cessnock LGA Declaration
5	<p>Restricted plants for sale or distribution The requirements of the Noxious Weeds Act 1993 for a notifiable weed must be complied with.</p>	African feathergrass African turnipweed Annual ragweed Arrowhead Artichoke thistle Athel tree Bridal creeper Burr ragweed Cabomba Cayenne snakeweed Clockweed Corn sowthistle Espartillo Fountain grass Gallon's curse Glaucous starthistle Golden thistle Lantana Long-leaf willow primrose Mexican poppy Mossman River grass Onion grass Oxalis Red rice Sagittaria Sand oat Smooth-stemmed turnip Soldier thistle Texas blueweed Willows Yellow nutgrass	

APPENDIX 5 - ENVIRONMENTAL WEBSITES

ABARE Homepage	http://www.abare.gov.au/
Australian Association for Environment Education	www.aeee.org.au
Australian Network for Plant Conservation	http://www.anbg.gov.au/anpc/
Australian Greenhouse Office	http://www.greenhouse.gov.au
Australian Law Databases	http://www.austlii.edu.au
Aust. Nat. Botanic Gardens/Centre for Plant Biodiversity	http://www.anbg.gov.au
Australian Water Association Homepage	http://www.awa.asn.au
Biodiversity/ Endangered Species Programs	http://www.environment.gov.au/biodiversity/index.html
Birds Australia	http://www.birdsaustralia.com.au
Bureau of Meteorology	http://www.bom.gov.au
Clean Up Australia	http://www.cleanup.com.au/
Community Access to Natural Resources Information	http://www.canri.nsw.gov.au
Convict Trail Project-Great North Road	http://www.convicttrail.org
CSIRO Australia	http://www.csiro.au/
Department of Planning	http://www.planning.nsw.gov.au
Dept. of Energy, Utilities and Sustainability	www.deus.nsw.gov.au
Dept. of Agriculture, Fisheries and Forestry Australia	http://www.daff.gov.au
Dept. of Transport	http://www.transport.nsw.gov.au
Energy Ratings Website	http://www.energyrating.gov.au
Environment Australia Online	http://www.environment.gov.au
Environmental Defenders Office	http://www.edo.org.au
Environmental Initiatives - DECC	http://www.environment.nsw.gov.au
Fisheries R and D Corporation-Homepage	http://www.frdc.com.au
Flora Bank	http://www.florabank.org.au
Forests NSW	http://www.dpi.nsw.gov.au/forests
Greenhouse Challenge Plus	http://www.greenhouse.gov.au/challenge
Greening Australia	http://www.greeningaustralia.org.au/
Greenpeace	http://www.greenpeace.org.au
Hunter/Central Coast Catchment Mgt Auth.	http://www.hcr.cma.nsw.gov.au
Hunter Resource Recovery	http://www.hrr.com.au
Hunter Water	http://www.hunterwater.com.au
Keep Australia Beautiful	http://www.KeepAustraliaBeautiful.org.au
Land and Water Australia	http://www.lwrrdc.gov.au
HCCREMS	http://www.hccrems.com.au
Environment Protection and Heritage Council	http://www.ephc.gov.au
National Geographic	http://www.nationalgeographic.com

National Landcare Program Homepage	http://www.daff.gov.au/natural-resources/landcare
National Native Title Tribunal	http://www.nntt.gov.au
NSW National Parks and Wildlife Service	http://www.npws.nsw.gov.au
Natural Heritage Trust	http://www.nht.gov.au
Nature Conservation Council NSW	http://www.nccnsw.org.au/
NSW Agriculture	http://www.dpi.nsw.gov.au/agriculture
NSW Department of Local Government	http://www.dlg.nsw.gov.au
NSW State Parliament	http://www.parliament.nsw.gov.au
NSW Wildlife Atlas	http://www.wildlifeatlas.npws.nsw.gov.au
Planet Ark	www.planetark.com
Regional Forest Agreements	http://www.daff.gov.au/rfa
Rivers – Land and Water Australia	http://www.rivers.gov.au
Sustainable Building Guide	http://ww.yourhome.gov.au
Waterwatch	http://www.waterwatch.nsw.gov.au/
Total Environment Centre Index	http://tec.org.au
World Wide Fund for Nature	http://www.panda.org

NOW IT'S YOUR TURN

State of the Environment reports are produced for the local community and your views are important to Council. We hope you will take the time to complete this response sheet so that we can incorporate your ideas and opinions into subsequent reports. Your response will be greatly appreciated, and will assist Council in planning future environmental management activities.

1. Are you aware of any important environmental issues affecting the Cessnock area which have been omitted from this report?

2. Are the main issues given adequate coverage in the report? In which areas is information lacking? Please give details.

Human Settlements

Land

Atmosphere (Air)

Water

Biodiversity

Heritage

3. Did you find the structure and presentation of the report user-friendly, that is, easy to read and understand?

YES / NO

If not, have you any suggestions for improving this aspect of future State of the Environmental reports?

4. Are you aware of any environmental information in the form of documents, reports, plans, or programs which should be included in Cessnock's Environmental Database? Please give full details.

5. Do you have any other suggestions for improving the report?

6. In the interests of Community consultation, what are your top 3 environmental concerns in Cessnock LGA?

Please Return to:

Cessnock City Council,
Strategic and Community Services Department,
P.O. Box 152,
CESSNOCK. NSW. 2325