



Supplementary State of the Environment Report 2007 -2008

ANNEXURE 1 - Cessnock City Council Annual Report



Acknowledgments

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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 (formerly DEC)
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	Integrated 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

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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 2007 to 30th June 2008 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, 2005-06 and 2006-07. 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, 2005-06 and 2006-07 reports as not all background information and programs are included in this report (i.e. only those that have occurred during 2007-08 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 has been done to address adverse impacts and whether those actions 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 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 Cessnock LGA 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 2007-08 are shown in Figures 1 and 2. The maximum temperature recorded for the year at Cessnock was 36.5°C on 13th January 2008 and the minimum temperature was -1.6°C on 16th July 2007. Total rainfall for 2007-08 was 1,030.8mm (a 33% increase on 2006-07) and there was only 1 day over 35°C.

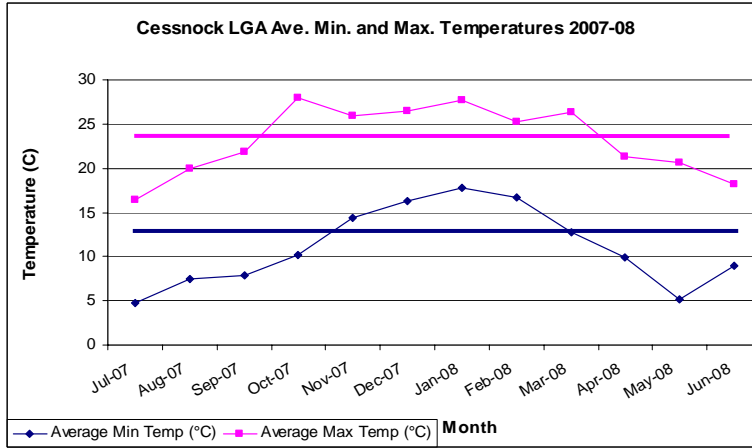


Figure 1: 2007-08 Cessnock Average Temperatures

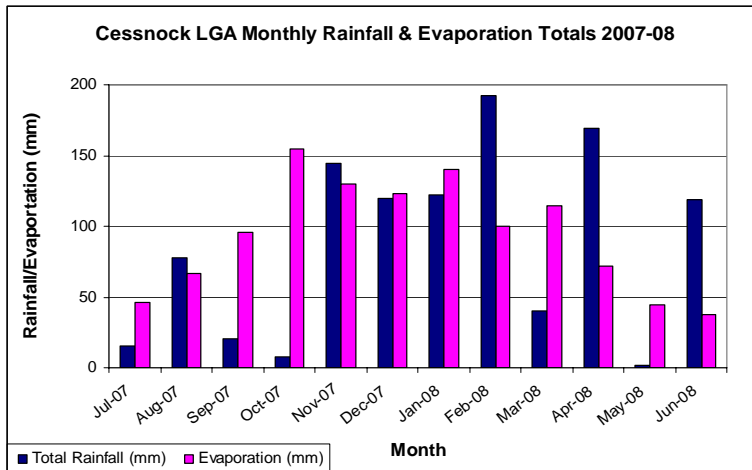


Figure 2: 2007-08 Cessnock rainfall and Evaporation

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” 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

SCHOOLS ENVIRONMENT EDUCATION PROGRAM

During 2007-08 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 Energy, Water (at Ellalong pictured below) and Biodiversity audits with 4 schools.
- Provided plants and planting information to 12 schools who participated in Schools Tree Day on 27th July 2007.

SIGN UP FOR SUSTAINABILITY

In May 2008 Council received advice of funding from the Environmental Trust to employ a project officer to undertake the "Sign up for Sustainability" program. The program is based on written pledges from the Community, commencing with an indepth survey on the knowledge, awareness, attitudes and actions of a sample of the whole community. From this research a program of educational activities will be developed to take to local service clubs, P&C Groups, youth groups and community events. A pledge system will be incorporated into the program whereby residents will 'sign-up' to undertake specific actions to change their behaviour and improve their sustainability impacts. These pledges will then be tracked for evaluation purposes to see if actions are being undertaken and savings achieved.

The aim of this program is to promote and enable sustainable behaviour by residents of Cessnock LGA. The programs objectives are to:

1. Gauge level of the community's knowledge, awareness, attitudes and actions on urban sustainability issues.
2. Decrease participant household energy and water usage by at least 10%.
3. Increase participant knowledge of biodiversity and dryland salinity issues.
4. And, enable existing community groups to develop sustainability skills

The program will also see the establishment of 4 Home sustainability self audits kits for loan out to community members. Production of workshop materials (flyers, weblinks, brochures, access to Landcare trailer, etc) and outlines. The overall outcome of the program should be a measureable reduction in participant energy and water consumption, increased knowledge of local biodiversity and dryland salinity in the Cessnock community, and local community groups empowered as local sustainability champions and the establishment of a network for further educational opportunities.

COMMUNITY AND SOCIAL DEVELOPMENT

SOCIAL AND COMMUNITY PLAN

During 2007-08 the following actions were undertaken from the Social and Community Plan.

- The Local Area Planning Team Meeting was held 5 times. The meetings were used to gather information regarding the best methods to engage and consult with the population groups identified in the plan.
- The Cessnock and Anti-Violence Committee continues to work together and deliver projects which aim to reduce family violence.
- Outreach activities targeted at youth, including those relating to social and recreation were delivered across the Local Government Area, by a number of Youth Services. Events included outreach to local skate parks and a bike and skating competition.
- A working party has been established which aims to offer young parents the opportunity to participate in educational courses and simultaneously offers practical family support. This will allow parents more of an opportunity to remain in education.
- The planning process relating to the July 2008 NAIDOC event was positive and allowed for networking with Indigenous Service Providers and Cessnock City Council.
- The strategy "To improve knowledge of the available services within the LGA" was achieved. For instance the community directory was updated, community and welfare services were promoted at a Seniors Week Event, and talks were held with community groups regarding the range of services on offer in the Cessnock Local Government Area.
- The Cessnock Family Support Service and the Domestic Violence Liaison Police Officers have worked together to provide a court support service for women who have experienced domestic violence.

Transport

- The ongoing reprint of the Cessnock Transport Guide and the more extensive Regional Transport Guide.
- Ongoing promotion of the Pensioner Excursion Ticket

Early Intervention and Prevention - Family and Community Violence

- The Cessnock Anti Violence Network engaged Domestic Violence Court Assistance Scheme to offer Court Support for victims of domestic violence.
- The Benevolent Society employed a case Manager/Home Visiting Caseworker to be based at Cessnock Family Support Service. This person will deliver the Brighter Futures program which offers greater support to families encountering problems in caring for their children.

Early Intervention and Prevention - Risk Taking / Antisocial Behaviour

- The Pit Stop for Youth program was run again in 2007. All three high schools in the LGA participated with forty eight (48) young men from Cessnock High School, sixty-four (64) from Kurri Kurri High School and seventy-four (74) from Mount View High School from years 8 & 9.

Early Intervention and Prevention - Aim: Health and Wellbeing

- Sports for Our Neighbourhood has been established at East Cessnock Primary School. This program is designed to make available a range of sports for children who may not be able to access traditional sporting opportunities and that can be played informally in the safety of their school grounds.
- 'Kids on Walkabout' program has been developed and aims to increase the amount of physical activity school children enjoy through an inter school walking challenge. Many of the primary schools in the Cessnock Local Government Area are to be involved in this program.

Community Ownership and Pride

- Kurri Kurri Small Town Project 'Ask Me, I'm a Local'. Many of the outcomes of this project are still in operation today such as the mural tours and the visitor information centre.
- The East Cessnock Cottage is facilitating many programs such as 'Breathing Space' which is run by Awabakal and the Benevolent Society and is a supported playgroup for parents of children under school age, 'Art and Craft at the Cottage' which is run by Samaritans Information and Neighbourhood Centre and Community Health and Department of Housing offer appointments at the cottage for residents on an outreach basis.
- An East Cessnock Residents Committee has been established. The committee consists of four (4) residents and representatives from various community organisations. Projects undertaken so far have included Market Stalls at Weston Primary School, Christmas Party & Clean Up Day on the East Cessnock Estate (40 cubic metres of rubbish was removed) and 'Safer Streets' which aims to slow traffic on the estate.
- A Community Garden Project is also underway at East Cessnock Cottage. An East Enders Community Nursery Group has been established to oversee the implementation of this project. The group has engaged a consultant to assist in designing, establishing, using and maintaining the garden.
- The Cessnock Shed and Community Garden is underway and a variety of works and courses have been undertaken at the site.
- Computer resource centres have been established at Greta, East Cessnock and Samaritans.

COMMUNITY FACILITIES

Each year Council implements a prioritised Community Facilities Capital Works and Planned Maintenance Program which incorporates the ongoing development and routine maintenance of Council's community halls and buildings.

In 2007/08 the following capital works were undertaken within community facilities:

- Maintenance of floors, grounds, exit/emergency lighting, exit doors, signage and a review of planning documents for all facilities.
- Kurri Kurri Ambulance Hall – roof replacement
- Bellbird Community Hall – Roof replacement and roof bolt installation, conversion of the stage into storage
- Ellalong Community Hall – external painting and minor earthworks, replacement of windows and installation of a mat well
- Abermain Plaza Hall – Internal painting, security screens
- Wollombi Community Hall – Replacement of water tank and completion of concrete driveway
- Weston Civic Centre – Relocation of electrical sub board
- Greta Multipurpose Centre – 25m x 3m reinforced concrete emergency vehicular access
- Marthaville Cultural Centre –external painting and minor repairs

Community Facilities Dollar for Dollar Grants 2007/08

Each year grants are offered to Community Building Management Committees and facility user groups for improvements to Council owned community facilities and/or the land surrounding community facilities including the purchase of minor plant.

Projects completed in 2007/2008 include:

- Abermain Plaza Hall – New drinks fridge and purchase and installation of 8 window blinds

- Bellbird Community Hall – Installation of laminated kitchen benches and cupboard under sink
- Bellbird Pre School – Purchase and installation of a reverse cycle air conditioner
- Branxton Pre School – Purchase and installation of a watering system for grounds/gardens, purchase of new storage locker
- Cessnock Multipurpose Children’s Centre – Installation of new boundary fence and gates and new indoor safety barrier
- Cessnock Occasional Childcare – New railing for entry ramp and balcony, new hand basin in nappy change room and RCD (residual current device) installation
- Ellalong Community Hall – Purchase of 4 new pin boards and 4 trestle tables
- Kearsley Community Hall – Purchase of 12 new trestle tables, 2 gas heaters and a new microwave
- Kurri Early Childhood Centre – Installation of stainless steel wash troughs and dual flush toilet cisterns in children’s bathrooms
- Kurri Kurri Community Centre – Refurbishment of meeting room 10 including wall and carpet improvements. Floor improvements to gymnasium including replacement of carpet and underlay
- North Cessnock Community Hall – Purchase of a new bain marie and floor polisher
- Pokolbin Community Hall – Purchase of 24 trestle tables
- Weston Civic Centre – Installation of 3 skylights, paint for exterior hall and relocation of fan
- Weston Community Pre School – Replace UV damaged shade covers over playground
- Wollombi Valley Progress Association, Laguna Hall Committee – Purchase and installation of a public address system, paving, landscaping, and installation of a retaining wall

YOUTH SERVICES

In the past twelve months Cessnock Youth Centre and Outreach Service (CYCOS) had just over 4,250 young people attending and participating in structured programs and drop-in services.

TIDY TOWNS PROGRAM

Some changes to the Tidy Towns program were introduced by Keep Australia Beautiful Council (KABC) at the start of 2007. The most notable of these was the change of the program name to “Tidy Towns – Sustainable Communities”. The name change was introduced to better describe the activities of Tidy Towns groups across the state that not only focus on tidy streets, litter prevention and beautification but also are involved in conservation and restoration of bushland, historical and cultural heritage, and recycling and resource recovery to minimise the community’s impact on the environment.

Council continues to support the Tidy Towns Program through a Dollar for Dollar Grant Program, payment of annual fees to 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 2007-08 include:
- Construction of concrete path in Centenary Park, Abermain / Neath
- Supply of equipment (lawn mower, whipper snipper, ladder, bull float and docking saw), Weston
- Stencilled concrete round Noticeboard and Log at entrance to Log of Knowledge Park, Kurri Kurri
- Purchase of ride on mower, Ellalong.

During 2007-08 a new Tidy Towns group was formed in Paxton bringing the total in the LGA to 13.

As in previous years Tidy Towns from the Cessnock LGA groups received a variety of awards for outstanding community and environmental projects:

- Abermain-Neath Tidy Towns was awarded:
 - Highly Commended in Population Category C
 - Cultural Heritage Award in population category C for the Abermain Eisteddfod
- Wollombi Tidy Towns received:
 - Highly Commended in Population Category A for their Millpond Walkway.
- Kurri Kurri Tidy Towns were awarded:
 - Litter Prevention and Waste Minimisation Award for their submission on Council's Waste and Reuse Centre
 - Highly Commended in the Energy Innovation Award in Population Category D for their entry on behalf of the Kurri Kurri TAFE Campus – "Managing their Environment with innovation".
- Cessnock Tidy Towns received:
 - Civic Partnership Award Population Category E for their entry of the Walking Trail Booklet, and
 - Friendly Town Award Population Category E for the second year in a row.

The Overall NSW winner for 2008 was Dorrigo in the north coast hinterland and the 2008 awards will be presented there in November 2008.

ECONOMIC DEVELOPMENT

2007 YEAR IN REVIEW - WINE AND TOURISM

Year 2007 saw substantial growth in the Accommodation and Restaurant industry. The June 2007 storms and floods initially impacted negatively on visitor and revenue numbers, fuelled by negative, and in some cases ill-informed press reports. Actual and estimated loss of revenue reports were prepared to support the need for an immediate marketing campaign. Funding was sourced from State and Federal Governments and Tourism assisted by Local Government and businesses. This program was launched on 19th August 2007 with success as verified by the data collated.

Although June, July and early August suffered large negative growth periods, the following months saw record growth from the Marketing campaign and the hosting of world class concerts that drew large crowds to the region.

Cellar Door sales suffered two of the lowest growth months since 2003 with June and July, during the flood crisis period, down 24.6% and 16.3% respectively, yet still finished the year down only 0.3% from 2006.

Major Outcomes.

The reflection of co-operative organization to mount a marketing campaign following the June floods, produced success as demonstrated by the following:

- Accommodation Occupancy increased by 3.0% for 2007 compared to 2006, with an increase in unit inventory of 11.3% for the year.
- Growth in Visitor Night Stays increased 13.5% for the year, bringing total day count visitors to 2.711 million.
- Cellar Door weighted average sale was down 0.3% to \$62,198 for 2007, though would have been positive if not for the Queens Birthday weekend storms and flood.

- There were more than 248 wedding receptions conducted in Wine Country for the year, with over 18,922 guests consuming more than 13,615 bottles of wine of which 94.6% was Hunter Branded. Note that not all wedding venues in the region participated in the program.
- Total restaurant revenue increased 5.4% on an increase of 8 additional outlets in the region.

Growth of establishments comment.

All categories experienced small growth in the number of businesses that contribute to the Tourism Dollar Spend figures.

- Cellar door outlets increased by; 0.0%
- Restaurants & Cafes increased by; 15.4%
- Accommodation units increased by; 11.3% (2468 unit nights)

Tourism Dollar Spend.

This is the fifth year that dollar spend figures have been presented, and in some cases there has been adjustments to methodologies in calculations for the prior year to ensure correctness and continuity for future data.

All figures were calculated using monthly results with separations and daily trading figures, and expressed as dollars over the following number of businesses.

- Cellar Door: *TOTAL* \$70,090,421 -2.6%
- Accommodation: *TOTAL* \$74,166,143 +22.7%
- Restaurants & Cafes: *TOTAL* \$49,275,208 +5.4%

Combined Sectors Total Spend: \$193,531,772 +8.1%

Visitation Rates

There was a measured increase in both day trippers (2,711,199 visitors +7.8%) and over night visitors (468,698 +12.2%) from the previous year's figures. The increase can be attributed to both the large increase in visitors to major events in the latter part of the year, and the major marketing campaign launched on august 19 2007.

HUNTER REGION BUSINESS EXCELLENCE AWARDS

The winners of the 2008 Hunter Region Business Excellence Awards included: The Critter Sitter (Indigenous Business category), Banjos Bushland Retreat (Accommodation), The Hunter Valley Zoo (Tourism), Mortgage Choice Cessnock (Financial/Real Estate), The Salon Lynda (Hairdressing), Max Ostermann (Health Services), Calais Estate Wines (Vineyard/Cellar door), Jim Knowles Group (Business Services), Ridgey Didge Pies (Fresh Produce), and Hobby Hampers (Arts & Crafts).

GOVERNANCE

INTEGRATED MANAGEMENT SYSTEM

Councils Integrated Management System (IMS) has been developed by the Infrastructure 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 OHS Management Systems AS 4801:2001. The documentation has also been written to comply with the NSW Government OHS and Environmental Management System Guidelines.

During July 2008 SAI Global conducted surveillance audits of these systems and Certification was continued. No non-conformances raised. 6 Areas of Concern and 10 Opportunities for Improvements were raised. These are currently being addressed as System Improvement Requests.

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 and Safety and G36 Environmental Management Systems. Currently Council is developing systems to comply with the new RMCC Contracts (Road Maintenance Council Contracts).

HUMAN SETTLEMENTS

AT A GLANCE

Population and Settlement Patterns			Data Gaps:
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	Stable	4,813,690kL of water consumed in the LGA during 2007-08, a decrease of 15 % on last year's consumption.	
Pressure	Stable	Demand continues to increase with population and development. Additionally, average household consumption decreased by 14% on 2006-07.	
Response	Limited	Hunter Water continues to undertake programs such as envirosaver and water tank rebates .	
Transport			
State	Poor	43,007 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	Pathways Program constructed 0.3kms of pathway. Transport initiatives (including Road Safety program) continues being implemented.	
Waste Management			
State	Increasing	36,380 tonnes of waste was landfilled; 4,223 tonnes of recyclables were collected from kerbsides; a further 4,318 tonnes was diverted from the landfill; and 5,096 ML of waste water was treated during 2007-08.	
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. 81 noise complaints (25% about motor bikes) 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. Changes to POEO (Noise Control) Regulation aimed at providing simple, straightforward and enforceable noise controls.	

On-site wastewater treatment systems requiring maintenance or working effectively is unknown.

Noise quality monitoring data for the LGA is required.

RESPONSES TO POPULATION AND SETTLEMENT PATTERNS ISSUES

STATE ENVIRONMENTAL PLANNING POLICIES

On 26th October 2007 a new State Environmental Planning Policy (Temporary Structures and Places of Public Entertainment) 2007 commenced. The SEPP is intended to encourage the staging of more live entertainment, and to make it easier to hold private functions and community events allowing some uses and temporary structures to be approved via exempt of complying development provisions rather than having to submit a DA.

In May 2008 the State Environment Planning Policy (Rural Lands) 2008 was circulated. The aims for the SEPP (Rural Lands) 2008 are to:

- Facilitate the orderly and economic use and development of rural lands for rural related purposes.
- Identify Rural Planning Principles and the Rural Subdivision Principles so as to assist in the proper management, development and protection of rural lands for the purpose of promoting the social, economic and environmental welfare of the State.
- Implement measures designed to reduce land use conflicts.
- Identify State significant agricultural land for the purpose of ensuring the ongoing viability of agriculture on that land, having regard to social, economic and environmental considerations.
- Amend provisions of other planning instruments relating to concessional lots in rural subdivisions.

RESPONSES TO DRINKING WATER ISSUES

Domestic water consumption for the Cessnock LGA was 3,141,155kL averaging out to 191kL per household and 110kL per flat/unit. Industrial, Commercial and Agricultural users consumed another 1,672,535kL. This data was supplied by Hunter Water based on the water year which is 20 April 2007 to 19 April 2008. This represents a decrease in water consumption in the LGA from 2006-07 as displayed in the Figure 3 over.

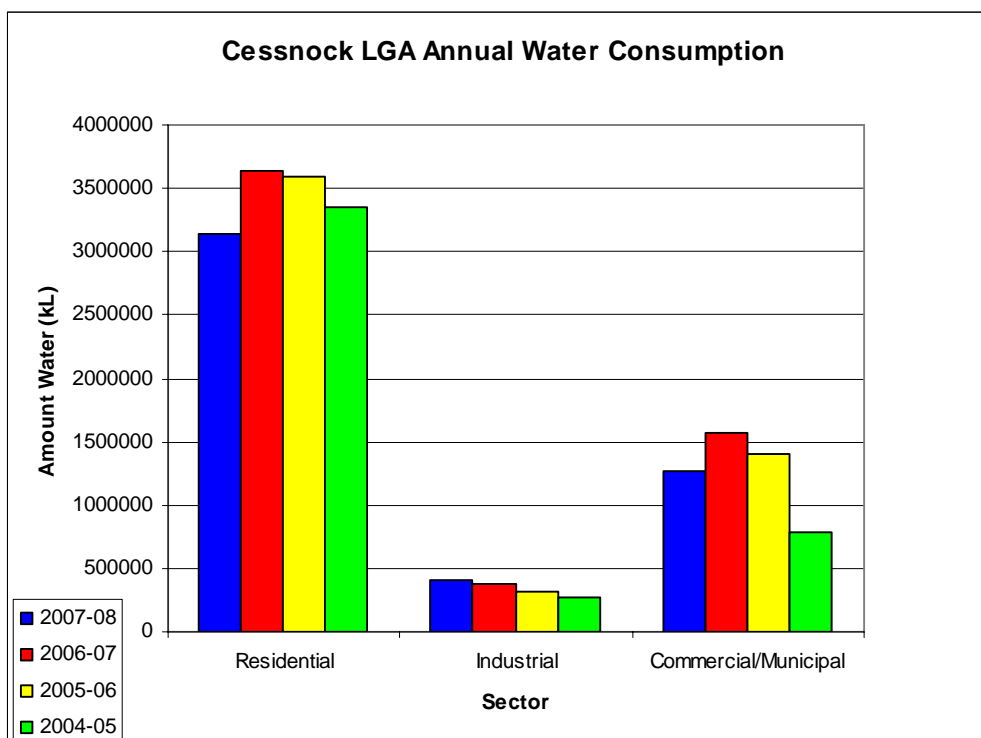


Figure 3: Annual Water Consumption in the Cessnock LGA

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.

During 2007-08, 569 homes in the Cessnock LGA participated in the program installing 13,544 compact fluorescent globes and 160 AAA-rated water-saving showerheads. These installations resulted in saving of 11,949kL of water in the Cessnock LGA.

RESPONSES TO TRANSPORT ISSUES

VEHICLE REGISTRATIONS

During 2007-08, there was an increase of 1,513 vehicles registered in the LGA from 2006-07. Figure 6 shows a breakdown of types of vehicles registered in the LGA as at 30th June 2008 and Figure 7 a comparison with the 2006-07, 2005-06 and 2004-05 registrations. Additional data on fuel types of registered vehicles was also provided by the RTA for 2007-08, this is displayed in Figure 8. It is interesting to note that vehicles run on leaded fuel has dropped to 5% from 2006-07 and those running on LPG has increased to 2.5% from 2006-07.

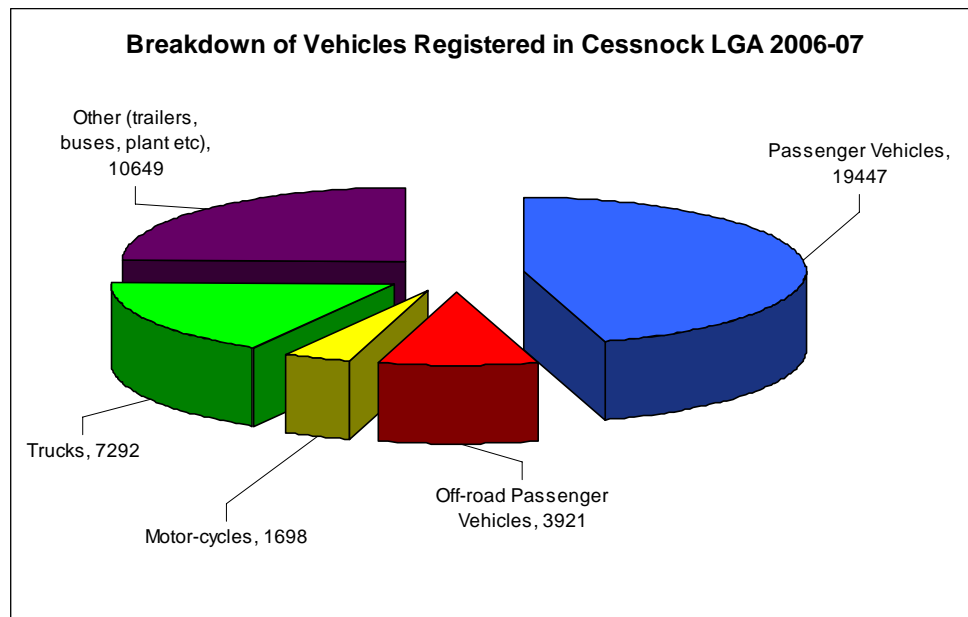


Figure6: Breakdown of types of vehicles registered in the Cessnock LGA.

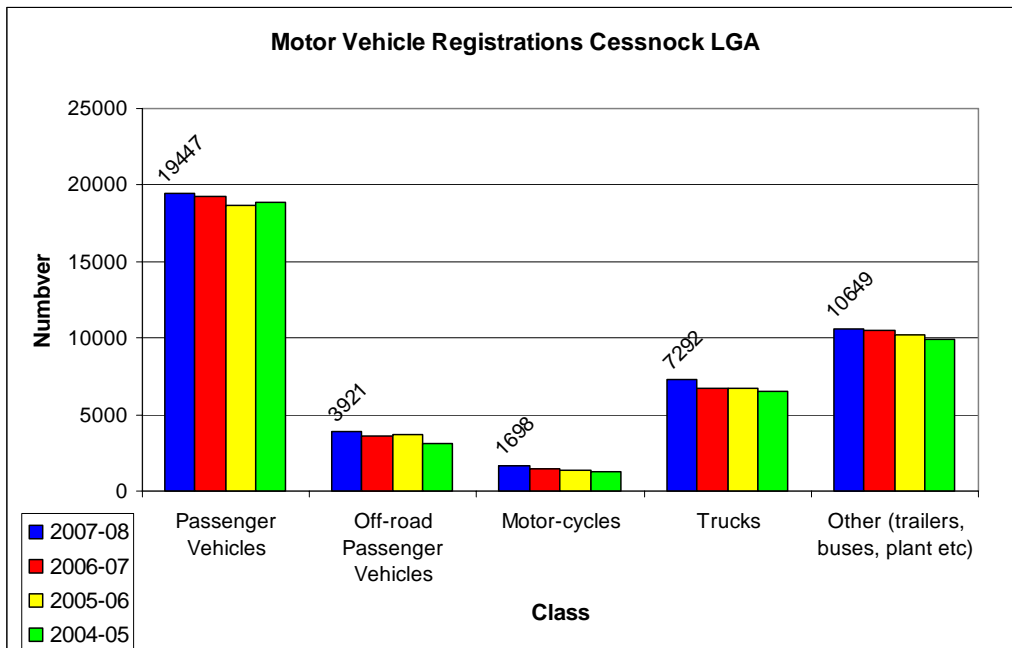


Figure 7: Comparison of vehicles registered in Cessnock LGA over time

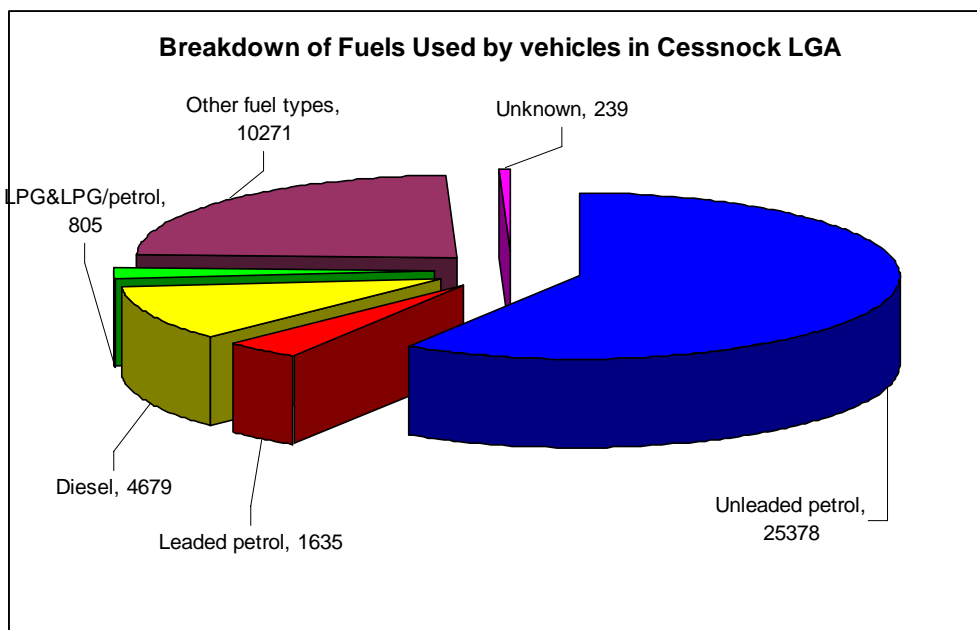


Figure 8: Breakdown of fuel types used by vehicles registered in the Cessnock LGA.

LGA PATHWAYS PROGRAM

In 2007-08 approximately 200m of concrete pathway was installed from Cantwell to Heddon Street (Kurri Kurri) and 100m of concrete pathway within Abermain Centenary Park (Abermain).

RESPONSES TO WASTE MANAGEMENT ISSUES

SOLID WASTE MANAGEMENT

Landfill Extension

It remains apparent that there will be an ongoing need for landfill capacity for the foreseeable future. Through negotiation with the Dept of Lands, Council has secured suitable land adjacent to the existing landfill operations which will meet both immediate and long term needs.

Preparation of the environmental impact study (EIS) for the landfill expansion is expected to be completed in August 2008. The area includes a proposed landfill development site with capacity for approx 20 years and a waste investigation area for possible future expansion.

This development is 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. At its meeting on 7th May 2008, Council agreed to be appointed as the Trust Manager, undertaking management of the environmental protection zone that will provide both buffer area to the proposed landfill and flora and fauna linkage between the National Park and State Forest.

Landfill "infill" Proposal

As a short term measure to meet the immediate (1–3 year) needs of community, Council has gained approval from the Dept of Environment and Climate Change (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 existing site. Construction work is expected to be completed in July 2008.

Waste Disposal

During 2007-08, 36,380 tonnes of waste was landfilled at the Cessnock Waste and Reuse Centre. From the 1st June 2007 the second 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.

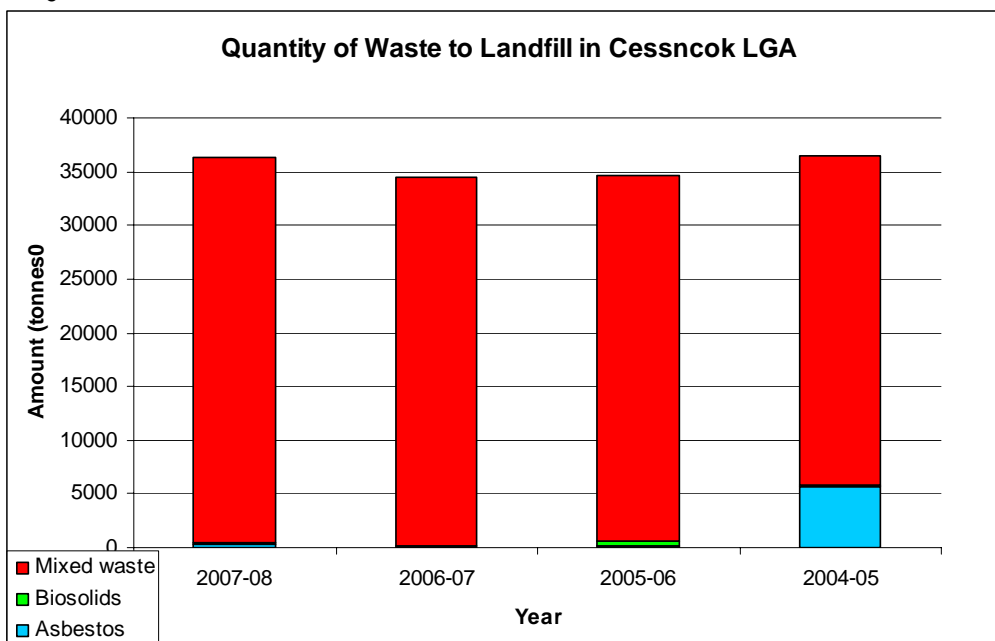


Table 4: Quantity of waste Landfilled at Cessnock Waste and Reus Centre for last 4 years.

Domestic waste expressed per person (using 2006 population) is equivalent to 0.78 tonnes (an increase of 0.03 on 2006-07) of waste produced during 2007-08. Note this does not include greenwaste, reprocessables or recyclables.

Waste Minimisation at the Cessnock Waste and Reuse Centre

During 2007-08, 189 tonnes of paper and cardboard, 1,953 tonnes of greenwaste, and 1,565 tonnes of concrete waste was reprocessed and diverted from landfill. In addition, approximately 12,200L of used motor vehicle oil was collected from the waste oil recycling station, and 800 tonnes of metal recycled at the Waste and Reuse Centre.

Kerbside Recycling

During 2007-08, 4,223 tonnes of recyclables (up 9% from 2006-07 with an additional 439 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 2006-07, 2005-06, 2004-05 and 2003-04 collection amounts). The recycling of these materials equates approximately to saving enough electricity to power 3,570 homes; enough water to fill 30 Olympic swimming pools; and, removing 570 cars worth of greenhouse gas emissions from the roads for the year.

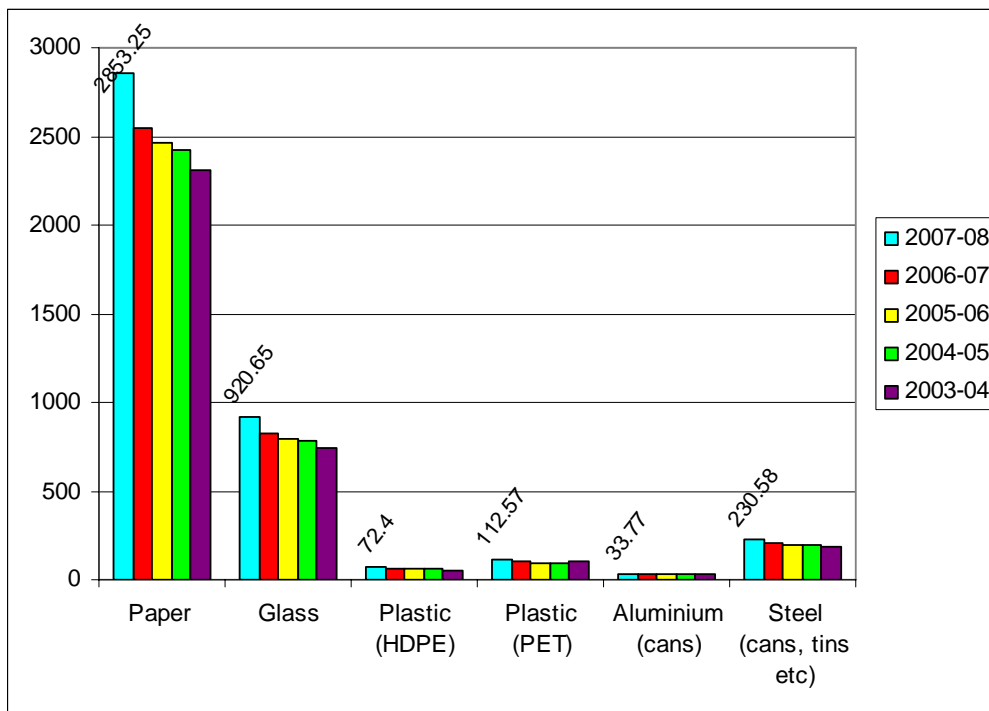


Figure 5: Cessnock LGA Recyclables Stream (tonnes for 2007-08 displayed and compared to 2006-07, 2005-06, 2004-05 and 2003-04 collection)

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.
- **Advertising Program** - advertisements were placed in the Cessnock Advertiser with positive reinforcement messages being used to coincide with National Recycling Week 2007. 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 2007 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.
- **Lifecycle Program** - Introduction of the Life Cycle program 29 April 2008. Upon completing first collections in the Cessnock LGA a total of 6500 kilos has been collected offsetting 263.64 tonnes of green house gas emissions and avoiding 15.6 cubic metres of landfill space.

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

Clean Up Australia Day

This year approximately 250 community volunteers took part in Clean Up activities at 25 registered sites across the LGA. An impressive 43.12 tonnes of rubbish was collected from these sites. This was an increase on the past couple of years due to large clean up effort by Department of Lands staff and families on a site at Stanford Merthyr. In addition, 9 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 705.4 tonnes, bringing the 2008 Clean Up total to 748.52 tonnes.

Hunter Region Waste Project

This project is a joint initiative of the four member Councils (Cessnock, Lake Macquarie, Maitland and Newcastle) assessing the opportunity to apply technology in lieu of landfill to process the organic rich waste stream via anaerobic digestion. The 20 year project will divert up to 160,000 tonnes of waste from landfill per year with outputs from the process including a soil enhancer (compost) suitable for broad acre application/rehabilitation such as open cut mine sites, electricity production and metal recovery. The Heads of Agreement (agreement in principle) for the \$100M project was signed by the member Councils and contractor in November 2007. Work is underway to develop the Project Deed with expected completion in November 2008. Operation is expected to commence by 2010.

drumMUSTER Program

During 2007-08 the annual drumMUSTER program was held in May 2008, with a total of 1769 drums being collected ready for recycling.

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 July 2008. The event attracted 198 entries by 157 artists (a decrease of 23% on artists who participated in 2007) which were displayed at the Honeysuckle Rail Sheds from the 1st June 2008 till 13th July 2008 with over 3,358 people viewing the displays.



Adopt-a-Road Program

During 2007-08 4 new agreements were entered into bringing the total number of sponsors to 21 covering 76.4kms of roadside.

LIQUID WASTE MANAGEMENT

Wastewater Treatment Plants (WWTP)

Hunter Water operates five wastewater treatment plants within the Cessnock LGA and treated 5,096 ML of effluent during 2007-08. Of the wastewater treated in the Cessnock LGA 6% was reused for irrigation. This is approximately half the amount as was reused in 2006-07.

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

RESPONSES TO TRANQUILITY AND NOISE ISSUES

During the 2007-08, the number of complaints received by Council in relation to noise pollution totalled 81. Of these, approximately 25% were associated with motor cycles. Council also issued 10 Public Entertainment Licences to premises in the LGA.

Changes to Legislation

On 1 March 2008 the Protection of the Environment Operations (Noise Control) Regulation 2008 commenced replacing the Protection of the Environment Operations (Noise Control) Regulation 2000. The regulation provides simple, straightforward and enforceable noise controls. The regulation now:-

- restricts the playing of loud musical instruments and sound systems that disturb neighbours after 10pm Sunday to Thursday, rather than after 12 midnight
- controls the noise from heat pump water heaters to minimise their impact on neighbours
- reduces the time a building alarm may sound before a higher penalty is incurred.
- provide simple, straightforward and enforceable noise controls

LAND

AT A GLANCE

Landuse Change			Data Gaps:
State	Increasing	Continued development with 1,266 development applications, 914 construction certificates and 93 sub-division certificates approved/issued in 2007-08.	
Pressure	Increasing	Demand for land in LGA is placing increased pressure on undeveloped areas.	
Response	Improving		
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 during 2007-08. 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 streambank 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 2007-08, Cessnock City Council received 1,266 Development Applications with a total value of \$220,604,778. A further 914 applications were received for Construction Certificates, and 93 applications for Subdivision Certificates.

LOCAL ENVIRONMENT PLAN

The CWSS (Stage 1) was adopted by Council in 2003 and endorsed by the Department of Planning (DoP) in 2004 as an environmental study for the purposes of preparing a new citywide Local Environmental Plan (LEP). The strategy was catchment-based, which was consistent with the State Government directives at the time. This direction has been abandoned under more recent amendments to the EP & A Act. As Councils are now required to prepare a comprehensive LEP that conforms to a Standard Instrument, the endorsed strategy has been reviewed to align with this new direction. The CWSS (2003) remains relevant as a background study.

The CWSS (Stage 2) was adopted by Council in 2005, but not endorsed by the Department of Planning. A number of adopted directions have been reviewed at the Department's request. This revised CWSS (2007) incorporates both stages of the CWSS into one document to form a single strategy.

The Lower Hunter Regional Strategy (LHRS) was also released by the Department of Planning in 2006. The strategy aims to guide the Lower Hunter's growth for the next 25 years (2006-2031) by identifying future development areas, principal land use types, settlement patterns and conservation outcomes. All councils in the Lower Hunter are required to implement the outcomes and actions in the LHRS primarily through local environmental plans.

The CWSS (2007) incorporates the outcomes and actions arising from the LHRS (where possible in the timeframe for preparation of the new LEP) and extends the life of the CWSS to correspond with the twenty five (25) year time frame.

HEZ Update

The Hunter Economic Zone is progressing with the emphasis on Infrastructure Provision during the year with the Energy Australia Sub-Station and Stand-by Station completed. Development consents were issued for associated infrastructure works and buildings as well as an educational establishment including early learning centre and Aluminium Extrusion Plant which is currently under construction.

OPEN SPACE

Recreation

In April 2008, a Draft Recreation and Open Space Strategic Plan was sent to Council and put on public exhibition. The Plan aims to guide the provision of recreation and open space areas within the LGA replacing the previous 1996 plan. Some of the key issues addressed in the draft Plan are integration of cycleways/footpaths; addressing high levels of obesity and heart disease in the LGA; guidelines and minimum standards/sizes for parks and sporting facilities; and, continued rationalisation of open space.

Sporting Facilities and Equipment \$4\$ Grants in 2007-08 were:

- Bellbird Junior Soccer Club – travelling irrigator, hoses, PA system and a microwave.
- Branxton Greta Pony Club – new gates and rails, ground improvements, minor drainage works and purchase of paint.
- Cessnock Athletics Centre – purchase of a ride on lawn mower.
- Cessnock City Hornets FC – field improvements and installation of a security system.
- Cessnock City Women's Soccer Club – purchase of a storage container.

- Cessnock Dog Club – purchase of a ride on mower, materials for ground improvements and five shade cabanas.
- Cessnock Minor Rugby League – field improvements and purchase and installation of a shade shelter.
- Cessnock Tennis Club – pressure cleaning of six tennis courts.
- East Cessnock Cricket Club – purchase and installation of scoreboards.
- Kurri Kurri Little Athletics Centre – purchase of a new public address system.
- Mulbring Cricket Club – replacement of synthetic grass in cricket practice nets.
- Wollombi Valley Pony Club – purchase of portable dressage equipment and shelter over barbecue.
- Wollombi Tennis Club – clubhouse enhancement with new doors, screens, etc.

Recreation works completed in 2007-08 include the following:

Minor Works:

- Improvements to Councils sporting fields through the slicing, application of fertiliser & herbicide, and top dressing programs, maintenance of parks signage and review of planning documents for all facilities.
- Turner Park Cessnock – installation of retaining wall and replacement of 1.8m chain wire fencing.
- Brunner Park East Branxton – installation of a picnic shelter.
- Miller Park Branxton – replacement of shade sails over the children’s playground.
- Kitchener Poppet Head – installation of bollards to further secure the site.
- Carmichael Park Bellbird – installation of 135m of weld mesh fencing.
- Kearsley Tennis Courts – installation of concrete retaining wall and dish drain.
- North End Park Cessnock – installation of a new light pole.
- Log of Knowledge Park Kurri – stage 1 fencing improvements.
- Hall Park Cessnock – installation of a picnic shelter.
- Abermain Centenary Park – installation of a bubbler near the children’s playground.

Capital Works:

- Baddeley Park (Evans Street) – installation 140m 1.8m high chain wire fencing and additional seating.
- Apex Park Cessnock – stage 2: Park upgrade. Installation of pathways and advanced stock tree.
- Turner Park Cessnock – replacement of boundary fence around athletics track.
- Greta Tennis Courts – installation of concrete concourse to provide bank stability and spectator seating.
- Margaret Johns Park Kurri – construction of two practice cricket nets.
- Jeffries Park Abermain – stage 2 park upgrade with installation of 150m weld mesh fencing.
- Lions Park Branxton – park upgrade in line with Branxton Masterplan with 105m of koppers log fencing installed, removal and replacement of picnic shelters.
- Mulbring Oval – stage 1 includes completion of weld mesh fencing around cricket oval, earthworks and installation of stepped retaining wall.
- Greta Central Oval – successful with a Capital Assistance Grant to install four floodlighting poles.
- Miller Park - successful with a Capital Assistance Grant to install four floodlighting poles.

RESPONSES TO LAND DEGRADATION/INTERVENTION ISSUES

VEGETATION CLEARING

No information on clearing from Forests NSW or CMA is currently available.

Native Vegetation Regulation

Information on Property Vegetation Plans (PVP's) from the CMA reported 4 PVP's undertaken in the Cessnock LGA during 2007-08 covering a land area of 289 hectares.

LAND MANAGEMENT

HCCREMS – Rural Residential Landowners Education Program

During 2007-08, the Rural Residential Landowners kit received further funding from the Catchment Management Authority to allow printing of the resource as a CD and the construction of an accompanying website.

The website version of 'A Guide to Rural Residential Living' (www.ruralresidentialliving.com.au) was officially launched at the Total Small Farms Field Days on the weekend of 3rd to 4th May 2008. In addition to the web based version of the Resource Guide, 5000 CD versions have also been produced and are available to landowners for free from their local council. 50 folder versions have also been produced and can be accessed by landowners at Council Administration Centres and libraries.

The particular strategies being utilised to promote the Resource Guide to landowners in the region include:

- Direct mailing of a promotional flyer during June 2008 to approximately 15,000 properties across the region. A copy of the flyer is shown on the right.
- Promotional displays in Council Administration Centres, libraries and other community facilities
- Regional and local media releases promoting the launch and availability of the Resource Guide.
- Articles in local council newsletters
- The provision of links to the web based Resource Guide on individual council websites.



LANDCARE ACTIVITIES

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

FIRE HISTORY AND MANAGEMENT

During 2007-08 there were 121 fires reported within the Cessnock LGA by the Rural Fire Service affecting approximately 100ha. An additional 4,076ha of land underwent bushfire hazard reduction. No information State Forest areas wildfires of hazard reduction burns are currently available.

HCCREMS REGIONAL SOILS MAPPING PROJECT

The soils mapping being carried out as a sub-project of the regional vegetation classification and mapping project is currently underway, with all relevant data having been supplied to the consultants. The outputs from this project should be in draft stage by the end of the current year. This sub-project will provide a seamless soils mapping layer for the entire region and will be a useful dataset for a range of purposes, including as an input into vegetation modelling.

AIR (ATMOSPHERE)

AT A GLANCE

Greenhouse Gas Emissions			Data Gaps:
State	Increasing	Due to changes in the methodology used by Energy Australia to provide electricity usage, data for 2007-08 is not currently available	
Pressure	Increasing	Electricity consumption is assumed to increase in line with population growth. Heavy reliance on motor vehicles for transportation.	
Response	Limited	<u>Council Energy Improvement Program</u> , <u>Envirosaver</u> , <u>REMS Climate Action Project</u> and <u>pathways</u> program being implemented to address this issue.	
Diffuse Air Pollution Sources			Data Gaps:
State	Unknown	46 odour complaints (10 from animals and 10 from Chicken sheds) reported to Council. <u>National Pollutant Inventory</u> identified 73 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			Data Gaps:
State	Unknown	RFS reported no wildfires and 28 hazard reduction burns covering 1,056ha.	
Pressure	Unknown	Impacts of domestic heating and burning associated with agriculture or forestry unknown.	
Response	Limited	<u>Woodsmoke</u> reduction program continued.	
Indoor Air Quality			Recommendations:
State	Unknown	55 <u>regulated air-conditioning</u> systems in the LGA.	
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

Due to changes in the methodology used by Energy Australia to provide electricity usage, data for 2007-08 is not currently available.

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.

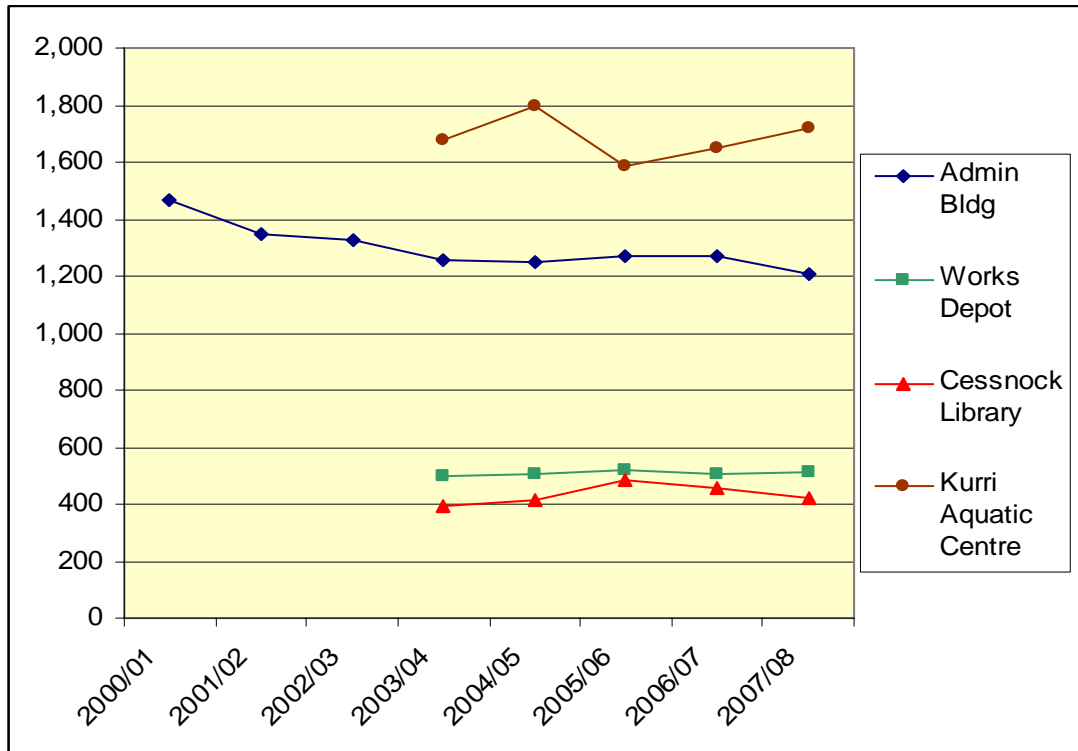


Figure 6: Council Energy Consumption History

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
2007/08	1,205	512	420	1,722

ENVIROSAVER PROGRAM

During 2007-08, the Enviro saver program installed 160 AAA-rated water-saving showerheads and 228 water flow restrictors in homes in the Cessnock LGA. This equates to a saving of 11,949 kL of water.

HCCREMS - CLIMATE ACTION PROJECT

Stage 1 of the four research stages being undertaken by the University of Newcastle for the Regional Climate Change Project was completed in 2007 which included identification and analysis (including quality assurance checking) of climate and climate related data sources for the whole area.

Research Stage 2

Stage 2 of the project provides a comprehensive analysis of sub-regional climate distributions, including seasonal, interannual and interdecadal variability of key climate variables and extreme events. It has also identified and analysed the drivers of climate variability in the region, including key synoptic patterns and their influence on sub-regional climate distributions. Findings from Stage 2 also include the identification of sub-regional temporal trends in key climate variables including precipitation and minimum and maximum temperature. These results will provide the basis for the analysis of sub-regional climate change through to 2100AD using projected data from global climate models that will be completed during Stage 3 of the project research.

The following figures show examples of regional climate variability (average annual and seasonal) for key climate parameters that have been identified during the Stage 2 Research.

Stakeholder Consultation

Given the wide range of potential climate change impact scenarios that could potentially be investigated across the region, the stakeholder consultation aims to narrow the focus for the remaining project stages. In particular, the results of the consultation will assist in identifying the nature of four climate change impact case studies to be developed.

The consultation process targets representative government; industry and land use sectors across the region, and is based around seven consultation themes. These themes are considered to be representative of, or iconic to the region, and likely to be noticeably impacted upon by climate change.

The consultation themes and the nature of the representative stakeholders being targeted in regard to each of these are included in Table 1 below.

Consultation Theme	Representative Stakeholder Groups
Water Balance	Water Authorities & Utilities, Local Government, Hunter Central Rivers Catchment Management Authority (CMA), Department of Primary Industries (DPI), Department of Water & Energy
Biodiversity	Department of Environment & Climate Change (DECC), Hunter Central Rivers CMA, Local Government, Tourism
Human Health	NSW Health, Local Government
Agriculture	Industry Associations, Department of Primary Industries, Tourism
Coasts and Estuaries	DECC, Local Government, Department of Planning, DPI (Fisheries), Tourism
Built Environment & Infrastructure	Local Government, Department of Planning, Industry Associations (e.g. Architects, Builders)
Natural Disaster / Emergency Management	Local Government, Rural Fire Service, State Emergency Service, Hunter Central Rivers CMA, DECC (flooding), Tourism

Planning for Stage 3 is currently under way and involves downscaling of CSIRO Global Climate Model predictions for NSW to the regional scale.

For further information contact HCCREMS (www.hccrems.com.au)

RESPONSES TO AIR QUALITY ISSUES

Responses to Air Quality issues

OUTDOOR AIR QUALITY

Diffuse Source Air Pollutants

During 2007-08 Council received 6 reports of air pollution incidents and another 46 complaints in relation to odour (of these 10 were due to animals and 10 due to chicken sheds).

Wood smoke Reduction Program

Council received 11 complaints in relation to wood smoke with council officers working with all parties to resolve the issues, no notices or orders were issued. 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 is available for local government as an 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/lqaqt.htm>

POINT SOURCE AIR POLLUTANTS

During 2007-2008, there were no major wildfires in the Cessnock LGA. NPWS conducted a Hazard reduction in the Wollemi National Park. In addition, 2,337 hectares of land was affected in 7 hazard reduction burns.

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.

NATIONAL POLLUTION INVENTORY

Within the Cessnock LGA, 73 substances were identified from 49 sources.

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

INDOOR AIR QUALITY

There are currently 55 cooling towers registered in the Cessnock LGA. Each tower was inspected in March/April 08 to ensure that they are operating and being maintained in accordance with legislative requirements. Water samples were randomly collected from 10% of the cooling towers and the results complied 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). 22 Waterwatch groups monitored 44 sites and reported 125 datasets. 59 complaints to Council on water quality (37 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	11 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 248 surface water licences and 274 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 rebates , the envirosaver program 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. It is interesting to note that the water quality of Black Creek is improved after addition of water from the sewage treatment plant.

Table 3: Water Quality Monitoring Data 2007-08 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	-	-	-	✓	-	*	X
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	✓
Agriculture	✓	✓	X	✓	-	X	*
Maintenance of aquatic ecosystems	✓	✓	X	✓	-	*	✓
Swamp Creek – Downstream							
Potable Water Supply	✓	X	X	✓	-	X	✓
Agriculture	✓	✓	X	✓	-	X	*
Maintenance of aquatic ecosystems	✓	✓	X	✓	-	*	✓
Swamp Creek – VAW/Hydro							
Potable Water Supply	✓	-	X	✓	X	X	✓
Agriculture	✓	-	X	✓	X	X	*
Maintenance of aquatic ecosystems	✓	-	✓	✓	X	*	✓
Black Creek – Upstream							
Potable Water Supply	✓	X	X	✓	✓	X	X
Agriculture	✓	✓	X	✓	✓	X	*
Maintenance of aquatic ecosystems	✓	✓	X	✓	✓	*	✓
Black Creek – Downstream							
Potable Water Supply	✓	X	X	✓	X	X	✓
Agriculture	✓	✓	X	✓	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 and 2007-08. Overall 22 groups (15 in 2006-07) undertook waterwatch sampling at 44 sites (34 in 2006-07) reporting a total of 125 datasets (211 in 2006-07). The full report of Cessnock LGA Waterwatch group's results for 2007-08 are summarised in Appendix 2. Quality Assurance testing was not undertaken with groups during the 2007-08 period of this report but will be done in October 2008 and be reported in next years report.

Water Bug Surveys

The results of Water Bug surveys carried out in the Cessnock LGA in 2007-08 are included in Table 4.

Table 4: Water Bug Survey Results for the Cessnock LGA

Group	Stream	Stream Pollution Index	
		Spring 2007	Autumn 2008
Ellalong Public School	Ellalong Lagoon	-	Fair
2 nd Abermain Brownies and Guides	Centenary Park, Abermain	Good	-

Phosphorus Day

14 Waterwatch groups in the Cessnock LGA participated in Phosphorous Day in November 2007 taking readings at 32 sites. Readings recorded were in the low range for 19 sites, medium range for 8 sites and high range for 5 sites. No sites in the Cessnock LGA were recorded in the very high range

Catchment Crawl

On 15th November 2007, Waterwatch conducted a Catchment Crawl of the Wollombi Brook Catchment. The event involved students and teachers from 8 schools in the catchment (6 from Cessnock LGA and 2 from Singleton LGA) conducting water quality and environmental health assessments from the top of the catchment (at Ellalong Lagoon) to the bottom of the catchment (at the Hunter River, Warkworth) in an attempt to provide a complete picture of the health of the catchment.



In general, the results from the Wollombi Brook Catchment Crawl showed that:

- pH at all sites was in accordance with the guidelines (i.e. the water was not too acidic or alkaline).
- At Warkworth (closest to the Hunter River) electrical conductivity was poor indicating a high level of salts in the water.
- Ellalong Lagoon had a poor turbidity result (i.e. the water was too cloudy for plant and animal life to receive enough sunlight)
- The dissolved oxygen saturation levels were well below the recommended lower level at all sites.
- The very sensitive (i.e. first to be affected by early pollution) mayfly nymph was located at Wollombi, Broke and Warkworth.
- Riverbank assessment ratings for all sites except Ellalong Lagoon were very good.



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

- At Ellalong Lagoon and Wollombi phosphorous and nitrate readings were above the Australian Standards trigger value. High readings may be from excessive use of fertilisers, chemicals and urban runoff which can promote algae blooms in waterways.

- Faecal coliform levels at Wollombi were too high for both primary and secondary contact recreation. Further investigation is required to determine the possible cause, which may be due to stock access or septic tank overflows.

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

On Tuesday 15th April 2008 the CMA held its third and final salinity workshop at the Greta Community Hall. The final workshop for this project allowed landholders to discuss their observations and results and to share their findings of the stream salinity monitoring program.

A summary of this project's results during 2007-08 is provided in table 5.

Table5: Hunter Community Stream Salinity project results for 2007-08

Salinity Sampling Site	Water Quality Parameter		
	pH	Conductivity	Turbidity
BCWW1 Anvil Creek upstream of Black Creek	Readings: 8		
Potable Water Supply	✓	X	X
Agriculture	✓	X	✓
Maintenance of aquatic ecosystems	✓	X	✓
BCWW2 Black Creek at Wilderness Rd	Readings: 7		
Potable Water Supply	✓	X	X
Agriculture	✓	X	✓
Maintenance of aquatic ecosystems	✓	✓	✓
BCWW3 Black Ck downstream of Deadmans Creek	Readings: 0		
Potable Water Supply	-	-	-
Agriculture	-	-	-
Maintenance of aquatic ecosystems	-	-	-
BCWW5 Rothbury Creek upstream tributary	Readings: 9		
Potable Water Supply	✓	X	X
Agriculture	✓	X	✓
Maintenance of aquatic ecosystems	✓	X	✓
BCWW7 Rothbury Creek downstream tributary	Readings: 9		
Potable Water Supply	✓	X	X
Agriculture	✓	X	✓
Maintenance of aquatic ecosystems	✓	X	✓
BCWW9 Bellbird Creek upstream of Black Creek	Readings: 0		
Potable Water Supply	-	-	-
Agriculture	-	-	-
Maintenance of aquatic ecosystems	-	-	-
BCWW11 Black Creek at Davlea	Readings: 1		
Potable Water Supply	✓	X	X
Agriculture	✓	X	✓
Maintenance of aquatic ecosystems	✓	X	✓
BCWW12 Nulkaba Wetlands	Readings: 6		
Potable Water Supply	✓	x	X
Agriculture	✓	x	✓
Maintenance of aquatic ecosystems	✓	✓	✓
BCWW14 Black Creek at Lomas Lane	Readings: 10		
Potable Water Supply	✓	X	X
Agriculture	✓	X	✓
Maintenance of aquatic ecosystems	✓	✓	✓
BCWW15 Deadmans Creek at Lovedale Rd	Readings: 11		
Potable Water Supply	✓	X	X
Agriculture	✓	X	✓
Maintenance of aquatic ecosystems	✓	X	✓
BCWW18 Black Creek at Vintage 8 wetland	Readings: 12		
Potable Water Supply	✓	X	X
Agriculture	✓	✓	✓
Maintenance of aquatic ecosystems	✓	✓	✓
BCWW19 Black Creek at Vintage 12 Wetland	Readings: 12		
Potable Water Supply	✓	X	X
Agriculture	✓	X	✓
Maintenance of aquatic ecosystems	✓	✓	✓

✓ denotes compliance with ANZECC and NHMRC guidelines

x denotes non-compliance with ANZECC and NHMRC guidelines

* denotes no guideline available

- denotes information unavailable

WATER POLLUTION COMPLAINTS/INCIDENTS

Council received 59 water pollution incident reports, of which 37 were related to wastewater, effluent or sillage discharge, in 2007-08.

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 13 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 2007-08.

Business Name	Activity
Austar Coal Mine P/L	Coal Mining
Bloomfield Collieries	Coal Mining
Cessnock City Council	Landfilling
Cessnock City Council	Herbicide Application
Donaldson Coal P/L	Coal Mining
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
Orica Australia P/L	Explosives

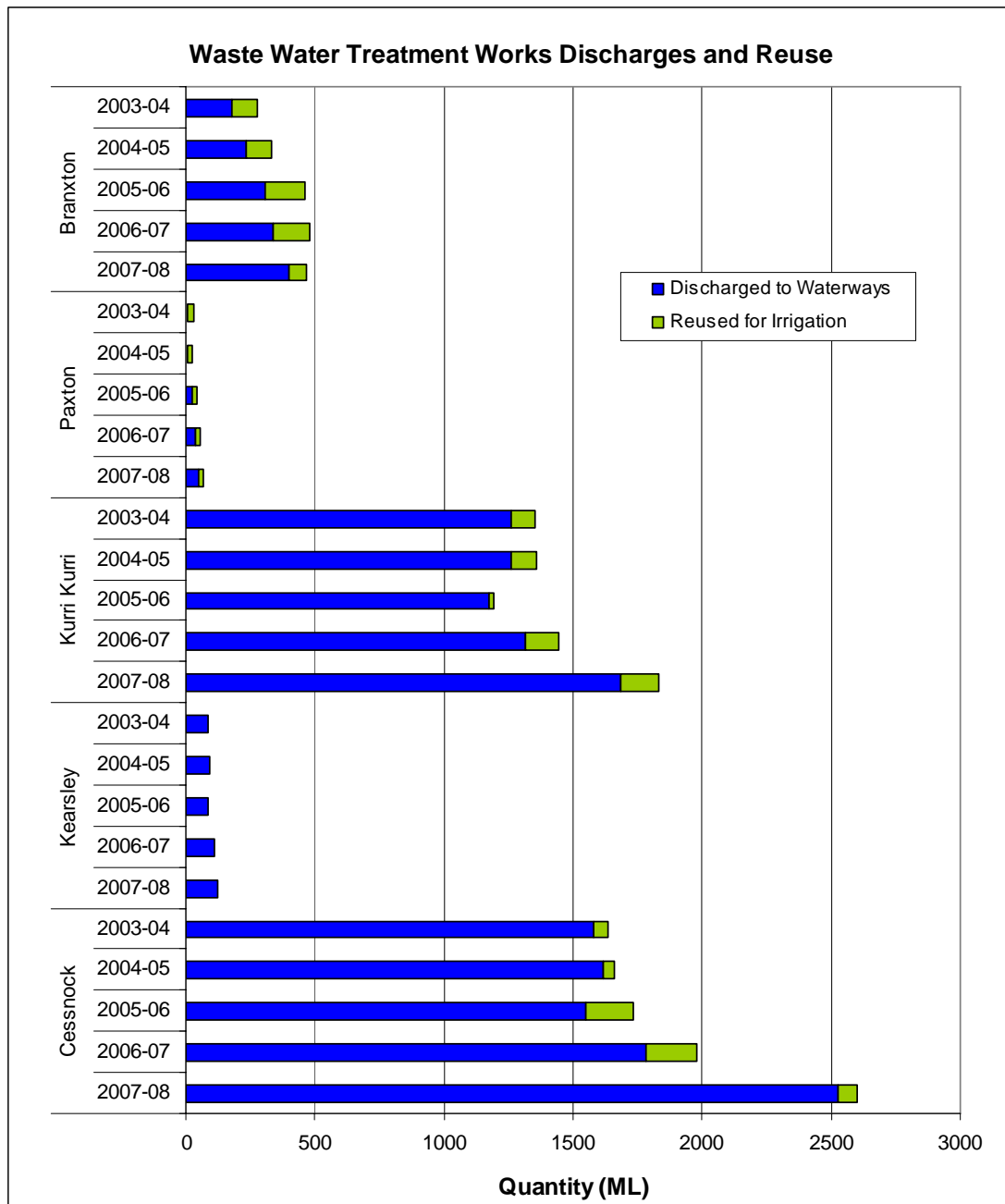
During 2007-08 five trade waste permits were issued by Hunter Water in the Cessnock LGA.

CESSNOCK LGA WASTEWATER TREATMENT PLANTS

The effluent discharge for 2007-08 (with comparison to 2006-07, 2005-06, 2004-05 and 2003-04) of each of the wastewater treatment plants in the Cessnock LGA is summarised in Figure 7.

During 2007-08, Hunter Water also commenced Environmental Impact Assessment investigations and community consultation for the upgrade of the Branxton Wastewater Treatment Works. The upgrade is expected to be commissioned in 2012 and will have a service capacity of 13,000 equivalent persons (currently the plant has a 4,500 equivalent person capacity).

Figure7: Effluent treated and disposed of at HWC wastewater treatment plants during 2007-08, 2006-07, 2005-06, 2004-05 and 2003-2004 in the Cessnock LGA.



ON-SITE EFFLUENT DISPOSAL

With the introduction of Hunter Waters Priority Sewage Scheme in 1997 the sewerage needs of a number of Villages in the Cessnock LGA are being addressed, including Kitchener, Ellalong, and Millfield.

It is envisaged that the majority of residents will be connected to the Reticulated Sewer main by 2009. Council has been liaising with affected residents to ensure connection and decommissioning of existing on-site sewage management systems. This includes options of reuse of the septic tanks for stormwater harvesting for irrigation purposes only, in accordance with Councils Decommissioning Policy.

RESPONSES TO WATER USAGE ISSUES

SURFACE AND GROUNDWATER EXTRACTION

DNR records indicate that there are currently 248 surface water extraction licenses and 274 groundwater extraction licenses in the Cessnock LGA. The most common use for this water is for irrigation, stock and grape vines.

RAINWATER TANK REBATES

From the 1st July 2007, the NSW Government commenced its Rainwater Tank Rebate program available to all households in NSW. The rebates provide up to \$1,500 to install any type of rainwater storage system in an existing home with rebates scaled so that the highest amount is paid for tanks connected to toilets and washing machines.

During 2007-08, the DECC provided rainwater tank rebates to 40 homes (7 of which were included connection to toilets and washing machines) in the Cessnock LGA totalling \$21,100. For details of eligibility and amounts of water tank rebates see the DECC website at http://www.hunterwater.com.au/files/DECC_Hunter_Water_Tank_Rebate_form.pdf

ENVIROSAVER PROGRAM

During 2007-08, the EnviroSaver program installed 160 AAA-rated water-saving showerheads and 228 water flow restrictors in homes in the Cessnock LGA. This equates to a saving of 11,949 kL of water.

More information on the EnviroSaver program is available in the [Air chapter](#).

COMMUNITY WATER GRANTS

Round 3 of the Federal Governments Community Water Grants program announced in October 2007, resulted in 10 schools and 6 community groups in the Cessnock LGA receiving funding to install a variety of water saving projects. Table 7 below lists the projects funded.

Table 7: EPA licensed premises (in relation to water pollution) under the Protection of the Environment Operations Act in Cessnock LGA during 2007-08.

Group	Amount	Title
Mulbring Public School	\$37,763	Mulbring Public School Water Efficiency and Rainwater Harvesting Project
Ellalong Public School	\$31,336	Water Conservation Works
Holy Spirit Infants	\$30,909	Waterwise Holy Spirit Infants
Cessnock High School	\$35,455	SWEISH Drops
Kurri Kurri Public School	\$41,727	Water Conservation at Kurri Kurri Public School
Abermain Public School	\$42,727	Implementation of effective water management systems
Branxton Preschool Inc	\$7,091	Potable Water Saving
Kurri Kurri Preschool and Kindergarten	\$7,500	Water for Life at Kurri Kurri Preschool
Catholic Schools Office - Newcastle	\$32,727	Every Drop Counts St Patrick's
Catholic Schools Office - Newcastle	\$32,727	Trapped to Save and Reuse (St Bridget's?)
Cessnock City Soccer Club	\$43,120	Upgrade existing watering system to subsurface drip irrigation system
Bellbird Park Bowling Club	\$18,636	Bellbird Park Bowling Club install synthetic green
Royal Freemasons Benevolent Institution of NSW	\$45,157	Ozone Laundering in on-premise laundry in aged care facility (postcode 2325)
Royal Freemasons Benevolent Institution of NSW	\$28,636	Kurri Kurri Masonic Village laundry savings
Royal Freemasons Benevolent Institution of NSW	\$45,350	Bathroom Refits Cessnock Masonic Village
Royal Freemasons Benevolent Institution of NSW	\$45,363	Rainwater Harvesting to Water Grounds (Kurri?)

RECYCLED WATER GUIDELINES

The NSW Department of Water and Energy (DWE) have released the Management of Private Recycled Water Schemes Guidelines (200). This guideline aligns the principles of the National water recycling guidelines with NSW approvals processes and provides advice and examples for obtaining council approval to install and operate private recycled water systems.

Additionally, NSW Health has released guidelines on the use of rainwater tanks where a public water supply is available. The guidelines look at the appropriate cleaning and maintenance practices for the use of water from rain water tanks including drinking and cooking.

HCCREMS WATER PROGRAM

The “Mainstreaming Integrated Water Cycle Management Program” concluded at the end of June. Commencing in March 2006, the overarching program objective was to “work with all local governments to develop appropriate planning instruments to ensure Integrated Water Cycle Management principles and practices are applied throughout the region”.

The Project Initiation Benchmark Report (August 2006) documented the status of integrated water cycle management at the commencement of the program; capturing group interview findings with key staff in each council.

A range of capacity building events commenced in August 2006, these included bus tours of demonstration sites, workshops and breakfast seminars. In all, 25 events were held on a regional or subregional basis. In the case of the Planning Roadshows a subregional event was adapted and delivered in-house to each council.

From mid 2007 the capacity building events were categorised as belonging to either the “Elements”, or “Regional Issues” series. The “Elements” series offered a sequential “IWCM course” where each subsequent event logically built on the information delivered and discussed at the previous event. The “Issues” series, by contrast, was a flexible program that covered a diverse range of topical subjects of interest to particular sectors or sub-regions. Council staff and other stakeholders were invited to nominate subjects for the “Issues” series at any time – providing a mechanism for HCCREMS to respond to particular needs. An example is the “Pasha” June Storm Review workshop.

In addition to the Model Planning Provisions, the eleven supporting “Water Smart Practice Notes” in the *Design Guide for Water Sensitive Urban Design*, were substantially revised. Both the Water Smart Planning Provisions and Practice Notes are available on-line from the program’s home at www.hccrems.com.au/water.

Another key program output was the development of a *Regional Demonstration Sites Database* to showcase examples of WSUD in the region. This database was initially developed as an off-line resource to be distributed by CD-ROM. To improve access and ownership the database it was redeveloped into a fully interactive on-line Regional WSUD Register, hosted on a new database-driven website: www.urbanwatersites.info. The site can be accessed and searched by any member of the public. An example of a search result (“summary result” page) is shown below.

The findings of the *Final Benchmark Survey Report*, conducted to assess the program’s impact, indicates that substantial improvements in IWCM uptake were achieved over the last two and half years. As reported in Table 5 below, on average just over half of survey respondents (n=35) considered that “substantial progress” had been made. The organisational factors considered to have advanced the most were “organisation commitment”, “policies and mission statements”, “supporting technical resources” and “awareness of drivers”. For five of the seven factors at least one person (not necessarily the same person) indicated that a “sea change” had occurred.

BIODIVERSITY

AT A GLANCE

Terrestrial Biodiversity			Data Gaps:
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 52 <u>fauna</u> species, 20 <u>flora</u> species, CMA approved no <u>clearing</u> .	
Pressure	Increasing	Demand for rural, rural residential, industrial and urban expansion as a result of population growth increasingly affects biodiversity.	
Response	Fair	<u>Landcare</u> and <u>Land for Wildlife</u> programs, <u>Threatened Flora of Lower Hunter Recovery Program</u> , <u>Tree plantings</u> and giveaways and <u>REMS Roadside Environmental Management</u> and <u>Vegetation Management</u> 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	<u>Salvinia</u> 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. Preliminary list of 20 Regional Weed of Significance established.	
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 <u>Weeds Officers</u> and participates in many <u>regional weed programs</u> as well as receiving grant funding to initiate programs. State Forests are participating in <u>pest management</u> programs.	

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.

RESPONSES TO BIODIVERSITY ISSUES

THREATENED FAUNA SPECIES

A complete list of threatened fauna species within the Cessnock LGA is available on the NSW National Parks and Wildlife Service website (<http://wildlifeatlas.nationalparks.nsw.gov.au>). Since 1980 there have been 1410 records comprising of 52 threatened fauna species.

Forests NSW Pest Control

Records of pest control activities undertaken in Forests NSW lands during 2007-08 were not available. 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 have undertaken a program to help eradicate Indian Myna Birds in the Wollombi area. No results of this program are currently available.

THREATENED FLORA SPECIES

A complete list of threatened flora species within the Cessnock LGA is available on the NSW National Parks and Wildlife Service website (<http://wildlifeatlas.nationalparks.nsw.gov.au>). Since 1980 there have been 889 records comprising of 20 threatened fauna species.

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 2007-08.

INTRODUCED SPECIES - WEEDS

During 2007-08, Council received 30 complaints regarding noxious weeds and Councils Weeds Officers conducted 2,100 property inspections for a variety of noxious weeds, issued 2 Weed Control Notices (for Weed Control Notices not complied with, where Weeds Officers undertake the required actions and charge the landholder).

The 2007-08 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 \$4,500 was received from the Department of Lands for weed control activities conducted on Crown Lands.

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

- Held a weeds information display at the Wollombi market day on 6th October. Unfortunately the weather was not the best, though there was steady flow of enquiries.
- held an information session (in conjunction with Upper Hunter Weeds Authority works coordinator) for Branxton and Greta residents. This session provided landholders with information regarding the Post Flood Aquatic Project funded by NSW DPI and the H-CRCMA, in particular, future activities such as inspections, treatments, funding arrangements and landholder obligations regarding the Alligator Weed infestations.
- Continued a program of community education on weeds through making available a poster on major weeds of the area and printed fact sheets at Councils administration building and libraries. These are also available on Councils website.
- Developed new promotional material as handouts for the General public as a means of education on the importance of weed identification and control including: key rings, ruler's erasers, drink holders and calico bag, all available from customer services.

Post Natural Disaster – June 2007 Flood Implications:

The June 2007 flooding was severe and inundated several hundred properties across the Cessnock LGA. The flood waters from Singleton and Cessnock flowed into the Hunter River which broke its banks at Oakhampton. Flood waters covered extensive areas of cultivated land, pasture land, turf farms, bush reserves and minor and major roads including the New England Highway.

Many properties, along with waterways and wetlands, have been contaminated with a range of weeds including: aquatic weeds such as Salvinia, Water Hyacinth and Alligator weed; declared noxious weeds such as Green Cestrum, Blackberry, Crofton Weed, and Noogoora Burr; and environmental weeds such as Tree of Heaven, Camphor Laurel, Madeira vine, Bridal Creeper and Privet.

While the Councils of the region have accumulated a significant amount of knowledge, expertise, data and mapping in assessing the nature and location of aquatic weed infestations throughout the Hunter to date – the effects of the Hunter floods in terms of the spread, and new post flood incursions, are only now being realised.

Post Flood Aquatic weed funding was sought and received by the Regional Weeds Committee. This funding provided the urgent strategic response needed to deal with the impact of severe flooding in the Hunter region of NSW on the spread of Alligator and other aquatic weeds. Inspections were carried out by Council officers and the Regional Post Flood Aquatics Project Officer, housed at Hunter Councils.

Alligator Weed

The dispersal of fragmented Alligator Weed throughout the Branxton area (Anvil and Black creeks) during the flood has financial, environmental and social implications for Council and private landholders alike. This declared weed spreads through vegetative means and any small fragments or nodes will produce a viable plant. It grows vigorously in both aquatic and terrestrial situations. The major vector for spread is machinery - excavation plant, slashers and mowers – with fragments stuck to tracks, buckets, mower decks, etc. From this, contaminated material may be excavated and spread to other locations as well.

The Hunter, along with the Sydney Basin, represents almost 95% of the 5,000ha of Alligator Weed known to occur throughout Australia. As such the region's infestation poses a major regional, state and national risk in terms of its potential spread and impact on water resources and significant economic and environmental assets.

Many new outbreaks of aquatic weed, particularly Salvinia; have been located in dams adjacent to Wollombi Brook, in the past 6-12 months, thought to be the result of flooding. Council's officers have worked with the community reminding landowners to be vigilant in monitoring susceptible areas, locating and eradicating any new outbreaks.

Anvil and Black Creeks and surrounding properties within Cessnock and Singleton LGAs were badly flooded during the severe storm of June 2007. An Alligator Weed infestation within the creek system has now spread into the Hunter River and adjoining rural properties downstream into an area that was previously free of the weed.

Approximately fifty (50) private properties may have been affected, covering an area in the order of 160ha, not including roadsides, creekbanks, and playing fields. Field conditions at the time made it difficult to identify potential new outbreaks and as such follow-up inspections are planned for November 2008.

Salvinia Control

Cessnock City Council in collaboration with the Hunter Central Rivers Catchment Management Authority and Hunter Councils produced a regional management strategy and implementation plan for the control of Salvinia on the Wollombi Brook in 2006. This was in response to years

of build up of the weed along the entire 118kms of the Brook, and the absence of any coordinated effort between the landowners with primary responsibility for the weed's control and management, and other authorities.

The initial steps in the implementation plan, which commenced last year, involved:

- mapping of the infestation along all 118kms of the Brook
- sending letters to all landholders advising them of their responsibilities and asking them to cooperate in the coordinated implementation of an eradication strategy
- convening in-situ workshops to familiarise landholders with the details of the program and to discuss any issues
- one-to-one meetings with landholders to discuss incentive monies available if they undertook works within the strategy timetable
- developing a package which outlined the incentive payments available to landholders for fencing and assistance with removal of Salvinia
- eradicating major infestations by employing Conservation Volunteers Australia teams to target hotspots
- commencing the process of signing landholders to agreements that guaranteed incentive payments for works conducted by the landholder within the timeframe of the Strategy

All of this activity has come to a stand still due to flood events that hit the Hunter Region June 2007. After the flooding it appears that most of the weed has been washed downstream or has been deposited on high ground. Thus, in one weekend, the natural storms achieved most of the aims of the strategy. However, results of post-flood assessments did identify Salvinia fragments in stream bank trees, vegetation and floating downstream with the potential to reinfest the Brook.

As a result of the flood events the focus of the Wollombi Creek Salvinia Project has changed to concentrate on cleaning up what Salvinia is left on the Brook and in dam's off-stream. Cessnock Council has installed extra booms which will help to contain any Salvinia that may be floating along the Brook. This now provides an opportunity for the landholders to assist by removing any small quantities that still exist on parts of the Brook adjacent to their property, easily and inexpensively. It also makes the job of monitoring and maintenance much easier – providing the opportunity to get on top of any outbreaks that may occur from the remaining plants.

Regional Weed Projects

Cessnock City Council in conjunction with Port Stephens, Maitland, Wyong, Gosford, Dungog and Upper Hunter Councils have collaborated in developing eight active Regional Weed Management Plans for Green Cestrum, Giant Parramatta Grass, Mother of Millions, Alligator Weed, Pampas Grass, Blackberry, Bitou Bush, and Aquatic Weeds. Each of the eight plans will be implemented over the next five years with support from grant funding of over \$100,000.

Weeds of Regional Significance – July 2008.

Environmental weeds (plants other than declared noxious species) are also of importance, but at this time there is no legislative mechanism to deal with them. The Regional Weeds Management Strategy (RWMS) have established a preliminary list of 20 Weeds of Regional Significance (WORS) with the view to develop management plans to combat them. It is noted that there are in fact many more plants that can meet the criteria listed below. As actions under are implemented the WORS list will be reviewed and other plants may be added.

In determining the 20 WORS, field officers of the Hunter and Central Coast Weeds Management Committee (HCCWMC) used the following selection criteria:

1. The plants threaten biodiversity and ecological integrity and are a threatening process as described in the Threatened Species Act.
2. Level of invasiveness (ease of dispersal and methods).

3. A threat to public and animal health.
 4. A threat to water quality.
 5. An economic burden (loss of productivity, land degradation).
 6. Is of limited distribution.
 7. Ease of control (are control methods effective, is control feasible).
- Abundance of infestations
 - Rare - occur as isolated plants or low numbers
 - Marginal - more widespread but numbers are generally low
 - Core - widespread and well established

Table ?? Weeds of Regional Significance in the Hunter and Central Coast

Common Name	Abundance	Reason for Inclusion	Habitat
Blackberry **	Marginal, Core	1.2.5.7	All situations
Crofton Weed *	Rare, Core	1.2.3.7	Riparian Zones, Damp Gullies
Alligator Weed **	Rare, Marginal, Core	1.2.4.5.6	Drains, Creeks, Rivers, Floodplains
Lantana	Marginal, Core	1.2.5.7	Bushland, Riparian Zones, Roadsides
Salvinia **	Rare, Marginal, Core	1.2.4.5.7	Dams, Lagoons, Creeks
Water Hyacinth **	Rare, Marginal, Core	1.2.3.4.5.6	Dams, Lagoons, Creeks
Bitou Bush **	Rare, Marginal, Core	1.2.5.6.7	Coastal Heath and Bushland. Sandy areas
Green Cestrum **	Rare, Marginal, Core	1.2.3.5	Urban Bushland, Fence lines, Roadsides
Morning Glory	Marginal, Core	1.2.5	Urban Bushland, Riparian Zones
Privet	Marginal, Core	1.2.3.5.7	Urban Bushland. Riparian Zones
Pampas Grass **	Rare, Marginal, Core	1.2.5.6.7	Urban Bushland Roadsides
Giant Parramatta Grass **	Rare, Marginal	2.3.5.6.7	Roadsides Pastures
Mother of Millions **	Rare, Marginal, Core	2.3.5.7	Roadsides Old Homesteads Bushland
Camphor Laurel	Marginal, Core	2.5.6.7.	Urban Bushland. Roadsides, Backyards
Bridal Creeper	Rare, Marginal	2.6	Urban Bushland Riparian zones
Mexican Clover	Core	2.5	Footpaths, Lawns, Turf
Madeira Vine	Rare, Marginal	2.5.7	Urban Bushland. Riparian zones
Paterson's Curse	Rare Marginal	2.5.6.7	Pastures Roadsides Cropping areas
Wild Olive	Marginal	2.5.	Roadsides, Urban Bushland
St Johns Wort	Rare, Marginal	2.5.7	Roadsides Pastures cropping areas

* Declared noxious plants

Regional weed management plans

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.

FIRE AND FUEL REDUCTION

During 2007-08 there were 137 fires reported within the Cessnock LGA. The area of land affected by these fires was 745 ha. An additional 2,337 ha of land underwent bushfire hazard reduction.

LANDCARE ACTIVITIES

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

Friends of Tumblebee Landcare

- Hold frequent guided walks through Werekata National Park
- Water quality monitoring

Buttai Landcare

- Concentrated on advocacy projects providing comments on development applications and making submission to NSW State Government trying to prevent the importation of Savannah Cats.

Kurri Kurri Landcare and Weston Greening Group

- Installed flood warning sirens in several sections of Swamp Creek between Weston and Kurri
- Manufacture and installation of parrot nesting boxes
- Riparian rehabilitation of Swamp Creek in the Weston area

Abermain Landcare

- Maintaining control of giant reed
- Maintaining remaining site not washed away in June 07 flood
- Monitoring progress of proposed works on Swamp Creek for flood mitigation such as in-stream vegetation management and channelisation

Wollombi Landcare

- Continuous round of on-ground projects

Cessnock Landcare and Congewai Landcare

- The groups put a lot of effort into submissions and negotiations for tree planting. Ellalong Lagoon and the proposed WWTP are current issues

Mount Vincent Landcare

- Undertaking corridor tree planting and lantana control over a number of properties.

Burralong Valley Landcare

- Two major projects involving willow removal and erosion control measures along the North end of Wollombi Brook.

HCCREMS - ROADSIDE ENVIRONMENTAL MANAGEMENT

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.

From April to June 2008 the project has focussed on the development of a range of tools and resources to assist councils in managing their roadside environments. These have been developed to a final draft stage and include:

Roadside Management Guidelines

A series of draft management guidelines with accompanying field guides have been developed. The management guidelines examine the context and impacts associated with a range of particular roadside environmental issues (soil, water, vegetation and sensitive sites) and provide recommendations for their management. The 'glove box' field guides also provide a brief synopsis of key information and actions relevant to each of these issues to assist operational staff when undertaking on ground works in roadside environments.

Roadside Environmental Assessment Tool

Consultation with GIS and other staff who have been involved in trialling the GIS based Roadside Environment and Assessment Tool has been completed. This process has identified that the GIS software of all councils has the capacity to link the Assessment Tool with their assessment processes and the implementation of relevant management guidelines. Due to the range of GIS products used across the 14 member councils, HCCREMS will further develop and facilitate implementation of this GIS support tool with councils on an individual basis.

REF Template and Environmental Assessment Guidelines

An Environmental Assessment Guideline has been completed that outlines the legislative responsibilities of local councils when conducting road maintenance, modification or construction activities. Based on this guideline, a Review of Environmental Factors Template has also been developed. In order to ensure currency with legislative changes and consistency across the 14 member councils, the option of upgrading the template into an electronic format is being explored. An electronic form would step users through the assessment process and utilise live weblinks to existing federal and state legislative information and tools. The benefits to developing a tool of this nature will be gauged will councils over the coming months.

Training Package

A training module titled '*Protecting and enhancing roadside environments during construction and maintenance activities*' has been developed. The module provides a broad approach to roadside management covering topics such as erosion and sediment control, acid sulphate soils, salinity and water management. The potential for VETAB accreditation of this module as an elective under the Certificate in Local Government (Operational Works) will be explored in the coming months.

Council Briefings

Throughout August and September 2008, briefings will be provided to all member councils to provide an overview of the nature and content of the project outputs outlined above and to facilitate input to their finalisation. The briefings will also aim to identify the nature of support required by councils to adopt and implement the management tools that have been developed.

Rapid Roadside Assessment Program

Analysis of the data collected during the Rapid Roadside Assessment Program has now been completed and a draft report on its findings developed. A summary of these findings includes: The quality of roadside environments varies significantly throughout the Hunter, Central and Lower North Coast region

The quality of the roadside environment is the key factor in determining whether the roadside environment is of benefit or detriment to the surrounding landscape

The roadside environment has a broader influence not only on the surrounding landscape but on the quality of the road surface itself and the level of ongoing maintenance that is required. Due to the broader impact roadside environments have within the catchment, where funding for on-ground rehabilitation work is available, those environments with close proximity to waterways should be considered a priority.

Individual councils were identified as having unique roadside environment management strategies and practices.

Councils have the capacity to influence the quality of roadside reserves through the way they conduct their planning, maintenance and construction activities.

NSW Roadside Environment Committee Meeting

On 1 August 2008 Hunter Councils hosted the quarterly meeting of the NSW Roadside Environment Committee. This Committee was formed in 1994 to encourage better management of roadside environments in NSW and comprises 10 organisations with interests in roadside management. Hunter Councils provided a presentation on the Regional Roadside Environment Project and a field trip to sites within the Maitland and Port Stephens local government areas. The field trip highlighted both the values found within local roadside environments and the management issues faced by councils. The REC has expressed interest in sponsoring HCCREMS to provide a presentation on the Roadside Environment Project to other Regional Organisations of Councils across NSW as a model for improving roadside environmental management on a regional basis.

HCCREMS – REGIONAL VEGETATION MAPPING PROJECT

Regional Vegetation Classification Scheme

The regional classification scheme for the Hunter, Lower North Coast and Central Coast Region has now been completed. A total of 210 vegetation communities were identified which can be grouped into vegetation formations (after Keith 2002) as follows.

Table 1: Vegetation formations

Formation	Communities
Rainforests	21
Wet sclerophyll forests (grassy sub-formation)	14
Wet sclerophyll forests (shrubby sub-formation)	21
Dry sclerophyll forests (shrub/grass sub-formation)	27
Dry sclerophyll forests (shrubby sub-formation)	61
Grassy woodlands	15
Grasslands	2
Heathlands & Shrublands	16
Forested wetlands	19
Freshwater wetlands	12
Saline wetlands	2

A **relational database** has been developed to store the regional classification scheme and associated biotic and abiotic data and allow various reports to be produced on each of the communities. Information which can be provided in these reports includes the geographic, topographic, geological and climatic distribution of communities, diagnostic plant species, common naturalised plant species, conservation significance and relationships to other classification schemes. A range of other information has also been developed through the analysis of vegetation communities including the relationships between various weed species and specific communities which they commonly infest.

Local scale aerial photography based vegetation mapping

Aerial photography interpretation based, fine scale vegetation mapping has been carried out in a number of coastal areas (Great Lakes, Taree, and Port Stephens) which will be used as a constraint to future regional vegetation mapping. The line work has been completed for all areas and the data capture and integration are also nearing completion. As well as providing constraints to the modelling work this mapping will be available to the relevant councils for use in environmental planning contexts such as the identification of Endangered Ecological Communities.

Reports & Publications

A series of reports and publications will be published throughout August and September summarising the work completed in this stage of the region-wide mapping program -

- Vegetation Classification Scheme: Hunter, Central & Mid-North Coast regions of NSW
- Detailed Vegetation Community Profiles
- Comprehensive Vegetation Survey Dataset Audit: Hunter, Central & Mid-North Coast regions of NSW
- API Mapping report
- Private Landholder, National Parks, and State Forest Survey reports

HERITAGE

AT A GLANCE

Aboriginal Heritage			Data Gaps:
State	Unknown	686 sites are <u>recorded</u> 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. <u>Convict Trail Project</u> and local heritage groups actively working on restoration, education and protection of some sites.	

RESPONSES TO ABORIGINAL HERITAGE ISSUES

686 sites 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.

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 community arts/cultural projects through the Community Cultural Development Dollar for Dollar Grant Program. Projects funded through the scheme during 2007-08 include:

- Copying and framing of Abermain Heritage Preservation Society heritage photographs for display
- Assistance to Bloodtree Festival Sub Committee of Mountain Districts Sports Association for the festival's cultural components – children's talent quest, dance, children's activities
- Purchase of new chairs for Central Hunter Community Broadcasters Inc's new studio
- Assistance to Cessnock City Country Music Festival Inc for production and promotion of 2008 pfinet Cessnock City Country
- Purchase of 20 reels of Maitland Mercury 1843 – 1901 by Cessnock District Historical & Family History Society Inc to fill gaps in collection
- Purchase of ceiling insulation & a portable air conditioner by Cessnock Gem & Mineral Club
- Purchase of 50 quilt display stands by Cessnock Quilters & Embroiderers
- Purchase of photocopier and ink cartridges to copy sheet music by Cessnock Senior Citizens & Pensioners Choir
- Purchase of concrete for entry to new workshop by Cessnock Woodturners
- Produce 18,000 pages of local history/heritage for the Edgeworth David Library (stationery supplies only) by Coalfield Heritage Group Inc
- Purchase of bookcases and furniture for Greta Museum by Greta Multi Purpose Centre Management Committee Inc
- Completion of hall painting and new blinds by Hunter Music Academy
- Series of workshops in visual & performing arts for children, teenagers and adults at weekends & vacations by KCAEP – Kulnura Community Arts and Entertainment Program
- Recording and production of Nock Rock II CD (youth band project) by Kurri Kurri Community Centre/Cessnock Youth Development Project
- Design, construct and install creative seating at the community wall in Rotary Park, Kurri Kurri by Towns with Heart
- Construct demountable tiered seating system & tech box by Valley Artists Inc

- Annual Sculpture in the Vineyards along the Wollombi Valley wine trail exhibition – assistance with advertising, transportation, staging, signage
- Emerging Artists Awards 2008 by Wollombi Valley Arts Council

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 2007-08 focused on drainage and gutters of heritage buildings listed on the Council's Inventory of Heritage Places and were capped at a maximum of \$1,000 per project with 5 projects being funded.

- | | |
|--|----------|
| • Mulla Villa Guest House | \$ 1,000 |
| • Abermain Hotel | \$ 690 |
| • Wollombi Cottage | \$ 600 |
| • Mine Rescue | \$ 1,000 |
| • Cessnock District Historical Society | \$ 1,000 |

Marthaville

Council completed the planned internal and external maintenance program for Marthaville, Cessnock's oldest timber sawn home (C1885). This included minor maintenance works, repainting and some interior refurbishment.

THE CONVICT TRAIL PROJECT

In 2007-08 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 Cuneens 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.

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. The nomination is still under consideration by the Federal Government.

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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: 4
Potable Water Supply	✓	✓	x	*
Agriculture	✓	x	✓	✓
Maintenance of aquatic ecosystems	✓	✓	✓	x
^Congewai Landcare – Dam at 'Glenbori' (WBN008)				Readings: 3
Potable Water Supply	✓	✓	x	*
Agriculture	✓	x	✓	✓
Maintenance of aquatic ecosystems	✓	✓	✓	x
^Congewai Landcare – Congewai Creek (along entrance to Reedy Creek) (WBN010)				Readings: 5
Potable Water Supply	✓	✓	x	*
Agriculture	✓	x	✓	✓
Maintenance of aquatic ecosystems	✓	✓	✓	x
^Hunter-Central Rivers Waterwatch – Quorrobolong Ck (culvert on Congewai Rd)(WBN060)				Readings: 1
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	✓	x
Maintenance of aquatic ecosystems	✓	✓	✓	x
^Congewai Landcare – Ellalong Lagoon (WBN055)				Readings: 3
Potable Water Supply	✓	-	x	*
Agriculture	✓	-	✓	✓
Maintenance of aquatic ecosystems	✓	-	✓	x
^Millfield Public School & ^Congewai Landcare – Wollombi Brook North Arm at Millfield (WBN070)				Readings: 1
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	✓	✓
Maintenance of aquatic ecosystems	✓	✓	✓	x
^Wollombi Public School – Wollombi Brook (waterhole) at Wollombi (WBN090)				Readings: 7
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	✓	✓
Maintenance of aquatic ecosystems	✓	✓	✓	x
^Hunter Community Salinity Monitoring – Wollombi Brook Big Arm, Broke Rd, Wollombi (WBT060)				Readings: 11
Potable Water Supply	✓	x	x	-
Agriculture	✓	✓	✓	-
Maintenance of aquatic ecosystems	✓	✓	✓	-
Hunter Community Salinity Monitoring & Burralong Valley Landcare – Will'o'Wyn, Burralong Valley (WBS010)				Readings: 1
Potable Water Supply	x	x	x	*
Agriculture	✓	✓	✓	✓
Maintenance of aquatic ecosystems	x	✓	✓	x
Hunter Community Salinity Monitoring & Burralong Valley Landcare – Tuckers pond, Murray's Run (WBS020)				Readings: 1
Potable Water Supply	x	x	x	*
Agriculture	✓	✓	✓	✓
Maintenance of aquatic ecosystems	x	✓	✓	x
Wollombi Nutrient Monitoring Project – Wollombi Brook (Payne's Crossing) (WBT070)				Readings: 2
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: 2
Potable Water Supply	x	x	x	*
Agriculture	✓	✓	✓	✓
Maintenance of aquatic ecosystems	x	✓	✓	x
Ellalong Public School – Quorrobolong Creek (End Truro St) (WBN050)				Readings: 2
Potable Water Supply	✓	x	x	*
Agriculture	✓	x	✓	✓
Maintenance of aquatic ecosystems	✓	✓	✓	x
Wollombi Nutrient Monitoring Project – Wollombi Brook (North Arm) (WBN100)				Readings: 2
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	✓	✓
Maintenance of aquatic ecosystems	✓	✓	✓	x
Wollombi Nutrient Monitoring Project – Watagan Creek (at bridge on Watagan Ck Rd) (WBS090)				Readings: 1
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	✓	✓
Maintenance of aquatic ecosystems	✓	✓	✓	x
Laguna Public School – Wollombi Brook, Laguna (WBS100)				Readings: 1
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
Yango Creek Waterwatch – Yango Creek Creek (The Grove)	Readings: 3			
Potable Water Supply	x	x	x	-
Agriculture	✓	✓	✓	-
Maintenance of aquatic ecosystems	x	✓	✓	-
Hunter Community Salinity Monitoring Group, Nulkaba – Black Creek, Nulkaba	Readings: 1			
Potable Water Supply	✓	x	x	-
Agriculture	✓	x	✓	-
Maintenance of aquatic ecosystems	✓	✓	✓	-
^Abermain Guides – Centenary Park Constructed Pond, Abermain	Readings: 1			
Potable Water Supply	✓	-	x	*
Agriculture	✓	-	✓	x
Maintenance of aquatic ecosystems	✓	-	✓	x
^Friends of Werakata, Tumblebee and Buttai – Peace Park, Weston (SWA020)	Readings: 4			
Potable Water Supply	x	x	x	-
Agriculture	✓	x	✓	-
Maintenance of aquatic ecosystems	x	✓	✓	-
^Friends of Werakata, Tumblebee and Buttai – Black Hollows	Readings: 4			
Potable Water Supply	x	✓	x	*
Agriculture	✓	x	✓	✓
Maintenance of aquatic ecosystems	x	✓	✓	x
^Friends of Werakata, Tumblebee and Buttai – Wallis Creek, John Renshaw Drive (WAL050)	Readings: 3			
Potable Water Supply	✓	x	x	-
Agriculture	✓	✓	✓	-
Maintenance of aquatic ecosystems	✓	✓	✓	-
^Friends of Werakata, Tumblebee and Buttai – Swamp Ck, Kearsley (Abermain 2 Colliery)	Readings: 6			
Potable Water Supply	x	✓	x	*
Agriculture	✓	x	✓	x
Maintenance of aquatic ecosystems	x	✓	✓	✓
^Friends of Werakata, Tumblebee and Buttai – Swamp Ck (along Willai firetrail)	Readings: 1			
Potable Water Supply	x	x	x	-
Agriculture	✓	✓	✓	-
Maintenance of aquatic ecosystems	x	✓	✓	-
Greta Public School – Anvil Creek	Readings: 3			
Potable Water Supply	✓	x	x	*
Agriculture	✓	✓	✓	x
Maintenance of aquatic ecosystems	✓	✓	✓	x
Hunter Community Salinity Monitoring (Nulkaba) – Black Creek (footbridge between Baddley Pk & football field)	Readings: 1			
Potable Water Supply	x	x	x	-
Agriculture	x	✓	✓	-
Maintenance of aquatic ecosystems	x	✓	✓	-
^Friends of Werakata, Tumblebee and Buttai – Deadmans Waterhole	Readings: 1			
Potable Water Supply	✓	x	x	-
Agriculture	✓	✓	✓	-
Maintenance of aquatic ecosystems	✓	✓	✓	-
^Friends of Werakata, Tumblebee and Buttai – Saltwater Creek	Readings: 2			
Potable Water Supply	✓	x	x	-
Agriculture	✓	x	✓	-
Maintenance of aquatic ecosystems	✓	✓	✓	-

✓ 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 (no QA provided in 2007-08 due to Waterwatch NSW rescheduling)

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 shephardii</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>Philothea 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