2008/2009
State of the Environment
CITY OF WAGGA WAGGA

Statement of Commitment to Aboriginal Australians

Council acknowledges and respects that Aboriginal Australians were the first people of this land and the Wiradjuri people were the first regional custodians of the region we now know as the Wagga Wagga Local Government Area.

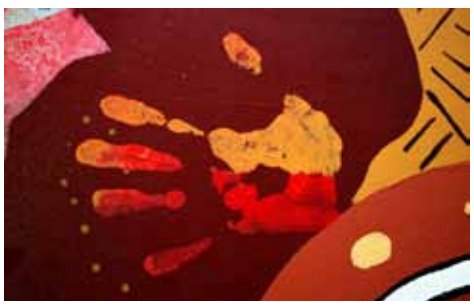
This recognition includes acceptance of the rights and responsibilities of Aboriginal Australians to participate in decision making.

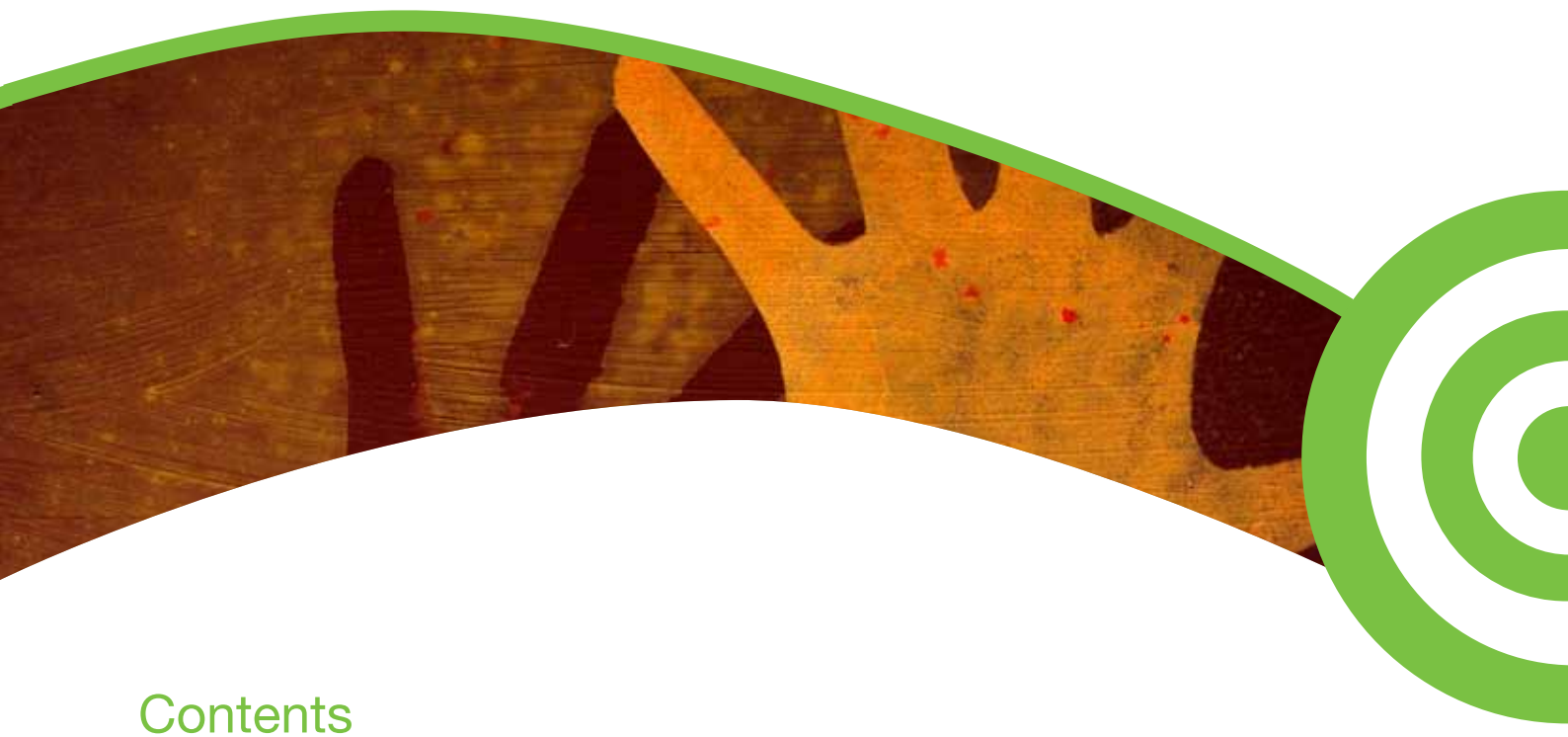
Council acknowledges the shared responsibility of all Australians to respect and encourage the development of an awareness and appreciation of each others heritage, culture, sacred sites and special places of Aboriginal Australians.

Council is committed to developing programs to improve the wellbeing of all its residents, as well as facilitating reconciliation between Aboriginal and non-Aboriginal residents.

Council recognises that social justice and reconciliation are fundamental to achieving positive changes. Council will continue to actively encourage Aboriginal and non-Aboriginal Australians to work together for a just, harmonious and progressive society.

Council recognises the richness of Aboriginal culture and values in promoting social diversity within the community.





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Mayor's Foreword

I am pleased to present the Wagga Wagga City Council's comprehensive State of the Environment Report for 2008-2009, which will guide us towards achieving environmental sustainability for the Wagga Wagga Local Government Area, a vitally important issue for our generation and those which follow.

The State of the Environment Report will guide the development of next year's Council Management Plan, and is therefore also linked to the Annual Report and the Wagga Wagga Environmental Sustainability Strategy 2009-2013 which outlines innovative and practical solutions in response to environmental challenges facing the Wagga Wagga Local Government Area.

The Strategy integrates environmental sustainability with the Economic, Social and Governance Goals of Council and recognises the important role the environment plays in connecting people to their place, creating a sense of place for our local community and enhancing community well-being.

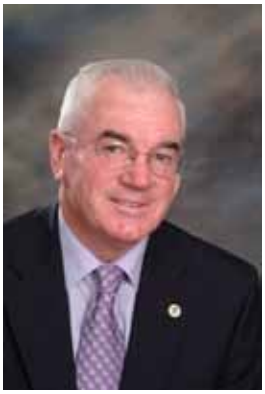
Council continues to maintain a strong commitment to Ecologically Sustainable Development and recognises the important role that a healthy environment plays in people's wellbeing, lifestyle and connection to their local community.

The natural environment not only provides essential elements all communities need to remain healthy like water and soil but also gives us the opportunity to enjoy all that biodiversity has to offer.

The built environment is a key element to economic prosperity, social cohesion and community well-being. It is essential to have the right mix of residential and commercial development, retail areas, social services and recreation, cultural and environmentally focused precincts (NSW State Plan).

The future of the Wagga Wagga Local Government Area is bright and the implementation of the actions outlined in the Environmental Sustainability Strategy and the State of the Environment Report will have positive economic and social outcomes as well as the expected environmental benefits.

Kerry Pascoe
Mayor



Strategic Environmental Direction

The Wagga Wagga City Council's Community Strategic Plan Our City … Our Tomorrow 2008-2018 states the following strategic outcomes for the environment are:

3.1 An integrated approach to water resource management

3.1.1 Facilitate research and planning including Global Water Smart City to ensure water conservation, reuse and efficiency

3.1.2 Develop and promote partnerships with key stakeholders

3.2 A sustainable built and natural environment

3.2.1 Maintain a contemporary Local Environment Plan and vision for the Wagga Wagga Local Government Area

3.2.2 Promote the principles of ecologically sustainable development

3.2.3 Promote stewardship and best practice land use policies to protect the environment and enhance the economy

3.2.4 Encourage development that protects biodiversity and natural ecological processes

3.3 Sustainable management of natural resources

3.3.1 Manage waterways and land use to minimise detrimental environmental impact

3.3.2 Protect, enhance and rehabilitate native vegetation and ecosystems to enhance biodiversity

3.3.3 Support and promote the improvement of ambient air quality

3.3.4 Encourage the community to participate in programs to enhance the environment

3.4 Promote environmental sustainability

3.4.1 Minimise the ecological footprint of and reduce resource consumption within the Wagga Wagga Local Government Area through greater energy efficiency and renewable energy technologies

3.4.2 Minimise waste to landfill through reduce, reuse and recycle strategy

3.4.3 Reduce greenhouse gas emissions across the Local Government Area

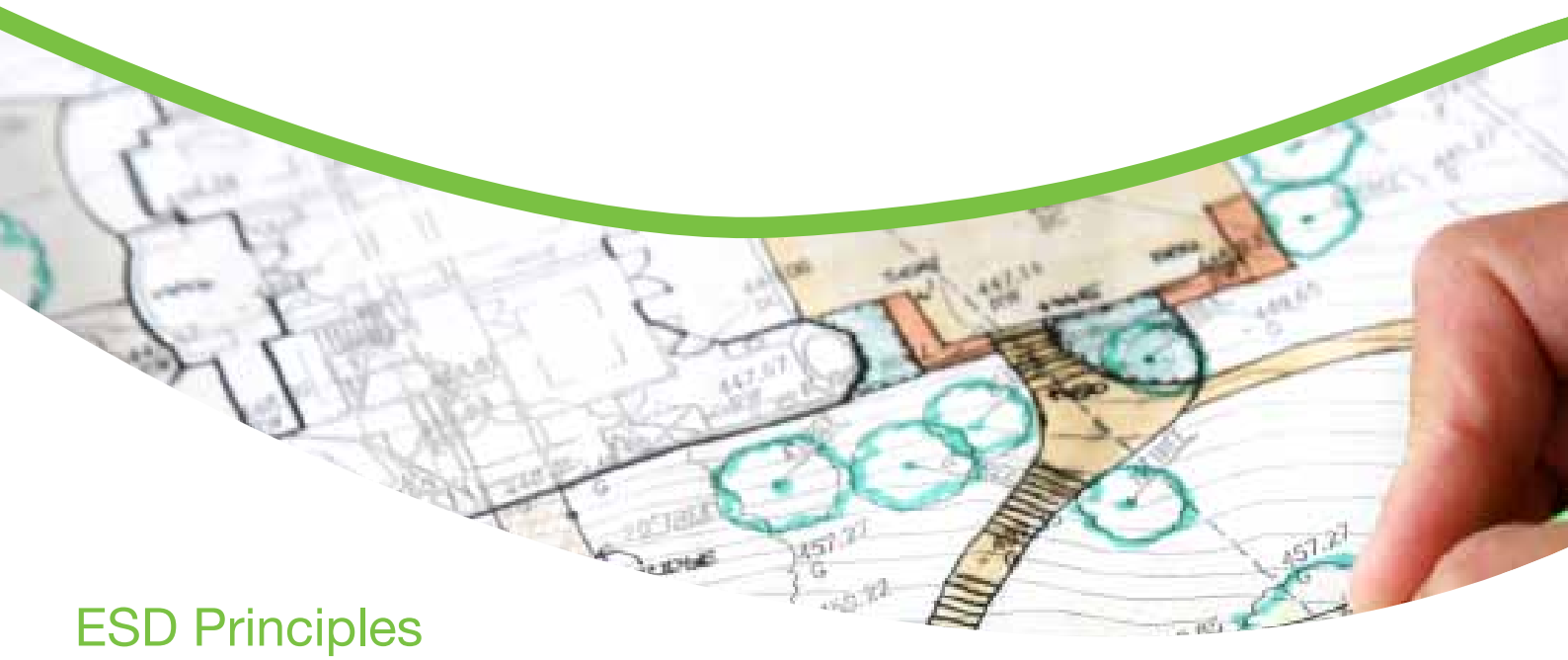
3.4.4 Facilitate community education for the achievement of a sustainable environment.

In order to help achieve these goals Council has developed the Wagga Wagga Environmental Sustainability Strategy 2009-2013.

The Strategy aims to improve the sustainability of the local environment, balance the needs of the built and natural environments and ensure development strengthens the connection between the community and the natural environment to create a sense of place and enhance community well-being.

"Contribute to a **vibrant** growing community by providing **excellence** in **leadership**, and delivery of 'best value' infrastructure and services, supporting **quality** living in an improving **sustainable** environment."

Wagga Wagga City Council Vision



ESD Principles

Wagga Wagga City Council is committed to the principles of Ecologically Sustainable Development (ESD). The Local Government Act of 1993 defines ESD as the effective integration of environmental, economic and social considerations in the decision-making process.

ESD can be achieved through implementing the following principles:

1. The precautionary principle - where there are threats to serious or irreversible environmental damage, a lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

In the application of the precautionary principle, public and private decisions should be guided by:

- careful evaluation to avoid, wherever practical, serious or irreversible damage to the environment, and
- an assessment of the risk weighted consequences of various options.

The precautionary principle requires decision making to give the environment the benefit of the doubt.

2. Intergenerational equity - the present generation should ensure the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations (that is all generations may use or expect to benefit from the nations resources).

3. Conservation of biological diversity and ecological integrity should be a fundamental consideration.

4. Improved valuation, pricing and incentive mechanisms - environmental factors should be included in the valuation of assets and services, particularly for the following:

- polluter pays (those who generate pollution and waste should bear the cost of containment, avoidance or abatement);
- the users of goods and services should pay prices based on the full cycle costs of providing the goods and services, including the use of natural resources and assets and the ultimate disposal of waste; and
- environmental goals should be pursued in the most cost effective way by establishing incentive structures, including market mechanisms which maximise benefits or minimise costs in the development of local solutions and responses to environmental problems.

"Effectively manage partnerships to facilitate and enhance environmentally sustainable economic development"

Wagga Wagga Environmental Sustainability Strategy Objective

State of the Environment Reporting

The 2008-2009 comprehensive State of the Environment (SoE) Report covers the reporting requirements outlined in Section 428 of the Local Government Act 1993. SoE Reports are either supplementary or comprehensive. Comprehensive reports such as this one must be completed for the year ending after each Council election.

Under Section 403 of the Local Government Act 1993, the SoE Report should guide the development of the following year's Council Management Plan. In particular, the Council Management Plan must contain "a statement of the principal activities that the Council proposes to conduct" and that the statement must include:

"Activities to properly manage, develop, protect, restore, enhance and conserve the environment in a manner that is consistent with and promotes the principles of Ecologically Sustainable Development (ESD requires the effective integration of economic and environmental considerations in Council's decision-making processes)."

In order to better achieve these goals Council has recently developed and endorsed the 'Wagga Wagga Environmental Sustainability Strategy 2009-2013'.

The Strategy's aims and objectives have been developed to incorporate the outcomes of research and community engagement during its development and is integrated with a number of key documents including the SoE Report and Council's Strategic Plan.

The Strategy aims to improve the sustainability of the local environment, balance the needs of the built and natural environments and ensure development strengthens the connection between the community and the natural environment to create a sense of place and enhance community well-being.

The Strategy highlights the important role environmental sustainability plays in place making and the objectives are aligned with the State of the Environment themes of **Water**, **Waste**, **Heritage**, **Land**, **Biodiversity**, **Climate**, **Air & Energy**.

A number of key initiatives are outlined for each area to be actioned by Council in the future.

Importantly, the objectives also reflect the integration of environmental sustainability with Social, Economic and Governance considerations.

"Continuously improve systems and practices at Wagga Wagga City Council to become a leader in sustainable environmental mangement"

Wagga Wagga Environmental Sustainability Strategy Objective

The Wagga Wagga Region

Nestled on the banks of the magnificent Murrumibidgee River in the heart of Wiradjuri Country in Southern NSW, Wagga Wagga is a dynamic and cosmopolitan regional city, centrally located between Sydney and Melbourne.

The Wagga Wagga Local Government Area (WWLGA) is home to 60,000 residents, of which >90% live in the city of Wagga Wagga.

The WWLGA occupies 4,866 sq km and inlcudes the rural villages of Collingullie, Currawarna, Galore, Humula, Ladysmith, Mangoplah, Oura, Tarcutta, and Uranquinty, which provide strong community links to the surrounding farmland.

The city of Wagga Wagga, the largest in regional NSW is known for its quality industrial, commercial, education and defence facilities together with its rich arts community and sporting culture.

The nine villages of the WWLGA offer a rural community lifestyle in close proximity to the vibrant regional city of Wagga Wagga.

In the South and East of the WWLGA the farmland extends through undulating hills, becoming steeper in the far South-East.

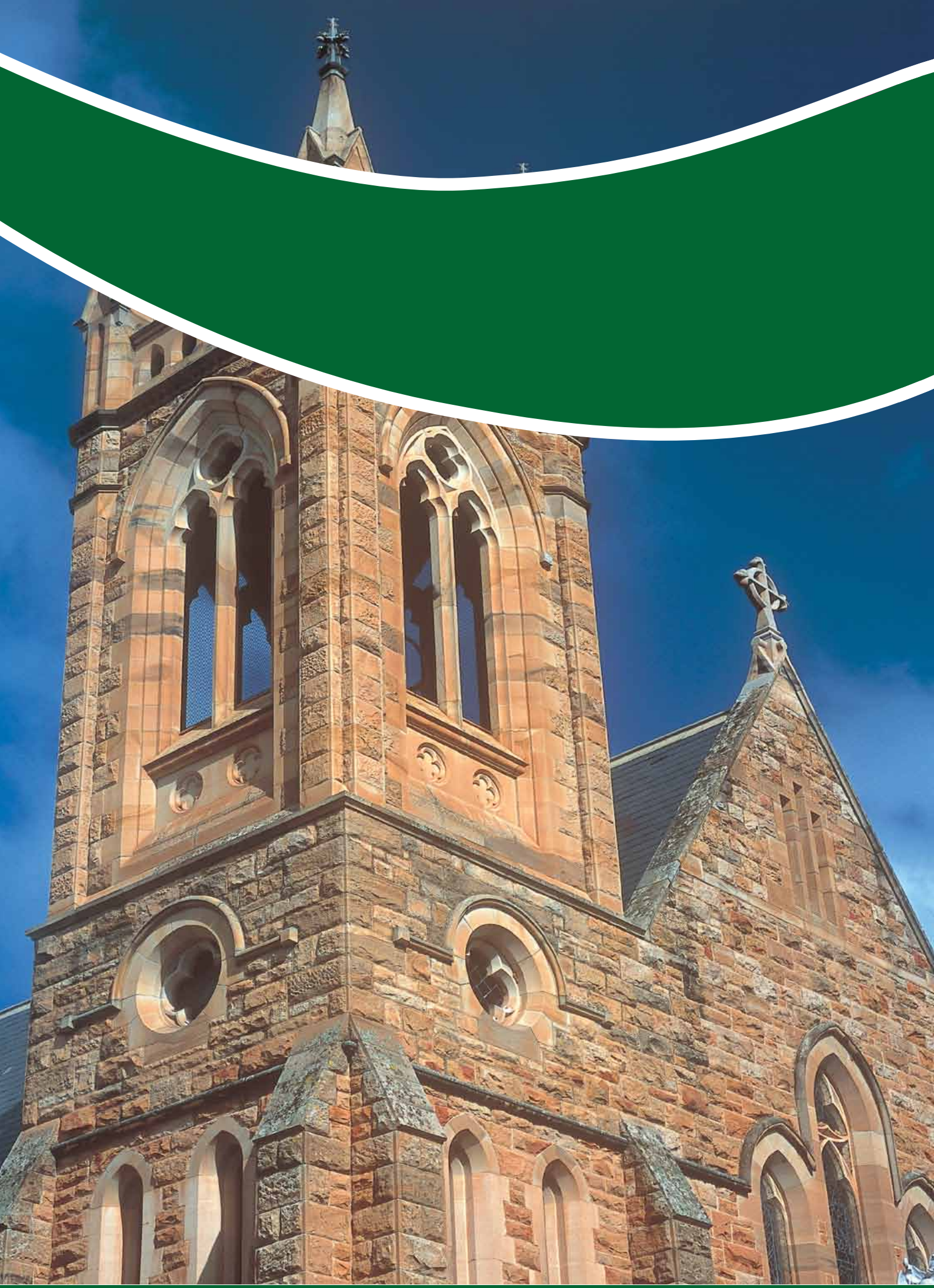
Native vegetation in the East of the WWLGA is Box-Gum woodlands and Eucalypt forests.

The North and West of the WWLGA has low rolling rises and native vegetation of open Box-Gum and Callitris woodlands.

Most native vegetation in the WWLGA is classified into one of the three major Endangered Ecological Communities and there are more than fifty threatened plants and animal species living in the region.

"**Nestled** on the banks of the magnificent **Murrumbidgee** River in the heart of Wiradjuri *Country* in southern New South Wales...."

Source: AEC Group 2008.



Heritage

Heritage is the important physical structures, qualities, customs, traditions and beliefs that are shared by a large group of people and passed from generation to generation.

It includes Aboriginal and non-Aboriginal heritage, and encompasses the surrounding landscape layered with places and associated objects, and tells the story of who we are, what we have done, and our relationship to the environment. We have shaped that landscape and it has shaped us and how we have lived, and formed our cultural identity.

To Aboriginal people, the environment itself is a cultural artefact, having been created by ancestral beings; Aboriginal story and ceremony in language; the Dreaming, maintains the country and a group's identity with that country.

To other Australians, heritage places are landscapes or buildings of historical or intrinsic value.

Awareness of and attachment to this heritage motivates us to protect, conserve and celebrate it.

Pressures on this heritage result from inadequate understanding, lack of legislation and protection programmes, lack of skills and resources, and developments that impinge on its integrity.

Key pressures on 'Heritage' in the WWLGA include:

- System for recording of heritage sites
- Inadequate procedures to assess the impact of development on culturally significant sites
- Low level of community awareness of cultural heritage
- Urban development
- Vandalism

"Effectively manage heritage and Aboriginal culture so it is understood, enhanced and protected"

Wagga Wagga Environmental Sustainability Strategy Objective

Heritage

Key Environmental Indicators

Frequency of Aboriginal Heritage site types for the Wagga Wagga LGA

Site Category	No. sites	Site Feature	No. Features
Open sites	1	Burials	1
Open sites	29	Artefact (stone, bone, shell, glass)	39
Open sites	6	Earth Mound/Shell Artefact	7
Open sites	5	Earth Mound/Hearth	6
Open sites	1	Quarry	1
Open sites	36	Scarred Tree	36

Source: AHIMS database search.

Heritage Listed sites for the Wagga Wagga LGA

Database Reference	2003-2004	2008-2009
No. of items on the Schedule of Items of Environmental Heritage (DCP)	50	258
No. of buildings on the RAIA NSW Chapter Register of 20th century buildings of significance (DCP 2005)	74	74

Source: WWCC register search.

"there is a depth of **cultural** environmental **heritage** in the **rural areas** of the Wagga Wagga LGA, from roads and railways, to **schools**, general stores, woolsheds, **halls** and **churches**."

WWCC Rural Heritage Study

Cultural heritage is protected by state legislation through the Environmental Planning and Assessment Act 1979 (EP&A Act), the National Parks and Wildlife Act 1974 and the Heritage Act 1977. The Heritage Act contains a State Heritage Register; which formalises the conservation of Items of State significance. At a national level, the Australian Heritage Commission Act 1975 lists and encourages conservation of places which have historic or cultural significance.

Non-Aboriginal Heritage

The first Europeans to settle in the Wagga Wagga area were landholders from around Sydney who had expanded their holdings firstly by moving into the Goulburn area and then into the Wagga Wagga area in the 1830s.

Because of its strategic location, Wagga Wagga was able to cater for the miners, drovers and carriers travelling between the goldfields in Victoria and those of Lambing Flat near Young, and for overlanders travelling between Sydney and Adelaide as well as for the increasing rural population in the Riverina.

Wagga Wagga was gazetted as a village in 1849 and the first allotments sold were blocks bounded by Gurwood, Fitzmaurice, Kincaid and Trail Streets. The village was incorporated as a Municipality in 1870 when the population numbered about 1,200. A bridge over the Murrumbidgee River was completed in 1862 and the railway reached Wagga Wagga (Bomen) in 1878.

Wagga Wagga City Council commissioned heritage studies for both the urban and rural areas of the Local Government Area. The Urban Heritage Study found that the City is rich in cultural heritage, dating from the establishment of settlement to the present day. The City retains many fine civic and commercial buildings and its stock of residential development is particularly noteworthy.

The Rural Heritage Study found that there is a depth of cultural environmental heritage in the rural areas of the Wagga Wagga LGA, from roads and railways, to schools, general stores, woolsheds, halls and churches. Also important is a 'sense of place' that is still felt strongly in the country.

Heritage is also considered in terms of the landscape features, and particularly trees, that are associated with the different settlement periods in the Wagga Wagga region. In the City, there are many avenues of matures trees, some of which date back to the 19th century, which have cultural significance. Similarly trees that were planted around the various homesteads in the rural areas surrounding Wagga Wagga represent important heritage items.

The main pressure on urban heritage items comes from development. This may be in the form of proposals to remove listed heritage items, to alter their character in some way (e.g. colour schemes, materials, signage) or to do works in the conservation area.

Proposals which affect listed heritage items are referred to the Heritage Adviser, the National Trust and the Heritage Office of the Department of Planning before a determination is made. Works in the conservation area require comments from the Heritage Advisor, and in some cases from the National Trust.

In some cases, owners may undertake modification works to listed heritage items or in the conservation area without formal application to Council. In rural areas, development may occasionally be an issue, however the natural decline of buildings and other heritage items through lack of use and maintenance is the main pressure on heritage items.

Heritage Studies

The Urban Heritage Study of 2002 made a number of recommendations to retain the heritage values of the City and surrounding villages. These focus on modifying Council's LEPs and DCPs to better protect listed items and areas. Recommendations such as the extension of the existing conservation area have been incorporated into the draft Wagga Wagga LEP 2008. It also recommends:

- that the owners of residential buildings in commercial areas be encouraged to retain them and adaptively reuse them for commercial purposes,
- that for those buildings which are considered to be an intact, representative example of their type but for which no statutory protection is proposed, alterations to public domain view of the building be discouraged.

The Rural Heritage Study of 2002 made a number of recommendations to retain the heritage resources in the area. These focus on modifying Council's LEPs and DCPs to better protect listed items and areas, but also to encourage better community understanding and appreciation of the full range of heritage resources. Council has adopted most of the recommendations in the Rural Heritage Report, and have been incorperated into the Wagga Wagga DCP 2005.

Local Heritage Grants

It is noted that while there are statutory provisions to protect items of cultural heritage, it is primarily through increased community interest in heritage, coupled with an awareness of the ways in which the significance of an item can be retained for future generations while meeting the needs of the present, which leads to the most satisfactory result.

Heritage

Council has several programs to assist owners and lessees conserve their items of heritage value. Local Heritage Grant is available to help conserve and restore the existing character of buildings in the Heritage Conservation Area or those listed as having heritage significance. The funding extends to enhancing the streetscape of an area. The heritage grants program within the City forms part of Council's annual grants scheme.

Heritage Advisor

Council engages the services of a Heritage Adviser who provides advice to Council on development applications in which cultural heritage is proposed to be affected. The Heritage Adviser also works with Council to provide a free advisory service for people proposing works on heritage buildings, with particular focus on colour schemes, renovations, restorations, signage, fencing and maintenance. The Adviser will give preliminary architectural and building advice, help identify priorities and assist in preparing the necessary information.

In addition to accessing the Heritage Adviser, guidance for local communities for the protection of their heritage is available through the DIY 'help' manuals such as the Australian Heritage Commission publication Protecting Local Heritage Places: A Guide for Local Communities, and the NSW Heritage Office NSW Heritage Manual.

Planning

The Wagga Wagga LEP 1985 and Rural LEP 1991, and the Wagga Wagga DCP 2005 are the statutory means by which built and natural heritage items that are not covered by the Heritage Act are protected. LEP 1985 identifies an urban conservation area where the uses permissible within the zone must be in keeping with the local heritage values. The DCPs list items of local heritage significance. The draft Wagga Wagga LEP 2008 will list the items of environmental heritage when it is gazetted (estimated to be early 2010).

Aboriginal Heritage

Aboriginal people were living in eastern Australia over 40,000 years before the present. By the time European settlers arrived in 1788, groups of Aborigines [usually called 'tribes'] had identified with clearly defined areas within the continent. The Wiradjuri 'tribe' roamed over a large area which extended from the Murray River in the south to Yass and the mountains in the east to Molong in the north and Nymagee and Hillston in the west and included the present local government area of Wagga Wagga.

Wagga Wagga LGA lies within the heart of the southern Wiradjuri Country/ Ngurambang. Wiradjuri Heritage refers to a wide range of practices, materials and knowledge and includes artefacts, sites of significance and evidence of occupation such as scarred trees and stone implements. It also includes language, music, dance, song, designs, spiritual and ecological beliefs and more recently, recordings and written material.

The Department of Environment and Conservation is custodian of the Aboriginal Sites Register, known as the Aboriginal Heritage Information Management System (AHIMS). This contains locational information on sites of cultural significance. The Wiradjuri Heritage Study notes 153 sites in the Wagga Wagga LGA. The Burra Charter also provides principles, processes and practices for the conservation and management of natural, Indigenous and historic places with cultural values.

Under the EP&A Act Council is required to consider environmental impacts (including impacts on Aboriginal cultural heritage) in landuse planning and decision making. Referrals are made to the Department of Environment, Climate Change and Water, who are required to undertake an assessment of potential impacts of development activities on Aboriignal heritage.

Pressures on Aboriginal Heritage still centres around access and information issues and include:-

- Public and private works inadvertently occurring around cultural significant sites that are not recorded on maps or in databases
- Low level of community awareness among the non-Indigenous community of the rich cultural heritage of the people Indigenous to the area
- Competing interests of different groups within the community around identification and cultural heritage services for determination of sites of cultural significance
- Access to employment and education for the integration and transfer of cultural heritage into land management practices.

Wagga Wagga is also a resettlement area and therefore has Aboriginal people from nations other than Wiradjuri and this should be acknowledged when referring to Aboriginal cultural heritage for Wagga Wagga.

Community land allocation (i.e. lease) for cultural activities including the utilisation for youth connection to culture links with schools and connecting to younger demographic segments.

In September 2008 the Wagga Wagga Local Aboriginal Lands Council won land rights in the heart of the city of Wagga Wagga, ending a three year battle in the courts over what constituted 'claimable' land. The Lands Council was successful in gaining the former motor registry 815 meter square site which had belonged to the State government. This has created a legal precedent in relation to land rights claims for the Wagga Wagga region from a State perspective.

Educational and socio-economic pressures contribute significantly to the poor ability of Indigenous Australians to maximise and fulfil the potential for integration of Aboriginal cultural heritage into mainstream practice. Poor levels of schooling place pressure on the need to create sustainable employment and training pathways for integrated land management and cultural heritage practices.

In addition, pressures still remain around the awareness of significant sites and whilst the Wiradjuri Heritage Study 2002 has addressed this somewhat, significant gaps remain.

Indigenous consultation into wider master-planning at Local Government and State level is still a critical component to the successful identification and determination of cultural sites.

Wagga Wagga Council in conjunction with relevant partnerships has been successful in integrating employment strategies and cultural heritage through Natural Resource Management through projects such as The River Restoration project with the CMA and GTES.

There is also the need to increase Indigenous capacity to participate in environmental and land management activities by younger members of the community. Therefore the development of stronger links with schools needs to established in relation to cultural heritage and planning issues.

Wiradjuri Heritage Study

Recommendations from the Wiradjuri Heritage Study 2002 have been incorporated into the:

- Wagga Wagga City Council Social Plan 2009 - 2103
- Wagga Wagga City Council Cultural Plan 2006 - 2015 and
- Wagga Wagga City Council Open Space and Recreation Plan 2005 - 2015.

Each plan has an implementation of actions, responsibilities and budgets to acknowledge and interpret the environmental and heritage values of the natural areas.

"**Wiradjuri Heritage** refers to a wide range of **practices**, materials and **knowledge** and includes **artefacts**, sites of significance and evidence of occupation..."

Wiradjuri Heritage Study

Heritage

Additionally, Wagga Wagga City Council has ensured increased opportunities for recognition and determination of culturally significant heritage sites through a dedicated consultation strategy with key Indigenous stakeholders such as the Wagga Wagga Local Aboriginal Lands Council, Wiradjuri and Wagga Wagga Elders Groups, Marra Marra Consultative Committee and general community around the following developments, masterplans and local environmental planning processes:

- Riverside Masterplan
- Bomen Masterplan
- Airport Masterplan
- Estella Community Centre
- Lloyd development
- East Boorooma Development
- 2008 Draft Wagga Wagga City Council LEP 2008 and DCP for the Wagga Wagga Local Government Area.

Information gained across these planning processes will be incorporated into future planning for integrated natural resource management through our 2009-2013 Environmental Sustainability Strategy and 2008 Draft Local Environmental Plan.

Statement of Committment

Further to Council's 2003 Statement of Commitment to Indigenous Australians, an Indigenous Development officer has been employed at Wagga Wagga City Council since September 2004. In 2008 Council introduced an Indigenous Acknowledgement at public meetings and events and Social inclusion and cultural heritage principles have been integrated into all our planning processes.

Indigenous Officer

Our Indigenous Officer role has continued to meet a range of key objectives such as:

- Develop, implement and monitor operational and service programs to ensure objectives are met
- Support the team leader and team members to achieve the objectives of the team
- Manage operational/ service related complaints and issues effectively to ensure prompt identification and appropriate action
- Increase internal awareness and understanding of Aboriginal and Torres Strait Islander issues and providing appropriate culturally sensitive information, support and response services to staff
- Assist in the delivery of programs to the Aboriginal and Torres Strait Islander Community
- Support Indigenous Consultative Committee meetings
- Linking with State Local Government Aboriginal Network.

The Indigenous Officer position is committed to further developing the planning processes incorporating culture awareness, social outcomes, access and equity programs within the framework of Councils Community Services policy.

Highlights in programming are:

- Aboriginal Cultural Awareness Program for all employees across Council June 2009
- Enhanced profile through events such as Sorry Day, Reconciliation Week and Naidoc Day.

This position has also been pivotal in demonstrating capacity for additional funding from FaCSHIA for the following grant funded positions:

- 3 year extension of Aboriginal Family Worker pilot program for 2009-2011
- 2009-2011 HACC Aboriginal Family Worker.

Marra Marra

This position has significantly engaged Indigenous groups including the Wagga Wagga Lands Council and has been pivotal in stimulating the continued growth of the Marra Marra Consultative Committee as an advisory structure to both community and government. This Consultative Committee continues to be the main conduit around Indigenous issues and specifically Aboriginal Law and Aboriginal Dental and Medical for the Wagga Wagga local government area.

As such this Committee is now recognised as an Advisory Committee to Council and has most recently provided advice to Council on the following progams and projects:

- Indigenous Advisory Structure for Council
- Consultation to the Wagga Wagga City Council Draft LEP 2008 process
- Riverside Wagga Wagga Masterplan
- Bomen Masterplan
- Ashmont Community Centre location
- Housing NSW Building Stronger Communities Project.

Mawang

Mawang (Altogether) was a three month long arts celebration as part of Council's ongoing Biennial Winter Festival and was held across all cultural facilities in 2009, with a focus on indigenous culture through a wide variety of events and workshops.

Malhangalarna River Restoration Project

A substantial riparian restoration and revegetation program has been ongoing since 2006 under the Malhangalarna River Restoration Projects, primarily funded through the Murrumbidgee Catchment Management Authority.

A core facet of the projects has been the TAFE training of Indigenous Trainees in Certificates of Conservation & Land Management.

The following table of initiatives are taken from Council's 'Wagga Wagga Environmental Sustainability Strategy 2009 - 2013' and represent Council's commitment to future actions for improving the state of Heritage in the Wagga Wagga LGA.

HRT1 Continue to map significant heritage sites across the WWLGA
HRT2 Develop and implement heritage community education initiatives
HRT3 Continue to implement the Heritage Grant funding initiative annually
HRT4 Through the relevant EPI's, enhance and protect listed heritage sites
HRT5 Review and update European Heritage site details required on Heritage Inventory Forms
HRT6 Continue to provide heritage advice and information to owners of heritage properties
HRT7 Continue to deliver heritage programming at Council's cultural facilities
HRT8 Continue to provide heritage cultural collection advice to public and private collections
HRT9 Review the Wiradjuri Heritage Study
HRT10 Develop and implement initiatives to partner the local Aboriginal community in environmental projects
HRT11 In partnership with Aboriginal Elders and other key stakeholders develop cultural heritage and environmental business opportunities for the Aboriginal community
HRT12 In partnership with Aboriginal Elders and the Aboriginal Lands Council provide interpretive signs at Aboriginal sites
HRT13 Provide Aboriginal heritage site identification, assessment and protection training to selected Council staff
HRT14 Develop and implement heritage training to selected Council staff

"Council recognises the richness of Indigenous cultures and values in promoting social diversity within the community"

Land

Land is an essential resource that drives the economy while at the same time being a critical component of the natural environment.

Like other natural resources land is subject to multiple demands for its use and invariably these multiple uses are competing for the same parcel of land.

Good landuse planning can help sustain ecological systems and biodiversity while still permitting residential development, recreational open space and sustainable agriculture and industry.

The Wagga Wagga Local Government Area is quite unique in that it encompasses the City of Wagga Wagga itself, the surrounding villages of Collingullie, Currawarna, Galore, Humula, Ladysmith, Mangoplah, Oura, Tarcutta and Uranquinty as well as a large rural area.

Key pressures on 'Land' in the WWLGA include:

- Urban development
- Urban and dryland salinity
- Floodplain management
- Agricultural practices
- Climate change
- Contaminated land
- Sedimentation and erosion

"Develop sustainable built environments for current and future generations through effective land management and planning"

Wagga Wagga Environmental Sustainability Strategy Objective

Key Environmental Indicators

Population statistics for the Wagga Wagga LGA

Year	2002	2003	2004	2005	2006	2007	2008	2009
Population	57078	57205	57400	57950	59908	60857	61656	62580
Increase	0	127	195	550	1958	949	799	924

Source: ABS website.

Development applications and construction certificates issued for the Wagga Wagga LGA

Year	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
No. of approved Development Applications	1,078	1,220	1,486	1,316	1,138	1,204	908	845
No. of Construction Certificates issued	370	748	1,302	1,131	949	1,001	773	678

Source: WWCC records. Amended development applications excluded.

Standing Water Level changes for groundwater in the Wagga Wagga LGA

Year	SWL increased	SWL decreased	SWL stable	Piezo dry	Total piezos
2005-2006	37	24	9	61	131
2006-2007	21	55	30	62	168
2007-2008	34	63	10	62	169
2008-2009	40	67	7	65	179

Source: WWCC records.

Land in the Wagga Wagga LGA

The Wagga Wagga Local Government Area (WWLGA) occupies an area of about 4,886km^{2}. It encompasses the urban area of Wagga Wagga, farming areas and the surrounding villages of Collingullie, currawarna, Humula, Ladysmith, Mangoplah, Oura, Tarcutta and Uranquinty. The City of Wagga Wagga is strategically located midway between Sydney and Melbourne at the junction of major transposrt routes.

Landuse zones within the WWLGA are shown in the table below.

Residential Land

The continued expansion of the urban area is placing increased pressure on the land resource for other uses including, agricultural production, conservation, and recreation.

Over the past five years Wagga Wagga has experienced steady growth with new houses constructed in Tatton South, Bourkelands, Glenoak, Springvale, Boorooma, Estella and Forest Hill.

The population of Wagga Wagga continues to grow at about 1.1% per year and Council's planning for this growth is an on-going process.

Similarly, planning for industrial land must also keep pace with this population growth.

Rural Villages

Population growth and expansion of industry in Wagga Wagga has created demands for housing in surrounding villages such as Ladysmith, Uranquinty and Collingullie and even to the towns of The Rock, Coolamon and Junee which are in adjacent shires.

Small rural residential lots or 'lifestyle blocks' are in high demand.

There is also an increase in demand for services such as pressure sewer and garbage collection as the population of the villages continues to grow.

Rural Areas

The agricultural land in the Wagga Wagga LGA is very productive and it is important that landholders manage these to maintain and enhance its productivity for the benefit of future generations. Landcare Groups are active in most areas of the WWLGA and these groups have an important role helping to manage the land in a sustainable and productive manner.

In rural areas the pressures on land most often are derived from the types of farming and forestry practices. It is essential that land managers ensure that these practices follow sound ecological principles that will maintain productivity for future generations.

Rural Land Degradation

Council is continuing to ensure that weed control programs and revegetation works are aligned with the Resource Condition and Management Targets as established by the Murrumbidgee Catchment Management Authority (CMA) and published in the Murrumbidgee Catchment Action Plan 2005.

The CMA, Livestock Health and Pest Authority (LHPA) and the Department of Primary Industries (DPI) are continually working with landholders to move towards more sustainable farming practices.

Area of LEP zones in the Wagga Wagga Local Government Area in 2007.

Zone	Area (ha)
Rural	475,428
Residential	2,230
Village	703
Business	77
Industrial	451
Special Uses	963
Open Space	1,521
Environmental Protection	382
Excluded	32
Other	181
Total	**481,968**

Land

Urban Salinity

Wagga Wagga is affected by a substantial problem of urban salinity, brought on primarily by the major changes in land use that are part of the urbanisation process.

Although first noticed in the late 1970s, it was more than a decade later before studies were able to identify the extent and seriousness of the problem.

Since that time Council has been conducting and extensive groundwater monitoring programme and continued with various investigations that provide the information to manage and control groundwater levels and the consequential salinity problems.

There is no "quick fix" to the urban salinity problem and it will be a major management issue for many decades.

Council continues to operate a major works program for the control of groundwater levels in the urban area of Wagga Wagga.
The main components of this program are:
i) Monitoring – including groundwater height and salinity concentration of the piezometer network, 9 dewatering bores around Calvary Hospital and the Showground evaporation basin;
ii) Removal of stormwater rubble pits located in backyards;
iii) Wherever possible revegetation works with local native plants; and
iv) Public education to improve knowledge about salinity issues.

Salinity Investigations and Reports

Council also writes an annual Urban Salinity Status Report for distribution to the public and State agencies.

The graph below indicates the change in Standing Water Level (SWL) for all of Council's piezometers in the WWLGA over the past 12 months. The trend has been for the majority a decrease in SWL, though a quarter haveshown an increase in SWL.

There has also been a report by Golders on Water Level and Quality and a comprehensive study by EA Systems into the impacts of the Lloyd Development. Hydroscience consultants were also commissioned to investigate options for Saline Bore Water Diversion from the Calvery Precinct.

Revegetation for Salinity

Council has recieved funding from the Murrumbidgee CMA to undertake revegetation works targeting salinity recharge and discharege areas. Over 40ha has been revegetated in the WWLGA over the past few years.

Native Vegetation Cover for Rural Residential Land

Chapter 29 of the Development Control Plan 2005 requires that all new small holding and rural residential subdivisions contain a minimum level of native vegetation. For most subdivisions this necessitates planting additional local native trees and shrubs to fulfil this minimum ground cover.

This native vegetation requirement is expected to exert a substantial influence in controlling any rise in groundwater levels potentially generated as a consequence of a land use change to urban development.

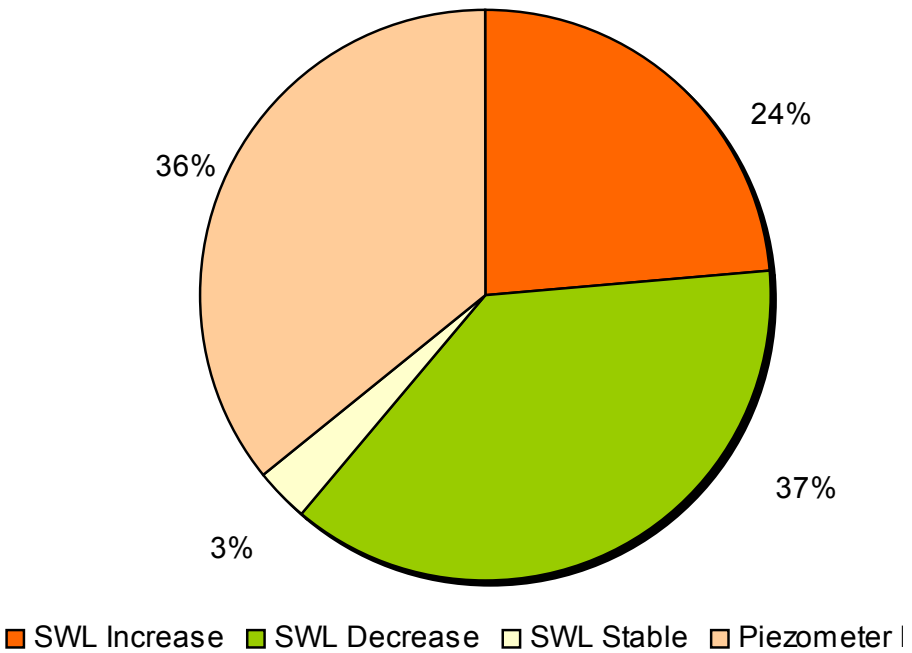
Contaminated Land

Council has compiled and is continually adding to a comprehensive list of potentially contaminated sites within the WWLGA. This information is necessary for management and control of contaminants in the environment, and is shown on s149 certificates.

The DECC Public Register of Contaminated Land Sites currently lists 3 sites in the WWLGA that have officially been declared contaminated.

One of these sites is the Former Tarcutta Gasworks site which Council is currently investigating remediation actions for.

Change in SWL 2008-2009 for All Piezometers



Source: WWCC

Floodplain Management

A major obstacle to sound management of the floodplain comes from the demand to allow industrial and urban development on the flood plain.

A more complex pressure arises from the conflict between revegetation of the native vegetation corridor and yet not to increase the vegetation density to a point where it inhibits the flow of flood waters.

A Floodplain Management Study was completed prior to endorsement of The Wagga Wagga Floodplain Management Plan (April 2009) by WMAwater, which has identified 18 actions for floodplain risk management measures relating to flood modification, property modification and response modification.

Public Open Space

Wagga Wagga City Council controls many parcels of public land in the Wagga Wagga Local Government Area. These parcels are spread over a range of vegetation types and include rocky hills and river flats and are used for purposes such as recreation, conservation, and leased for grazing. Most prominent of these natural areas are Pomingalarna Park Reserve, Willans Hill, and the riparian area beside the Murrumbidgee River.

Willans Hill and Pomingalarna Reserve are not only very popular as recreation areas but they are also valuable conservation areas with the White Box/Yellow Box/Blakely's Red Gum Endangered Ecological Community growing over most of these reserves.

The riparian flats beside the Murrumbidgee River Corridor comprise a significant corridor for native flora and fauna through the city.

Public open space areas are subject to many environmental pressures which include; rubbish dumping, weeds, soil erosion and excess visitation creating infrastructure damage.

Plans of Management

Council has developed Plans of Management for the open areas under its control and includes Pomingalarna Park Reserve.

The objectives of these management plans are to ensure that the reserves are managed to provide for the various community needs and that the resources are used and managed in a sustainable manner.

GIS Mapping

The mapping staff at Council (Geographical Information Systems section) completed an extensive project to re-draw all of the cadastre maps of the Wagga Wagga Local Government Area.

Cadastre layers are maps that show the divisions of land area from large County areas down in size to the individual lots that comprise urban house blocks.

This was part of a state-wide project run by the NSW Department of Lands to bring the cadastre mapping into line with modern survey techniques and adjustments to the new co-ordinate system for the entire continent.

Land

Local Environmental Plan
Following on from the 2007 Spatial Plan, in early 2009 the new Draft Local Environmental Plan 2008 (LEP) was placed on public exhibition and the submissions form the public are now being assessed before the final document is accepted by the minister for Planning.

The objectives of this Plan are:
i) to optimise the management and use of resources to ensure that the choices and opportunities to use those resources remain for future generations;
ii) to promote development that is consistent with the principles of ecologically sustainable development;
iii) to ensure the sustainability of the natural attributes of Wagga Wagga, avoid or minimise adverse impacts on environmental values and to protect environmentally sensitive areas;

"...to ensure the **sustainability** of the **natural** attributes of Wagga Wagga, **avoid** or **minimise impacts** on environmental values and **protect** environmentally sensitive areas..."

Excerpt from the 2008 Draft Wagga Wagga Local Environmental Plan Objectives

iv) to give effect to the desired outcomes, strategic principles, policies and actions contained in the Council's adopted strategic planning documents; and
v) to co-ordinate development with the provision of public infrastructure and services.

A significant component of this draft LEP is the inclusion of maps that identify Environmentally Sensitive Land for the three natural resources of land, biodiversity and water. These maps of the Wagga Wagga Local Government Area allow people to identify areas where these resources are particularly sensitive to development changes and to identify those attributes of these resources that are most significantly affected by the development.

Biodiversity Certification
In collaboration with staff of the Department of Environment and Climate Change, (DECC) Council staff have developed a Biodiversity Certification Area of 10,655ha covering the proposed future urban and industrial release areas around the City of Wagga Wagga.

The primary effect of the biodiversity certification is that any development, within the area that requires consent is taken to be development that is not likely to significantly affect threatened species.

It removes the need to address the Assessment of Significance for threatened species (s.5A of the EP&A Act) and to prepare species impact statements.

Biodiversity Certification has many practical advantages. It allows up-front strategic assessment of conservation values, enables informed community participation in planning decisions, reduces the potential for land-use conflict, and creates greater certainty of planning outcomes for development projects.

Malhangalarna River Restoration Project
A substantial riparian restoration and revegetation program has been ongoing since 2006 under the Malhangalarna River Restoration Projects, primarily funded through the Murrumbidgee Catchment Management Authority.

A core facet of the projects has been the TAFE training of Indigenous Trainees in Certificates of Conservation & Land Management.

A second Indigenous team has been working during 2009 to complement the existing team along the Murrumbidgee River and to concentrate on woody weeds removal and revegetation works with indigenous plant species around the Wollundry Lagoon.

Other works have also included the design and construction of some duck signs at The Esplanade.

Future works later this year may include the construction of a picnic node area at The Esplanade.

North Wagga Flats
The habitat restoration project in Wilks Park (North Wagga Flats) was completed in 2006.

Wilks Park was chosen because it provides a viable core habitat in the narrow riparian strip beside the Murrumbidgee River for endangered species such as the Squirrel Glider, Superb and Swift Parrots, Barking Owl and Brown Treecreeper.

In the Tidy Towns Awards 2007 this project was Highly Commended in the Wildlife Corridors & Conservation category.

The following table of initiatives are taken from Council's 'Wagga Wagga Environmental Sustainability Strategy 2009 - 2013' and represent Council's commitment to future actions for improving the state of Land in the Wagga Wagga LGA.

LAN1 Through the DCP, ensure Site Environmental Management Plans are undertaken for new developments
LAN2 Through the DCP, ensure appropriate environmental risk assessments are undertaken for new developments
LAN3 Through the relevant EPI's, create open space corridors between developments for walkways and bike paths
LAN4 Through the relevant EPI's, establish vegetation screening between rural and urban areas
LAN5 Develop an Environmental Sustainability List of Considerations for Development Applications to be assessed against
LAN6 Review the Development Application Submission Checklist to include environmental considerations
LAN7 Continue to control erosion and sedimentation on Council worksites
LAN8 Continue to implement and enforce the control of erosion and sedimentation on building and development sites
LAN9 Continue to update and maintain the contaminated land register
LAN10 Continue to develop initiatives to ensure contaminated land is rehabilitated
LAN11 Continue to implement the rear of block drainage program in the Wagga Wagga urban area
LAN12 Continue to develop and implement salinity community education initiatives
LAN13 Develop and implement sustainable gardening community education initiatives
LAN14 Develop and implement community gardens in local neighbourhoods across the WWLGA
LAN15 Continue to improve management systems at public open spaces
LAN16 Form partnerships with key stakeholders to develop and implement land management and planning research initiatives

"A Centre of Regional **Excellence**' that.....Contributes to the efficient and **effective** management of the **environment**, community and economy for both present and **future generations.**"

Excerpt from the Wagga Wagga City Council Vision

Biodiversity

Biological diversity reflects 300 million years of evolution separated from the rest of the world, 60 000 years of human occupation, and the impacts of the past 200 years.

Biodiversity, together with non-living components of ecosystems such as soil and water, generates the processes and delivers the services that enable humans and all higher life forms to exist.

We gain aesthetic and cultural benefits, such as a sense of place and identity and spiritual connections, from landscapes rich in biodiversity, and its role in functioning ecosystems support much of our economic prosperity directly and indirectly.

More importantly, diversity of living organisms is essential for the continued operation of natural energy flows and nutrient recycling processes upon which all life depends.

The greater the diversity of living things then the more resilient is that natural system to major disturbances such as fires, floods and droughts. Systems that have low biological diversity are prone to catastrophic collapse and failure in the face of major disturbances.

Maintaining the biodiversity in a region is therefore an essential part of ecological sustainable development.

Key pressures on 'Biodiversity' in the WWLGA include:

- Clearing of native vegetation
- Degradation of remnant native vegetation
- Climate change impacts
- Direct and diffuse water pollution
- Exotic flora and fauna species
- Urban development

"Effectively manage the natural environment so that biodiversity is understood, enhanced and protected"

Wagga Wagga Environmental Sustainability Strategy Objective

Biodiversity

Key Environmental Indicators

Property Vegetation Plans for the Wagga Wagga LGA

Year	No. PVPs	Area (ha)	% LGA
2005 – 2006	4	2,043	0.4%
2006 – 2007	32	17,045	3.5%
2007 – 2008	88	43,005	8.8%
2008 – 2009	23	11,728	2.4%

Note: The PVP area shown in the table represents the area of cadastre lots on which the PVPs reside and it does not represent the actual area that is managed for environmental outcomes under these PVP agreements.

Source: Murrumbidgee CMA.

Protected Sites in the Wagga Wagga LGA

Name of Conservation Reserve	Area (ha)	% LGA
Livingstone National Park	1918	0.39%
Livingstone State Conservation Area	540	0.11%
Nest Hill Nature Reserve	758	0.15%

Source: WWCC records.

Tree Management Applications submitted in the Wagga Wagga LGA

Year	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
No. applications	511	646	366	417	414	380	289	286

Source: WWCC records.

Number of different threatened species types detected/ reported in the Wagga Wagga LGA

Year	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
No. Species	7	7	6	11	6

Source: WWCC and DECC.

Vegetation Communities

A total of 18 vegetation communities were identified in a previous mapping study. These vary from tall open forests in the south-east, to grassy box-gum woodlands in the central sections of the WWLGA, to the low sparse, grassy woodlands of the drier north-western sections. More than 90% of the native vegetation has been cleared, primarily in the latter half of the 18th Century and early 20th Century.

Five Endangered Ecological Communities (EEC) of native vegetation are found in the Wagga Wagga LGA:

- Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions;
- Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions;
- White Box Yellow Box Blakely's Red Gum Woodland;
- Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions; and
- Aquatic Ecological Community in the Natural Drainage System of the Lower Murray River Catchment.

Considered together, these Endangered Ecological Communities cover about 67% – two-thirds – of the vegetation communities in of the WWLGA.

The extent and conservation status of the 18 communities is shown in the table below with Pre-1750 and current extent of vegetation cover, and the conservation status, for each of the 18 communities in the WWLGA.

Vegetation Communities of the Wagga Wagga LGA

Vegetation Community	Estimated pre-1750 area (ha)	Estimated current area(ha)	% Cover Remaining	Conservation Status
Grey Box Woodland	13,250	175	1	Endangered
Boree Woodland	708	8	1	Endangered
Tumbledown Gum-White Cypress Pine Open Forest	4,737	39	1	Endangered
White Box Woodland	68,156	1,495	2	Endangered
White Box-White Cypress Pine-Grey Box Woodland	6,173	105	2	Endangered
Yellow Box Woodland	93,683	2,806	3	Endangered
White Cypress Pine-Yellow Box-Grey Box Woodland	138,034	6,054	4	Endangered
Kyeamba Granites Open Forest	17,423	1,206	7	Vulnerable
Box-Ironbark Forest	11,734	1,105	9	Vulnerable
Mount Flackney Granites Open Forest	8,348	796	10	Vulnerable
Wagga Wagga Hills Open Forest	2,030	304	15	Vulnerable
Coreinbob Hills Open Forest	76,046	15,215	20	Vulnerable
River Red Gum Forest	20,277	6,449	32	Vulnerable
Yabtree Open Forest	10,379	3,875	37	Vulnerable
Red Stringybark-Long-leaved Box-Red Box Open Forest	3,839	2,073	54	Least Concern
Red Stringybark-Blakely's Red Gum Open Forest	1,783	1,262	71	Least Concern
Dwyer's Red Gum Open Forest	628	504	80	Least Concern
Black Cypress Pine-Red Ironbark Scribbly Gum Open Forest	1,244	1,089	88	Least Concern

Source: WWCC records.

Biodiversity

Clearing of Native Vegetation

The Native Vegetation Act 2003, has substantially reduced the pressure of land clearing on biodiversity preservation. A key component of this legislation is that clearing can only take place after the Minister has approved a Property Vegetation Plan (PVP) on conditions that the clearing will improve or maintain environmental outcomes.

Property Vegetation Plans

Under the Native Vegetation Act, many landholders in the Wagga Wagga LGA have established Property Vegetation Plans. There have been approximately 150 PVPs established under this Act to date.

The 23 PVPs established in 2008-2009 covered a total area of 12,530ha or about 2.6% of the land in the WWLGA.

Remnant Vegetation Management

A significant pressure on native vegetation in the WWLGA relates to the ongoing management of remnants that still exist. There is still the silent pressure of trees dieing from disease and old age attrition, especially with isolated paddock trees. These trees provide valuable refuge and habitat for wildlife in an otherwise depleted landscape.

Landowners need to be aware of this attrition and manage the land to replenish the losses.

In many cases, remnant vegetation is subjected to ongoing grazing pressure, invasion by weeds and pest animals, and inappropriate firewood collection.

Firewood Collection

It is recognised that collection of wood can have serious adverse impacts on the ecology of an area, particularly in relation to threatened species, and the NSW Scientific Committee has listed the "Removal of Dead Wood and Dead Trees" as a Key Threatening Process.

Roadside Vegetation Management

A draft Roadside Vegetation Management Policy for the WWLGA has been prepared. It outlines a range of measures to minimise the negative impact on vegetation of any works proposed for the road reserve, consistent with requirements for road safety. This includes minimising disturbance to existing native vegetation, revegetating with native species, and managing grazing and wood collection for conservation outcomes.

Council undertook surveys of major roads to identify sections of roads which had high, medium and low conservation values. These survey findings are being used by Council to plan roadside management of grazing permits and conservation of our native vegetation and wildlife. Roadside signs have been erected that identify for the public those areas of high conservation value.

Protected Areas

There are only three formal conservation reserves in the Wagga Wagga LGA, Livingstone National Park (1,918ha), Livingstone State Conservation Area (540ha) and Nest Hill Nature Reserve (758ha). The total area in these reserves is only 3,216ha or 0.7% of the 488,643 ha of land in the WWLGA. The adjacent map also shows the State Forest areas.

Tree Preservation Orders

Council continues to implement the Tree Preservation Order adopted in 2000. It requires an ecological assessment of the possible impacts of any proposed tree or native vegetation removal. There were 286 applications submitted all together in 2008-2009 for either heavy pruning works or complete removal.

DCP 2005 Chapter 29

Council continues to implement the Development Control Plan (DCP) adopted in 2000 to ensure there is a minimum level of native vegetation cover on all rural residential and small holding subdivisions. The density of revegetation is related to the Land Capability Class of the land in the subdivision.

Strategic Landuse Planning

The Draft 2008 LEP development also encompassed a biocertification of the proposed future urban and industrial release areas around the City of Wagga Wagga.

The primary effect of the biodiversity certification is that any development within the area that requires consent is taken to be development that is not likely to significantly affect threatened species.

Threatened Species, Populations & Ecological Communities

The most serious pressure on Threatened Species and endangered Ecological Communities is from habitat alteration and change, either from human activities or from climate changes. Both the abundance and quality of habitat are critical to the survival of species and the more obvious important habitat attributes are trees, shrubs, grasses, ground cover and water quality attributes.

To maintain its effectiveness habitats must not become isolated 'islands' and connectivity of habitats across the landscape is critical to the long-term survival species. Until the connectivity of vegetation and habitats becomes more extensively established throughout the WWLGA with improved quality and quantity of native vegetation, then the pressure of low quality habitats will continue to adversely impact on threatened species.

Threatened species, populations and ecological communities are governed by the NSW Threatened Species Conservation Act, 1995, the NSW Fisheries Management Act 1994 and the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.

The Wagga Wagga LGA has a substantial number of species which have been formally listed as threatened.

A threatened species may either be endangered or vulnerable, depending how seriously it is under threat of extinction. Wagga Wagga's threatened species are listed in the previous table.

Recently the Little Lorikeet was listed as a Vulnerable Species in Part 1 of Schedule 2 in the Threatened Species Conservation Act 1995.

Species records between years are subject to differences in the number and types of surveys being conducted within the LGA.

Differences between years may not reflect real differences in the abundances of species.

Endangered Species

In the Wagga Wagga Local Government Area endangered species include the River Snail, Trout Cod, and the Macquarie Perch.

The Silver perch is listed as a Vulnerable Species.

Endangered Populations

The Murray-Darling population of the Eel-tailed Catfish is listed as an Endangered Population.

The local population of the Squirrel Glider within the Wagga Wagga Local Government Area is also listed as an Endangered Population.

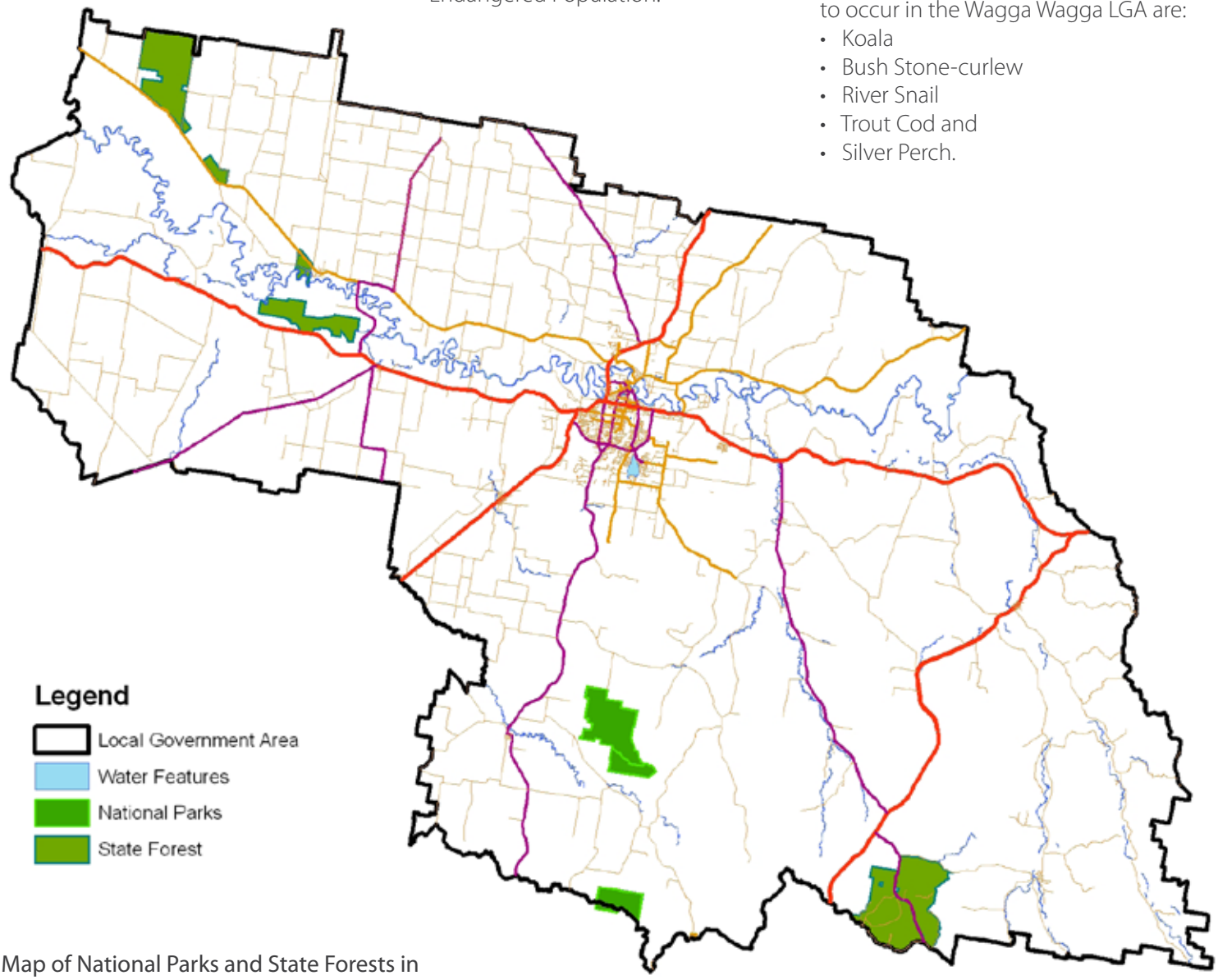
Recovery Plans

The NSW National Parks and Wildlife Service is responsible for developing Recovery Plans for threatened species under the Threatened Species Conservation Act 1995.

Once a species, population or ecological community has been listed as threatened, the Threatened Species Conservation Act requires the NPWS to draw up a Recovery Plan.

To date, final Recovery Plans which relate to species that have the potential to occur in the Wagga Wagga LGA are:

- Koala
- Bush Stone-curlew
- River Snail
- Trout Cod and
- Silver Perch.



Map of National Parks and State Forests in the Wagga Wagga LGA (Source: WWCC)

Biodiversity

Threatened species, populations and ecological communities which are highly likely to occur in the WWLGA.

Amphibians (Frogs)
Booroolong Frog (Litoria booroolongensis)
Southern Bell Frog (Litoria raniformis)
Reptiles
Western Blue-tongued Lizard (Tiliqua occipitalis)
Mammals
Common Bentwing-bat (Miniopterus schreibersii)
Greater Long-eared Bat (Nyctophilus timoriensis)
Koala (Phascolarctos cinereus)
Large-footed Myotis (Myotis adversus)
Squirrel Glider (Petaurus norfolcensis)
Yellow-bellied Sheathtail-bat (Saccolaimus flaviventris)
Birds
Black-chinned Honeyeater (Melithreptis gularis gularis)
Barking Owl (Ninox connivens)
Blue-billed Duck (Oxyura australis)
Brolga (Grus rubicundus)
Brown Treecreeper (Climacteris picumnus victoriae)

Bush Stone-curlew (Burhinus grallarius)
Diamond Firetail (Stagonopleura guttata)
Freckled Duck (Stictonetta nervosa)
Gang-gang Cockatoo (Callocephalon fimbriatum)
Gilbert's Whistler (Pachycephala inornata)
Glossy Black-cockatoo (Calyptorhynchus lathami)
Grey Falcon (Falco hypoleucos)
Grey-crowned Babbler (Pomatostomus temporalis temporalis)
Hooded Robin (Melanodryas cucullata cucullata)
Little Lorikeet (Glossopsitta pusilla)
Major Mitchell's Cockatoo (Cacatua leadbeateri)
Masked Owl (Tyto novaeholliandiae)
Powerful Owl (Ninox strenua)
Regent Honeyeater (Xanthomyza phrygia)
Speckled Warbler (Pyrrholaemus sagittata)
Square-tailed Kite (Lophoictinia isura)

Superb Parrot (Polytelis swainsonii)
Swift Parrot (Lathamus discolor)
Turquoise Parrot (Neophema pulchella)
Fish
Murray Hardyhead (Craterocephalus fluviatilis)
Silver Perch (Bidyanus bidyanus)
Trout Cod (Maccullochella macquariensis)
Plants
Claypan Daisy (Brachycome muelleroides)
Mossgiel Daisy (Brachycome papillosa)
Spotted-throat Cowslip (Diuris tricolor)
Woolly Ragwort (Senecio garlandii)
Yass Daisy (Ammobium craspedioides)
Ecological Communities
White Box-Yellow Box-Blakely's Red Gum
Fuzzy Box Woodland
Inland Grey Box Woodland
Myall Woodland
Aquatic Ecological Community in Natural Drainage System of Lower Murray River Catchment

Source: WWCC records.

GIS Threatened Species Layer

Council continues to update this electronic threatened species layer as new data becomes available.

To date there are about 1,800 records of threatened species being detected in the Wagga Wagga LGA.

Aquatic Biodiversity

Pollution in the form of nutrients, sediment, salinity and temperature combine to place pressure on aquatic biodiversity by creating poor water quality.

Additionally, introduced species such as carp and redfin adversely impact on aquatic biodiversity, as does human activity such as de-snagging.

Noxious Weeds

Declared Noxious Weeds have been proclaimed under the Noxious Weeds Act, 1993. At present there are at least 38 declared species found in the WWLGA. These include woody weed species, herbaceous plants, and some aquatic plants. These are listed in the following table.

In addition to the declared Noxious Weeds, there are about 15 species of Environmental Weeds which are plants that invade native vegetation and may replace plants and cause loss of habitat for some native animals.

Along the river floodplain in the Wagga Wagga urban area there are scattered areas of Cane Needle Grass, (Nassella hyaline), which is related to Serrated Tussock and Chilean Needle Grass. This infestation of Cane Needle Grass is one of the few known infestations in New South Wales.

Control measures are continuing on existing infestations of Coolatai Grass and a monitoring program is in place for further outbreaks.

Council's noxious weed inspectors have liaised with the affected landholder's encouraging awareness and full control of Prairie Ground Cherry to prevent further spread.

A significant infestation of Chilean Needle Grass was detected on the Sturt Highway at Lower Tarcutta in the 2008. Approximately 9 kilometres of road verge is being managed through joint cooperation with the RTA.

Council is continuing its electronic mapping program for Noxious Weeds.

Mapping of weeds both along roads and private properties will be utilised to monitor spread and control of infestations.

A significant mapping program was undertaken to better understand the impacts of Willow spp. in the Tarcutta, Umbango and Oberne creek systems.

Council has continued to achieve significant results with the establishment of biological control agents for weeds including Paterson's Curse, Horehound, Scotch Thistle, Dock, Blackberry and St John's Wort.

Private Property Inspections are ongoing, as is Council's noxious weed spray program in an effort to ensure a catchment wide approach to controlling weeds is maintained.

Council's weed education / extension program has continued with a focus on limiting the potential spread of existing weeds and introduction of new incursions through fodder and stock transportation through educating and working with private landholders.

This has included numerous field days and displays at community events.

Declared Noxious Weed Species of the Wagga Wagga Local Government Area.

African boxthorn [Lycium ferocissimum]
African feathergrass [Pennisetum macrourum]
African turnipweed [Sisymbrium runcinatum]
African turnipweed [Sisymbrium thellungii]
Alligator weed [Alternanthera philoxeroides]
Anchored water hyacinth [Eichhornia azurea]
Annual ragweed [Ambrosia artemisiifolia]
Arrowhead [Sagittaria montevidensis]
Artichoke thistle [Cynara cardunculus]
Athel pine [Tamarix aphylla]
Bathurst/Noogoora/Hunter/Californian/cockle burr [Xanthium species]
Bear-skin fescue [Festuca gautieri]
Black knapweed [Centaurea nigra]
Black willow [Salix nigra]
Blackberry [Rubus fruticosus]
Blue heliotrope [Heliotropium amplexicaule]
Bridal creeper [Asparagus asparagoides]
Broomrapes [Orobanche species]
Buffalo burr [Solanum rostratum]
Burr ragweed [Ambrosia confertiflora]
Cabomba [Cabomba caroliniana]
Cape tulip [Moraea species]
Cayenne snakeweed [Stachytarpheta cayennensis
Chilean needle grass [Nassella neesiana]
Chinese violet [Asystasia gangetica subspecies]
Clockweed [Gaura parviflora]
Columbus grass [Sorghum x almum]
Coolatai grass [Hyparrhenia hirta]
Corn sowthistle [Sonchus arvensis]
Devil's claw (purple-flowered) [Proboscidea louisianica]
Devil's claw (yellow-flowered) [Ibicella lutea]
Dodder [Cuscuta species]
East Indian hygrophila [Hygrophila polysperma]
Espartillo [Achnatherum brachychaetum]

Eurasian water milfoil [Myriophyllum spicatum]
Fine-bristled burr grass [Cenchrus brownii]
Fountain grass [Pennisetum setaceum]
Gallon's curse [Cenchrus biflorus]
Galvanised burr [Sclerolaena birchii]
Glaucous starthistle [Carthamus glaucus]
Golden dodder [Cuscuta campestris]
Golden thistle [Scolymus hispanicus]
Gorse [Ulex europaeus]
Harrisia cactus [Harrisia species]
Hawkweed [Hieracium species]
Hemlock [Conium maculatum]
Horehound [Marrubium vulgare]
Horsetail [Equisetum species]
Hymenachne [Hymenachne amplexicaulis]
Italian bugloss [Echium species]
Johnson grass [Sorghum halepense]
Karoo thorn [Acacia karroo]
Kochia [Bassia scoparia]
Lagarosiphon [Lagarosiphon major]
Lantana [Lantana species]
Leafy elodea [Egeria densa]
Long-leaf willow primrose [Ludwigia longifolia]
Mexican feather grass [Nassella tenuissima]
Mexican poppy [Argemone mexicana]
Miconia [Miconia species]
Mimosa [Mimosa pigra]
Mossman River grass [Cenchrus echinatus
Noogoora burr [Xanthium species]
Onion grass [Romulea species]
Oxalis [Oxalis species and varieties]
Parthenium weed [Parthenium hysterophorus]
Paterson's curse, Vipers bugloss [Echium species]
Perennial ground cherry [Physalis virginiana]
Pond apple [Annona glabra]
Prairie ground cherry [Physalis viscosa]

Prickly acacia [Acacia nilotica]
Prickly pear [Cylindropuntia species]
Prickly pear [Opuntia species]
Red rice [Oryza rufipogon]
Rhus tree [Toxicodendron succedaneum]
Rubbervine [Cryptostegia grandiflora]
Sagittaria [Sagittaria platyphylla]
Salvinia [Salvinia molesta]
Scotch, Stemless, Illyrian and Taurian thistles [Onopordum species]
Senegal tea plant [Gymnocoronis spilanthoides]
Serrated tussock [Nassella trichotoma]
Siam weed [Chromolaena odorata]
Silk forage sorghum [Sorghum species]
Silver-leaf nightshade [Solanum elaeagnifolium]
Smooth-stemmed turnip [Brassica barrelieri subspecies oxyrrhina]
Soldier thistle [Picnomon acarna]
Spiny burrgrass [Cenchrus incertus]
Spiny burrgrass [Cenchrus longispinus]
Spotted knapweed [Centaurea maculosa]
St. Barnaby's thistle [Centaurea solstitialis]
St. John's wort [Hypericum perforatum]
Star thistle [Centaurea calcitrapa]
Sweet briar [Rosa rubiginosa]
Texas blueweed [Helianthus ciliaris]
Tree-of-heaven [Ailanthus altissima]
Water caltrop [Trapa species]
Water hyacinth [Eichhornia crassipes]
Water lettuce [Pistia stratiotes]
Water soldier [Stratiotes aloides]
Wild radish [Raphanus raphanistrum]
Willows [Salix species]
Witchweed [Striga species]
Yellow burrhead [Limnocharis flava]
Yellow nutgrass [Cyperus esculentus]

Biodiversity

Maldhangilanna River Restoration Project

A substantial riparian restoration and revegetation program has been ongoing since 2006 under the Malhangalarna River Restoration Projects, primarily funded through the Murrumbidgee Catchment Management Authority.

A core facet of the projects has been the TAFE training of Indigenous Trainees in Certificates of Conservation & Land Management.

A second Indigenous team has been working during 2009 to complement the existing team along the Murrumbidgee River and to concentrate on woody weeds removal and revegetation works with indigenous plant species around the Wollundry Lagoon.

Glossy Black Cockatoo

In 2008 Council received a grant from the Environmental Trust for the Rehabilitation of Habitat of the Vulnerable Glossy Black-cockatoo in the Pomingalarna Park Reserve.

The project will restore 8ha of known habitat of the Vulnerable Glossy Black-Cockatoo, Calyptorhynchus lathami, in the Reserve which is the only known location of this species in the Wagga Wagga Local Government Area.

Pomingalarna Reserve likely serves as a significant habitat link to the Endangered Population of this species further west in Narrandera.

The project planted 2,000 seedlings of Drooping She-Oak, Allocasuarina verticillata, in eleven areas.

Six artificial nest hollows were installed in box trees within the Reserve. Over the next two years the Reserve will be monitored for the presence of Black-Cockatoos and their use of nest hollows.

This project will make a substantial contribution to the essential food resources of Glossy Black-Cockatoos and hence to the survival of this Vulnerable species.

North Wagga Flats

Another Environmental Trust funded project was for the Restoring Core Riparian Habitat for Key Threatened Species in Wagga that was completed in 2006.

North Wagga Flats is a 34 ha riparian reserve located only 2 km from the Wagga Wagga CBD. The vegetation is a River Red Gum community with some open grassy areas.

Threatened species such as Squirrel Glider, Superb Parrot, Swift Parrot and Barking Owl have been seen either in the reserve or in the neighbourhood. The population of Squirrel Gliders in the Wagga Wagga Local Government Area is classified as an Endangered Population.

Objectives of this project were to restore the native vegetation and habitats so that the reserve can support these Threatened species.

During the project more than 2,000 understorey tree and shrub seedlings of nine species were planted and 10.5ha sown with 14 native grass species of local provenance.

A major effort was invested in the control of willows, woody weeds and ground cover weeds.

To enhance the habitat for Squirrel Gliders 53 nest boxes were installed in trees without hollows.

Willow Removal

Willows are listed in the top 20 of Australia's Weeds of National Significance due to their highly invasive nature and negative impacts on hydrology and biodiversity.

Since 2008 the Murrumbidgee Catchment Management Authority has provided funds to Council for two projects that involved the removal of willows and other exotic weed species.

The first project removed willows and exotic weed trees from a 400m section beside the Murrumbidgee River downstream from the swimming beach.

The second project commencing in 2009 will remove willows from a total of 3.5km in five sections of river bank from Orange Tree Reserve to Wiradjuri Reserve.

Included in these projects is a re-vegetation program that will plant native vegetation including Casuarina trees, tussock grasses, mat rushes and other ground covers that will stabilise the bank and still allow unimpeded movement of flood waters.

Community Action

Wagga has a large volunteers base that work on a variety of environmental projects. Some major projects that various groups have assisted Council with include projects at the North Wagga Flats, Pomingalarna Reserve, Wiradjuri Reserve, Riverside, Lake Albert, Wollundry Lagoon as well as many National Tree Day sites.

Although all of these groups are too numerous to mention, regular volunteers include:

- Downside Landcare Group
- Galore Landcare Group
- Kyeamba Valley Landcare Group
- Mangoplah Landcare Group
- Oura Landcare Group
- Tarcutta Creek Landcare Group
- Uranquinty Landcare Group
- Wagga Urban Landcare Group
- African Community Group
- Local Businesses
- Cargill Beef Australia
- Defence Forces
- 'Friends of' Groups
- Wagga Wagga Tidy Towns
- Wagga Scouts
- Service Clubs
- Progress Associations
- Wagga Sustainability Group
- Climate Rescue of Wagga (CROW).

The participation of community volunteers is of vital importance in achieving sustainable environmental outcomes.

The following table of initiatives are taken from Council's 'Wagga Wagga Environmental Sustainability Strategy 2009 - 2013' and represent Council's commitment to future actions for improving the state of Biodiversity in the Wagga Wagga LGA.

BIO1 Map identified threatened and endangered species across the WWLGA using GIS
BIO2 Continue to map revegetation across the WWLGA using GIS
BIO3 Develop a Biodiversity Plan for the WWLGA incorporating wetland and wildlife corridor management
BIO4 Develop Conservation Management Plans for land zoned for conservation
BIO5 Continue to lobby for increased funding for the management of conservation areas
BIO6 Increase the area of native vegetation managed for biodiversity conservation across the WWLGA
BIO7 Continue to implement the Companion Animals Management Plan
BIO8 Develop responsible pet ownership information to be included in Council's Companion Animal Packs
BIO9 Develop and implement a Pest Management Plan
BIO10 Continue to implement the Regional Weed Management Strategy
BIO11 Strengthen partnerships to coordinate roadside weed management schedules with the RTA and landholders
BIO12 Develop and implement initiatives to reduce weed invasion and restore native habitat at public open spaces
BIO13 Continue to develop and implement noxious weed education initiatives
BIO14 Review guidelines in relation to grazing significant vegetation areas
BIO15 Review the Roadside Management Plan
BIO16 Develop partnerships with key stakeholders to propagate more endemic and native species
BIO17 Develop and implement initiatives to promote the planting of more endemic and native species across the WWLGA
BIO18 Continue to increase endemic and native plantings in Council gardens, parks and open spaces
BIO19 Through the relevant EPI's, continue to encourage endemic and native plantings in new developments
BIO20 Continue to implement the National Tree Day initiative annually
BIO21 Continue to implement the Wagga Wagga City Council Tree Preservation order
BIO22 Through the relevant EPI's, continue to increase and improve the connectivity of native vegetation corridors across the WWLGA
BIO23 Form partnerships with key stakeholders to develop and implement biodiversity research initiatives
BIO24 Form partnerships with key stakeholders to protect threatened and endangered fauna and flora species
BIO25 Develop and implement biodiversity community education initiatives
BIO26 Develop and implement community initiatives to monitor native flora and fauna species
BIO27 Develop and implement initiatives to enhance native bird populations
BIO28 Continue to actively manage fire risk on Council land
BIO29 Research the feasibility of developing ecotourism opportunities across the WWLGA

Water

Water is essential for life. Not only is all life on Earth based on carbon and water, but by flowing across, through and under the landscape, water also connects patterns and processes of various kinds and ensures the survival of all species, including people.

Inland waters are therefore an essential part of this world. Water has many values—aesthetic, cultural, natural and economic—and like many 'common property' resources, it is managed by a variety of means for a variety of ends.

In the past we thought water was a limitless resource- now the realisation has dawned that on the driest continent on Earth, we have to be wise with our water.

Inland waters are heavily used and, as the human population grows, are under significant threat from pollution and overuse.

Key pressures on `Water' in the WWLGA include:

- Urban development
- Industrial activities
- Diffuse pollution
- Direct pollution
- Rural activities
- Groundwater extraction
- Ageing infrastructure
- Water management issues
- Increasing evaporation and decreasing rainfall

"Integrate management strategies to encourage water conservation and enhance and protect water quality"

Wagga Wagga Environmental Sustainability Strategy Objective

Key Environmental Indicators

Water source and consumption figures for the Wagga Wagga LGA

Years	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
Litres per person	257,000	251,000	265,000	224,000	248,000
Megalitres (Total)	14,903	15,016	16,102	13,800	15,549
Percent from River	15.9%	23.7%	39.3%	28.8%	34.9%
Percent from Groundwater	84.1%	76.3%	60.7%	71.2%	65.1%

Source: RWCC.

Murrumbidgee River Water Level data measured at Wagga Wagga

Year Mean	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
Level (m)	1.59	1.58	1.52	1.85	1.16	0.82	0.92
Discharge (ML/day)	6358	6359	5900	8049	4094	2352	2846
EC (us/cm)	117.8	119.5	133.6	142.6	161.4	143.1	126.1

Source: DWE.

Sewerage Treatment Works water data for the Wagga Wagga LGA

Year	Total inflow ML	% Discharged to River	% Reused for Irrigation
2002-2003	4439	76.8	23.2
2003-2004	4823	84.4	15.6
2004-2005	4679	87.0	13.0
2005-2006	4523	87.7	12.3
2006-2007	4703	87.3	12.7
2007-2008	4270	90.7	9.3
2008-2009	4464	94.6	5.4

Source:WWCC.

Integrated Water Cycle Management

Wagga Wagga City Council, Riverina Water County Council and the shires of Lockhart, Greater Hume and Urana have joined forces to prepare a regional Integrated Water Cycle Management (IWCM) Evaluation Study.

IWCM has been mandated by the State Government as an important strategy that all local water utilities must have as part of best-practice management.

Council and Riverina Water are also collaborating with the Institute for Sustainable Futures (ISF) on The 'Integrated Resource Planning for Urban Water' project.

Reticulated Water Supply

Riverina Water County Council (RWCC) is responsible for providing reticulated water to the residents of Wagga Wagga and also supplies water to many townships in the district covered by RWCC and Goldenfields Water County Council. These include Junee, Lockhart, Temora, West Wyalong and a number of smaller communities and numerous properties. surrounds.

The water is sourced from both the groundwater system and the Murrumbidgee River.

While this water has to be safe for drinking, much of it is used for other purposes, including washing, flushing of toilets, watering of gardens and lawns, filling of swimming pools and for a range of industrial purposes.

The RWCC set regular water use targets and water restrictions for residents watering gardens and lawns over the summer months, however these targets are usually exceeded.

Urban Stormwater

Stormwater is caught and channelled in six main sub-catchments in the City of Wagga Wagga. These are:

- Turvey Park Sub-catchment – includes Willans Hill, Turvey Park and the CBD – drains directly into Wollundry Lagoon or Tony Ireland Park
- Glenfield Sub-catchment – includes Mt Austin, Tolland, Bourkelands, Lloyd, Glenfield Park and Ashmont – drains into Flowerdale Lagoon
- Kooringal Sub-catchment – includes Kooringal, Tatton, Lakeside and Lake Albert – drains into Marshalls Creek and then the Murrumbidgee River
- Forest Hill Sub-catchment – includes Forest Hill, the RAAF base, the airport – discharges to Gumly Swamp
- Estella Sub-catchment – includes Estella, Boorooma, and Charles Sturt University – drains into Dukes Creek and then the Murrumbidgee River
- Bomen Catchment – includes Bomen and Cartwrights Hill - drains into Dukes Creek and then the Murrumbidgee River.

The stormwater system infrastructure is one of Council's key critical assets and includes an extensive network of:

- Major open channels, drains and waterways. These are located and routed through the urban environment in varying conditions that present significant risks under peak storm flow conditions
- Piped drainage and pits that flow in large tree-structure networks with increasing pipe size and capacity before connecting to a number of local creeks, the Murrumbidgee River and other Water Bodies
- Devices to improve water quality such as trash racks and cages, sediment basins, retarding and detention basins and wetlands.

Council continues a proactive approach to the removal of rubble pits to reduce the amount of groundwater infiltration thus reducing the effect of urban salinity.

Council's street sweepers that operate throughout the City of Wagga Wagga significantly reduce the amount of pollutants going into the river and also reduce the costs of stormwater maintenance.

Council is reviewing its Stormwater Management Practices and updating the 2001 Stormwater Management Plan.

Surface Water

Rural Activities

Farming practices have the potential to adversely affect water quality in a number of ways. Most importantly, degradation of riparian areas adjacent to creeks and rivers can result in increased movement of nutrients (particularly nitrogen and phosphorus) and chemicals into waterways.

Industrial Activities

Water discharges from industrial premises have the potential to adversely affect water quality. Regulation of larger premises is the responsibility of the EPA. The EPA issues Environment Protection Licences to 'scheduled premises' under the Protection of the Environment Operations (POEO) Act 1997.

As well as actively responding to water pollution issues Council's Liquid Trade Waste Policy, implemented March 2009, sets out to regulate sewerage and trade waste discharge into its sewerage system and also promotes waste minimisation, water conservation, water recycling and biosolids reuse. This policy applies to all established businesses and new developments.

Urban Development

Development roads, industrial facilities, subdivisions and individual building sites can potentially cause adverse impacts on water quality, particularly when appropriate sediment and erosion control measures are not put in place.

Water

Erosion and Sediment Control
The Environmental Planning and Assessment Act 1979 requires Council as the consent authority for Development Applications to consider a range of environmental impacts including the need to ensure that development does not pollute waters. In this regard, Council places conditions of consent on developments which require proper sediment and erosion control measures to be in place.

While the various conditions applied by Council are valuable, it is nevertheless recognised that additional efforts are sometimes required to ensure good compliance.

DCP 2005 Appendix 34
Council's Development Control Plan 2005, Appendix 34, details the mitigation and sediment control structures that must be constructed to prevent sediment eroding from building sites. These measures are enforced under provisions of the Protection of the Environment Operations Act, 1997 and the Environmental Planning & Assessment Act, 1979.

Diffuse Urban Pollution
Litter and other urban debris on the streets of City of Wagga Wagga, such as oils, greases, tyre rubber, litter, leaves and other organic matter, adversely affects water quality when these wastes and pollutants and are washed into the stormwater system during rain events. Eventually this debris collects in the lagoons and Murrumbidgee River.

Illegal or incorrect disposal of chemicals, spills and leaking sewerage systems all have the potential to cause pollution and degradation of our water bodies.

Wastewater Management
Sewerage services are provided to all urban centres in the WWLGA, as well as a number of villages. Council requires that all new residential development in these centres connect to the sewerage service.

Some rural residential developments also are required to connect to a sewerage service as some local soils are unsuitable for septic disposal.

Under the Sewer 2010 project Tenix Alliance Pty Ltd will design, rebuild and operate the Narrung Street and Kooringal sewerage treatment works on Council's behalf. The great benefit of this major rupgrade of the sewerage treatment works will be much purer water being reused on parks and gardens and discharged to the Murrumbidgee River.

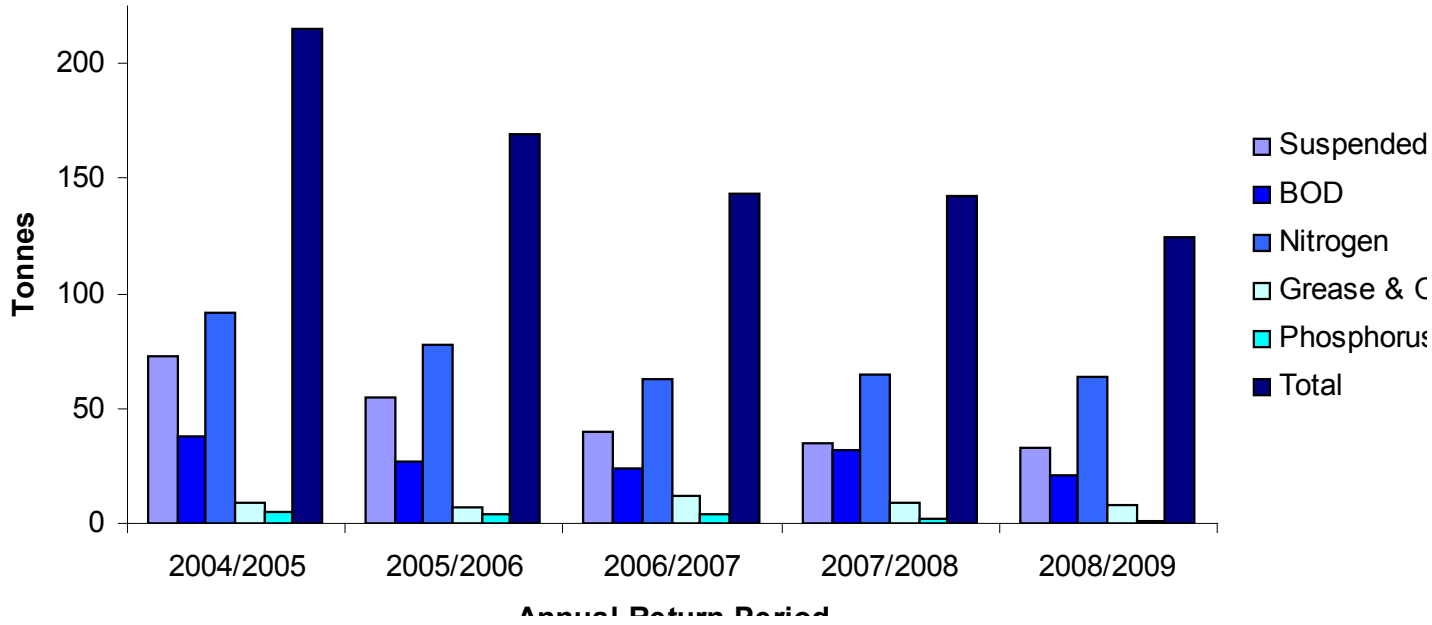
Complaint Investigations
Complaints from the public about pollution incidents or breaches of compliance regulations are investigated by either the EPA or Council staff. Council's environmental compliance officers maintain routine checks on building and construction sites around the city, including works being conducted by other Council staff.

Water Pollution Incidents reported to WWCC and EPA for the WWLGA

Year	2006-2007	2007-2008	2008-2009
Pollution incidents	7	9	8

Source: WWCC and EPA records.

Council Sewerage Treatment Works Effluent Pollutants Discharged to the Murrumbidgee River



Effluent Reuse
Council is licenced to irrigate a number of open spaces around Wagga Wagga with treated effluent. This is subject to a large number of conditions.

New Sewerage Schemes
Wagga Wagga City Council has partly completed installing a pressure sewerage scheme to the rural villages:

- Collingullie-compulsory connection area- 66 properties, 14 not connected.
- Gumly Gumly -compulsory connection area- 108 properties, 8 not connected.
- East Wagga Wagga -non compulsory connection area- 269 properties, 63 not connected.

Note: Some of the non connections are undeveloped lots.

On-site Sewage Management
A range of on-site sewage management systems (e.g. septic tanks, aerated wastewater treatment systems) currently service areas outside the main urban centre. These can be effective in disposing of sewage and waste water when the system is properly installed and maintained. On the other hand, poor management practices can result in surface and ground water pollution.

In 2009, Council developed a new On-site Sewage Management Plan (OSSM Plan) to assist in the proper disposal of domestic sewage and effluent water in areas not serviced by the reticulated sewer system.

For 2008-2009 there were 44 completed approvals given for installations of new or upgraded systems.

Monitoring of the Gregadoo Waste Management Centre
Council has a comprehensive program in place to monitor the quality of surface and groundwater from the Gregadoo Waste Management Centre.

This is undertaken independently by an external contractor and forms part of the EPA licence requirements to operate the facility.

Murrumbidgee River
The river is under constant pressure from point source and diffuse pollution from a huge number of activities in the catchment, as well as being subjected to huge quantities of extraction.

Water quality testing is carried out on the Murrumbidgee River by a number of sectors. Council collect a monthly sample from a site upstream (shanty Reserve) and a site downstream (Roach Road) of Wagga Wagga.

Basic water quality parameters are recorded in-situ by the Council officer. A sample is collected and submitted to Environmental and Analytical Laboratories (EAL) for testing of biological oxygen demand (BOD), dissolved oxygen (DO), Nitrogen, Phosphorous, total suspended solids (TSS), pH, Alkalinity, Chloride, Fluoride, Sodium, Potassium and Magnesium.

Results from the two sampling locations are compared to measure the influence of Wagga Wagga on the Murrumbidgee River.

Monitoring results for 2008-2009 suggest the health of the river is fair to good. Nitrogen, Phosphorous Electrical Conductivity and salinity results are well below the trigger value for Lowland rivers.

Generally DO results are below the lower limit for DO% saturation. In January and June 2009 pH readings were slightly above the upper limit for pH in Lowland rivers.

Turbidity readings in October 2008, January and April 2009 exceeded the turbidity range for lowland rivers.

Wollundry Lagoon
Basic water quality data is collected from five sampling locations along Wollundry Lagoon on a monthly basis.

Parameters measured include, dissolved oxygen, electrical conductivity, salinity, pH, temperature and redox potential.

As Wollundry Lagoon is classified as a visual water body, and not a recreational water body, blue green algae samples are no longer collected.

In 2009 Council adopted a formal Plan of Management for Wollundry Lagoon which included actions to improve water quality.

Flowerdale Lagoon
Two sampling locations at Flowerdale Lagoon are measured on a monthly basis for basic water quality parameters.

Electrical conductivity readings ranged from 0.121 to 0.317 dS/m.

During June, March and May 2009 pH readings above 8.0 were recorded.

Dissolved oxygen is generally below the lower limit of the recommended trigger value.

Results suggest that the general water quality is acceptable to poor when considered against trigger values for lakes and reservoirs in South-East Australia in the ANZECC Water Quality Guidelines.

Water

Lake Albert

The catchment area of Lake Albert encompasses approximately 7,646 hectares, including the Stringybark and Crooked Creek diversions in to the Lake and stormwater from residential areas. When it is full, the Lake has a surface area of about 125 hectares.

The soils of the Lake Albert catchment are readily eroded and sediments in stormwater have a major detrimental impact on the lake. Organic pollutants (nitrogen and phosphorus) also contribute to degradation of the lake.

Lake Albert is monitored throughout the year; over the summer months sampling occurs on a weekly basis.

Dependant on the season, monitoring includes a combination of basic water quality parameters, blue green algae and bacteria sampling. Samples are collected from two common recreational locations- Apex Park and the Boat Club.

Occasionally water quality levels fall below water quality guidelines and it is necessary to advise the public against the use of Lake Albert.

The Draft Lake Albert Management Plan will be adopted in late 2009, which outlines future options for managing the water quality of the Lake, and maintaining water levels.

The Lake Albert Consultative Committee comprises members of the public and Council representatives who meet monthly to discuss issues and future options for the Lake.

Salinity

Salinity outbreaks occur frequently in the Kyeamba, Tarcutta, and Houlaghans Creeks catchments and adjacent to the Murrumbidgee River.

Landuse and climate changes have allowed groundwater levels to rise, bringing soil salts closer to the surface and into the root zones of plants.

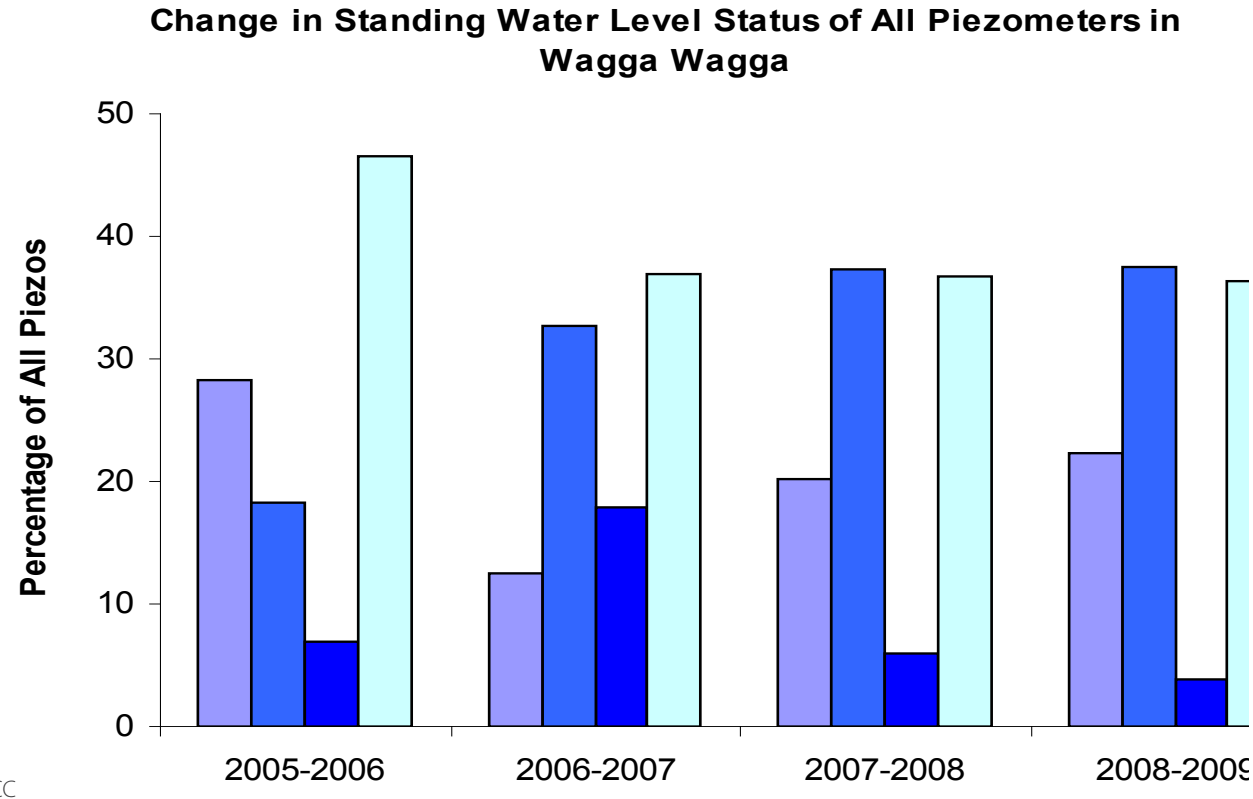
Council monitoring of the piezometer network keeps track of changes in the groundwater levels, as well the salinity of the groundwater.

Increase in the average river salinity level in the Murrumbidgee River at Wagga Wagga is predicted to reach 170 µS/cm in the year 2020 and hit 220 µS/cm by the year 2100.

Water Quality Exceedances for Lake Albert

Year	High Algae counts	High Bacteria counts
2004-2005	2	0
2005-2006	0	0
2006-2007	1	0
2007-2008	4	16
2008-2009	10	4

Source: WWCC



Source: WWCC

The following table of initiatives are taken from Council's 'Wagga Wagga Environmental Sustainability Strategy 2009 - 2013' and represent Council's commitment to future actions for improving the state of Water in the Wagga Wagga LGA.

WAT1 Develop and implement an Integrated Water Cycle Management Plan
WAT2 Audit and benchmark Council's water use
WAT3 Develop and implement a Water Savings Action Plan for Council facilities
WAT4 Continue to investigate opportunities to incorporate Water Sensitive Urban Design (WSUD) principles on redevelopment sites and Council's capital projects
WAT5 Research the feasibility of landscaping alternatives to turf
WAT6 Develop and implement water wise nature strip initiatives
WAT7 Continue to improve irrigation strategies at Council parks, gardens and open spaces
WAT8 Through the relevant Environmental Planning Instruments (EPI's), ensure new developments are consistent with WSUD principles
WAT9 Through the relevant EPI's, encourage water conservation in new developments
WAT10 Through the relevant EPI's, ensure new developments have minimal watered areas
WAS11 Review and continue to implement Council's Effluent Reuse Strategy
WAT12 Review and continue to implement Council's Stormwater Management Plan
WAT13 Through the relevant EPI's, ensure groundwater recharge is reduced in new developments
WAT14 Through the relevant EPI's, ensure water run off is connected to piped stormwater systems in new developments
WAT15 Through the relevant EPI's, implement water treatment devices in new developments
WAT16 Continue to conduct regular sewage and stormwater pipe asset condition audits
WAT17 Continue to implement water quality monitoring programs
WAT18 Continue to install and maintain gross pollutant traps near waterways
WAT19 Continue to monitor the urban salinity piezometer network
WAT20 Develop and implement initiatives to promote, enhance and protect stormwater quality
WAT21 Continue to implement the Sewer 2010 Program to mange Council's sewage treatment systems in an environmentally friendly manner
WAT22 Continue to implement the On Site Sewage Management Plan
WAT23 Form partnerships with key stakeholders to develop and implement water management and conservation workshops for community, business and industry
WAT24 Form partnerships with key stakeholders to develop and implement water quality and water conservation research initiatives
WAT25 Research the feasibility of installing rain water tanks and grey water systems
WAT26 Develop and implement grey water reuse community education initiatives
WAT27 Develop and implement a Lake Albert Management Plan
WAT28 Form partnerships with key stakeholders to revegetate stream banks using native riparian vegetation
WAT29 Research the feasibility of developing and implementing initiatives to reduce water wastage
WAT30 Contribute to the development of the MCMA Environmental Water Management Plan
WAT31 Form partnerships with key stakeholders to develop and implement the Wagga Wagga Global Smart Water City initiative

Waste

People generate large volumes of waste in the course of their daily activities. Waste is defined as the surplus or unwanted by-product of human activity. This by-product may have a negative value, though opportunities for reuse and recycling may exist where the by-product can be reprocessed or separated into a product with a positive value.

Waste can occur in solid, liquid or gaseous forms and can come from households, businesses and industry. Some of this waste is recovered via reuse or recycling, and the remainder is disposed of into landfills. Material that is not recovered is, in effect, a wasted resource and may cause environmental harm.

Litter is unsightly, and can cause injury to both humans and wildlife, contaminate soil and water, or start a bushfire.

Landfilled waste takes up space, and can result in soil and water contamination and the generation of methane. While the process of incinerating waste reduces the amount of material going to landfill, it results in the emission of a range of pollutants to the atmosphere.

Key pressures on 'Waste' in the WWLGA include:

- High rates of solid waste to landfill
- Low rates of recycling of various waste streams such as construction and demolition and organic waste
- Liquid waste disposal options
- Special waste disposal options
- Rural waste management facilities
- Effluent reuse options

"Minimise our environmetal impact by utilising alternative technologies and implementing effective waste management strategies"

Wagga Wagga Environmental Sustainability Strategy Objective

Waste

Key Environmental Indicators

Types and volumes of waste received at the Gregadoo Waste Management Centre

Waste (types)	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
Commercial/ Industrial	31,330	33,300	33,008	23,736	19,197	18,559	2,325
Building/ demolition	6,392	8,454	8,733	10,720	19,550	23,662	29,963
Export Recycling	479	512	783	599	714	920	788
Junee Kerbside	259	791	652	417	679	285	644
Kerbside Garbage	8,712	9,138	9,734	10,213	10,360	10,405	9,913
Other Domestic	4,657	2,755	2,349	2,616	2,975	3,371	21,156
Kerbside Greenwaste	5,284	6,343	7,006	7,348	6,616	6,767	5,692
Other Greenwaste	2,498	1,047	1,159	1,635	1,635	1,180	2,054
Totals (tonnes)	**59,650**	**62,116**	**63,143**	**57,280**	**61,508**	**64,806**	**72,535**

Source: WWCC.

Waste sent to landfill or recycled in the Wagga Wagga LGA

Kg per person	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
Recycled	135	147	158	141	162	162	173
Landfilled	1043	1082	1089	956	1011	1051	1159

Source: WWCC.

Litter, Waste or Dumping Complaints registered for the Wagga Wagga LGA

Year	2006-2007	2007-2008	2008-2009
Litter/Waste Complaints or Dumping Incidents	130	179	163

Source: WWCC and NSW EPA.

Within the Wagga Wagga Local Government Area, waste may include material left over after forestry, agricultural, industrial, commercial and domestic activities. The many different types of waste generated within the Wagga Wagga LGA are described in the following sections.

Solid Wastes

Solid Waste is defined by the NSW EPA Waste Classification Guidelines. All waste which is spadable (i.e. solid, not liquid) and assessed as meeting Solid Waste Guidelines is classified as Solid Waste. According to the guidelines, a number of wastes are automatically classified as Solid Waste, including:

- Municipal Waste
- Food Waste
- Cleaned pesticide, biocide, herbicide or fungicide containers
- Drained and mechanically crushed oil filters, and rags and absorbent materials (not containing free liquids) from automotive workshops
- Other wastes listed in Table 2 of the guidelines.

Solid Waste produced within the Wagga Wagga LGA and some surrounding centres which use Wagga Wagga's waste management service, includes:

- Municipal waste from kerbside collections and from drop offs at the waste management facilities. This includes waste from Junee outside of the Wagga Wagga City Council's Municipal area
- Commercial and industrial wastes from local businesses, which includes food wastes; and
- Sewage biosolids.

Small quantities of other wastes are also generated, including:

- Farm Chemical Containers, delivered after being triple rinsed, punctured & flattened
- Contaminated soils meeting the Solid Waste criteria (NSW Waste Classification Guidelines).

Contaminated soils are managed by specialist contractors

- Council generated wastes (street sweeping, litter collection, etc.); and
- Dead animals.

Inert Wastes

Building, demolition & construction waste, including bricks and concrete, makes up the majority of Inert Waste produced within the WWLGA.

Although tyres are classified as an Inert Waste, they are prohibited from landfill at the Gregadoo WMC. The majority of waste tyres are handled by commercial operators.

Asbestos, though a special waste requiring separate disposal from normal waste, is still classified as an Inert Waste, and is put in landfill within the inert waste cell in accordance with legislative requirements.

Liquid Wastes

Liquids are not accepted at NSW landfills. A regional liquid waste receivable facility is operated by a waste management business in Wagga Wagga.

Used engine oils and other mineral oils are handled by a major oil recycling refinery in the Bomen Industrial Area.

Special Wastes

The Gregadoo WMC is licensed to receive a number of other specialist waste streams with specific approval from the DECC. These include:

- Asbestos- a number of local contractors are licensed to handle asbestos. The Gregadoo WMC is licensed to receive asbestos provided it is properly prepared and packaged. Loose asbestos is delivered double wrapped in plastic and manually moved and covered immediately.
- Contaminated soils- contaminated soils meeting the Solid Waste criteria (NSW Waste Classification Guidelines) as assessed by specialist consultants and contractors.
- Sharps and Needles- these are collected in special sharps containers at all pharmacies and other public collection points across the city, before being disposed of by a contractor.

In 2005 Wagga Wagga City Council received two Local Government Excellence Awards for Community Sharps Management.

- Hospital & clinical wastes- these are managed primarily through commercial services available across the City area.
- Household & industrial chemicals- these can be disposed of during an annual commercial household collection service which is run by Council and the REROC Waste Forum. Council and REROC also facilitate chemCollect and chemClear services for the agricultural industry.
- Old fridges, freezers and air-conditioners- these contain refrigerant gases which need to be degassed prior to disposal. A commercial degassing service is available at the GWMC. Refrigeration gasses are commercially recovered and recycled.
- Nuclear & radioactive wastes- these require specialist contractor disposal. Such wastes may be produced at hospitals and research facilities.

Council Services

Wagga Wagga City Council provides a number of solid waste management services including:

- Kerbside collection services
- Bulky goods kerbside collection
- Street bins and servicing of street bins
- Waste management & disposal facilities
- Special collection services (e.g. drumMuster, chemcollect etc).

Waste

Wagga Wagga City Council operates a number of waste disposal facilities, as described in the following sections.

Rural Waste Management Facilities

There are a number of rural waste management facilities comprising landfills and transfer stations. At present, there are landfills still operating in the villages of Humula, Currawarna and Galore.

Other rural waste management facilities have been converted from landfills to transfer stations over time, and include the villages of Collingullie, Uranquinty, Tarcutta and Mangoplah. All waste from the rural transfer stations is transported to the Gregadoo WMC for disposal.

The graph below shows the breakdown of waste types disposed of at the Gregadoo Waste Management Centre, and the amount recycled.

Gregadoo Waste Management Centre

The Gregadoo Waste Management Centre (GWMC) provides the central waste management and disposal services for the City.

The Gregadoo WMC operates as a solid waste landfill servicing the City and surrounding villages and rural areas within the WWLGA, as well as accepting kerbside waste from Junee.

At present it receives approximately 65,000 tonnes of solid waste per annum which when received is weighed at the weigh bridge and recorded along with the waste type. From the weighbridge, the waste is then directed to one of two landfill areas (inert or solid waste cells) currently used for disposal, to a metal recycling area, and/or to a greenwaste collection area or the transfer station.

Domestic kerbside waste from the local community is transported to the site by Council contractors and is directed to a synthetically lined cell.

Kerbside Collection

Wagga Wagga City Council provides a kerbside collection service to all domestic and commercial properties within a designated service area.

This service area currently covers the urban area of the City of Wagga Wagga, Gumly Gumly, Forest Hill, Ladysmith, Tarcutta, Oura and Mangoplah.

The standard kerbside collection service to domestic properties currently consists of:

- Weekly pickups of 120 litre bins for domestic waste
- Fortnightly pickups of 240L bins, for recyclable containers, paper and cardboard and
- Fortnightly pickups of 240L bins for greenwaste.

The standard kerbside collection service to commercial properties consists of weekly pickups of 240L bins for mixed commercial waste.

Council also facilitates commercial recycling services in the commercial areas of the City.

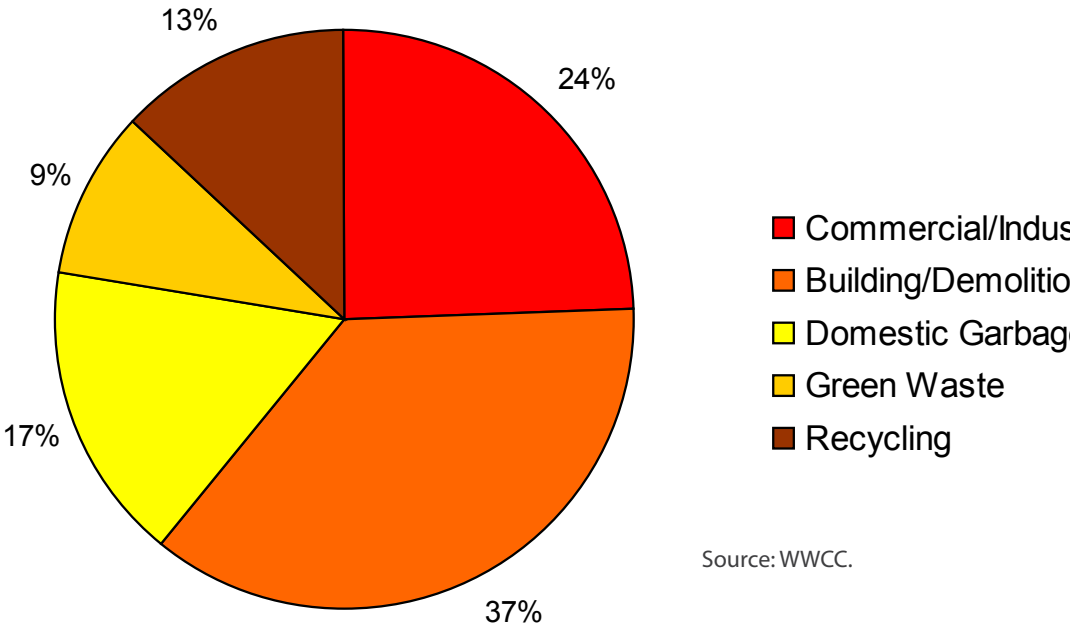
Small dead animals on streets within the collection area are also collected as part of the kerbside collection service.

Facilities are available at the GWMC to receive and manage dead animals.

In addition to the kerbside collection service, there is also a yearly bulky household waste pickup within the service area.

Outside of the kerbside collection area set by Council, Council facilitates a private contractor who provides collection services on a private treaty basis.

Percentage of Waste Types in the Wagga Wagga LGA 2008-2009



Source: WWCC.

Recycling and Reuse

Ensuring proper separation of waste into rubbish and recyclables is a major goal for Wagga Wagga City Council. One of the main reasons for this is that there is a substantial environmental and economic cost in constructing and running a waste management facility.

This recycling process provides for recycling of paper and cardboard, glass, plastics, metals, liquid paperboard, and also recycling services for computer hardware.

Greenwaste collected at the GWMC and also from the kerbside collection service is mulched and used for daily landfill cover in the solid waste cell. This mulch also facilitates the movement of gases within the landfill to allow for gas extraction.

There is a privately run composting facility at the Gregadoo WMC which uses greenwaste in the manufacture of compost products. Other composting businesses are also present within the Wagga Wagga LGA, and the Charles Sturt University are composting their organics and greenwaste on site.

All metals received at the Gregadoo WMC, including whitegoods and cars, are collected by a metal contractor for recycling.

Small amounts of mineral oil are accepted at the Gregadoo WMC, and collected by a contractor for recycling.

Bricks and concrete can be recycled into building products and road materials. A commercial brick and concrete recycler operates in the Wagga Wagga LGA.

Tyres are currently on-sold to tyre recyclers and able to be stored on site for future recycling opportunities.

Used mobile phones and their batteries are now recyclable through the distributors, and some computer equipment is salvaged by a number of not-for-profit organisations.

The drumMuster stamped farm & agricultural chemical containers are recycled through the drumMuster program. There is a once a year collection of clean and dried eligible drums at Gregadoo WMC, or alternative delivery arrangements can be made where there are over 100 drums.

Car and truck batteries are disposed of commercially and some recycling opportunities exist for smaller batteries at local businesses.

Resource Recovery Strategy

The 2009 Resource Recovery Strategy sets the broad strategic resource recovery directions for Council. It aims to address waste minimisation rather than just waste disposal options.

The Strategy will be complimented in 2009-2010 by a more detailed Management Plan.

Landfill Environmental Managment Plan

In addition to major capital works, there is a continuous effort to improve environmental performance, fire management, water management, level of service, and contract arrangements. The 2009 Landfill Environmental Management Plan was developed to address these areas.

Licensing and Compliance

All waste handling and management facilities are subject to State Environmental legislation and regulations. Gregadoo WMC is fully licensed and subject to stringent environmental monitoring programs and regular compliance reporting.

The environmental monitoring program at Gregadoo WMC is one of the most extensive in the state. It involves quarterly sampling, testing and reporting on groundwater, surface water, gas and dust, with the objective being to monitor the movement of any pollutants resulting from the landfill operations, and to assess the need for and or modifications of existing pollution abatement measures.

Landfill Gas

The Gregadoo WMC is one of very few designed bioreactor waste facilities in the country.

The Australian Gaslight Company has constructed methane collection pipes within some of the cells to collect the gas, with the intention to eventually use it for electricity production. Gas collected from the landfill is currently being burnt off, reducing the overall greenhouse impact by converting methane to carbon dioxide and water vapour.

During 2008-2009 the methane (CH_4) destroyed was equated to 6,159 tonnes of CO_2-e. This would be equivalent to removing 1,502 cars from the road for one year.

Since Commissioning in October 2002 the facility has destroyed methane to an equivalent of 55,848 tonnes of CO_2.

Year	Tonnes CO_2-e)
2004 – 2005	8,823
2005 – 2006	9,970
2006 – 2007	9546
2007 – 2008	6910
2008 - 2009	6159

Waste

Waste Water Treatment
This issue is discussed in more detail in the chapter on 'Water' however, as a type of liquid waste it is also briefly mentioned here.

Under the Sewer 2010 project Tenix Alliance Pty Ltd will design, rebuild and operate the Narrung Street and Kooringal sewerage treatment works on Council's behalf. The great benefit of this major rupgrade of the sewerage treatment works will be much purer water for reuse on parks and gardens and discharged to the Murrumbidgee River.

Trade Waste
Regulation of larger premises is the responsibility of the Environmental Protection Authority. The EPA issues Environment Protection Licences to 'scheduled premises' under the Protection of the Environment Operations (POEO) Act 1997.

As well as actively responding to water pollution issues Council's Liquid Trade Waste Policy, implemented March 2009, sets out to regulate sewerage and trade waste discharge into its sewerage system and also promotes waste minimisation, water conservation, water recycling and biosolids reuse. This policy applies to all established businesses and new developments.

On-site Sewage Management
In 2009, Council developed a new On-site Sewage Management Plan (OSSM Plan) to assist in the proper disposal of domestic sewage and effluent water in areas not serviced by the reticulated sewer system.

REROC
Wagga Wagga City Council is a member of the REROC Waste Forum which provides regional promotional activities and educational opportunities.

The REROC Waste Forum is primarily funded by government grants. The forum has been very successful in obtaining grants for studies, and improving physical arrangements and educational activities. The forum has also set up a range of regional contracts for material handling, recycling and disposal.

Recent educational promotions have included;
- Plastic Bag Exchange
- Bin Your Butts litter reduction campaign
- Sharps disposal materials
- Waste Recycled as Art Project
- 'Yours2take' website.

Education
One of Wagga Wagga City Council's goals is to coordinate, drive and supplement regional promotional activities and educational opportunities to ensure that the local community is adequately informed and progressively educated on waste management issues.

The Materials Recovery Facility operator carries out some promotional and educational activities to promote new recycling initiatives, reduce needle stick injuries to staff, and to improve separation of recyclables prior to kerbside collection.

The kerbside collection contract with SITA Environmental Solutions also includes a substantial educational component, particularly relating to use of bins and recycling.

Council has also facilitated the 'WasteWatchers' program for a large number of local schools. The program was run by Keep Australia Beautiful and jointly funded by Council and SITA.

Community Involvement
Wagga Wagga City Council draws on the Environmental Advisory Committee to obtain community feedback on services and develop policies. Membership to the group is open to the public.

Other avenues for community involvement include:
- Gregadoo Community Reference Group
- Community surveys
- Open days at the Gregadoo Waste Management Centre, and the Materials Recovery Facility
- Clean Up Australia Day events for schools, businesses and residents.

Council also lobbied State and Federal Goverment in 2009 to introduce Container Deposit Legislation, and to phase out plastic bags.

"The **55,848 CO2-e tonnes** of **methane** flared at the **GWMC** since October 2002 is equivalent to taking **34,024 cars** off the road for one year."

Source: EPA website emissions calculator

The following table of initiatives are taken from Council's 'Wagga Wagga Environmental Sustainability Strategy 2009 - 2013' and represent Council's commitment to future actions for improving the state of Waste in the Wagga Wagga LGA.

WAS1 Continue to implement the Landfill Environmental Management Plan (LEMP) to reduce the environmental impact of the Gregradoo Waste Management Centre
WAS2 Continue to provide effective waste management solutions and recycling facilities at the Gregadoo Waste Management Centre and local transfer stations across the WWLGA
WAS3 Continue to conduct Tip Free Days at the Gregadoo Waste Management Centre
WAS4 Audit Council's waste and recycling facilities from a business operations perspective
WAS5 Continue to promote recycling services across the WWLGA
WAS6 Continue to encourage more green and organic waste recycling at the Gregadoo Waste Management Centre
WAS7 Continue to use organic waste as top fill at the Gregadoo Waste Management Centre, quarries and scarred landscapes
WAS8 Continue to improve commercial and industrial recycling services
WAS9 Form partnerships with key stakeholders to develop and implement alternative waste management and technology research initiatives
WAS10 Research the feasibility of entering into more regional contracts for the collection of recyclable materials
WAS11 Research the feasibility of a recycling depot in the Wagga Wagga urban area
WAS12 Form partnerships with key stakeholders to develop and implement public place recycling systems
WAS13 Develop and implement an environmentally sustainable event management package to introduce recycling at events, activities and festivals held in the WWLGA
WAS14 Continue to provide recycling systems for Council staff and the community at Council facilities
WAS15 Through the relevant EPI's, develop a "No Waste" DCP for new developments
WAS16 Continue to audit Council's waste production
WAS17 Continue to develop initiatives to reduce paper used in Council business
WAS18 Develop and implement waste reduction community education initiatives
WAS19 Develop and implement plastic bag reduction initiatives
WAS20 Continue to improve e-waste management strategies and services
WAS21 Develop and implement illegal dumping and littering community initiatives
WAS22 Continue to investigate illegal dumping and littering incidents and complaints
WAS23 Continue to promote the Keep Australia Beautiful Awards Program annually
WAS24 Continue to implement the Clean Up Australia Day initiative annually
WAS25 Lobby State Government for container deposit legislation

Climate Air & Energy

The state of the atmosphere is a key measure of the health of the environment.

Climate and air quality affects all animals and plants as well as the economic, social and physical wellbeing of our society.

The composition of the atmosphere dictates air quality, which affects human health and aesthetic values, as well as ecological systems.

As with most environmental issues, pressures on the atmosphere are closely linked to human population and activity. The type and scale of activities carried out and the amount of energy consumed (leading to greenhouse gas emissions) contributes significantly to global warming and the depletion of the ozone layer.

Key pressures on 'Climate, Air and Energy' in the WWLGA:

- Increasing temperature and decreasing rainfall
- High energy consumption (CO_2 emissions) from households, business and industry
- Agricultural activity
- Industrial activity
- Bushfire management
- Odour and noise pollution

"Improve air quality and reduce the impact of climate change by educating the community and reducing energy consumption and greenhouse gas emissions"

Wagga Wagga Environmental Sustainability Strategy Objective

Climate Air & Energy

Key Environmental Indicators

Climate data for Wagga Wagga

Year	Rainfall (mm)	Temperature (C)	
		Min	Max
2005	513.0	9.1	23.2
2006	267.2	8.4	24.4
2007	466.4	10.1	23.9
2008	467.2	9.0	22.9
Annual Mean	558.3	8.4	22.3

Source: Bureau of Meteorology.

Air Quality Exceedances for Wagga Wagga

Year	Exceedances
2005-2006	11 days
2006-2007	57 days
2007-2008	20 days
2008-2009	28 days

Exceedances = number of days when particle matter in the air exceeded the National Environment Protection Measure of 50ug/m^3
Source: DECC website.

Fuel Consumption data for Wagga Wagga City Council

Year	Diesel		ULP		LPG		Total CO2-e tonnes
	Litres used	CO2-e tonnes	Litres used	CO2-e tonnes	Litres used	CO2-e tonnes	
2007-2008	536,367	1,555	181,232	453	4,750	8	2,016
2008-2009	703139	1,897	186,232	440	20,734	33	2,370

Source: WWCC.

Energy Consumption data for Wagga Wagga City Council

Year	Electricity & Gas		Street Lighting	
	Consumption (MJ)	CO2-e (t)	Consumption (MJ)	CO2-e (t)
2005-2006	43,963,000	9,812	9,641,000	2,834
2006-2007	44,949,000	10,102	9,647,000	2,836
2007-2008	45,241,000	10,163	9,671,000	2,843
2008-2009	44,621,000	9,969	10,559,000	3,109

Source: WWCC and Planet Footprint.

Total CO_2 emissions for Wagga Wagga City Council

Year	Total CO2-e Tonnes
2007-2008	15,022
2008-2009	15,448

Climate

The Wagga region is subject to a warm temperate climate with hot dry summers and cold winters. The table opposite provides a comparison of rainfall and temperature statistics recorded at Wagga Wagga in recent years. It illustrates that compared to the Annual Mean (99 year average) temperatures are increasing, and rainfall over the past 120 years is decreasing. On average, evaporation exceeds rainfall by a ratio of approximately 3:1.

Air Quality

A number of pressures affect air quality within the Wagga Wagga Local Government Area. These can be broadly catagorised as:

- Natural events (dust, pollen, smoke from wildfire)
- General domestic pollution (wood heaters, illegal burning)
- Motor vehicle use (range of air pollutants)
- Industrial activity (range of air pollutants)
- Agricultural activity (smoke from stubble burning, dust from ploughed paddocks) and
- Bushfire management (hazard reduction burning).

Natural Events

By their nature, natural events which affect air quality are unpredictable and in most cases uncontrollable. Both smoke from wildfires and dust storms make a significant contribution to the PM10 particulate levels.

Similarly, pollen levels are dependant on factors which stimulate plant growth like rainfall and temperature, and generally cannot be easily manipulated to reduce atmospheric inputs.

Levels of pollen in the atmosphere affect air quality and human health. Pollens can bring on asthma attacks, as well as causing a range of health complaints like hay fever and sinusitis. Research from Charles Sturt University has established that there is an interaction between the pollen and thunderstorms that exacerbates the risk for asthma suffers.

Agricultural Activity

The Wagga Wagga LGA is situated in the heart of the wheat-sheep belt in NSW, and as such most rural land is naturally given over to a range of farming enterprises which revolve around cropping and grazing.

The two main potential sources of air pollution from rural activities are smoke from agricultural burning (particularly stubble burning) and dust from tilling.

The Charles Sturt University's EH Graham Centre and the DPI have been working with landholders to refine these practices.

Bushfire Management

With the devastating bushfires across South-East Australia in the last few years, there has been a renewed focus on the role of hazard reduction burning to manage bushfire risk.

Like natural events, this produces air pollution which cannot be managed or controlled at a local level.

General Domestic Pollution

While Wagga Wagga City Council does not issue permits for open burning in any area where there is a domestic kerbside waste service provided, some residents still carry out open burning. These activities contribute further particulates into the atmosphere.

The main contributor to air pollution from domestic sources in Wagga Wagga derives from solid fuel heaters.

It is estimated that there are about 3,300 wood heaters in use within Wagga Wagga.

Woodsmoke Reduction Program

Council runs a Woodsmoke Reduction education campaign, and recommends residents only buy heaters that emit less than 2 g of particle pollutants per 1 kg of dry wood burned.

Properly operated wood heaters emit relatively low levels of particulates compared to poorly operated heaters, with the latter contributing substantial amounts of particulates into the atmosphere. Poor operating procedures include using wood with high moisture contents, preventing sufficient flow of air to the fire, stacking wood incorrectly and failing to clear chimneys or flues that are blocked.

Motor Vehicle Use

Like most cities in Australia, the residents of Wagga Wagga place much reliance on motor vehicles to move around.

Contributions of pollutants from this source are similar to other urban centres. In addition, Wagga Wagga is a central location for two important regional road networks – the Sturt Highway and the Olympic Way – which are used extensively to move goods around the country. Consequently, there is a high volume of large truck traffic through the City, particularly via the east-west route along the Sturt Highway.

This is likely to generate substantial amounts of particulates from the burning of diesel fuel, which will contribute to the NEPM PM10 exceedences that are observed on a regular basis in the City.

Climate Air & Energy

Industrial Activity

Wagga Wagga's industrial sector is not large in comparison with some of the main coastal cities and this is reflected in the low emission levels of local facilities as noted in the National Pollutant Inventory database.

The responsibility for regulating air emissions from the larger industrial premises in the WWLGA lies with the Environmental Protection Authority (EPA) with licences issued under the Protection of the Environment Operations Act 1997.

The Wagga Wagga LGA currently has 45 licenced premises listed on the EPA Public Register.

National Pollutant Inventory

Eight of these facilities reported to the National Pollutant Inventory (NPI) with 34 substances being recorded as triggering reporting thresholds.

The total amount of emissions for the Wagga Wagga LGA for each reportable substance is shown in the table opposite.

Source: NPI website.

Indoor Air Quality

Indoor air quality is important because people spend so much of their day inside. The quality of indoor air depends on a range of factors including the type of materials used in the building, the type of heating used, the proximity to road traffic and the degree of ventilation.

Even at relatively low levels, some indoor pollutants can cause breathing difficulties, especially for people with respiratory problems such as asthmatics, young children and older people.

Continuous air quality monitoring is carried out in Wagga Wagga.

Substance Emitted	Total (kg/year)
Ammonia (total)	1400
Arsenic & compounds	0.051
Benzene	72
Beryllium & compounds	0.010
Cadmium & compounds	0.23
Carbon monoxide	31,000
Chromium (III) compounds	1.9
Chromium (VI) compounds	0.32
Copper & compounds	0.075
Cumene (1-methylethyl-benzene)	12
Cyclohexane	100
Ethylbenzene	5.8
Fluoride compounds	46
Formaldehyde (methyl aldehyde)	3.1
n-Hexane	180
Hydrochloric acid	690
Lead & compounds	0.045
Magnesium oxide fume	0.010
Manganese & compounds	1.1
Mercury & compounds	0.047
Nickel & compounds	0.18
Oxides of Nitrogen	21,000
Particulate Matter 10.0 um	2,600
Particulate Matter 2.5 um	2,500
Polychlorinated dioxins and furans	0.0000017
Polycyclic aromatic hydrocarbons	0.10
Sulfur dioxide	33,000
Sulfuric acid	2.8
Toluene (methylben-zene)	150
Total Nitrogen	750,000
Total Phosphorus	61,000
Total Volatile Organic Compounds	15,000
Xylenes (individual or mixed isomers)	48
Zinc and compounds	1.1

Air Quality Monitoring

Council in partnership with the Department of Environmental and Climate Change (DECC) maintains the Ambient Air Quality Station in Murray Street.

Over the previous four years there have been numerous days when particle matter in the air exceeded the National Environment Protection Measure of 50ug/m^3.

These results are closely linked to and influenced by seasonal variations which can exacerbate particulate matter- ie bushfires and dust storms.

DECC also recently appointed an Air Quality Project Officer to be based at the EH Graham Centre in 2009.

Odour

Problems with odour are difficult to measure, and therefore difficult to regulate. Odour issues generally arise where there is a boundary between different land use zones, as for example between rural residential and rural, or between business and industrial.

In past years, odour complaints have arisen around the Bomen Industrial Area, where a number of premises create odours which can affect others in the vicinity.

Odour complaints have also arisen in residential areas where there has been inappropriate storage of materials.

Noise

Noise pollution is defined as unwanted offensive noise that unreasonably intrudes on daily activities. Excessive noise comes from a variety of sources –including transport, industrial, recreational and neighbourhood.

Noise levels of between 55-65 decibels can affect sleep and amenity while levels >65 decibels can constrain behaviour and create demonstrable health effects.

Most offensive noise affecting the community is generated through single incidents. In 2008-2009, Wagga Wagga City Council received 314 noise complaints, of which the majority related to barking dogs.

The other main sources of domestic noise complaints are for amplified music, air conditioners and power tools.

The Protection of the Environment Operations Act 1997 and the Protection of the Environment Operations (Noise Control) Regulation 2000 have given Council powers to control offensive noise.

As the consent authority for development within the WWLGA, Council can also control initial construction/demolition noise and the subsequent associated noise that comes with each new development.

Complaints Investigation

Complaints are received by both the WWCC and the EPA.

Incidents are resolved through the complaint investigation procedure and eduction of the community regarding ambient noise expectations of the broader community.

It is likely with any proposed in-fill development that there will be an increase in noise complaints as property boundaries shrink. Similarly, any move to higher density housing is likely to result in increased numbers of complaints.

Type of Complaint	2006-2007	2007-2008	2008-2009
Air/Odour Pollution	31	63	97
Noise Pollution	288	411	314

Source: WWCC and EPA.

Bike Plan

Council manages a network of bikeways throughout the City. These consist of a mixture of shared paths (pedestrians and bikes) and dedicated bike lanes on roadways. There is over 20 km of unsealed bikeways and 18km of sealed bikeways in the City.

Council's current Bike Plan was adopted in 1998 and is currently being reviewed and updated by a Council appointed Bike Plan Management Team.

Once established, the new Wagga Wagga Bike Plan will guide initiatives on increasing bicycle usage, promotion, education and bike path development in the WWLGA.

BASIX

BASIX (the Building Sustainability Index) is a web-based planning tool that measures the potential performance of new residential dwellings against a range of sustainability indices: Energy, Water, Thermal Comfort, Stormwater, and Landscape.

By reducing the environmental impact of these features, new homes are more comfortable and cheaper to run than most existing homes.

BASIX ensures each dwelling design meets the NSW Government's targets in water consumption and greenhouse gas emissions,.

Compliance with these targets is demonstrated through the completion of a BASIX assessment and the issuing of a BASIX Certificate.

Greenhouse Gas Abatement

Council's committment to greenhouse gas reduction was formalised in March 2008 the Mayor of Wagga Wagga-Kerry Pascoe, signed the NSW Mayors' Agreement on Climate Change, committing Council to reducing our greenhouse gas emissions by 20% by 2020.

This is a firm indication that the Council is committed to working towards a sustainable future for the City of Wagga Wagga.

Council has formed a partnership with the Australian Gaslight Company to construct methane collection pipes within some of the waste cells of the Gregadoo Waste Management Centre to collect the gas, with the intention to eventually use it for electricity production.

Gas collected from the landfill is currently being burnt off, reducing the overall greenhouse impact by converting methane to carbon dioxide and water vapour.

In November of 2004, Wagga Wagga City Council was recognised through the State Government's Energy Smart Business Program with a Gold 'Energy and Water Green Globe Award' for its commitment to reduce greenhouse gases. Council received the award for reducing the emission of 1,690 tonnes of CO_2-e greenhouse gases through a series of energy efficiency projects across a large number of properties.

With electricity prices increasing and technology always updating, Council is continuing to identify more initiatives to reduce carbon emissions.

Climate Air & Energy

Energy Savings Action Plan
The Energy Savings Action Plan for Wagga Wagga City Council was completed in January 2008. This study was undertaken by Country Energy.

The top 10 energy consuming sites for Council were:
- Civic Centre
- Oasis Aquatic Centre
- Civic Theatre
- Wagga Wagga Airport
- Bolton Park Stadium
- Livestock Marketing Centre
- Alan Turner Depot
- Forest Hill Sewerage Plant
- Public Lighting
- Dewatering Bores and Sewer Pumps.

The Action Plan analysed the physical construction, the operations and energy consumption patterns of these sites and it provides recommendations for making the operations of these sites more energy efficient.

Some recommendations are as simple as changing light bulbs or using different types of electric motors to more complex and expensive ones such as installation of new air conditioning systems of more modern designs.

Council staff are acting on these recommendations including the purchase of pool blankets for the Oasis, different lighting systems in the Civic Centre icluding a major C-Bus system upgrade and development of an energy efficient lighting strategy for Public Lighting.

Council has also supported energy efficient light bulb exchange programs for the public.

Planet Footprint
Council subscribed to the Planet Footprint reporting service in 2008. The reports will establish baseline data for our energy and gas consumption and enable us to benchmark our CO_2 emissions against other Councils.

Bio diesel
The use of a B20 blend of bio diesel automotive limited to four of Council's trucks and one excavator is approaching twelve months since its introduction and the fuel has performed with no apparent adverse effects.

In early 2010 there will be a more complete report provided on the experience of the B20 bio diesel in the nominated fleet including pricing and fuel consumption.

Solar Panels
The installation of 30 Photo Voltaic panels have been mounted on the roof of the Alan Turner Depot to generate electricity and to offset a portion of the carbon emissions of the depot.

The estimated annual generation from the facility is 8,000 kWh with a reduction of approximately 8 tonnes of CO_2 per annum of emissions from Council's depot.

The project has been funded through Council's Energy Savings budget and will provide a practical demonstration of this technology for incorporation into future projects.

Graphical display of the electricity output and CO_2 reduction will be available on the Council website.

Cities for Climate Protection Program
In 2009 Council resolved to join the Cities for Climate Protection (CCP) Program which assists local governments and their communities to reduce greenhouse gas emissions.

CCP Australia is part of the international CCP campaign, delivered in Australia in partnership with the Australian Government (through the Department of the Environment, Water, Heritage and the Arts) and ICLEI Oceania.

The campaign is based on an innovative performance framework structured around five milestones that local governments commit to undertake.

DECC Sustainability Advantage Program
In 2009 Council resolved to join the Sustainability Advantage Program.
Over 330 companies are currently working with the Sustainability Advantage program to:
- Manage environmental risk and ensure compliance
- Use resources more efficiently
- Integrate environmental strategies with business planning
- Measure their carbon footprint and manage their emissions
- Enhance customer, supplier and community relationships, and
- Engage and train staff to become an employer of choice.

The Energy Saver component is designed to help mitigate risks relating to the potential increase in energy costs under a national emissions trading scheme.

An initial management diagnostic evaluates current environmental performance and ranks possible initiatives.

Over the next 18 months, Council will work on projects selected from the following modules:
- Vision, Commitment and Planning
- Environmental Risk and Responsibility
- Resource Efficiency
- Supply Chain Management
- Staff Engagement
- External Stakeholder Engagement
- Climate Change

Charles Sturt University, Cargill Beef Australia, Heinz, Southern Oil Refining and Vinidex are all local businesses that have joined the program.

The following table of initiatives are taken from Council's 'Wagga Wagga Environmental Sustainability Strategy 2009 - 2013' and represent Council's commitment to future actions for improving the state of Climate Air & Energy in the Wagga Wagga LGA.

CAE1 Develop and implement a Bike Plan for the WWLGA
CAE2 Establish secure bike parking facilities at community access points across the WW urban area
CAE3 Research the feasibility of establishing bike hire stations strategically across the WW urban area
CAE4 Develop and implement a Pedestrian Access and Mobility Plan for the WWLGA
CAE5 Through the relevant EPI's, ensure new developments are pedestrian friendly
CAE6 Develop and implement initiatives to promote walking to work
CAE7 Develop a Public Transport Access Strategy for the WWLGA
CAE8 Encourage public transport operators to consider using more efficient vehicles and alternative fuels
CAE9 Increase the promotion of public transport systems
CAE10 Develop and implement initiatives to promote car pooling
CAE11 Audit Council's energy use and greenhouse gas emissions
CAE12 Review after hours lighting requirements and implement energy saving strategies at Council facilities
CAE13 Continue to implement the Wagga Wagga City Council Street Lighting Management Plan
CAE14 Form partnerships with key stakeholders to research the feasibility of implementing energy efficient lighting systems at road intersections
CAE15 Continue to implement the Earth Hour initiative annually
CAE16 Continue to research the feasibility of installing alternative energy generation technologies at Council sites
CAE17 Continue to implement energy efficient lighting retrofits at Council facilities
CAE18 Research the feasibility of implementing more energy efficient fresh air systems at Council facilities
CAE19 Research the feasibility of implementing more energy efficient heating and cooling systems at Council sites
CAE20 Research the feasibility of installing external awnings at Council facilities
CAE21 Review energy saving tariffs for the power supply at Council facilities
CAE22 Research the feasibility of implementing power factor correction upgrades at Council facilities
CAE23 Program Council computers and office equipment to operate on energy saving systems
CAE24 Research the feasibility of installing energy efficient hot water systems at Council facilities
CAE25 Develop and implement initiatives to minimise greenhouse gas emissions associated with Council's fleet
CAE26 When reviewing Council's electricity contracts ensure there is a requirement to purchase renewable energy
CAE27 Form partnerships with key stakeholders to support the development of alternative energy generation strategies and technologies
CAE28 Form partnerships with key stakeholders to support the production of biofuels locally and encourage industry development
CAE29 Develop and implement initiatives to promote energy saving practices for households, business and industry
CAE30 Research the feasibility of the WWLGA becoming carbon neutral
CAE31 Form partnerships with key stakeholders to develop and implement climate change education initiatives
CAE32 Continue to investigate air pollution, noise and odour incidents and complaints
CAE33 Form partnerships with key stakeholders to develop and implement air pollution reduction initiatives
CAE34 Continue to improve dust control strategies on Council worksites
CAE35 Develop and implement dust control education initiatives for business and industry
CAE36 Continue to implement the Wagga Wagga City Council Smoke Free Area Policy
CAE37 Continue to implement the Wood Smoke Reduction Program
CAE38 Adopt a framework for climate change risk assessment associated with Council business
CAE39 Form partnerships with key stakeholders to develop and implement climate change and energy savings research initiatives

Sustainable Wagga Wagga

Sustainability is most simply defined as 'living today so as not to compromise the needs of future generations'.

While this is easy to say, it can be difficult to achieve. To have a sustainable future for the Wagga Wagga Local Government Area there needs to be a balance between the needs of the environment, the economy and society. If we change one of the elements of sustainability without recognising its connection to the other two, problems can occur.

Australians have one of the largest 'footprints' per person in the world.

Every person needs food to eat, water to drink and wash, clothes to wear, a home for shelter, a place to learn, a place to work, a place to play, and a place where one can be at peace with themselves and the world around them.

The problem is one of distributing these necessary resources through time so that future generations will able to enjoy a healthy lifestyle.

There is no simple solution but the solution is one which we must all work to achieve.

Key pressures on a 'Sustainable Wagga Wagga' include:

- Balance of Environmental, Social, Economic and Governance priorities
- Relationship building between key stakeholders
- Enhanced general roles and responsibilities of Councils
- Unfunded mandates and cost shifting
- Climate Change impacts
- Financial impacts
- Balance between the built and natural environments
- Community expectations

"Promote environmentally sustainable principles for healthy living through community initiatives"

Wagga Wagga Environmental Sustainability Strategy Objective

Sustainable Wagga Wagga

Overall Summary of Key Environmental Indicators

The following is an overall summary of how the Wagga Wagga Local Government Area is performing in terms of environmental sustainability for the SoE themes of Heritage, Land, Biodiversity, Water, Waste, Climate Air & Energy. The ratings are based on the various 'Key Environmental Indicators' in each section, and are given an overall rating for sustainability based on those broad trends. It is important to note that there are no set parameters for exactly what can be classed as fully sustainable. Therefore, these ratings are subjective, and are here to provide a broad indication only.

Heritage		Significant shift towards Sustainability
Land		Minor shift towards Sustainability
Biodiversity		Minor shift towards Sustainability
Water		Insignificant shift towards Sustainability
Waste		Minor shift towards Sustainability
Climate Air & Energy		Minor shift towards Sustainability

What is Sustainability?

Sustainability is a very simple idea. It is most easily thought of as controlling our lifestyle and resource use so that people in the future will have the same opportunities to use the same range of resources that we enjoy today.

It is very easy to overlook and appreciate just how much we rely on the continued supply clean air, plants to remove carbon dioxide from the air and replenish the oxygen, the availability of fresh clean water, and the web of life that requires good soils to produce good plants so that animals, including humans can survive.

For our society to achieve a sustainable lifestyle we must learn to balance the needs of society, of the economy and the need to preserve our natural resources which are vital for the maintenance and wellbeing of all human communities. It also requires us to act at two levels.

As individuals we need to adjust our own actions and consumption tastes so that we reduce out waste, use fuel, water and food in the most economical manner possible.

At the broader level, all of government must strive to provide the framework in which society is able to work towards a sustainable future for our children and future generations.

There are many pressures in society that are obstacles that hinder progress towards society achieving a sustainable future and the solution is achieved though society working together on all aspects that contribute to making for a sustainable future for the next generations.

Heritage

The preservation of Aboriginal and Non-Aboriginal Heritage is of high importance. Once lost, these invaluable links to our history are gone forever.

Land

The population of Wagga Waqga is growing at about 1% per year. However, the land available to support this population does not change.

This margin between population growth and this finite land area is the most substantial reason for society to achieve a sustainable lifestyle.

Biodiversity

The biodiverity of the Wagga Wagga LGA is severley degraded, mostly due to historic land clearing.

While efforts are being made to protect and enhance biodiverity, much more still needs to be done to enhance people's understanding of the issue.

Water

Despite being the driest continent on Earth, Australians use one of the highest rates of water per person in the world.

Although most of the water supply for Wagga Wagga is pumped from underground, it is critical that we know whether or not that this water supply can continue to be replenished at the rate at which it is extracted.

Water is a finite resource, and its current use is not sustainable.

Waste

Modern society is a great consumer of materials like plastic, paper and cardboard, steel, bricks and concrete, aluminium and other metals and chemicals in industry and in the home.

Developing ways to use these resources more efficiently and to increase recycling of these materials is a major challenge for society in its quest to achieve a sustainable lifestyle for our future generations.

Air Quality

Air quality in the Wagga Wagga LGA is one of the poorest in the state.

This is due to a range of factors, most of which are unfortunately unable to be fully controlled.

Energy

Energy consumption in all its forms by individuals, in homes and by industries provides the backbone of our lifestyle. However, it is also the resource over which people have the greatest control as individuals.

It is easy to turn off a switch to save electricity or to use cold water instead of hot water to save on heating costs. Total electricity consumption is dependant on the total population size but it is easy for individuals to make their own personal contribution towards a sustainable future by using gas and electricity more efficiently and without waste.

Climate Change

Climate change is a fact of life, regardless of the debate as to whether it is a natural ocurence or enhanced by anthropogenic impacts.

The Wagga Wagga LGA is subject to extreme temperatures and weather events such as drought and bushfires, and have major impacts on health, lifestyle and the economy.

While climate change cannot be reversed in the short term, efforts must be made to mitigate its effects as much as possible and adapt to it through risk managment, planning and changed societal practices.

Sustainable Wagga Wagga

Getting our community to reach a sustainable lifestyle requires effort and diligence on the part of everyone and not just for the community to rely on the efforts of Council.

The result can only be achieved by every person, every household and every business making their actions and activities more efficient, less wasteful and focused on the long-term benefits for society.

To help achieve this, Council has endeavoured to engage the community in the following Sustainability initiatives.

Clean Up Australia Day

Clean Up Australia Day is held every March. In 2009 Wagga Wagga City Council recorded 39 Registered sites with approximately 5,000 volunteers from schools, local businesses and the community. 6,300kg of rubbish was removed from local parks, roadways and reserves.

Council has also committed to an annual Clean Up Wagga Day to be undertaken in August/September each year.

National Tree Day

Wagga Wagga City Council, with the support of the Wagga Wagga Urban Landcare Group and Planet Ark work together to promote this popular national event.

Approximately 1500 native grasses, trees and shrubs are planted each year at the community event by around 70-100 volunteers.

Seedlings are also provided free to schools who wish to take part in Schools National Tree Day.

Community Gardens Policy

In 2009 Council endorsed a Community Gardens Policy aimed to encourage health and wellbeing, positive social interaction, community capacity building, environmental education and sustainability principles as well as the protection and use of open space.

Earth Hour

Wagga Wagga City Council supports Earth Hour and encourages residents to turn the lights out for Earth Hour in March each year. Registered residents received a free soy candle for participating in the event in 2009.

City/Country Schools Exchange

The City/Country Schools Exchange is an initiative that was established in 2007. Students from schools within the Randwick LGA travel to the Wagga Wagga LGA for a 3 day visit to learn about sustainability in a regional setting.

Schools Sustainability Challenge

Wagga Wagga Council coordinates the Schools Sustainability Challenge each year. The Challenge provides grant style funding of up to $1000 per school. Students and Teachers work on a practical project that promotes the principles of sustainability within the school and community.

Plastic Bag Exchange

The REROC Plastic Bag Exchange Program aims to reduce plastic bag dependency in the WWLGA by encouraging the exchange of 10 plastic bags for 1 reusable bag.

Wastewatchers

Council has also facilitated the 'WasteWatchers' program for local schools. The program was run by Keep Australia Beautiful and jointly funded by Council and SITA.

Waste Recycled as Art Project WRAP

WRAP is a program that is run in conjunction with REROC. School students are invited to create an artwork from a box of clean waste. WRAP aims to promote the theme of Reduce, Reuse, Recycle.

Keep Australia Beautiful Awards

In conjunction with the Tidy Towns Committee, Wagga Wagga City Council awards local beautification awards to businesses and the community as well as submitting entries in the Keep Australia Beautiful competition.

Council is also supporting the Sir Joseph Banks Medal for Sustainable Gardening in partnership with the RSL Club and Elders Real Estate.

Little Big Day Out

Little Big day out is a free annual community event aimed at young children. In 2009 the display included information and activities on noxious weeds, water conservation, solar and wind power, recycling and native animals.

Spotlighting Walks

A guided spotlighting walk is held for the community on the North Wagga Flats to coincide with National Threatened Species Day each year.

Landcare Action

There are 8 local Landcare groups in the WWLGA who are invaluable in carrying out vital work to help improve the natural environment.

There are a number of other local groups who also volunteer their time to environmental initiatives.

Media and Education

Wagga Wagga City Council's Environmental Sustainability Team undertake the following promotional activities:

- a monthly radio spot on 2AAA FM to discuss local, national and global environmental issues
- a monthly newspaper column about current events and issues and to provide free promotion for any community group running an environmental activity
- publication and distribution of informational pamphlets
- school talks on various topics
- guided urban salinity tours.

Environmental Advisory Committee

In 2009 Council endorsed the formation of an Environmental Advisory Committee made up of members of the community to guide Council on the direction of environmental initiatives from the public's perspective.

The following table of initiatives are taken from Council's 'Wagga Wagga Environmental Sustainability Strategy 2009 - 2013' and represent Council's commitment to future actions for improving the state of Sustainability in the Wagga Wagga LGA.

SWW1 Through the Master Plan development and implementation, ensure the Bomen Industrial Estate demonstrates leadership in ESD principles
SWW2 Through the Master Plan development and implementation, ensure Riverside Wagga Wagga demonstrates leadership in ESD principles
SWW3 Continue to integrate environmental considerations to Council's economic, social and governance initiatives
SWW4 Continue to consult, survey and plan with the community about environmental issues
SWW5 Ensure Council's project management and reporting systems include environmental reporting
SWW6 Continue to participate in nationally recognised environmental sustainability initiatives
SWW7 Incorporate potential climate change adaptation in Council's strategic planning documents
SWW8 Continue to explore grant opportunities for programs and initiatives included in the Environmental Sustainability Strategy
SWW9 Continue to explore grant opportunities for the employment of an Environmental Sustainability Officer
SWW10 Ensure new Council buildings and renovations are designed and constructed to demonstrate leadership in ESD principles
SWW11 Develop and implement environmental sustainability education initiatives for Councillors and staff
SWW12 Include environmental sustainability information in Council's Staff Induction Program
SWW13 Include environmental sustainability outcomes in all Council's Position Descriptions
SWW14 Develop Environmental Sustainability Checklists for Council's Standard Operating Procedures
SWW15 Develop an Environmental Sustainability Checklist of Considerations for Council's tender process
SWW16 Continue to participate in the Sustainable Purchasing Program to develop and implement Council's Green Purchasing Policy
SWW17 Continue to prepare the annual State of the Environment Report
SWW18 Promote energy efficiencies at Council facilities
SWW19 Facilitate best practice benchmarking tours of environmentally sustainable initiatives
SWW20 Conduct a Council Sustainability Health Check every four years
SWW21 Continue to attend meetings and form partnership projects with key stakeholders and the community
SWW22 Continue to strengthen partnerships with key stakeholders to develop green business opportunities
SWW23 Develop and implement an internal Council Environmental Sustainability Committee
SWW24 Develop and implement an Environmental Advisory Committee with community representation
SWW25 Develop and implement an Environmental Sustainability Forum for key stakeholders and community
SWW26 Develop and implement a website to educate the community about environmentally sustainable living, community events and activities in the WWLGA
SWW27 Develop and implement an expo to educate the community about environmentally sustainable living principles, technologies and initiatives
SWW28 Develop and implement innovative environmental place management initiatives for the rural villages and neighbourhoods across the WWLGA
SWW29 Continue to strengthen partnerships with the business community and encourage them to adopt environmentally sustainable practices
SWW30 Form partnerships with key stakeholders to develop and implement community initiatives to encourage environmentally sustainable living
SWW31 Include the promotion of environmentally sustainable initiatives in the Marketing & Promotions Strategy
SWW32 Continue to implement the Sustainable Schools Challenge annually
SWW33 Research the feasibility of implementing public bubbler initiatives in the Wagga Wagga urban area
SWW34 Develop initiatives for more environmentally themed public art across the WWLGA

Acronyms

ABS Australian Bureau of Statistics
AHIMS Aboriginal Heritage Information System
ANZECC Australia and New Zealand Environment and Conservation Council
BP Bike Plan
CAMP Companion Animals Management Plan
CAP Catchment Action Plan
CBD Central Business District
CCP Cities for Climate Protection
CSP Community Social Plan
CSU Charles Sturt University
DCP Development Control Plan
DECC Department of Environment and Climate Change
DPI Department of Primary Industries
DWE Department of Water and Energy
EEC Endangered Ecological Community
EPI Environmental Planning Instrument
ERS Effluent Reuse Strategy
ESD Ecologically Sustainable Development
ESS Environmental Sustainability Strategy
FaCSHIA Department of Families, Community Services and Indigenous Affairs
GIS Geographic Information System
GSAHS Greater Southern Area Health Service
GW Grow_Wagga Wagga Strategy
HACC Home and Community Care
ICLEI International Council for Local Environmental Initiatives
ISF Institute for Sustainable Futures
LAMP Lake Albert Management Plan
LEMP Landfill Environmental Management Plan
LEP Local Environment Plan
LHPA Livestock Health and Pest Authority
LGMA Local Government Manager's Association
LGSA Local Government and Shires Association
MCMA Murrumbidgee Catchment Management Authority
NEPM National Environmental Protection Measure
NPWS National Parks and Wildlike Service
OSSMP On Site Sewage Management Plan
PMP Pest Management Plan
RAIA Royal Australian Institute of Architects
REROC Riverina Eastern Regional Organisation of Councils
RFS Rural Fire Service
ROS Recreation and Open Spaces Strategy
RMP Roadside Management Plan
RTA NSW Roads and Traffic Authority
RWCC Riverina Water County Council
RWMS Regional Weeds Management Strategy
SBPS Strategic Business Plan for Sewage
SLMP Street Lighting Management Plan
SMP Stormwater Management Plan
SHC Sustainability Health Check
USMP Urban Salinity Management Plan
WSUD Water Sensitive Urban Design
WWCC Wagga Wagga City Council
WWLGA Wagga Wagga Local Government Area

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Official copies printed on 100% Recycled Paper
Available electronically at www.wagga.nsw.gov.au
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Photographs in order of appearance:

Front cover: Tom Claridge

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