Community

Energy

At a Glance

Energy significantly contributes to all sectors of the economy, including supplying power to households and industry. Between 2001 and 2006 total energy usage in NSW and ACT increased by 3%. In 2006, the electrical and transport industries were responsible for 58% of the total energy consumed in NSW and the ACT. Residential energy use accounted for 8% of total direct energy consumed. In the same period, residential consumption decreased slightly by 1% (ABS 2008).

Increasing population, high economic growth and high wages have lead to behavioural and lifestyle changes which increase consumer demand and consumption habits. Electricity is the most common energy source used by NSW households to power home heating and cooling systems with an estimated 1,321,600 or 50% of NSW households using either ducted, split system or portable air-conditioning to cool their homes (ABS 2008).

However the vast majority of electricity is generated by the burning of fossil fuels in coal fired power stations which contributes 36% of the country's net carbon dioxide-equivalent emissions (AUA 2008). Hence, the amount and type of energy used by industry and to an extent households (8%) has considerable implications for the environment, including depletion of natural resources (clearing of vegetation power related development and therefore construction of new power stations (eg. clearing for Colongra gas pipeline and use of large quantities of water), greenhouse gas emissions and air pollution (see Air and Climate) (ABS 2008). e.g. Colongra gas pipeline).

Black coal provided 89% of the total NSW electricity generation in 2006–07, compared with 7% provided by renewable energy sources such as hydro, wind, solar, biomass or biogas (ABS 2008).

Council's own Electricity Consumption (pg 50)

The bulk of Council's electricity is consumed through 29 major sites (or accounts). These are referred to as the contestable sites and include such accounts as street lighting and pump stations. The following table refers to the electricity consumed by these large facilities. The cost of electricity at these sites was $2,925,725

In future years Council will be able to benchmark the consumption of its top 10 energy consuming sites against other councils (assuming similar criteria such as climatic conditions, population, etc).

Net Change in Energy Consumption for Large Sites 04/09

Net Change in Energy Consumption for Large Sites		
YEAR	ENERGY USED (kWh)	CHANGE
2004/05	25,697,082	0.0%
2005/06	25,127,409	-2.2%
2006/07	24,226,990	-5.7%
2007/08	30,305.024	17.9%
2008/09	29,631,381	15.3%

Source: Wyong Council

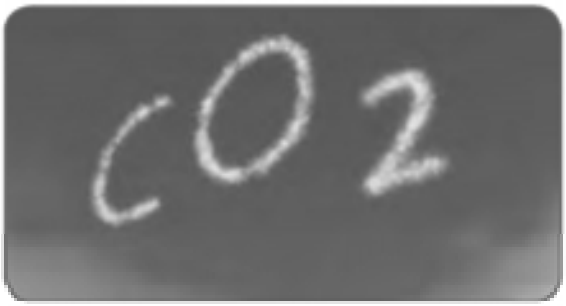
Compared to the baseline of 2004/05 the total energy usage reduced in 2005/06 and 2006/07, increased in 2007/08 and increased (but by a lesser amount) in 2008/09.

Key Drivers

- Increasing population
- Higher per capita consumption
- Growing cost of energy in NSW
- High car ownership
- Large commuter population
- Increasing community awareness of the climate change issue
- Council's commitment to implementing energy and greenhouse reduction strategies
- New legislation and regulations on Council and the community in relation to energy saving and greenhouse reductions e.g, Proposed amendment to the Energy Administration Amendment (Water and Energy Savings) Act 2005 will make it mandatory for Council to undertake committed Actions in its Energy Savings Action Plan.

Response

Ref	08/09 Strategic Program	Progress
3.4.1.2	Implement Year 2 of Council's Energy Savings Action Plan.	Actions to date include Energy Review Team established and meeting regularly; energy audit of Chambers building completed.



The NSW Government requires LGA's with a population over 50,000 people to develop Energy Savings Action Plans (ESAP). Management and operational actions were identified in Council's Energy Savings Action Plan (March 2007) updated information August 2008.

Through the Energy Saving Action Plan a number of projects where investigated, some of which were found to be not viable. A number of energy saving initiatives have been identified at Council's holiday parks through the development of an environmental management plan. Some of these initiatives include solar panels for electricity and water heating, and the use of energy efficient appliances. The Energy Saving Committee is looking to review energy saving issues including educating staff on energy efficiency at work. Other initiatives Council has improved on is the energy efficiency of Wyong South Sewage Treatment Plant by installing variable speed pumps (hydrovar) in the reuse water system pump and variable speed drive.

In January 2007 Council resolved to increase the proportion of renewable energy it purchases in line with the following targets:

Renewable energy targets

	2007	2008	2020
Non – Water and Sewer	6%	25%	50%
Water and Sewer	6%	10%	15%

Future Trends

projected rating	05/06	06/07	07/08	08/09
Energy	NA	Declining	Declining	Declining

There will be considerable challenges to meet the estimated increase in future energy demand given the imminent introduction (in 2012) of an emissions trading scheme aimed at reducing carbon emissions. Total energy demand across Australia is projected to increase by 50% by 2020 and it is anticipated that to meet the nation's energy demands will require at least $37 billion in energy investment (Energy Matters 2008). This makes our total energy consumption unsustainable in environmental terms.
Attracting new investment to replace old generating plant and meet demand will be difficult as electricity prices in Australia are almost the lowest in the world (eg. 30-36% of Japan's). Industry sources have suggested that a 4c/kWh wholesale price would be required to justify such an investment.

Residential energy consumption is projected to increase over the period 1990 to 2020 by 56% continuing the trend of increasing the proportion being met by electricity which currently has high greenhouse gas intensity. In spite of this overall increase, (for air-conditioners, more power-intensive televisions and an increase in standby energy consumption, lighting, computers and other home entertainment), a 6% decline in per household energy is expected compared to 1990 levels. This decline in consumption is being driven by and increasing cost of power, existing and planned energy efficiency programs and building design and changing legislation. In contrast to declining household demand, the trend in per person residential energy consumption for 1990 to 2020 is projected to increase by approximately 20%. This is due to a decline in the number of persons per household.

(The Department of the Environment, Water, Heritage and the Arts 2008)

Identified Data Gaps

- Reliable data for local residential and industry energy consumption

References

- Energy Savings Action Plan (March 2007)
- Australian Bureau of Statistics (2008)
- Department of the Environment, Water, Heritage and the Arts (2008) Energy Use in the Australian Residential Sector 1990-2020 http://www.environment.gov.au/settlements/energyefficiency/buildings/publications/pubs/energyuse-part1.pdf
- Energy Matters (2008) http://www.energymatters.com.au/faqs/energy-consumption-australia.php
- http://www.abs.gov.au/Ausstats/abs@.nsf/39433889d406eeb9ca2570610019e9a5/f4dfb2708feecd63ca2574660010f0cc!OpenDocument

Economy

Economy

Employment and Incomes

Employment and incomes are fundamental contributors to quality of life. In particular, local income-generating opportunities provide residents with the time and money necessary to actively participate in their community. At the same time, financial disadvantage underlies many of the Shire's social issues.

At a Glance

Traditionally the Central Coast has had one of the lowest labour force participation rates (the proportion of people aged over 15 who are either working or looking for work) of all regions in NSW. In March 2009 the region's participation rate was 56.7% compared to the NSW rate of 63.8%.

The 2006 Census found that 41.1% of the Shire's total population was in the labour force.

In December 2008 the Shire's unemployment rate was 7.0%. This reflected a historical pattern of being 2-5% above the NSW (4.8% in December 2008) and Australian (4.2%) figures.

In addition, the Shire has a high ratio of part-time to full-time employment that could disguise significant levels of underemployment. The 2007 Quality of Life Survey found that 32.5% of the region's residents who worked part-time would like to work more hours.

The 2006 Census found that the majority of Wyong Shire's labour force (56.4%) worked in the occupations of tradespersons, labourers, clerical and sales workers. The most common occupation in the Shire was technicians and trade workers (17.1%). Between 1996 and 2006 there was an increase in the proportion of people employed as professionals (from 11.1% to 13.2%), however there remains an under representation in professional and managerial roles (23.3%) compared with Sydney and NSW.

Income levels within the Shire reflect its occupation profile. The 2006 Census found that weekly individual and household incomes in Wyong Shire were below the State average – with the median weekly individual income for persons aged 15 years and over in Wyong Shire being $381, compared with $461 for NSW and $466 for Australia.

The 2006 Census found that the most significant industries employing Shire residents were retail trade (14.5%), health care and social assistance (11.7%), manufacturing (11.3%), and construction (10.5%).

This dependence on the retail, construction, manufacturing and tourism sectors exposes the local economy to the cyclical variations in demand for those products and services.

Labour Force - 1991-2006

	1991	1996	2001	2006
Wyong Shire	38,791	45,350	52,487	58,662
Increase		6,559	7,137	6,175
% Increase		16.9%	15.7%	11.8%

Source: ABS Census

Central Coast Participation Rate

June 04	June 05	June 06	June 07	June 08	June 09
61.7%	55.8%	63.2%	59.9%	58.6%	56.7%

Source: DEEWR Australian Regional Labour Markets

Unemployment Rates 03-08

	June 03	June 04	June 05	June 06	June 07	June 08	Dec 08
Wyong Shire	9.7%	9.3%	8.5%	8.3%	7.9%	7.6%	7.0%
NSW	6.0%	5.6%	5.3%	5.3%	5.1%	4.6%	4.8%
Australia	6.2%	5.8%	5.3%	5.1%	4.6%	4.2%	4.2%

Source: DEEWR Australian Regional Labour Markets

Occupations of Employed Persons - 06

	Wyong Shire	NSW
Managers	10.1%	13.6%
Professionals	13.2%	21.2%
Technicians & trades workers	17.1%	13.6%
Community & Personal Service workers	10.7%	8.6%
Clerical & Administrative workers	14.3%	15.4%
Sales workers	12.3%	9.7%
Machinery operators and drivers	7.9%	6.4%
Labourers	12.7%	9.5%
Other	1.7%	1.9%

Source: ABS 2006 Census

Median Weekly Individual Income 2001 - 2006

	2001	2006
Wyong	$306	$381
NSW	$386	$461

Source: ABS Census

Industry of Employed Residents - 06

Industry	Number	%
Retail trade	7,827	14.5%
Health care & social assistance	6,321	11.7%
Manufacturing	6,074	11.3%
Construction	5,651	10.5%
Accommodation & food services	3,962	7.4%
Education & Training	3,291	6.1%
Public administration & safety	3,218	6.0%
Transport, postal & warehousing	2,583	4.8%
Other services	2,167	4.0%
Professional, scientific & technical services	2,159	4.0%
Wholesale trade	2,066	3.8%
Administrative & support services	1,609	3.0%
Financial & insurance services	1,553	2.9%
Rental, hiring & real estate services	952	1.8%
Electricity, gas, water & waste services	845	1.6%
Information media & telecommunications	833	1.5%
Arts & recreation services	701	1.3%
Agriculture, forestry & fishing	435	0.8%
Mining	240	0.4%
Inadequately described/Not stated	1,368	2.5%
Total	53,855	100.0%

Source: ABS Census

During past decades, the growth in local employment opportunities has not kept pace with population increases in the Shire. Around one-third of the Shire's residents continue to commute beyond the Central Coast for employment (with the majority of these heading to Sydney). While the proportion of people commuting outside the region has remained stable, the numbers have increased by between 400-500 per year.

Proportion of Wyong Shire's Working Residents Employed in the Central Coast Region

1996	2001	2006
68.4%	67.9%	67.9%

Source: Journey to Work data derived from ABS Census

Key Drivers

At a macro level the key drivers of employment and incomes include:

- the economic cycle,
- interest rates,
- inflation,
- the industrial relations system,
- taxation policy,
- economic development incentives, and
- other government policies.

The supply of local jobs is driven by employment-generating development, which in turn is impacted by:

- land supply,
- planning controls and approval processes,
- adequacy of infrastructure (including water, waste, transport, telecommunications, education, cultural and recreational facilities, etc.), and
- availability of a suitable labour supply.

Local income levels are driven by the:

- education and skill levels of the labour force, and
- occupations and industries in which people are employed.

Economy

Economy

Response

The State Government's key planning document for the region is the Central Coast Regional Strategy (2008) and it aims to increase the region's employment supply by building the capacity for more than 45,000 new jobs on the Central Coast over the next 25 years. Of this target, 27,000 new jobs are proposed for Wyong Shire.

One of the actions emanating from the Central Coast Regional Strategy is the preparation of a Regional Economic Development and Employment Strategy. The Premier's Department is finalising this project which aims to provide an overall framework and direction for facilitating economic development activity and employment generation within the region.

As part of the preliminary implementation of the Regional Economic Development and Employment Strategy, a Smarter Central Coast Strategy has been prepared to assist in identifying the skill needs of local business. The Department of Industry and Investment is working collaboratively with State Training Services, TAFE NSW, the University of Newcastle and private training providers to identify training opportunities to support employment growth. A NSW Skills Centre has opened in the Hunter region to service the Wyong local government area.

The State Government is also developing a Regional Business Growth Plan for the Central Coast identifying key opportunities and actions required to attract investment into the region and increase the number of local jobs.

Wyong Shire Council's response has included:

Ref	08/09 Strategic Program	Progress
2.1.1.1	Plan for release of employment generating lands wthin Precinct 7A (Warnervale Village).	Phase 1 of the rezoning process is complete and studies and consultations commenced to progress this project.

In addition, Council:

- Gives priority to the processing of employment-generating development applications. In 2008-09 22 employment-generating development applications were processed in a median time of 18 working days. Based on applicants' estimates, these applications will generate 1264 new full-time positions.
- Is working with the State Government to release land in the Wyong Employment Zone to provide 6,000 jobs for the area
- Is preparing a comprehensive Local Environmental Plan (LEP) that will identify land as future employment generating areas.
- Provides infrastructure (such as roads, waste collection, water and sewerage services) to support local economic development.
- Has a Business Expansion and Relocation Package and a business contact & assistance protocol to support local economic development.
- Supports town centre management organisations in The Entrance, Toukley and Wyong.
- Undertakes an Urban Improvement Program and Coastal Area Improvements to enhance the appearance of the Shire, encourage economic activity via tourism and build community pride.
- Directly employs approximately 1,200 people in permanent full-time, part-time and casual positions.

Council also works with other regional agencies to support local businesses and encourage employment-generating development, including: Central Coast Small Business Mentor Services (and the Business Enterprise Centre), the Department of Industry and Infrastructure (formerly the Department of State & Regional Development), Premier´s Department, Department of Planning, Regional Development Australia (formed from the amalgamation of Business Central Coast and the Central Coast Area Consultative Committee), AusIndustry, and Central Coast Tourism.

Some of the initiatives that these (and other) organisations are engaged in to improve employment and incomes in the region include: collaborating with local tertiary institutions; supporting start-up businesses; mentoring existing businesses; organising local business expos, networking and conferences; preparing submissions to State and Federal Government on infrastructure requirements; organising local events and bidding for major events to be held in the region; collecting regional economic data and information; finalising the Regional Economic Development and Employment Strategy and implementing the Central Coast Regional Strategy.

Future Trends

projected rating	04/05	05/06	06/07	07/08	08/09
Employment and Income	Na	Na	Na	Declining	Stable

In terms of Future Trends the projected rating has been reassessed from declining to stable in 08/09 based on an extrapolation of historical trends, as follows:

- Participation Rate - generally stable (i.e. not getting better or worse compared to NSW and Australia)
- Unemployment Rate - stable (relative to NSW and Australia)
- Occupation Profile - moving towards the NSW profile
- Median Weekly Individual Income - increasing as a percentage of the NSW figure
- Commuting - stable as a proportion of the Shire's workforce

In order to make significant changes in this area economic development is necessary to redress the existing backlog of local jobs (i.e. the shortfall in the number of employed Wyong Shire residents as a proportion of the working age population), as well as providing jobs for the growing population. Without major interventions in the short-medium term the Shire's unemployment rate will continue to trend above the state and national figures.

While education levels remain below average (the current low participation in post-school education means that the education gap is still widening), the Shire's workforce will continue to be over-represented in occupations that generally earn lower incomes and are susceptible to fluctuations in the economic cycle.

The ability of the Shire to attract investors in higher growth industries will depend, on the one hand, on its capacity to improve the level of education and skill of the labour force. And, on the other hand, to adapt its planning controls to facilitate new ways of working; improve its telecommunications infrastructure, and address the lack of cultural activities and facilities and the quality of local school and post-school education opportunities.

Identifed Data Gaps

- Detailed and up-to-date information on the number and type of local businesses, the markets in which they operate and the number of people they employ.
- Up-to-date information on the economic status of local business.

References

- http://www.hvrf.com.au/pages/ccrf/index.php - For Central Coast Facts At A Glance and Central Coast Economic Indicators
- http://www.workplace.gov.au/workplace/Publications/ResearchStats/LabourMarketAnalysis/SmallAreaLabourMarkets/ - For the latest labour force and unemployment rates by local government area
- Adams Business Publications, Central Coast 2008-09 Investment Prospectus, 2008
- NSW Government, Central Coast Regional Strategy (2008)
- NSW Government, State Plan Delivery Update (2008)

Environment




Land

Land management issues are divided into six major landscape regions, namely highlands and valleys; coastal lowland and floodplains; coastline and Wallarah Peninsula. Each has its own distinct issues, pressures and responses.

Highlands and Valleys

The highlands are the areas in the south and west of the Shire which form higher hills and plateaus. Large areas are protected by State Forest (Ourimbah and Wyong) and Conservation Lands. There are also farms and orchards around Kulnura, and rural residential areas around Glenning Valley and Fountaindale.

The valleys are primarily the areas west of the F3 freeway on either side of the freshwater sections of Ourimbah Creek, Wyong River and Jilliby Creek. The valleys include the water supply catchment for the Shire's drinking water and the site of the proposed Wallarah No. 2 Coal Project.

At a Glance

At least 65% of Wyong Shire soils continue to be protected by some form of native bushland cover including forestry, National Parks and natural bushland. Many of these areas occur in the valleys and highlands. It is in these and other vegetated areas such as wetlands and restored stream banks where valley soils are not declining.

The Central Coast Regional Strategy (2008 -2031) limits expansion of the urban footprint by protecting land west of the F3 Freeway from further residential development until at least after 2031. This helps to protect the region's water supply catchment from inappropriate development.

In spite of this Kores Australia Pty Ltd (Kores), the Manager of the Wyong Areas Coal Joint Venture (WACJV) project is proposing to extract the coal resources in the valleys under the Wallarah No. 2 Coal Project (W2CP). A Preliminary Assessment Report was lodged with the Department of Planning (DoP) in November 2006. In June 2007 the DoP established a Strategic Inquiry into Potential Coal Mining Impacts in the broader Wyong LGA. The Inquiry report was released in December 2008. It does not appear to provide much substance in addressing many of the issues raised by Council and other concerned parties. The report was on public exhibition from 17 December 2008 to 27 February 2009, during this time Council made a submission to the DoP stating its concerns. The DoP has not yet released its requirements to the proponent (at July 2009). Council has resolved to object to the proposal and has raised a range of concerns including, but not limited to, potential impact on Council's domestic water supply, dust, impact on natural ecosystems and threatened species.

In response to these plans, there are two community groups, the Australian Coal Alliance and the Stop Korean Coal Mining that have formed to advocate protection of the Dooralong and Yarramalong Valleys. The Australian Coal Alliance state their concerns as the water catchment, subsidence, flora and fauna impacts, social impact and health, local flooding, Aboriginal interests and cumulative impacts.

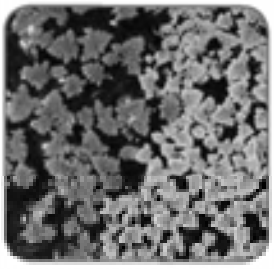
In May 2008 a delegation of organisations opposing the Wallarah No. 2 Coal Project met with senior Federal Cabinet ministers including Environment Minister Peter Garrett. Mr Garrett was impressed with the presentation and urged the delegates to continue their pressure, however advised that the Federal Government could not intervene unless it was referred to them by the State. Ultimately the decision on the proposed mine lies with the State Government.

Key Drivers

Pressures in the highlands and valleys include:

- sedimentation;
- soil and streambank erosion (due to clearing and domestic stock intrusion);
- fertilizer, sewage and chemical pollution of creeks;
- grazing and farming practices (such as chicken or turf farms); and,
- mining (gas and coal resources).



Response

Wyong Council, in conjunction with rural landowners and local Landcare groups, rehabilitated 490m of degraded streambanks in the water supply catchment area.

The Wyong Coal Project "Wallarah No.2" application will continue to be monitored by Council and the community.

The Regulation and Compliance section of Council recorded the following pollution complaints regarding land/property. The type of pollution is not identified.

Year	05-06	06-07	07-08	08-09
Number of pollution complaints (Land/ property)	149	132	99	71

Future Trends

projected rating	05/06	06/07	07/08	08/09
Highlands & Valleys	Stable	Stable	Stable	Stable

Continuing streambank rehabilitation works for the upper Wyong River and Ourimbah Creek will see an improved catchment quality. The Department of Planning's Central Coast Regional Strategy seeks to protect Wyong Shire's environmental values through limiting future development west of the F3 Freeway. A coal mine in the sensitive valleys catchment may result in a very different future scenario.

Identified Data Gaps

- DECC SoE DIRECT website (website not returning data from queries)
- Monitoring of the Streambank Rehabilitation Projects under the Estuary Management Plan

References

- http://www.wallarah.com.au/project_application.html
- http://www.planning.nsw.gov.au/PlanningSystem/Independentplanningassessmentandreviewpanels/tabid/70/Default.aspx

Coastal Lowlands and Floodplains

The coastal floodplains surround the lower estuarine parts of Wyong River, Tumbi Creek, Ourimbah Creek and Wallarah Creek and the lowlands are the rolling hills which surround the floodplain. They include the expanding suburbs to the west and north of Tuggerah Lakes such as Mardi, Wyong, Watanobbi, Wadalba, Warnervale, Woongarrah, Hamyln Terrace, Halloran, Kanwal, Gorokan, Charmhaven, Blue Haven, San Remo and Doyalson.

At a Glance

The most significant areas of impact on soils are presently in these areas due to development in the catchment of the floodplains. Management in the past has altered the wetting and drying cycles of many wetlands and creeks. The impacts of hydrological changes include loss of biodiversity, deposition of silt, altered groundwater recharge, weed invasion and loss of floodplain flood mitigation capacity.

Ongoing subdivision of greenfield areas of the lowlands causes a steady loss of their soils and bushland. Altered and increasing stormwater flows from new suburbs also threaten natural wetlands and streams. Large areas of the lowlands are and will continue to be developed in the future (refer to Built Environment for development details).

The Department of Planning are currently working on the North Wyong Shire Structure Plan, which will be the focus of future greenfield development in Wyong Shire. The North Wyong Shire Structure Plan is expected to accommodate some 19,500 dwellings (16,500 dwellings in greenfield and 3,000 within the Warnervale Town Centre).

A large residential land release proposal by Rose Group for Gwandalan and Catherine Hill Bay (Lake Macquarie City Council) was approved by the State Government in March 2009; under this development 189 dwellings are scheduled to be built at Gwandalan. In June 2009 the Gwandalan Summerland Point Action Group challenged the approval in the Land and Environment Court, the

Environment

decision is pending. A 600 dwelling land release proposal by Coal and Allied for Gwandalan is also currently being considered by the State Government.

Key Drivers

- development pressures that continue to cause a steady loss of soils and bushland in the lowland and floodplain areas
- fragmentation of Ecological Endangered Communities by development
- altered and increasing stormwater flows that threaten natural wetlands and streams
- changes to environmental policy and legislation that will provide stronger controls over threatened vegetation

Response

Ref	08/09 Strategic Program	Progress
3.1.3.1	Implement revised erosion and sedimentation policy and undertake audits	The review of the erosion and sedimentation policy was completed by end June 2009, and is awaiting adoption by Council during 2009. Erosion and Sedimentation Control Audits were undertaken in June 2009. The compliance levels found during the audits were an increase from the previous year's audit. Overall compliance at building sites around the Shire was found to be 70%, with compliance at subdivisions and Council works sites found to be 83%
3.1.1.1	Finalise the new Flooding Chapter of DCP 2005	The Flooding Chapter of the DCP will be developed following completion of the Lower Wyong Foodplain Managment Plan as the Chapter will based on the context of the Risk Management and recommendations within the plan.

Other Council Actions and Programs undertaken in 2008-09:

- Draft Development Control Plan - Water Sensitive Urban Design (WSUD) is in the final stages of development, with all appropriate departments within Council consulted throughout its development. The DCP will provide planning and development controls to protect all waterways and waterbodies such as wetlands, within in the Shire.
- Porters Creek Integrated Water Cycle Management (IWCM) Scheme which will incorporate significant stormwater harvesting from the Porter's Creek catchment, and re-use within the Porters Creek and Wyong River catchments. A risk assessment of the scheme is currently underway, with the outcomes expected mid to late 2009.
- The Wyong River Floodplain Risk Management Study and Plan has been completed and Council is currently determining an appropriate public exhibition methodology of the document.
- The Porters Creek Flood Study has been completed and Council will shortly engage a consultant to complete the Porters Creek Floodplain Risk Management Study and Plan.
- Floodplain Risk Management (FPRM): Preparation of FPRM Plans for Ourimbah Creek floodplain, Tumbi Creek floodplain and the Tuggerah Lakes foreshore. Additional flood studies be undertaken in the near future for other catchments in the shire, superseding flood studies that are over 10 years old.
- Constructed wetlands (and monitoring): Council currently maintains 16ha of constructed wetlands in 23 sites across the Shire, at a cost of $140,000 per annum. The primary purpose of the wetlands is to improve water quality for receiving environments downstream. The number of constructed wetlands in the Shire is planned to grow significantly over the coming years with the implementation of Water Sensitive Urban Design Principles. An intensive monitoring program is being undertaken by Council to determine how effectively these devices are removing pollutants from stormwater with the information feeding back into improved design.
- Dredging of Tumbi Creek: Site work commenced in May 2007 to remove approximately 8,000m3 of material from Tumbi Creek. It was completed at the end of June 2008. Surveys revealed that storms had deposited approximately 2,800m3 of additional material into the dredged channel between the footbridge and the lake. Environmental surveys and other related studies were completed by June 2009. All works are expected to be completed within the project budget of $1.8M. A recent survey however has revealed evidence that re-siltation of the dredged channel is occurring.
- Estuary Management Plan Implementation commenced (see Water and Catchment Management for further details on these actions).

Future Trends

projected rating	05/06	06/07	07/08	08/09
Coastal Lowlands & Floodplains	Stable	Declining	Stable	Stable

While the response to the pressures on these areas is improving there is still considerable scope for protecting bushland and floodplains through an integrated approach which combines conservation and catchment water cycle planning.

The silting of Tumbi Creek is indicative of what is occurring in other catchments within the Shire. This can be expected to continue in the future with continued development, especially if management practices continue to focus on the symptoms rather than the causes of environmental problems.

Idenfied Data Gaps

- Results of the intensive water quality monitoring project for constructed wetlands.

Coastal & Wallarah Peninsula

Wyong Shire's coastline is the narrow strip of rocky headlands, beaches and connecting sand dunes between the ocean and Tuggerah Lakes. The coastline has the highest percentage of conservation land of any area of the Shire. The Wallarah Peninsula extends to the northern boundary of the Shire and into Lake Macquarie City Council.

At a Glance

Overall the ecological quality of the coastal lands is judged to be slowly declining due to ongoing residential and resort development, recreational impact, stormwater impacts and the invasion of weeds such as Bitou Bush.

Areas of Cabbage Tree Harbour and The Entrance North are experiencing continuing slope stability and dune erosion due to storm events. Council announced (in February 2008) its intention to build a toe drainage structure to stabilise the bluff behind residents' homes as a result of coastal erosion that occurred at Cabbage Tree Harbour in the storm event in June 2007. Council has resolved a shared funding arrangement with Department of Environment Climate Change and Water. The design and impact assessment of the stabilization works was completed and approvals are currently being sought. Construction is now expected to commence in late 2009.

Key Drivers

- Increasing pressure from population growth and resultant development
- Climate Change predicts an increase in severe weather events leading to a heightened risk of coastline erosion

Response

Ref	08/09 Strategic Program	Progress
3.1.1.2	Complete the Coastline Management Plan (as a follow-up to the Coastal Hazard Study)	DECC and Council have reviewed the revised methodology for determining the hazard lines. A draft Coastline Management Plan will be prepared and submitted to Council by February 2010..
3.1.1.1	Implement the 2nd year's work of the Stormwater Improvement Program for ocean beaches	Strategic Stormwater overview being developed for the Cabbage Tree Harbour area, with implementation anticipated to begin in 2009-10. A priority list will be developed for other stormwater issues along the coast.

Coastcare and Dunecare groups continue to undertake valuable dune protection and bush regeneration works in collaboration with Council and the Department of Environment and Climate Change, supported by Councils Landcare program. These groups are located at Hargraves Beach, Norah Head, the Entrance North and Budgewoi.

Major coastal projects in progress include dune restoration at The Entrance North and southern Budgewoi Beach. These projects include removal of Bitou Bush (a noxious

Environment

weed), dune reshaping to correct eroded areas, upgrades to beach access ways to minimise pedestrian erosion of the dunes, construction of dune forming fences to trap wind blown sand and planting native coastal species.

Council's preliminary Climate Change Action program incorporates a review of all planning studies to address the changing nature of climate predictions. The Coastline Management Manual also requires that climate change implications are addressed in the development of the hazard zones and the Coastline Management Plan.

Future Trends

projected rating	05/06	06/07	07/08	08/09
Coastline & Wallarah Peninsula	Stable	Stable	Stable	Stable

The Coastline and Wallarah Peninsula will continue to be placed under development pressure due to population growth. The number and type of rezonings that occur will have a significant affect on this area.

At present there is uncertainty about the rate of climate change projections and impacts. Future predictions of sea level rise and increased storm activity due to climate change suggest there is a risk of continued and increased erosion of the dune and bluff systems in years to come. As this occurs it will potentially result in a significant number of properties being adversely affected, many so much so that they will become uninhabitable. At this stage we must exercise the precautionary principle and plan accordingly. As Council understands more about the implications of climate change it can adapt planning controls to avoid situations in the future that will be unsustainable. Council is also developing a Climate Change Policy for adoption in late 2009.

Identified Data Gaps

- Monitoring local/regional scale sea level rise
- Long term dune movement monitoring

Catchment Management

Wetlands, creeks and lakes are all significant waterways in Wyong Shire. They and their catchment are closely studied and monitored and work is underway to continually improve their management. Research confirms that whatever people do in the catchment has an impact on the health of the lakes, creeks and wetlands. These areas also play a significant role in the economic and recreational life of many residents across the Shire that contributes to their overall quality of life.

Lakes
At a Glance

Tuggerah Lakes Estuary consists of three interconnected shallow lagoons: Tuggerah Lake, Budgewoi Lake and Lake Munmorah. They are largely isolated from the ocean and are the receiving water bodies at the bottom of the catchment.

Previous State of the Environment reports have indicated declining trends for the condition of the Lakes.

Council, in partnership with the Department of Environment Climate Change and Water undertakes the Beach Watch program – reporting monthly on recreational water quality at 29 popular swimming locations in the Shire. In total 17 ocean beaches, 9 coastal lake sites and 3 estuarine river sites were tested for faecal coliform and enterococci contamination to assess compliance with NHMRC (1990) swimming water quality guidelines.

Since 1999, the majority of the 29 sites monitored achieved a high level of compliance with the National Health and Medical Research Council (NHMRC) guidelines. At times however, some of the 12 estuarine sites have been found to have high faecal indicator levels, particularly the estuarine river sites (Tumbi Creek, Wyong River and Ourimbah Creek). There are consistently high levels of faecal indicator bacteria found at these three sites. These three sites along with 7 sites throughout the Tuggerah Lakes system were monitored in 2008 using faecal sterol analysis. All ten sites had results that indicated Council's sewage infrastructure is not a source of these high faecal indicator levels.

A catchment audit has been proposed that would look at specific land use in the upper catchment of Ourimbah creek.

This will involve water quality monitoring and possible land use audits to ensure compliance with the relevant guidelines.

In the 2008-2009 financial year, Wyong Council and the Hunter-Central Rivers Catchment Management Authority (CMA) jointly funded the Landcare Community Support Program via the National Heritage Trust. This program employed a project officer in addition to the Landcare Co-ordinator to provide support to Environmental Care groups who are contributing to the implementation of the CMA's Catchment Action Plan. This included development of project proposals, a series of workshops on natural resource management issues and production of a native planting guide for the Wyong River/ Ourimbah Creek and Tuggerah Lakes Foreshore.

Active Landcare Groups

	04/05	05/06	06/07	07/08	08/09
No. of Groups	18 (approx 31 Sub groups	34	32	32	36
No. of Sites	43	54	51	51	47

Council funded 17 projects carried out by Landcare groups, including project materials such as plants, tools, personal protective equipment, signs, contracted bush regeneration, material for community nurseries and sponsorship of the Mountains to the Dunes Landcare conference.

Over $163,000 of external funding was secured or utilised by these groups for projects including;

- CMA's Landcare Community Support program
- Southern Budgewoi dune stabilisation project
- Regeneration of littoral rainforest at Budgewoi
- WyCare network support funding
- Terilbah Reserve regeneration project

Two Green Corps teams partnered Landcare projects, engaging 20 young people in local environmental projects. A team based at Milson Island worked at The Entrance North, Glenvale School and Terilbah Reserve. The Wyong based team completed a 10 week water quality monitoring program and supported regeneration works at Budgewoi Beach Dunecare, Hargraves Beach Dunecare, Pioneer Dairy, Ourimbah Creek Landcare, Palmgrove / Ourimbah Creek Landcare and landscaping at Gravity Youth Centre.

Wyong Creek Public School won the inaugural People's Choice Award at the National Landcare Awards held at Parliament House in Canberra on October. Their projects are based around the 10 year environmental plan developed by Principal Gale Ball which aims to teach children lifelong skills to care for the planet. The school has completed a riparian regeneration project along Wyong Creek which included fencing out cattle, rainwater troughs, seed collection and propagation and dense plantings to reduce erosion. The school is a member of the Platypus Awareness and Conservation Team (PACT). Water tanks were installed; drought tolerant species were planted in the school garden and a waste management system established so that only reusable and recyclable products were brought into the school and paper and food waste composted and used on the vegetable garden.

The Community Environment Network (CEN) is undertaking the following projects:

- Stepping Stones project (Wyrrabalong to Wyrrabalong): a partnership between Bateau Bay Bushcare, the Community Environment Network and Wyong Shire Council. It aims to link North to South Wyrrabalong National Park with a green corridor by expanding and improving the quality of remnant vegetation. Project sites include Coleridge Road Reserve, EDSACC oval, Saltwater Park, Peter Clifford Reserve and the Long Jetty foreshore. The project has also held 3 community workshops including Landcare training, National Tree Day and Habitat Workshop and the Saltwater Creek Catchment Crawl. In addition, 2 water quality training sessions have been run to obtain baseline water quality data for the stormwater treatment zones along the Long Jetty Foreshore.
- During 2008/2009 Waterwatch groups have been monitoring water quality in a range of areas including Spring Creek (Bluehaven), Wallarah Creek, Wyong River, Ourimbah Creek, Tuggerah Lakes, Jilliby Creek, Little Jilliby Creek, Lake Macquarie at Mannering Park and wetlands at Pioneer Dairy Tuggerah, Blue Haven, and Glenning Valley.

Environment

Environment

- In May 2009 CEN launched its Saltmarsh Protection and Education Project – aimed at rehabilitating priority saltmarsh sites and educating local communities about the value of saltmarsh habitat. In consultation with Wyong Council, two priority sites have been chosen for Wyong, including Rocky Point at the mouth of Wyong River and a section of foreshore at the mouth of Saltwater Creek.

As a major employer in the region, Delta Electricity has a strong local sponsorship program supporting the social, educational, cultural, sporting and business development in local communities. Delta's investment of around $200,000 per annum supports local government in improving local amenities, volunteer organisations (such as Progress Associations), primary and secondary school communities and charitable community service organisations. This support includes sponsorship of Landcare in the North of the Shire.

Between July 2008 and June 2009, eight Landcare groups were sponsored by Delta for the following projects:

Landcare Projects

Group	Materials
Palmgrove Ourimbah Creek Landcare	Materials for boardwalk over wetland
Chain Valley Bay South Bushcare	Native plants
WyCare Garden	Native grasses for display garden
	Electrical work and plumbing for propagation facility
Hopetown School Landcare	Sleepers, soil and native plants for 'Sorry garden'
Northlakes Landcare	Bush regeneration in burnt area and native plants
Budgewoi Beach Dunecare	Dune stabilisation project sign
Leslie Ave Landcare	Native plants
Gwandalan Primary School Landcare	Fish pond and native plants

Key Drivers

- continuing population growth and resultant development pressures in the catchment
- stormwater pollution and siltation reaching lakes
- community expectations

Response

Ref	08/09 Strategic Program	Progress
3.1.3.1	Implement the second year's works program from the Tuggerah Lakes Estuary Management Plan	The first year of works under the Tuggerah Lakes Estuary Management Plan Implementation Program has been completed. See below for detailed information

The Tuggerah Lakes Estuary Management Plan Implementation Program has just completed the first year of works under the Federal Government's Caring for our Country Grant. The Tuggerah Lakes Estuary Management Plan identifies a five year schedule of works to achieve improvements in four key Action Plans: Water Quality, Ecology, Socio-Economic and Knowledge and Management. These Action Plans involved works for the 2008-09 financial year as follows:

Water Quality

- Construction of stormwater treatment/streambank rehabilitation works on six reaches along Saltwater creek nearing completion. Construction due for completion in the first quarter of 2009-10.
- Construction of streambank rehabilitation works on seven reaches along Tumbi Creek nearing completion. Construction due for completion in the first quarter of 2009-10.
- Design and approval completed for five reaches along Wyong River. Construction to commence in 2009-10.
- Design and approval completed for three reaches along Ourimbah Creek. Construction to commence in 2009-10.
- Completion of design and approval stage for stormwater treatment works at seven locations in Wyong Shire
- Construction of stormwater treatment works commenced at Jetty Ave, Charmhaven, Lowana Ave, Charmhaven, Sunrise Ave, Halekulani

Ecological

- Design and approval achieved for construction of 2 saltmarshes at Long Jetty and Berkeley Vale. Construction to commence at both locations in 2009-10.
- Preliminary designs underway for construction of saltmarshes at other locations around the Tuggerah Lakes estuary. Construction works will follow staged roll out from 2009-10.
- Wetland Rehabilitation Plans completed for major natural wetlands in Wyong Shire. Rehabilitation works will follow staged roll out from 2009-10.
- Passive Saltmarsh Rehabilitation Plan completed, prioritising opportunities to rehabilitate degraded saltmarsh communities around the Tuggerah Lakes estuary. Rehabilitation works will follow a staged rollout from 2009-10.
- Rehabilitation of Terilbah Reserve, Nth Entrance.

Socio-Economic

- Foreshore Recreation Strategy finalised. Works have commenced and will follow a staged rollout.
- Continuation of cycleway construction at Buff Point. Link between San Remo and Budgewoi due for completion in 2009-10.
- Installation of recreational facilities at Picnic Point.
- Design and approval of boat ramp upgrade at Picnic Point. Construction of boat ramp to commence in 2009-10.
- Design and approval of boat ramp upgrade at Saltwater Creek. Construction of boat ramp to commence in 2009-10.
- Planning and design work undertaken for all access and regional recreational facilities at Wallarah Point Park, Budgewoi, Lake Munmorah Reserve.

Knowledge and Management

- Tuggerah Lakes Estuary Management Plan Implementation Program Monitoring and Evaluation Program completed. Monitoring to measure the successful implementation of the Tuggerah Lakes Estuary Management Plan to commence in 2009-10.
- Commencement of ecological response model. Model will show the ecological response of catchment management practices on the lake ecology.
- Commencement of Tuggerah Lakes Estuary Management Plan Education and Communication Strategy

Other Council Actions and Programs undertaken in 2008-09:

- Integrated Water Cycle Management Strategies (IWCM) were completed for the Wyong Employment Zone and Warnervale Town Centre. Several large sub-divisions and developments have been approved with integrated watercycle management schemes.
- Draft Water Sensitive Urban Design DCP Chapter and Guidelines were exhibited in 2008. Consultations have been held with in Council and with local developers, with feedback incorporated into the document. Finalisation is waiting on some details of the Porters Creek Integrated Water Cycle Management Scheme risk assessment, before being adopted by Council.
- Wyong beaches and estuarine sites are regularly monitored for swimming safety in accordance with the NHMRC Guidelines for Recreational Water Use (1990). Beachwatch program results are reported to Council on a monthly basis.

Future Trends

projected rating	05/06	06/07	07/08	08/09
Lakes	Improving	Improving	Improving	Improving

The Tuggerah Lakes Estuary Management Plan will have strengthened the ecological systems within the catchment. These improvements will have kept pace with urban development pressure to maintain and potentially improve water quality within the Estuary.

Environment

Environment

Creeks and Rivers

Wyong River and Ourimbah Creek provide the majority of Wyong's water supply. Provision of adequate environmental flows is necessary to maintain the ecological integrity of these streams.

At a Glance

Previous State of the Environment reports have indicated declining trends for the condition of the streams feeding into Tuggerah Lakes due to streambank erosion exacerbated by drought conditions. Streambank rehabilitation works undertaken in the water supply catchment and under the Tuggerah Lakes Estuary Management Plan will address areas of significant erosion along the Shire's creeks and rivers.

At the three estuarine river sites monitored in the Tuggerah Lakes catchment under the Beachwatch Program, very low levels of compliance with the NHMRC (1990) swimming water quality guidelines were recorded.

Stream Flows and Water Extraction

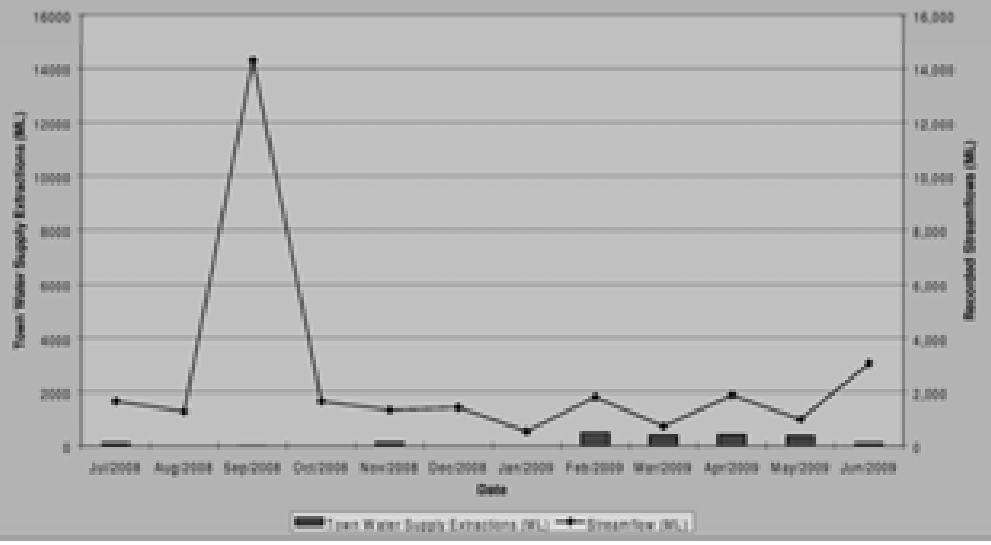
2008-09 brought generally average rainfall conditions for the streams with good falls of rain in September, February, April and June.

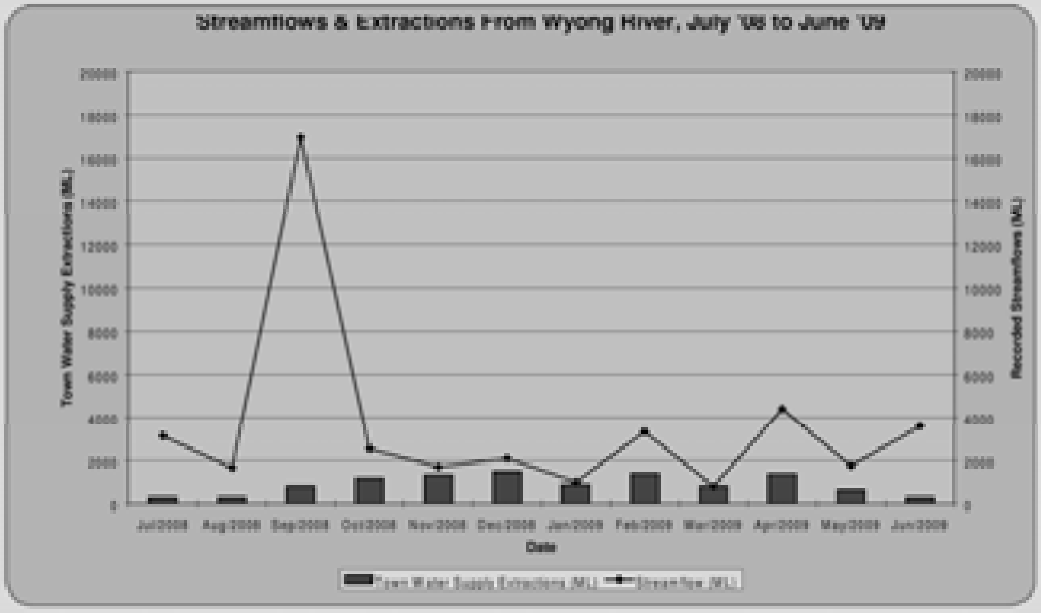
The following graphs detail the contrasting periods of wetter and dryer conditions experienced in 2008-09.

Key Drivers

- Stormwater runoff, erosion and sediment transfer from urban areas affecting the ecology of our creeks and rivers.
- Level of rainfall places pressure on the environmental stream flows for Wyong River and Ourimbah Creek.
- Wallarah 2 Coal Project - potential to affect the ecology of streams in the water supply catchment

Streamflows & Extractions From Ourimbah Creek, July '08 to June '09





Response

Ref	08/09 Strategic Program	Progress
3.2.1.2	Subject to s.94 funding and State Government approval of the WEZ commence implementation of the Porters Creek Stormwater Harvesting Scheme	The project is progressing slowly due to delays in having the risk assessment reports finalised by the consultants. Work has progressed in identifying easements required for construction of the scheme and assessing options to allow for staged construction of the scheme consistent with rates/location of development and availability of funding. An application for 50% grant funding under the Australian Government Water for the Future Program will be submitted in December 2009. If successful, and subject to the other 50% of funding being available from s94 contributions, it is anticipated that implementation of the first stage of this project could commence in mid 2010.

During 2008/09 streambank rehabilitation works were undertaken along 5.99km of the Shire's rivers and creeks.

Works conducted by Council staff and landholders in the water supply catchment area resulted in the rehabilitation of 490 metres of degraded streambanks at sites in Palm Grove, Ourimbah, Ravensdale and Yarramalong. These works involved planting 1,676 native trees, shrubs and groundcovers at a total cost of $51,300; in conjunction with the treatment of extensive stands of environmental weeds such as Privet, Lantana and Camphor Laurel.

The Palm Grove site was a joint project with two adjoining landholders and the Hunter Central Rivers Catchment Management

Environment

Authority, and involved site specific innovative design and construction techniques. A nest of hardwood timber piles was driven into the bank of Ourimbah Creek with planting and fencing completed on an acutely eroding and slumping outside bend where an access road and timber bridge serving three private properties were threatened.

Another $35,600 was spent maintaining sites rehabilitated over the last three years; bringing the total expenditure on the program for the year to $86,900.

Implementation of the Streambank Rehabilitation Plans for the major tributaries in the Tuggerah Lakes catchment commenced during 2008-09. (See Lakes section for details)

Future Trends

projected rating	05/06	06/07	07/08	08/09
Creeks & Rivers	Improving	Improving	Improving	Improving

Implementation of the WSUD DCP and streambank works in the catchment under the Estuary Management Plan and other programs in conjunction with better sediment and erosion controls will improve catchment condition and ultimately water quality and lake ecology.

Community perception of the lakes will improve and a greater understanding of the value of the lakes will be achieved through extensive education and awareness programs.

Ongoing lakes water quality monitoring programs will have provided clear trends in health for the Lakes ecosystems.

Water Sharing Plans are implemented to extract for water supply needs while ensuring adequate environmental flows to maintain aquatic ecosystems.

Identified Data Gaps

- Monitoring of streams to provide information on the impact of regulating streamflows in Ourimbah Ck and Wyong River on instream fauna. (see "Lakes" section for details.

Wetlands

At a Glance

Council has a number of significant natural wetlands in the Shire. The condition of these wetlands ranges from excellent (Enterprise Drive, Wyee, Gwandalan) to poor (Bateau Bay, Killarney Vale) depending on the extent to which development and increased stormwater flows has affected them.

Stormwater management and water conservation is addressed via maintenance of 16ha of constructed wetlands in 23 sites across the Shire. The intended purpose of these wetlands is to improve water quality for receiving waters downstream.

Past management of stormwater has altered the wetting and drying cycles of many wetlands and creeks by delivering increased runoff too frequently to the floodplain. Altered and increasing stormwater flows threaten natural wetlands and streams. The state of these wetlands has not changed significantly over time; however, cumulative impacts from changing hydrology is causing extensive tree dieback, premature tree fall, weed invasion and little or no recruitment of native wetland vegetation species.

Key Drivers

- Increasing development; which leads to changed stormwater flows, increased pollution loads, tree death and weed invasion.
- Changing Local and State Government controls on development.

Response

Ref	08/09 Strategic Program	Progress
3.2.1.2	Subject to s.94 funding and State Government approval of the WEZ commence implementation of the Porters Creek Stormwater Harvesting Scheme	The project is progressing slowly due to delays in having the risk assessment reports finalised by the consultants engaged to undertake this work. Work has progressed in identifying easements required for construction of the scheme and assessing options to allow for staged construction of the scheme consistent with rates / location of development and availability of funding.

The Porters Creek Stormwater Harvesting Scheme (IWCM) is centred on facilitating development of the Wyong Employment Zone and Warnervale Town Centre without degrading the Porters Creek Wetland. The scheme will divert the excess stormwater away from the wetland which will provide a substantial quantity of stormwater for harvesting to potentially supplement the water supply.

The WSUD DCP and Guidelines are in draft form however are dependent upon finalisation of the risk assessments for Porters Creek Wetland and Wyong River prior to being presented to Council for consideration. It is expected that these risk assessments will be completed by December 2009.

Intensive water quality monitoring of the Myrtle Brush Park Constructed Wetland is to commence in 2009-10 This monitoring will provide important data on how effectively these devices are removing pollutants from the stormwater and will inform future constructed wetland design.

In March 2009 Council engaged consultants to prepare a Wetland Management Plan which gives a snapshot of the condition of all wetlands in the Shire with key focus on important wetlands around the periphery of the lakes (including Toukley Wetland / Budgewoi Sandmass, Tumbi Wetland, Tuggerah Wetlands, Colongra Swamp and Oroaloo Point). The purpose of the study is to determine the current condition and appropriate management responses to assist in protection of wetlands within the Shire. The Wetland Management Plan will be implemented as part of the Tuggerah Lakes Estuary Management Plan. On-going monitoring of key wetlands will be undertaken as a part of the EMP program.

In addition to this, Council is currently undertaking aerial and ground survey of weeds in the Porters Creek catchment to assist in the development of a Weed Management Plan for the area.

Future Trends

projected rating	05/06	06/07	07/08	08/09
Wetlands	Improving	Improving	Stable	Stable

Overall the Shire's wetlands will remain stable once the implementation of the Wetland Management Plan begins and the WSUD DCP chapter and stormwater harvesting scheme are complete and implemented.

44 new constructed wetlands will be built as part of the Porters Creek IWCM. Artificial wetlands require intensive targeted maintenance to ensure that they function to the original design objectives. It will be necessary to provide for future resource and budget increases in constructed wetland maintenance as new wetlands come online.

Identified Data Gaps

- Monitoring the condition of our natural wetlands – a monitoring program is to begin during 2009-10.

Oceans

At a Glance

Wyong Shire has 37km of coastline. Council does not have access to a wide range of indicator data for the marine and estuarine environment, however from the available data it appears that ocean water quality is satisfactory, although stormwater pollution remains an issue of concern. The Shire's four significant intertidal rock platforms are not monitored and illegal and inappropriate collection of marine life and damage to the aquatic habitat within the coastal zone continues unabated. On the amenity side, Council maintains its beaches and surf life saving clubs to satisfy its residents' needs.

The beaches are popular with residents and tourists alike, some are safer than others for surfing and swimming. At the 17 ocean beaches monitored under the Beachwatch program 100% compliance with NHMRC (1990) swimming water quality guidelines was recorded.

Storm events have highlighted the vulnerability of the coastal zone with properties at Cabbage Tree Harbour and The Entrance North at risk from coastal erosion processes. This is of growing concern due to issues arising from climate change.

Sewage effluent discharges from the Norah Head and Bateau Bay outfalls continued to meet DECC volume and quality licence requirements during 2008-09. Average daily discharges of treated sewage compared to the DECC licence, during 2008-09 are given in the table below:

Ocean Outfall discharge

Outfall	Actual average daily discharge	DECC/EPA licensed average daily discharge (max)
Norah Head	26,313 kilolitres	35,000 KL
Wonga Point	8,101 kilolitres	25,000KL

Environment

Key Drivers

- Climate change
- Future population and development will continue to place pressure on sensitive coastal environments.
- Ocean outfalls
- Urban runoff -, from roads, sewer overflows, spills, industrial activities and building sites being the most significant source of pollution for the near-coastal marine environments
- Runoff from urban areas - may be contaminated with sediment, nutrients, hydrocarbons, heavy metals, pathogens, and other occasionally persistent, chemicals.

Response

Ref	08/09 Strategic Program	Progress
3.2.3.1	Implement the second year's work of the Stormwater Improvement Program for ocean beaches.	Strategic Stormwater overview being developed for the Cabbage Tree Harbour area, with implementation anticipated to begin in 2009-10. A priority list will be developed for other stormwater issues along the coast.

Wyong beaches are regularly monitored for swimming safety in accordance with the NHMRC Guidelines for Recreational Water Use (1990). Program results are reported to Council on a monthly basis.

Future Trends

projected rating	05/06	06/07	07/08	08/09
Oceans	Stable	Stable	Stable	Stable

Coastal ecosystems such as wetlands, estuaries, beaches, and dune systems are vulnerable to the impacts of climate change. Increased coastal hazards are expected from changes in coastal processes, affecting infrastructure and the economic base of coastal communities.

Predictions of sea level rises and increased storm activity due to global warming suggest there is a risk of continued and increased erosion of the coastal dune and bluff systems in years to come. Climate change impacts may be exacerbated on the coastal zone if population and development pressures increase.

The scale and range of the potential impacts of climate change are uncertain, particularly as they relate to the coastal zone. A precautionary approach to developing and implementing appropriate adaptation responses will be necessary to adequately prepare for this uncertainty.

Identified Data Gaps

- Water quality related complaints received by Council (need formal processes in place to capture data)
- Sea level rise monitoring
- Marine environment (biodiversity) monitoring, such as rock platforms

References

- http://www.environment.nsw.gov.au/soe/soe2006/chapter5/chp_5.6.htm#5.6.34

Biodiversity

At a Glance

Wyong Shire, some 82,042ha in area, is rich in biodiversity, enhanced by the presence of both coastal and inland vegetation communities and expresses faunal characteristics of both the Sydney Basin and north coast bioregions. It supports over 427 native fauna species (mammal, bird, amphibian and reptile) and many invertebrates.

We are fortunate to retain approximately 65% of the Shires native bushland. This is partly due to a large portion of the Shire being retained as State Forests (14,510ha, 18%) or forestry or National Parks (13, 600ha or 17% of the Shire) and partly due to large parcels of vegetated areas owned by Wyong Council and the Crown (State government).

There are 36 vulnerable species, 11 endangered and 1 critically endangered species listed nationally for Wyong Shire. In 2008-09 no additional species have been reported as being listed, however the listing for the Leatherback Turtle (Dermochelys coriacea) has changed from Vulnerable to Endangered.

National Listed Species (EPBC Act)

	Vulnerable	Endangered	Critically Endangered
Plants	11	3	0
Birds	10	3	0
Fish	1	1	0
Mammals	5	2	0
Frogs	4	1	0
Sharks	3	0	1
Reptiles	2	1	0
Total	36	11	1

Source: www.environment.gov.au

There are 81 vulnerable species, 39 endangered species and 1 critically endangered species listed at state level for Wyong Shire. On 4th July 2008 the terrestrial orchid Thelymitra sp. 'Adorata' (Wyong Sun Orchid) was gazetted as a critically endangered species in Part 1 of Schedule 1A of the Threatened Species Conservation Act 1995.

State Listed Species (TSC Act)

	EEC's	Endangered Populations	Flora	Fauna	Total
Vulnerable			18	63	81
Endangered	12	2	12	13	39
Critically Endangered			1		1
Total					121

Source: www.threatenspecies.environment.gov.au

There is continuing pressure on the Shire's biodiversity from population growth and the associated development. The area of native vegetation approved to be cleared for development is an indicator of the loss of flora and fauna habitat therefore the impact of development on biodiversity. The following table shows the approximate area of vegetation that Council approved to be cleared during the 2008-09 reporting period.

Vegetation Cleared 08/09

Category of proposed development	Total approved clearing (hectares)*
Residential	7.4
Commercial and Industrial	0.8
Council works	3.6
Total	11.8

These figures are likely to be an underestimate of the total area approved to be cleared in the Shire as the following are not included:

- development applications submitted to Council but not referred to Council's Development Ecologist for specialist review;
- smaller Council applications, some single dwellings in rural locations and tree works applications;
- single dwellings or clearing approved in a previous year (ie Section 96 applications under the Environmental Planning and Assessment Act 1979);
- clearing approved by the NSW State Government under Part 3A of the Environmental Planning and Assessment Act 1979;
- clearing conducted by State Government agencies, such as Energy Australia and Transgrid, under Part 5 of the Environmental Planning and Assessment Act 1979;
- clearing approved by the Hunter-Central Rivers Catchment Management Authority or Department of Environment Climate Change and Water under the Native Vegetation Act 2003
- cumulative canopy loss due to removal of trees located within 3 metres of an Approved Structure, which Council's Development Control Plan (2005) Chapter 14 exempts from requiring consent.

The Bush Regeneration Program will continue to 2011. Wyong's 2008-9 Bush Regeneration Program includes the Tumbi Umbi Wetland Vegetation Rehabilitation Project and areas of regeneration under the Glenning Valley Vegetation Plan Incentives Project as follows:

Environment

Environment

Bush Regeneration

Site No.	Site location	Area (Hectares)	Area Treated
1	Southfork Reserve, Glenning Valley.	10	7.5
2	Fountaindale Ridge Reserve, Fountaindale.	65	39
3	Berkeley Vale Ridge Reserve, Berkeley Vale.	95	76
4	Palm Springs Avenue Reserve, Berkeley Vale.	9.6	7.6
5	Bangalow Close Reserve	7.5	6
6	Greenbank Avenue Reserve, Glenning Valley.	10	9
7	Pleasant Valley Reserve, Fountaindale.	35	31.5
8	Berrys Lane Reserve, Fountaindale.	5.6	5
9	Berkeley Creek Gully Reserve.	5.3	4.2
10	Berkeley Vale Wetland Reserve, Berkeley vale.	55	49
11	Tumbi Umbi Wetland Vegetation Rehabilitation	24.3	8.5
	Total Areas Treated June 08/09	322.3	243.3

Comparison of the area treated this year under the Bush Regeneration Program with previous years

Previous Years Bush Regeneration

	06/07	07/08	08/09
Number of Sites	3	10	11
Total Site Area (Hectares)	62	298.4	322.3
Area Treated (Hectares)	15.5	151.12	243.3

All of the above sites have been identified for restoration due to their highly valued ecological assets. All of the sites are affected by the Threatened Species Conservation Act and contain a range of Threatened Flora, Fauna or Endangerered Ecological Communities.

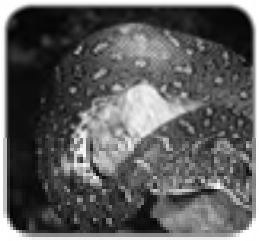
There are a number of other natural area programs and new legislative requirements to manage. The implementation of any contractual requirements under the Catchment Management Authorities (CMA) Property Vegetation Plans (PVP) as they apply to the Mt Alison, Woongarah PVP Environmental Offset and the Glenning Valley CMA PVP Incentives Project. Additionally, these figures do not account for areas revegetated as a result of tree plantings, landcare projects and the like.

Key Drivers

- Community expectations to retain area's natural beauty
- Population growth and related needs for development, recreation, infrastructure and associated facilities
- Tension between future development and preservation of the Shire's biodiversity
- Changing legislation relating to listings, assessment, conservation and maintenance of areas.
- Biobanking requirements under legislation.
- Central Coast Regional Strategy – Regional Conservation Strategy and Northern Wyong Shire Structure Plan
- • Need to retain functional natural ecosystem to ensure amenity of the bushland environment is retained for future generations

Response

Ref	08/09 Strategic Program	Progress
3.2.1.2	Continue investigation of appropriate offsetting and BioBanking strategies and integrate land acquisition opportunities with other Council programs that contribute to boarder conservation outcomes.	During 2008-09 a Council staff member was trained as a BioBanking assessor. To date no land has been formally reserved via BioBanking within the Shire. however biobanking options are being investigated by Council in conjunction with the exhibition of DECC guidelines and draft assessment methodology.



Other Council Actions and Programs undertaken in 2008-09:

- Vegetation mapping east of the freeway completed, with population models and assessments provided to DECC for the Regional Strategy.
- Council and Hunter Central Rivers CMA jointly fund a Council based Community Support Officer (Landcare) In 2008-09 a project officer was also funded to provide support to Environmental Care groups who are contributing to the implementation of the CMA's Catchment Action Plan.
- Noxious Weeds & Pest Species Officer: Property inspection program commenced (high priority properties to be inspected every 5 years) All nurseries and pet/aquarium shops inspected (one noxious weed being confiscated from an aquarium supplier) A new weed booklet developed and printed by the Hunter Central Coast Weed Committee and distributed. A new noxious weed incursion (Glush Weed, Hygrophila costata) found in Fountaindale. (Treatment has commenced and is ongoing).
- An estimated 1167ha of natural areas will be transferred from private to public ownership over the next 8 years. Each site will have an associated Land Management Plan with actions assigned to various sections of Council for implementation. The management of these actions will require close liaison and coordination with the various sections of Council, external government agencies, developers, contractors, community volunteers and operational staff. The initial upfront environmental restoration costs for proposed conservation lands will be supported by section 94 funding strategies. This will not include any contributions for recurrent maintenance costs. There is a need to nurture the sites in perpetuity by setting up maintenance programs once the S.94 contributions are expended.
- During the 2008-09 reporting period, Council received $106,725 in grant funds through the Local Government Fire Mitigation Program to assist in the maintenance of 47km of Asset Protection Zone. Council also received a further $34,702 through the Fire Mitigation Works Fund to upgrade 6 Asset protection zones with a total length of 1.6km.
- Significant conservation on private lands has been achieved through the CEN's Land for Wildlife (for rural properties) and Habitat for Wildlife (for urban properties) Programs. Wyong and Gosford Councils are jointly funding the Land for Wildlife program on the Central Coast, which is part of a national program to support private landholders who wish to manage part of their land for native biodiversity.

As long as there is population growth and the associated development, there will continue to be pressure on the Shire's biodiversity. The Central Coast Regional Strategy (CCRS) does not detail the way in which these two potentially conflicting landuses will be managed. This has the potential to significantly affect the Shire's capacity to fulfill its regional and state objectives for population and employment targets over the next 20 years. If development pressures continue to fragment the remaining bushland in Wyong Shire without the direction of strong conservation planning, then biodiversity values will continue to decline to the detriment of our overall sustainability.

Future Trends

projected rating	05/06	06/07	07/08	08/09
Biodiversity	Declining	Declining	Declining	Declining

Climate change is having an increasing role to play in land use decisions at the local level. The precautionary principle would encourage us to avoid making decisions and actions where we really don't know the possible outcomes and impacts.

Many programs and initiatives being undertaken across the Shire are reliant on external funding (ie Federal or State). Should this funding no longer be available, the trend for the next 20 years would be fairly grim. There are many initiatives and programs which could be being undertaken and could result in improved outcomes for biodiversity (through both protection and education), but are subject to current resourcing constraints.

The challenge will continue to be to maintain the "bushland" lifestyle of our Shire by integrating the social and economic aspects of development with preserving and enhancing the natural environment.

It is likely that ecological stress and decline will continue to occur in small fragmented reserves at the urban bushland interface. Community expectations to invest greater effort in actively managing our natural areas are predicted to increase with significant local, national and international focus on climate change. Expectations are also likely to be heightened following delivery of various proposed environmental education programs (eg. Tuggerah Lakes Estuary Management Plan education strategy).

References

- http://www.environment.nsw.gov.au/determinations/thelymitraspadoratafd.htm
- http://www.environment.gov.au/cgi-bin/erin/ert/epbc/epbc_report.pl?loc_lga=Wyong;output=html;search=Report;search=Search;loc_type=lga;report=epbc;proc=process;loc_state=NSW

Environment

Environment

Air Quality

At a Glance

projected rating	05/06	06/07	07/08	08/09
Air Quality	Stable	Stable /Declining	N/A	Stable

Air quality across Wyong Shire is generally good. However, there are some concerns that with population growth and our lifestyle patterns it may be declining and therefore should be monitored more closely. Council has received ambient air quality data from Delta Electricity monitoring stations at Wyee and Lake Munmorah since 1993 and from Central Coast Public Health Unit's monitoring station at Tuggerah from 2001-02 until 2007-08. These data give an indication of the volume of fine and coarse particles in the air resulting from local traffic and wind-driven pollution from surrounding urban and industrial areas (e.g. Newcastle and the power stations).

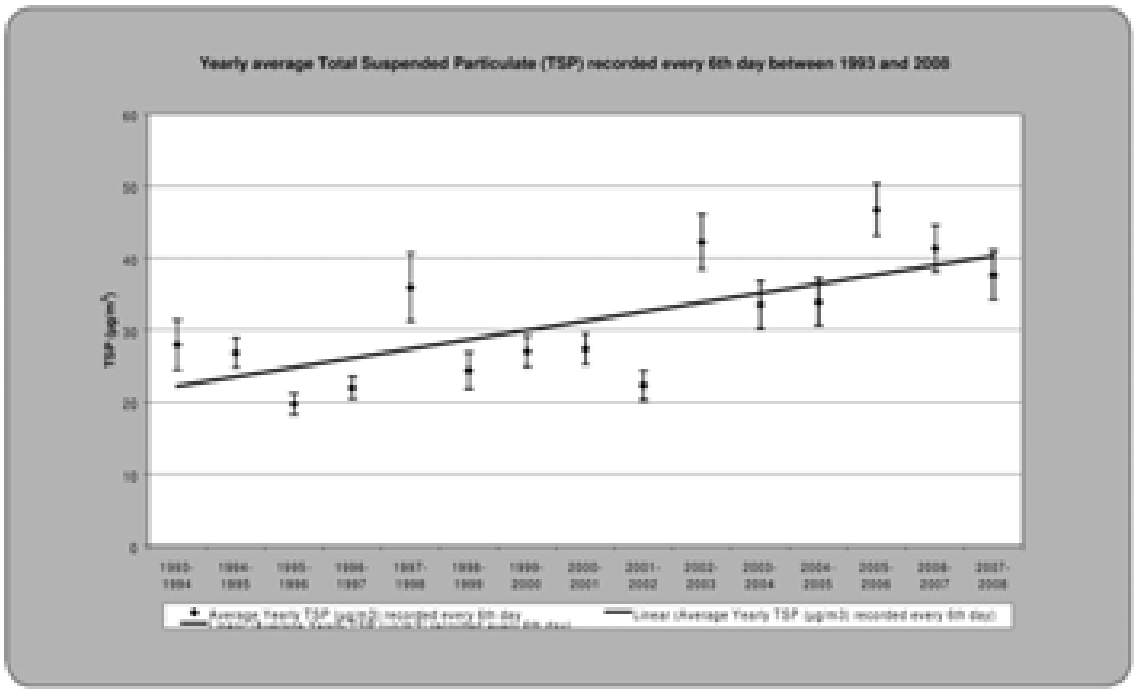
Delta Electricity maintains two coal-fired power stations in Wyong Shire - Vales Point (full-time operation) and Munmorah (standby). Both power stations operate in an area surrounded by small communities and therefore Delta strives to minimise the impact of its operations on neighbouring communities and the local environment.

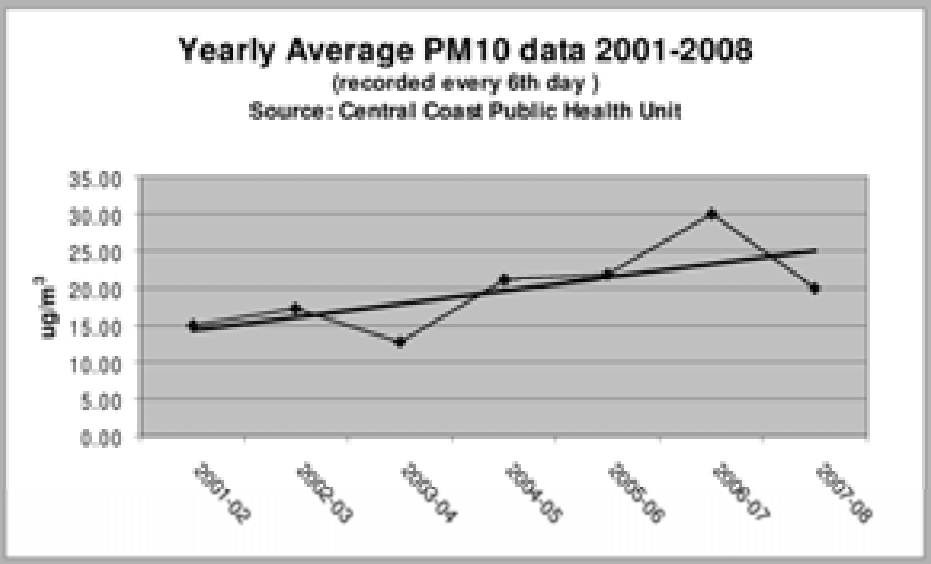
For previous reporting periods Delta Electricity have provided data on PM2.5 readings, NO2, SO2, and TSP however for the 2008-09 reporting period Delta Electricity data was unavailable.

Similarly for previous reporting periods the Central Coast Public Health Unit provided PM10 data recorded by their background monitoring station located in Wyong. However this data is unavailable for the 2008-09 reporting period and likely into the future as the equipment at Wyong experienced mechanical failure in December 2008. The equipment is unable to be fixed as parts for the machine are no longer manufactured and replacement of the equipment is unlikely due to replacement cost. Data recorded prior to the equipment failure is unreliable as the machine was not regularly calibrated during this period.

These points highlights the dilemma for Council in that it does not have access to data from independent reliable monitoring stations such as that provided to Newcastle and Sydney Metropolitan areas.

The data received to June 2008 have shown an increasing trend in Total Suspended Particulates and PM10 as shown in the following graphs.





The following air pollution incidents reported to DECC/EPA Environment Line:

	06/07	07/08	08/09
Air Pollution Incidents	60	62	45
Air Quality complaints received by Council.	27	19	9

Key Drivers

- Transport is a significant source of particulate matter, as well as oxides of nitrogen and volatile organic compounds. The Shire's growth and residents' increasing dependency on motor vehicles will result in increasing emissions.
- Continued demand for electricity generation by power stations fuelled by burning of coal will impact on air quality and greenhouse emissions.

Response

DECC and Council respond to air quality complaints as they occur and Council continues to implement its Cycleway Plan to provide alternatives to private vehicle travel.

Colongra gas power facility
Approval was granted for a new gas fired power station to be built on the grounds of the Munmorah Power Station in August 2006. It is to be operational in 2009.

Known as Colongra Gas Turbines, this plant will help secure future power supply across New South Wales and lower greenhouse gas emissions. With a capacity of 667 megawatts, it will generate enough power for 700,000 homes every hour it operates while producing about 40% less greenhouse gas emissions compared to coal-fired power plant. Colongra is designed to meet demand when it peaks during very hot or cold periods. Gas-fired power stations an fire up quickly at times of peak demand compared to coal-fired power stations.

During construction the project is providing employment for over 100 people but this will increase to around 150 people when the main mechanical and electrical work commences in September 2009. Local contractors have also been engaged on the project.

Fabric filters installed at Vales Point Power Station, Mannering Park
Vales Point Power Station was built in the 1970s, and equipped with the best available methods for pollution reduction at the time, which removed 99.5 per cent of particulate emissions. Particulates are the fine ash produced when coal is burnt to produce electricity. The final 0.5 per cent of particulates appeared as a thin smoke plume from the power station chimney stack and were within emissions limits for environmental and health impacts. The low but still visible emissions from the stack were a matter raised both in community surveys and with the "CARE Forum" consultation group.

The solution was to install fabric filters which remove the fine ash from the air. As before, the ash is then collected and safely stored. The upgrade cost $55 million for the new technology and the 12 week planned outage was used as an opportunity for maintenance work and upgrades to extend the life of the power station. Fabric filters were commissioned December 2007 and are currently in operation. The fabric filters remove 99.9% of particulates. Delta Electricity reports that feedback from the community has been very positive.

Environment

Future Trends

projected rating	05/06	06/07	07/08	08/09
Air Quality	Stable	Stable	Declining	Declining

The trend is showing increased particulate matter over time. This has implications for future air quality, particularly given the northern part of the Shire will be a focus for further industrial and urban development in the future and hence any increase in particulate matter may exacerbate the air quality issue.

Continued and improved monitoring of ambient air quality will reveal any changes to the trend.

An increase in the risk of more bushfires due to climate change could eventually impact on air quality.

In light of development and population pressures across the Shire, improving air quality monitoring may provide a clearer understanding of the Shire's air quality for the future.

Identified Data Gaps

Presently we have inadequate and inconsistent monitoring for comparative purposes:

- Delta Electricity data not available for 2008-09 reporting period.
- Central Coast Public Health Unit PM10 air quality data is no longer available.
- Delta provide Total Suspended Particulates which is not governed by the National Environment Protection Measures guidelines;
- Delta provides PM2.5 data which is as yet insufficient on which to base trends;

Climate Change

There is now a consensus in the scientific and general community of evidence for human-induced climate change. The IPCC indicates that the trajectory of atmospheric temperature at the Earth's surface is proceeding within the range of its projections, continuing the long-term trend of increasing global temperature (Richardson et al 2009).

The Bureau of Meteorology (BOM 2008) reports that there is a consistent pattern of warming across Australia with Australia's annual mean temperature for 2008 being 0.41°C above the standard 1961-90 average. Despite the cooling effect of a La Niña event that developed in late 2007, Australia has now recorded a warmer-than-average year for the past seven consecutive years.

At a Glance

With its significant natural and built assets, its diversity of land uses, and low lying coastal topography, Wyong Shire is particularly vulnerable to the impacts of climate change. Some of these vulnerabilities include:

- Increased temperature – bushfires, building operational costs, human health, asset deterioration;
- Changes in rainfall – reduced potable water supply, flooding, open space management;
- Sea level rise – flooding and inundation, coastal recession and erosion, asset damage, loss of coastal and estuarine ecosystems; and
- Extreme wind and storm events – emergency services, adequacy of building standards, stormwater flooding, damage to infrastructure and natural assets.

Key Drivers

- The largest single section of the economy producing greenhouse gases is energy generation (see Energy section).
- Transport emissions, a major cause of global warming and climate change, are increasing and set to continue well into the future with cars, aviation and container travel set to double in the next 20 years.
- Levels of greenhouse gases are increasing at double the speed they were in the 1980s (CSIRO 2006).

Response

Ref	08/09 Strategic Program	Progress
3.4..1.1	Implement Year 2 of Council's Climate Change Action Plan	A Climate Change Policy is being drafted for staff review. Risk Assessment and Adaptation Plan process in planning stage.
3.4.1.3	A Climate Change Policy is being drafted for staff review. Risk Assessment and Adaptation Plan process in planning stage.	Chambers building audited and recommendations reviewed for action.
3.4.2.1	Review relevant Strategies and Plans to incorporate climate change impacts.	Coastline Hazard Assessment and Floodplain Management Plans being reviewed.

Responding to many of the anticipated impacts of climate change will fall under the responsibility of local government. Typical functions of Council to be affected by these impacts include:

- Infrastructure and property services
- Provision of recreation facilities
- Health services
- Planning and development approvals
- Natural resource management; and
- Water and sewerage services

To reduce some of the anticipated negative social, environmental and economic impacts of climate change Wyong Council has committed to responding to the impacts of climate change through development of a policy framework to guide development and strategic planning decisions and to develop and implement Adaptation and Mitigation Action Plans.

Other policies and plans Wyong Council has in place to consider Climate Change include:

- Corporate Management Plan;
- Estuary Management Plan;
- WaterPlan 2050
- Coastline Hazard Definition Studies (as a prelude to a Coastline Management Plan);
- A Climate Change Action Plan

In March 2009 the NSW Department of Environment and Climate Change (DECC) released a draft Sea Level Rise Policy Statement. The draft DECC Policy Statement provides for an increase above 1990 mean sea level of 40 cm by 2050 and 90 cm by 2100. These planning benchmarks are based on the sea level rise projections developed by Australian and international experts and are considered most appropriate for NSW, while acknowledging the uncertainty associated with these projections. The Policy Statement, while only a guideline, will provide Council with some direction for planning decisions. The following Table indicates how the sea level rise planning benchmarks were derived:

Component	Year 2050	Year 2100
Sea level rise	30 cm	59 cm
Accelerated ice melt	(included in above value)	20 cm
Regional sea level rise variation	10 cm	14 cm
Rounding*	-	-3 cm
Total	40 cm	90 cm

*Rounding was adopted as the projections have a degree of uncertainty, and adopting values to the nearest centimetre would imply a high degree of accuracy in the projections (Source NSW DECC 2009)

At a regional level Council is involved with the Hunter Central Rivers Environmental Strategy Climate Change project. This year has seen completion of the research project which has provided a review of local weather patterns and assisted in identifying the potential regional and local scale impacts of climate change in the Hunter, Central and Lower North Coast. Updates on projections for the local region will be available in next year's report.

Council is being proactive in its effort to engage the community in relation to climate change. In October and November 2008, Council was involved with the Nature Conservation Council and Lake Macquarie and Gosford Councils in holding a series of community climate change summits. Find out more information at: (http://nccnsw.org.au/index.php?option=com_content&task=blogsection&id=22&Itemid=646

The two day forum addressed the question, "How can we work together to respond to climate change?" The forum members came to a consensus on the issues and priority actions to respond to climate change. These actions were divided into three areas: community and individual actions, local government actions, and State/Federal Government actions. Actions were to be prioritised over short and long term timeframes, however the group consensus was "all actions should begin as soon as possible, regardless of whether they were long or short term." The group deliberated and agreed there is a "Sense of Urgency" to initiate these actions in response to climate change and delays will lead to costs being magnified.

Environment

Future Trends

projected rating	05/06	06/07	07/08	08/09
Climate Change	Declining	Declining	Declining	Declining

It is expected that our local climate will become warmer, drier generally, subject to more severe weather events – rainfall intensity, wind velocity, heat waves, subject to greater storm surges, subject to less runoff in to rivers, more frequent and more severe droughts, increased flash flooding. It should be noted that these changes will occur progressively so the perceived impact over the next 20 years is likely to be small compared to the 2100 predictions.

Climate change will progressively and significantly have an impact on Council and the community. It will alter design parameters, render existing designs obsolete and change the areas affected by hazards in the future.

The predicted climates changes are likely to have impacts including the following:

- loss of sandy beaches
- increased flood levels in tidal reaches
- changes in estuarine tidal regimes
- reduction in clearance under bridges
- major pressure for beach protection particularly adjacent to development
- possible bunding of low lying areas
- need for modification and/or relocation of sewage infrastructure in low lying areas
- wharves and jetties may become inoperable unless raised
- increased flooding of low lying areas
- saturated road pavements
- increased erosion
- rising water tables and groundwater salt levels
- reduced runoff for dam storages
- flooding of lakeside facilities, such as toilets, cycleways and playgrounds
- increased bushfire intensity

It is quite clear that strong global mitigation measures are necessary if the more severe consequences of climate change are to be avoided. In terms of Australia's contribution, this will hopefully be achieved through the proposed carbon reduction scheme outlined by the Federal Government for 2012.

For Council, and its many operations, activities and decision-making functions, monitoring of new information is essential to be able to provide guidance and as much certainty as can be expected in a very uncertain environment.

References

The Bureau of Meteorology (BOM 2009) http://www.bom.gov.au/announcements/media_releases/climate/change/20090105.shtml

Richardson et al 2009 Synthesis Report – Climate Change, Global Risks, Challenges & Decisions Copenhagen www.climatecongress.ku.dk

Infrastructure




Infrastructure

Roads and bridges

Roads and bridges are part of the land transport system of the Shire. There are comprised of many components, each of which provides a separate service to the community. These are land component, physical structure – vehicle component and pedestrian component, utility corridor, wildlife corridor, street lighting, street furniture, traffic control facilities.

At A Glance

Roads are classified to indicate their ownership and funding responsibility, as follows:

State roads (RTA responsibility)
- Sydney Newcastle Freeway
- Pacific Highway
- Wyong Road
- Central Coast Highway (The Entrance Rd, Oakland Ave, Coral St, Wilfred Barrett Dr, Budgewoi Rd and Scenic Dr)
- Sparks Rd, Wallarah Rd and Main Rd

Regional roads (RTA maintenance funding)
- Enterprise Dr and Chittaway Rd (Ourimbah end)
- Tumbi Road
- Elizabeth Bay Dr, Mimosa Rd and Ourringa St Wyee Rd

Category	Total Length (km)
State road	55
Regional	19
Local (278km - district and collector roads and 735km - local and minor roads)	1017
Length of	
Sealed roads	987
Unsealed	100
Unsealed roads that are sealed each year	8km on average
Growth on average	8km Of additional roads (approx 1%) are added each year
Number, type and length of bridges	71 (47 concrete 24 timber) 952m in length
Length of paved footpath	211km
Length of kerb and gutter	898km
Bus shelters	190
Sealed, unsealed and multi-storey car parks owned and operated by Council	244

Local roads (WSC 100% responsibility; WSC budget + grants)
- Distributor roads
- Collector roads
- Local roads
- Minor roads

Benchmarks are used to measure the condition of roads. WSC uses a system developed by SMEC to measure the average pavement condition index as one measure of road quality. This is an index that ranges down from a maximum score of 10. Pavement indices are classified as good if they are greater than 7. They are classified as fair if they are between 4 and 7 and poor if they are between 1 and 4. WSC has a target of achieving an average pavement condition index of 4.5 (fair) in 2009/10. This target was set in recognition of the historic level of funds available for road maintenance. The average PCI of 4.25 achieved by WSC is lower than that achieved by the majority of other NSW council users of the SMEC system. When compared with other similar large, rapidly growing councils with a mixture of urban and rural environments, WSC's PCI is less (worse) than that achieved by those councils.

WSC also measures the average roughness of the road network as a condition index. This index measures the roughness (or smoothness) of a road. A measure of between 30 and 60 is classified as very good, between 60 and 120 is good, between 120 and 180 is fair, between 180 and 240 is poor and between 240 and 300 is very poor. WSC has a target of achieving an average roughness of its road network of between 120 and 180 (fair) in 2008/09. The average roughness of 115 for WSC's roads is comparable to most similar councils. The condition has improved from 147 in 2007/08 to 115 in 2008/09. This improvement is primarily as a result of a comprehensive audit of the Shire Roads in 2008/2009, using specialist laser equipment, resulting in more accuracy measurements.

Council has recently undertaken a change in direction with its historical roads expenditure focus. Modelling of the Councils Pavement Condition Index based on current expenditure and historical priorities towards rebuilding roads to higher standard e.g. wider roads, kerb and gutter, roundabouts etc indicated that the average pavement condition index would continue to decline prior to stabilisation around the lower end of the fair range. By allocating a greater proportion of funds to pavement renewal and resealing works, as opposed to upgrade works, the average pavement condition index shows a turnaround within around 5 years to the upper end of the fair range. Council is implementing this new focus from July 2009 onwards.

Key Drivers

- Population growth and development resulting in increased number of roads and associated traffic volumes, traffic congestion and deteriorating pavement condition
- Increasing cost of road works at a rate greater than the rate pegging index
- Ageing infrastructure
- Increasing expectations from the community on road standards with particular comparison on the quality of roads created in new development works with roads built many years ago
- Lack of availability of alternative forms of transport

Response

Ref.	2008/09 Strategic Program	Progress
4.1.1.1	1 Continue to advocate for continuation of the funding for the timely completion of the Tuggerah and Ourimbah upgrading works.	Tuggerah: Stage 1 opened in April 2008. Stage 2 commenced in 2008, due for completion by late 2009. $5.5M allocated by the State Government for 2009/10. While RTA agree that Pacific Highway/Wyong Road intersection is strategically important, there is no commitment from them to upgrade this intersection except $1.0M in 2009/10 to continue planning for intersection upgrade. Ourimbah: Stage 1 (Dog Trap Road, including the intersection at the Pacific Highway) completed in 2007. Stage (Burns Road to Glen Road) construction commenced in 2008, due for completion in 2010. $2.5 million allocated for planning of next stage (south of Glen Road to Railway Crescent). Ourimbah: Stage 1 (Dog Trap Road, including the intersection at the Pacific Highway) completed in 2007. Stage (Burns Road to Glen Road) construction commenced in 2008, due for completion in 2010. $2.5 million allocated for planning of next stage (south of Glen Road to Railway Crescent). Chittaway Rd roundabout: No RTA works planned for this intersection as RTA anticipates this roundabout will provide adequate service for next 10-15 years.
4.1.1.2	Continue to advocate for funding and timely completion of upgrading works on the Pacific Highway between Tuggerah and North Wyong.	Wyong: Preferred Option exhibited by RTA in July 2008, Councillor briefing in August and October 2008, Council report in November 2008. RTA currently reviewing the traffic report and preparing engineering concept drawings in order to assess the Wyong Chamber of Commerce's preferred option with joint meeting between RTA, Council and Chamber of Commerce to be held shortly. $500,000 allocated to planning this area in 2009/10.
4.1.2.1	Advocate for improved transport linkages to Sydney and Newcastle.	The State and Federal Governments commissioned consultants to carry out a Lower Hunter Transport Needs Study. Council made a submission in September 2008 - identified the need for a very high speed train service between Newcastle (Williamtown Airport) and Sydney, stopping at Wyong and Gosford and supported the call for an additional Freeway connection from the Central Coast to Sydney. Submission made to Infrastructure Australia in October 2008 urging for a commitment to increasing the capacity of the F3 freeway and the inclusion of a very high speed rail link between Sydney and Newcastle. Advice received from NSW Government (May 2009) stated that preliminary studies on the operation of fast trains on the Central Coast indicated a low cost benefit for a wide range of options. Also there are significant geotechnical and environmental issues. The NSW Government is focussing on a range of other initiatives to improve the safety and reliability of passenger services in the State.
4.1.3.1	Complete the annual Road Maintenance & Rehabilitation Works Programs.	The 2008/2009 road maintenance and amended roads rolling works program were completed.
4.1.4.1	Implement the road assets community pride initiative.	The programd maintenance of priority road reserve locations, including Shire and village entry points, was completed during 2008/2009.

Infrastructure

Council recognises the following appropriate response options, which could be considered:

- Seal unsealed roads
- Seek additional funds for roadworks
- Develop sound asset management systems
- Lobby for increased public transport services
- Allocate a greater portion of council's budget to roads

Key funding from Federal/State and Local Governments for the Central Coast includes:

- $65 million for major road infrastructure projects
- $21 million to maintain existing road infrastructure
- $26 million to improve road safety and traffic management, including $18 million for the Central Coast section of the F3 traffic emergency plan

Key initiatives for Wyong Shire include:

- $18 million for the Central Coast sections of the $23 million allocated in 2008-09 towards the F3 traffic emergency plan
- $13 million to continue upgrading the Pacific Highway to four lanes from Tuggerah to Wyong
- $500,000 to start planning for the major upgrade of the Pacific Highway intersection with Wyong Road at Tuggerah
- $18 million to continue upgrading the Pacific Highway to dual carriageway between Glen Road and Burns Road at Ourimbah

Future Trends

Projected rating	2004-05	2005-06	2006-07	2007-08	2008-09
Roads & Bridges	Declining	Declining	Declining	Declining	Stable

The current response to the key drivers by all levels of government will lead to:

- Council will accept a maintenance responsibility for an increasing asset base
- Slow progress will be made in sealing unsealed roads

Drainage

Drainage infrastructure is linked to other key State of the Shire issues - safety (through emergency access for essential services, flood mitigation and safe design), transport (as part of the road structure and to provide flood free travel), biodiversity (through stormwater quality and pollution reduction) and air and climate (through the impact of more extreme rain events as a result of climate change).

At A Glance

The stormwater drainage network is the system of open drains, piped drains, culverts, wetlands and pollution control structures that collect transport and treat stormwater runoff.
It is provided to minimise flood hazard, avoid property damage, avoid soil erosion and protect the quality of the receiving waters to which the runoff finally flows.

The stormwater drainage network consists of:

Piped drains	415km
Culverts and channels	34.5km
Flood mitigation basins	33
Wetlands	22
Gross pollutant traps	127
Pits, inlets and junctions	15504
Headwalls	647

Many natural water courses and drains

Key Drivers

- Population growth which will result in increasing paved areas and therefore increased volumes of stormwater runoff
- Funding limitations - the cost of drainage works and maintenance is increasing at a rate greater than the rate pegging index
- Ageing infrastructure
- Increasing expectations from the community on the standard of drainage provided, with particular comparison on the quality of networks created in new development works and that of systems that were created many years ago
- The impact of climate change, especially higher sea levels and more intense rainfall events

Response

Ref.	2007/08 Strategic Program	Progress
4.2.1.1	Complete the Drainage Works Program giving priority to Category 1 (habitable rooms) & Category 2 (non-habitable rooms) flooding issues.	The 2008/2009 amended drainage capital rolling works program was completed.
4.2.2.1	Implement the 2nd year works program from the Tuggerah Lakes Estuary Management Plan in relation to stormwater discharge.	Works in Tuggerah Lakes completed in accordance with the Estuary Management Plan. program.
4.2.2.2	Construct stormwater treatments works in Tuggerah Lakes catchment consistent with the Estuary Management Plan, and, within the ocean and Lake Macquarie catchments.	Tuggerah Lakes projects completed as part of the Estuary Management Plan implementation, Lake Macquarie projects preconstruction works advanced for construction in 2009/10, Ocean catchment stormwater works project/s in scoping phase.

The aim of Council's actions in relation to drainage across the Shire is to:

- Minimise the impact of flooding/inundation
- Improve the quality and quantity of stormwater discharging from the network
- Maintain the existing stormwater systems to ensure serviceability.

Council's Rolling Works Program includes capital projects which upgrade and expand current drainage assets. There are two focuses with respect to capital project prioritisation:

- Drainage works are often undertaken in conjunction with road rehabilitation projects. Where Council has identified the need for significant road rehabilitation, the associated drainage infrastructure is also investigated for improvements.
- The resolution of Category 1 (habitable rooms) & Category 2 (non-habitable rooms) flooding issues is the primary focus. Where inundation of this nature is recognised, investigation and prioritisation is undertaken.

Council is carrying out a detailed inspection of its drainage network to accurately ascertain its condition and the hydraulic capacity of the network. An Asset Management System is currently being prepared by staff to identify, monitor and model the condition of the entire drainage network. It is anticipated that the establishment of this system and inspection regime will enable an accurate forecast of future funding requirements.

Future Trends

Projected rating	2004-05	2005-06	2006-07	2007-08	2008-09
Drainage	N/A	N/A	N/A	Stable	Stable

Via Council's current budget and resource allocations it is anticipated that the existing drainage network will continue to operate at a less-than-optimal standard. This means that the resolution of Category 1 and Category 2 flooding occurrences may not occur until after 2025, and other undersized systems (although not causing significant flooding) will remain unimproved.

Improvements in the stormwater system are anticipated following the completion of the network inspections as greater knowledge regarding the condition and maintenance requirements of piped drainage will be known. These inspections will need to be carried out cyclically in the future, and funding will be required accordingly. The Stormwater Levy funding in the Estuary Management Plan will provide funding to improve parts of the drainage system as long as the levy is maintained.

The operating budget for Councils drainage assets will come under considerable strain into the future. The requirements for drainage maintenance expenditure is increasing significantly as a result of a increasing asset base and the construction of Water Sensitive Urban Design features which typically have higher maintenance costs than traditional hard engineering drainage assets. The effects of rising sea and lake levels will also impact directly upon the drainage network.

Identified Data Gaps

The implementation of the asset management system (currently under development), in conjunction with detailed and catalogued inspection data, will ensure that current and expanding drainage infrastructure will be maintained at an optimal level.

Infrastructure

Water Supply

At A Glance

The water supply in Wyong Shire is provided by Wyong Shire and Gosford City Councils through the Joint Water Authority under the Water Management Act 2000. An integrated water supply system comprising water sources and headworks infrastructure within Wyong Shire and Gosford City Council areas services the Central Coast. Strategic coordination of the Headworks infrastructure and other joint water supply issues are overseen by the Gosford Wyong Councils Water Authority (GWCWA). The Authority recommends to the Councils various strategies relating to the management of the Central Coast's water catchments, dams, weirs, water treatment, major distribution facilities and policies. The cost of construction, operation and maintenance of the joint headworks is shared by the two Council areas.

The Central Coast water supply sources water from a range of streams, dams, groundwater bores and transfers from Hunter Water. The key supply sources are; Wyong River, Ourimbah Creek, Mooney Mooney Creek and Mangrove Creek. There are three storage dams in the system Mangrove Creek Dam (190,000ML capacity) Mardi Dam (7,400 ML capacity) Mooney Mooney Dam (4,600 ML capacity). Significant investments have been made on recent years to reduce the demand on the town water supply through the provision of rainwater tanks, recycled treated effluent, stormwater harvesting and demand management programs. Across the Central Coast unrestricted average daily demands range from 80 ML/day in winter to over 120 ML/day in summer.

Population Serviced by Water Supply

Water Supply	146,000
Sewerage Services	144,000
Visitor Population Serviced	>200,000/year
Residential Properties Served – water	58,000
Non-residential Properties Served - water	3,150
Volume of Water Treated	15,676 ML/year
Volume of Wastewater Treated	12,000 ML/year
Dams	3
(Storage capacity : 202,000 ML)	
(Total for Joint Water Authority)	
Water Treatment Plants	1 – Mardi
(Maximum capacity 160 ML/day)	
Ground Water Extraction (across Central Coast system)	(9 ML/day capacity)
Length of Water Mains	160km trunk, and
960km reticulation	
Water Reservoirs	22
Water Pumping Stations	19
Number of Employees (Water & Sewerage)	171
Annual Turnover	$51.4m
Total Asset Value (Water & Sewerage)	$665m

Rainfall in the catchment areas of Wyong Shire has been below average for 11 of the last 16 years which resulted in the worst water supply drought in the region's history. Rainfall data shows the variation in rainfall across the Central Coast over the past 5 years. Above average rainfall for 2008 and the first half of 2009 has brought consistently higher stream flows permitting water to be drawn from the streams as required to keep Mardi Dam and Mooney Mooney Dams generally full.

Population and Annual Water Usage Projections

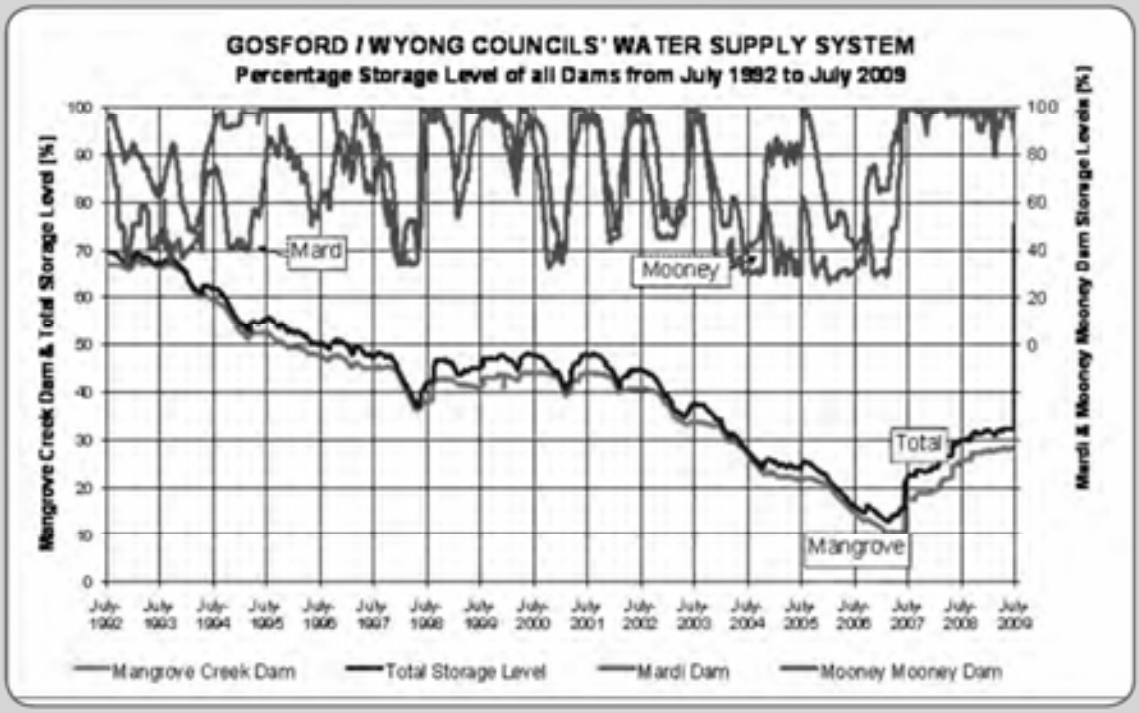
Year	2011	2016	2021	2026
WSC Population	147.819	160.384	172.824	185.098
Gosford	170,090	174,783	180,384	186,645
WSC Usage ML*	15,134	15,888	16,849	17,792
Gosford Usage ML	17,172	17,389	17,773	18,126

* Based on IWCM estimated unrestricted average year demands

Rainfall Data – Central Coast 2004-2008

	Mangrove Creek Dam (Average - 937mm 1982-2007)	Norah Head (Average - 1230mm 1969-2004)	Gosford (Average -1320mm 1918-2008)
Year	Actual rainfall (mm)	Actual rainfall (mm)	Actual rainfall (mm)
2004	740.8	1112.2	1002.8
2005	746.6	900	1118.4
2006	678.5	1061	1027.6
2007	1439.3	1555.6	2152.4
2008	1202	1354	1718

The amount of water in Central Coast storages increased to 32.2% (as at June 2009), the highest level since January 2004. (see additional streamflow data under Chapter 2 Water and Catchments). The graph (right) shows present storage levels for the region's dams over nearly 20 years.



Due to the extended period of below average rainfall and associated impacts on the streamflows and storage levels the Central Coast has been on water restrictions since February 2002. Improvement in the water supply storage levels has seen an amendment to level 3 water restrictions in June 2009.

The condition of water supply assets is assessed using a "service index". The index ranges from a score of 1 ("as new") to a score of 5 ("no longer serviceable"). The bulk of the assets have a service index of 3 or better. Water mains have a design life of 60 years for asbestos cement pipes and 80 years for all other material types. The average service index of Council's sewer mains is 2.73 and their average remaining life is 42.7 years.

Council is increasingly reusing treated effluent and harvested stormwater for non-potable uses such as watering golf courses, toilet flushing within Council's amenities, municipal watering and construction activities.. Additional water supply sources are likely to become increasingly more expensive as the more cost effective sources have been developed.

Analysis of Wyong's water usage indicates that water consumption per household is declining. Wyong has one of the lower water consumption figures per household in NSW (188 kL/yr vs. a State median of 215 kL/yr for 2003/04).

Key Drivers

- Population growth over next 25 to 50 years.
- Climatic conditions and climate change.
- Community service level expectations and their affect on planning and operations of water supply function.
- Legislative and regulatory requirements in relation to the Water Authority, water quality standards, environmental flows, monitoring and review.
- Funding required investments in responding to increasing demand for water supply services and provision of environmental flows.
- Diversification of water sources in response to increased water demands (population growth) and climate change
- Managing public health issues related to diversified sources

Infrastructure

Response

Ref.	2008/09 Strategic Program	Progress
4.3.1.1	Continue the current bulk water supply security program.	A number of tenders have been awarded this year. Projects include: Mardi Dam Transfer System, Mardi High Lift Pump Station, Mardi Dam Spillway and Bridge, Mardi High Voltage Ring Main, High Voltage Power Supply Upgrade.
4.3.1.2	Continue implementation of WaterPlan 2050 strategies focussing on: demand management and development of Mardi Dam to Managrove Creek Dam transfer system.	The following progress/milestones are reported for the Mardi to Mangrove link (up to June 2009): - Completion of geotechnical investigations by July 2009. - Completion of all design and documentation by August 2009. - Award of construction contract by March 2010. - Award of construction contract by March 2010. - Completion of construction contract by June 2011. - Commissioning and project handover by September 2011.

During 2008/2009 Council has implemented various short-term contingency actions through the GWCWA to secure the water supply. These include:

- Developing water recycling and ground water schemes
- A range of demand management initiatives
- Increasing the capacity to transfer water from the Hunter Water Corporation
- Upgrading the existing surface water supply system

The Councils have also developed a long-term water supply strategy (Water Plan 2050) to meet future needs. This strategy provides for:

- Enhancement of the existing water supply system by upgrading the Wyong River to Mardi Dam transfer system.
- Construction of a pump station and main linking Mardi Dam and Mangrove Creek Dam.
- Conducting Water Saving Incentive Programs: Rainwater Tank Rebate Program, Washing Machine Rebate Program, Refit Kit / Retrofit Programs, rainwater tanks in Schools
- Effluent reuse and the use of alternate water sources such as storm water where cost effective.
- Flexible approach to meeting future water needs by regular reviews to consider emerging technologies and opportunities such as indirect potable reuse of sewage effluent and desalination.
- On going negotiations with the Hunter Water Corporation in relation to the development of the proposed Tillegra Dam as a regional asset servicing both the Hunter and Central Coast.

While the Federal Government has funded $80.3 Million of the Mardi to Mangrove link, the Councils will still need to meet a shortfall of about $45 Million. This, together with costs (in excess of $100m) spent on drought management and medium term contingency works has placed considerable financial pressure on the Councils.

These increasing pressures on expenditure have occurred at a time when income is down due to reduced water sales as a result of water restrictions.

The State Government has introduced the Central Coast Water Corporation Act 2006 to enable the creation of a single water authority for the Central Coast replacing the Gosford and Wyong Councils as water authorities. Discussions between the Councils and State Government are continuing as to the form that any Water Authority may comprise.

Council:

- has budgeted to progressively upgrade its treatment plants to cope with new standards and increased consumption from a growing population.
- is installing tertiary treatment systems for the effluent from the sewage treatment plants to enable effluent reuse.
- is progressively refurbishing and upgrading its water mains, reservoirs and pumping stations.
- is planning to extend the network to service the new growth areas at Warnervale.

Council is also undertaking a number of actions to address water supply across the Shire:

- Continuing to implement WaterPlan 2050;
- Continuing implementation of best practice methods to achieve productivity;
- Improving with the regulatory environment;
- Continuing community programs through schools, Water Week, community days, residential retrofits of water efficient devices;
- Helping to formulate Water Management Plans for major users;
- Monitoring and selectively extending alternative water resource substitution programs including rainwater tanks, effluent reuse, groundwater and stormwater harvesting

Future Trends

Projected rating	2004-05	2005-06	2006-07	2007-08	2008-09
Water Supply	Declining	Declining	Declining	Stable	Improving

Climate change has the potential to reduce the availability of water on the Central Coast necessitating the development of alternative water supply sources not as dependent on climatic conditions.

Water conservation and efficient use of water will continue to be important in ensuring a secure water supply system.

Sustainability issues will continue to be key drivers in the development and provision of water supply services.

The net effect of many of the available options is that water services are likely to cost more due to increasing environmental protection costs and as more expensive water sources are tapped.

Provided appropriate water charges are approved by the Independent Pricing and Regulatory Tribunal (IPaRT), Wyong Shire will have a water supply system with the capacity to service its growing population and produce high quality and safe drinking water through a well maintained system.

References

- WaterPlan 2050 Brochure
- http://www.gwcwater.nsw.gov.au/

Waste

Solid waste is defined as material residue or by-product discarded during or after resource extraction, production and/or consumption. The amount of solid waste generated depends on a range of factors with the most significant ones being community attitudes and values, socio-economic make-up of the community and the health of the economy being the most significant ones.

At A Glance

Waste collection and recycling services in the Shire are provided under a contractual arrangement. The current collection services commenced on 1 February 2008 and will expire on 31 January 2018. The services provided include the collection of waste, recyclable materials, garden vegetation, bulk kerbside material, litter bin waste and some commercial waste. All waste collected is disposed of at the Buttonderry Waste Management Facility (BWMF).

All residential properties in the Shire are provided with a 140 litre Mobile Garbage Bin (MGB) for waste collection and a 240 litre MGB for recycling. All households east of the Freeway (F3) are also provided with a 240 litre MGB for garden vegetation. The waste bin is serviced weekly and the recycling and vegetation bins are serviced fortnightly on alternate weeks. Commercial customers can be provided with the standard recycling bin, standard vegetation bin and waste bins of varying sizes.

The BWMF is located on Hue Hue Road, Jilliby. 120ha of the site has DA approval for landfilling, with only approx 25ha approx used at the present time). It has an expected total landfill life of approximately 50 years. Approximately 140,000 tonnes of waste are land filled per annum at the BMWF. Ancillary activities include crushing of concrete (4,000t/yr) for operational reuse, collection of scrap metal (1,300t/yr) for recycling and processing of organics (40,000t/yr).

There are eight closed landfills in the Shire - Bateau Bay, Mardi, Gwandalan, Shelly Beach, Tumbi Umbi, Toukley, Warnervale and North Entrance. The North Entrance site is no longer under Council's control and is now used as a golf course with adjoining sites developed for residential and commercial uses. All closed landfills are classified as potentially contaminated land under the Contaminated Lands Act and Council is required to investigate the sites and undertake rehabilitation works (if required) in order to minimise environmental impacts. Council has a program in place to rehabilitate these sites over the next 6 years.

The community is now taking a more active role in addressing litter and waste issues through involvement in initiatives such as Clean Up Australia

Infrastructure

Day activities, Landcare groups and Tidy Towns. Council's Community Pride Program also generates a strong interest in waste management.

The waste disposal rate in NSW is about 1000kg/person/year, the 5th highest among OECD countries and surpassed only by Norway, Iceland, Ireland and the United States (DECC 2008). In Wyong the disposal rate in 2008/09 was 1,138kg per capita per annum. Table 1 and Figure 1 below shows the disposal rates in Wyong between 1997 and 2009.

Quantities of waste landfilled by category 1997/98 to 2008/09*

	Municipal		Commercial and Industrial		Construction and Demolition		Total landfilled	
Year	Tonnes	Kg per person	Tonnes	Kg per person	Tonnes	Kg per person	Tonnes	Kg per person
97/98	73,823	593	48,296	388	0		122,120	981
98/99	46,349	364	41,696	328	6,297	52	94,342	741
99/00	44,265	339	47,896	367	6,853	55	99,014	759
00/01	41,642	311	46,495	347	4,637	36	92,775	693
01/02	47,840	350	42,398	312	6,655	49	96,893	709
02/03	50,036	361	41,247	298	10,161	73	101,444	732
03/04	55,341	395	42,887	306	20,655	148	118,883	849
04/05	60,047	426	43,581	309	10,027	71	113,654	806
05/06	61,075	430	55,269	389	11,695	82	128,039	901
06/07	65,136	454	53,160	371	9,808	68	128,105	894
07/08	75,618	523	54,690	378	11,761	81	142,069	982
08/09	103,797	714	52,750	363	9,004	62	165,651	1,138
% change 08/09 to long term average		+39%		+4%		-14%		+18%

Table 1: Quantities of waste landfilled by category 1997/98 to 2008/09*

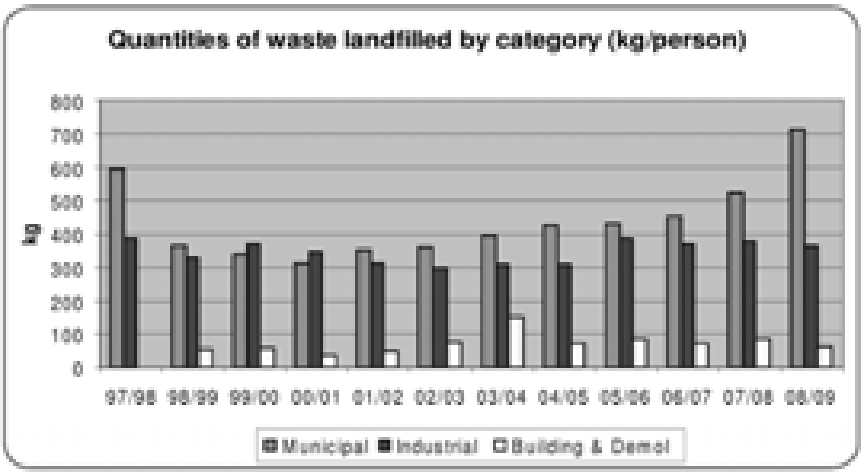


Figure 1: Quantities of waste landfilled by category 1997/98 to 2008/09

Municipal Waste

Municipal Waste consists of domestic waste and Council waste. The sharp increase of 39% in 2008/09 in municipal waste generated compared to the long term average is largely due to an increase in Council waste as a result of unscheduled major clean up activities at old landfill sites which accounted for approximately 40,000 tonnes of mainly asbestos contaminated waste. If this one-off clean up was excluded the increase in municipal waste compared to the long-term average is only 4% and the per capita waste disposal rate would be 865 t/person/yr which is below the State average.

The new waste collection service introduced in 2008 allows for a greater diversity of recyclables and provided a designed bin for recycling. This resulted in a 5% decrease in the domestic waste collected in 2008/09 compared to the long term average and a 12% reduction compared to 2007/08.

Also, DECC has tightened legislation that prevents the reuse of significant amounts of excavated material generated from Council's operational areas such as road construction and maintenance. These materials cannot be used at alternative sites and are now landfilled.

Commercial and Industrial Waste

Commercial and Industrial waste increased by 4% compared to the long term average with a disposal rate of 363kg/person/year. Compared to 07/08 this rate decreased by 4 % per person in 08/09 most likely due to the economic down turn. The introduction of the new recycling service in 2008 may have also contributed to the lower commercial and industrial waste generated in 2008/09.

Recycling options available under this new system are more flexible and able to provide designated bins for recyclable materials that may encourage greater recycling and result in an increased diversion of waste from landfill. However, commercial recyclable materials are generally produced in large quantities or are oversized (eg. cardboard), making the use of household recycling bins inappropriate for all sites. State Government action is therefore required to create infrastructure to facilitate and encourage commercial recycling.

Construction and Demolition

Construction and Demolition waste decreased by 14% compared to the long term average with a disposal rate of 62kg/person/year. Although, this sector is subject to great fluctuations and is impacted by building activities in the Shire this sharp decrease is due to the current slow rate of development.

While the smallest component of the three waste streams, there are opportunities to recycle much of this material. Much of the building waste received at BWMF is mixed which means it cannot be used for reprocessing and is therefore destined for landfilling. A differential pricing structure is in place where mixed waste attracts the highest charge and source-separated recyclable materials receive no charge or a lower charge.

Council Waste

The following table shows the amount of waste to landfill generated from Council activities and works:

Year	Total tonnage (t)	Kg/person (based on Shire population)
97/98	18,650	150
98/99	11,293	89
99/00	6,282	48
00/01	3,194	24
01/02	2,116	16
02/03	1,970	14
03/04	3,375	24
04/05	5,514	39
05/06	4,166	29
06/07	9,961	69
07/08	20,366	141
08/09	54,567	375

Table 2: Council waste
Note: The tonnages shown in Table 2 are included in the Municipal Waste shown in Table 1.

The quantities of Council waste are subject to significant fluctuations due to the nature of Council works. The sharp increase in 08/09 is the result of DECC tightening the criteria for cover that can be used for operational purposes. Some Council waste previously used for alternative purposes is now classified as waste material and therefore is included in the above figures.

Total Waste

The Shire experienced a 25% overall increase in the amount of waste landfilled in 08/09 compared to the long-term average mainly due to unscheduled clean up activities at closed landfill sites. If this clean up waste was excluded the increase would be 4% compared to the long term average and a 12% decrease compared to 07/08.

Infrastructure

Recycling

In 2004/05 the recycling rate for Sydney was 101kg/person. Table 3 shows the quantities of material recycled and composted between 1997/98 and 2008/09. Wyong exceeds this recycling rate by four fold.

Quantities of materials diverted from Landfill to recycling and composting 1997-98 to 2008/09

Year	Recycled (kg/ person)	Composted (kg/ person)	Concrete (kg/ person)	Metals (kg/ person)	Total per capita (kg)
97/98	46	45			91
98/99	70	182			252
99/00	66	232	30		328
00/01	58	239	26		324
01/02	66	270	43	15	394
02/03	73	261	61	15	410
03/04	77	270	96	15	457
04/05	80	250	63	13	406
05/06	76	263	40	18	397
06/07	84	246	31	13	374
07/08	97	298	27	9	430
08/09	121	287	31	8	446
long term average	76	237	45	13	359
% change 07/08 to avg	+59	+21	-31	-43	+24

Table 3: Quantities of materials diverted from Landfill to recycling and composting 1997/98 to 2008/09

The quantities of materials recycled by Wyong households increased 59% compared to the long term average. This may be the result of the new waste collection system introduced in February 2008.

Although quantities of materials diverted to composting facility decreased slightly by 4.0% in 2008/09 compared to 2007/08, this is not considered a trend as the wet conditions in 07/08 would have increased the quantities of vegetation collected. Compared to the long-term average 2008/09 shows a 21% increase.

Since 2004/05 the BWMF has experienced a constant decrease in the amount of concrete received which indicates that concrete is delivered to commercial concrete recyclers who charge lower processing rates than at BWMF. This is reflected in the 31% decrease in 08/09 compared to the long-term average.

The quantities of scrap metal received have been fairly stable for many years, however a sharp decrease was observed in 06/07 when world scrap metal prices started to increase.

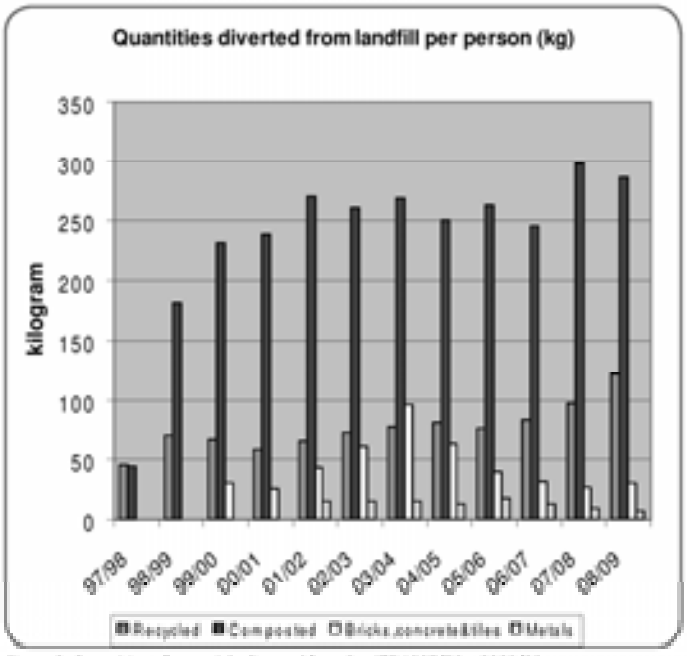


Figure 2: Quantities of materials diverted from landfill 1997/98 – 2008/09

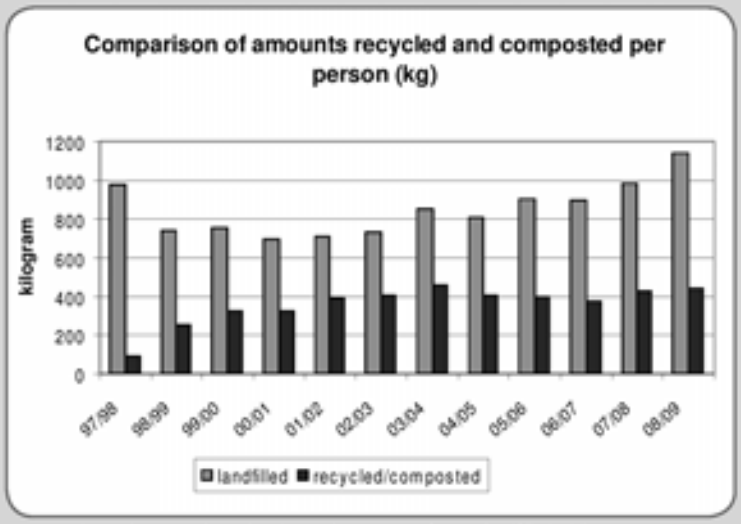


Figure 3 shows the upward trend in the total quantities of waste landfilled while the recycling yield remained fairly stable.

As only limited data is available it is premature to assess the performance of the new system with great confidence. However preliminary information shows an increase in the recycling yield from domestic premises.

Waste production and disposal may place the following pressures on the environment:

- Loss of natural resources contained in the waste:
- Energy costs of waste transportation, disposal, recycling and composting;
- Loss of habitat to landfill excavations;
- Land contamination and sterilisation;
- Stormwater pollution;
- Surface and groundwater pollution;
- Odour and particle air pollution at landfill site;
- Generation of greenhouse gases;
- Noise, odour, littering and other impacts on local amenities; and
- Contamination of bushland from illegal dumping.

Key Drivers

The following are the key drivers impacting the level of waste disposal and recycling:

- Level of tipping fees charged by DECC for landfill sites
- Establishment of an Alternative Waste Technology System (AWT) at BWMF
- Need to minimise emissions of greenhouse gases
- Capture and utilization of methane gas generated by the landfill over time
- Community expectations – comprehensive and cost effective waste collection and recycling system with access to a broad range of recyclables
- Changing legislation influences work practices and procedures that in turn influence the cost of waste disposal at BWMF

Response

Ref.	2007/08 Strategic Program	Progress
4.5.1.1	Promote the availability of the new, flexible waste and recycling system to increase diversion of waste.	Conducted shopping centre displays at Tuggerah Westfield, Bay Village and Lake Haven to promote and reinforce recycling in the community and to minimise contamination. 37 residents participated in a World Environment Tour at the landfill and materials recycling facility. Media advertisements with Express Advocate, Star FM and NBN continued. Conducted five school and pre-school visits to educate children on waste management. Three resident and school groups visited the Thiess waste education centre.
4.5.2.1	Finalise installation of the methane extraction and utilisation system.	This project delayed due to contractual issues with contractor. Once resolved the landfill gas agreement was executed in April 2009. Design of the extraction system is currently in process and is scheduled for completion by the end of August 2009.
4.5.2.2	Develop design for Cell 4.2B at Buttonderry Waste Management Facility.	Water balance investigation is completed and detailed designs are scheduled for completion by mid July 2009. It is anticipated that tender will be called by the end of July 2009 with construction to commence in October 2009.

Infrastructure

Infrastructure

Further to the above Management Plan responses Council has undertaken a number of initiatives as follows:

Rehabilitation of Closed Landfills

Council's Closed Landfills at Bateau Bay, Mardi, Gwandalan, Shelly Beach, Warnervale, Toukley and Tumbi are at various stages of rehabilitation or investigation.

- Bateau Bay - high rehabilitation priority due to its proximity to residential areas. A rehabilitation plan has been prepared and corrective works are currently underway and scheduled for completion in late 2009.
- Mardi - Investigations completed. Remedial Action Plan and concept designs for the rehabilitation work are currently being prepared with the main construction work to commence during 2010/11.
- Investigations at Gwandalan, Shelly Beach, Tumbi, Toukley, and Warnervale are currently underway and are scheduled for completion in 2008/09. Detailed designs for the rehabilitation work are scheduled for completion in 2009/10. Progressive rehabilitation will occur in order of priority i.e. Gwandalan and Warnervale (2010/11), followed by Mardi (2011/12), Shelly Beach (2013/14), Tumbi Umbi (2014/15) and Toukley (2015/16) in accordance with the Management Plan. Rehabilitation of Gwandalan closed landfill has been accelerated to occur now one year earlier than initially scheduled.

There are a number of actions being undertaken on a number of other important strategies:

- Preparation of a long term waste strategy for BWMF that incorporates Alternative Waste Technologies. Wyong has been invited by Gosford City Council to utilise capacity at its proposed AWT scheduled for commissioning in 2011.
- Establishment of appropriate sites that have all required approvals and licenses for the temporary storage of Council waste materials suitable for re-use or recycling and/or reprocessing to maximise resource recovery and minimise landfilling and associated disposal costs.
- Prevention of illegal dumping and avoidance of illegal storage and disposal of Council waste from all operational area including Virgin Excavated Natural Materials (VENM), soils, concrete, mulches, seagrass and kelp.

Future Trends

Projected rating	2004-05	2005-06	2006-07	2007-08	2008-09
Waste	Declining	Declining	Declining	Stable	Stable

It is anticipated that in the future Council will have access to Alternative Waste Technology for municipal and industrial and commercial waste. This will reduce the volume of waste significantly which in turn will increase the life of the landfill. In addition, an AWT system renders waste inert which means environmental risks and hazard associated with landfilling are minimized.

It is also anticipated that infrastructure will be in place to facilitate recycling for commercial and industrial and building and demolition waste which will minimise the amount of waste being landfilled.

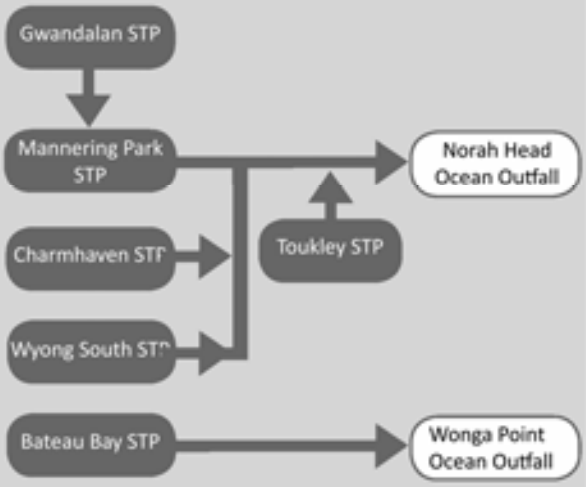
Identified Data Gaps

- Data/information on amount of greenhouse gases emitted from the BWMF or closed landfills.

Council's Sewerage System

Sewerage infrastructure provides Wyong Shire with sustainable and cost effective sewerage services that meet modern service standards. The services are environmentally sensitive, promote ecological sustainability and protect public health.

The service has significant interrelationships with the quality of the local environment (through the quality of the treated effluent when it is returned to the ocean) and the economy (through the capacity to service new development).



At A Glance

Council provides sewerage services to a permanent population of approximately 146,500 via over 60,000 assessments. Approximately 12,000 ML of wastewater is treated annually. Council has no sewerage provision backlog in urban areas.

Sewage is collected via a reticulation system consisting of over 1,200 km of 150mm to 1050mm mains. Sewage flows through 149 pumping stations, from 6 sewerage treatment plants. These provide secondary treatment to all wastewater before discharging it into the Pacific Ocean via 2 ocean outfalls (at Bateau Bay and at Norah Head).

The opposite diagram and table illustrate the key principles and elements of the sewerage system for Wyong:

Sewerage Treatment Plant (STP)	Capacity (people) Current	Capacity (people) Planned	Process	Areas Served
Gwandalan	12,000	18,000	Intermittently decanted extended aeration	Gwandalan, Summerland Point
Mannering Park	12,000	36,000	Intermittently decanted extended aeration	Mannering Park, Chain Valley Bay, Elizabeth Bay and Lake Munmorah
	40,000	120,000	Intermittently decanted extended aeration	Charmhaven, San Remo, Blue Haven, Doyalson and Warnervale
Wyong South	40,000	64,000	Intermittently decanted extended aeration	Wyong, North Wyong, Tuggerah, Ourimbah, Chittaway, Tacoma, Berkeley Vale and Tumbi Umbi
Bateau Bay	57,600	65,000	Trickling filter and activated sludge	Bateau Bay, The Entrance, The Entrance North, Long Jetty, Blue Bay, Toowoon Bay and Killarney Vale
Toukley	41,400	50,000	Trickling filter	Toukley, Gorokan, Kanwal, Tuggerawong, Wyongah, Buff Point, Norah Head and Noraville

Infrastructure

To conserve water, Council is increasingly reusing some treated effluent for non-potable uses, such as watering golf courses and playing fields and for construction activities. In 2008/09 Council distributed 1230ML of treated effluent for non-potable use.

WSC uses a modern Supervisory Control and Data Acquisition (SCADA) system for network monitoring, recording and performance reporting.

Major commercial dischargers to Council's sewerage system include in excess of 700 Liquid Trade Waste dischargers. These dischargers are managed under Council's Liquid Trade Waste Policy.

The condition of Council's sewerage assets generally is assessed using a "service index". The index ranges from a score of 1 ("as new") to a score of 5 ("no longer serviceable"). The bulk of the assets have a service index of 3 or better.

Key Drivers

- Population growth and continued development
- Compliance with new and more stringent public health and environmental standards.
- Increasing use of recycled effluent to offset potable water use, balanced against public health considerations.

Council is:

- Progressively upgrading its treatment plants to cope with new standards and increased load from a growing population.
- Extending existing effluent reuse systems
- Progressively refurbishing and upgrading its sewerage mains and pumping stations
- Extending the sewerage network to service new growth areas such as Warnervale

Future Trends

Projected rating	2004-05	2005-06	2006-07	2007-08
Sewerage	N/A	N/A	N/A	Stable

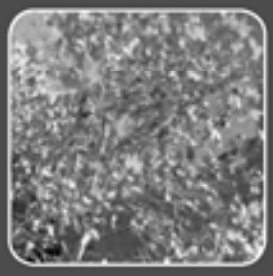
The majority of the sewage system is relatively new and in the past has required relatively low levels of refurbishment expenditure. As the system ages significant increases in refurbishment expenditure will be required and prices will need to increase to meet this cost. This means that continued investment to support the increasing demand for sewerage services is required.

Community environment and service level expectations are increasingly influencing and affecting the planning and operations of the sewerage function. This will also impact further costs and prices.

Response

Ref.	2008/09 Strategic Program	Progress
4.4.2.1	Continue implementation of WaterPlan 2050 relating to Effluent Re-use schemes.	A key component of Waterplan 2050 is the ongoing development and implementation of recycled water projects where practicable and cost effective. - Work commenced in April 2008 on the upgrade of treatment capacity of the Toukley effluent reuse scheme. This work is a 12 month design and construct contract was completed in June 2009. Performance testing commenced July 2009. - Work commenced in April 2008 on the upgrade of treatment capacity of the Toukley effluent reuse scheme. This work is a 12 month design and construct contract was completed in June 2009. Performance testing commenced July 2009. - Extension of existing Toukley effluent reuse scheme is in preconstruction stage, involving installation of pipework and supporting pumping capacity to distribute treated effluent for non potable purposes from Toukley Golf Club to Slade Park, Halekulani Bowling Club, Halekulani Oval and Budgewoi Soccer Club. - Tenders to be called in August 2009 for the Halekulani to Budgewoi Soccer Club section. - Tenders will be called in October 2009 for the Toukley Golf Course, Slade Park & Halekulani sections.

Governance

Governance

Good governance means that the structures, activities and operations of the organisations that govern the Shire are conducted in accordance with the principles of legal compliance, probity, transparency, accountability and respect for people across the community. Sound ethical principles such as honesty, fairness and respect are followed at all times.

At a Glance

Council has the following budget and staff numbers:

Budget and staff numbers (09)

Year	Budget	Population	Council Staff
2004/05	$175,995,000	130,854 (2001 figure)	Permanent 915 Temporary 82
2005/06	$239,396.000	141,494	Permanent 903 Temporary 87
2006/07	$277,662,000	142,724	Full time 911 Casual 197
2007/08	$263,033,000	143,988 (2007 figure)	Full time 878 Part time 58 Casual 241
2008/09	$363,645,000	145,589 ABS website	Full time 936 Part time 178 Casual 189

Complaints to the Department of Local Government

	Total Rec'd	Wyong Council	Comment
2005/06	1,107	26	Preliminary enquiries into 4 matters, 3 related to pecuniary interest complaints
2006/07	1,225	53	26 related to caravan parks; Preliminary enquiries into four matters, one pecuniary interest complaint
2007/08	1,450	25	10 related to caravan parks; Preliminary enquiries into four matters

Complaints to the Ombudsman

	Total	Comment
2005/06	7	7 preliminary enquiries made with Council, 1 referred to another oversight agency, 3 referred back to Council, 2 declined for investigation, 1 resolved by Council with appropriate action.
2006/07	15	15 preliminary enquiries made with Council, 11 declined for investigation, 4 resolved by Council with appropriate action.
2007/08	442	7 complaints regarding Council, no current investigations
2008/09	3	3 preliminary enquiries made with Council, all declined for investigation.

Complaints can be directed to Council, the Department of Local Government, the Ombudsman and the Independent Commission Against Corruption. Whistleblower Legislation ensures that opportunity exists for Councillors, staff and the public to make disclosures concerning issues of concern without fear of repercussion.

For 2007/08, of the four liability claims which were current, one has been resolved and Council was indemnified. In 2008/09, of the four liability claims which were current, two were resolved with Council having to pay costs.

Court cases arising from Council decisions/actions/inactions

Land and Environment Court	2006/07	2007/08	2008/09
Successfully defended	12	4	4
Lost	3	3	2
Withdrawn	7	1	3
Mediated	4	2	1
Dismissed	1	3	5
Ongoing	6	9	4

Complaints to the Independent Commission Against Corruption

In 2008/09, Council was contacted by ICAC on four matters but no further action was taken on any of them.

Wyong Council

Councillors and staff must carry out their duties in accordance with a Code of Conduct. The business of the Council is carried out in accordance with the Manual of Standard Procedures and 43 policies are in place to ensure a consistent approach. Three, being C6 Controls for Site Waste Management, F6 Operation of Temporary Food Premises and H1 Hoardings were added during the last 12 months. A Code of Meeting Practice governs Council meetings and the Facilities and Expenses Policy for Councillors outlines what can and cannot be provided to each Councillor. Payments to Councillors and the cost of providing equipment and training are outlined each year in the Annual Report. Disclosures are required annually and are available on request for perusal.

Council is a self insurer for Workers Compensation and is audited to ensure that status can be retained. A WorkCover audit was completed in October 2007. Council passed the audit. There were 15 non compliance reports. Of the 15 reports, four were management responsibilities, six were risk management, three where OH&S procedures and two were training requirements.

Council's governance committees include:

- Governance Committee (meets quarterly, consists of three independent members and three Councillors delegates one of whom is the Mayor, with the GM, Directors, Internal Auditor and External Auditor as observers. Voting is dependent on the number of independent members attending each meeting.)
- Conduct Committee (meets as required. Panel members to form a Conduct Committee have varying skills and will be selected on expertise relating to the issue concerned. The General Manager conducts a preliminary review of the complaint, determines if a meeting is required and which and how many panel members are to be called.)
- Consultative Committee (meets monthly, consists of three Councillors, four management representatives and nine union delegates).

Wyong Council Internal Audit

The General Manager undertakes internal and external reviews of Council's structure, governance, performance and financial position to ensure the organisation is functioning efficiently and responding effectively to the needs of the community. An Internal Audit Plan 2008/2009 has been prepared using a risk based approach while recognising the need for certain areas of Council to receive interim and/or ongoing internal audit attention and monitoring throughout the year. Focus areas for internal audit have included the Mardi to Mangrove project, environmental management issues and investments.

In addition, the following is occurring:

- Audit of commercial and industrial operations for compliance and environmental safeguards.
- Investigation to ensure compliance with policies and legislation related to noise impacts, removal of non complying materials, articles and signs.
- Ensuring all new policies and land releases take into consideration possible noise pollution sources and prescribe appropriate mitigation measures.
- Review of Policies and Development Control Plans which directly facilitate business investment in the Shire and ensure quality on ground developments.
- Liaison with emergency groups to prepare specific disaster management sub-plans for high risk emergencies (storm, flooding and bushfire).
- Lobbying / advocacy for improved public transport on the Central Coast and upgrading of the Pacific Highway between Tuggerah and North Wyong.
- Implementation of Communications Strategy to ensure high community awareness of key issues, progress and achievements.

The Department of Local Government (DLG)

The DLG monitors NSW local councils to ensure they are operating efficiently. This is done in a number of ways, including conducting reviews of councils under the Promoting Better Practice Program. Wyong Shire Council's last review was done in 2005, covering governance, planning and other regulatory functions, asset and financial management, community and consultation, workforce relations. There were 22 recommendations arising from this review and all have been addressed.

Community Engagement

Council's business

Under the Local Government Act, everyone is entitled to inspect 29 different documents free of charge (eg. the code of conduct). Nine of these are available on Council's web page, but the remainder require a visit to Council for personal inspection.

The community can have its say about Council's proposals through many avenues. These include:

- Responding to advertisements concerning development applications
- Responding to notifications to adjoining residents concerning development applications
- Participating in public forums for major projects such as the Management Plan and The Entrance Strategy
- Responding to surveys
- Contacting Councillors
- Voting in elections, referendums or polls
- Running for election as a local government councillor
- Attending Council meetings
- Participating in Council committees, the Youth Advisory Council and Senior Citizen's Councils
- Speaking at Residents' Forum which is held prior to each Ordinary Meeting if required.

Governance

The public is also able to be involved in a number of community and Council organisations throughout the Shire which provide advocacy, representation and engagement with Council on issues of concern. They include:

Precinct Committees	9
Progress Associations	8
Resident Associations	1
Chambers of Commerce	4

The community is also encouraged to become members of 355 Committees which are delegated care, control and management of Council facilities such as local halls and parks. There are 35 throughout the Shire made up of:

Halls and community centres	28	Tennis facilities	2
Historic site	1	Public Reserve	1
Senior Citizens Centre	1	Art and tourist Info Centre	1
Retirement Village	1		

Central Coast Regional issues

- Central Coast Regional Organisation of Councils (CCROC)
- Gosford-Wyong Councils' Water Authority (GWCWA)
- Central Coast Tourism (CCT)
- Central Coast Business Mentor Services Board
- Hunter/Central Coast Regional Environmental Management Strategy Committee
- Central Coast Regional Coordination Management Group
- Central Coast Transport Action Plan Taskforce - the last meeting of the Transport Task Force was held on May 25 2004.
- Central Coast Area Assistance Scheme Regional Committee.
- Central Coast Area Assistance Scheme Local Ranking Committee
- Local Emergency Management Committee
- Bush Fire Management Committee
- Fire Control District Liaison Committee

TAFE

Students	Professional Staff	Technical Staff	Admin staff	Class support	PT.Casual staff
11,677	133	5	15	17	215

Central Coast Schools

Type	Number	Students	Teaching Staff	Admin Staff	Technical Staff
Public Primary	60	22,125	1,280	269	-
Independent Primary	2	193	11.2	3.5	-
Catholic Primary	10	3,807	140	*	*
Public Secondary	14	15,283	1,193	235	-
Independent Secondary	2	937	69.5	30.8	2.8
Catholic Secondary	2	1,742	108	*	*
Independent Combined (K-12)	10	6,039	566.5	187.9	35.4
Catholic Combined (K-12)	1	1,411	82	*	*

Governing Strategies for the Shire

- State Plan - produced by a process that engaged the whole of Government, the community, Local Government, industry and stakeholder groups led by the Premier's Department. The plan set priorities for the State Government with targets to guide decision making and resource allocation. It sets out delivery plans for implementation.

- Central Coast Regional Strategy - (26 June 2008). Aims to protect the environment and deliver jobs closer to home for Central Coast residents. It outlines a sustainable approach to the region's forecast population growth. It strongly promotes the area's key centres of Gosford and Tuggerah-Wyong, complementing the existing Gosford City Centre Plan and plans for the new Warnervale Town Centre.

- Shire Strategic Vision - during 2008/09 considerable progress was made on the formulation of a Shire 20year Vision for Wyong. This community based document will establich the vision as well as priority objectives and initial strategies to achieve that vision. it is scheduled for completion in September 2009.

Partnerships

The Council works in partnership with the State Government on many programs such as joint operation of local School halls/sporting grounds for community participation. Mingara Athletics field is a partnership between the State Government, Gosford City and Wyong Shire Councils. The Mingara Aquatic centre involved both the club and Council.

Key Drivers

- changing community attitudes
- increased use of technology as a form of communication
- new legislation and regulations
- more media exposure on matters concerning Council
- ageing workforce
- turnover of Councillors every Local Government election
- changes in the structure of State and Federal agencies
- continued population growth
- higher levels and education and income

Response

Ref	08/09 Strategic Program	Progress
5.4.1.1	Continue to refine the Enterprise Risk & Opportunity Management process.	Ongoing reporting to Governance Committee, refined Corporate Risk System.
5.4.1.3	Continue to evaluate and improve the effectiveness of control frameworks across Council.	The corporate risk process is now embedded in Council's governance framework at both a management and Councillor level.
5.4.1.5	Complete Stage 1 of the Governance Health Check Action Plan.	Stage one of the Governance Health Check Action Plan has been implemented by Council and is currently evaluating roll out of the complete Action Plan.
5.4.1.5	Implement the 2006/07 review of Council's customer service provision.	Project expedited completed.
5.4.2.1	Reduce the percentage of overdue customer service requests to 15%.	Considerable effort is being invested across the organisation to ensure that the percentage of overdue service requests is being reduced. The average percentage is dropping and a snapshot taken on 1 April 2008 showed that overdue service requests met the 15% target for the first time ever.

Council also responds to governance matters through:

- Complaints handling procedure
- Audits of accounts of 355 Committees and the like
- Staff and Councillors attend Precinct Committee meetings when requested
- Training staff across Council in a variety of governance related matters
- Committee training for the community
- Reviewing Council policies on an annual basis
- Preparing a variety of strategies, policies and plans that respond to State and Federal legislation and direction

Future Trends

projected rating	04/05	05/06	06/07	07/08	08/09
governance	Na	Na	Na	stable	stable

In recent years there has been an increasing emphasis on sound governance procedures becoming more transparent in the eyes of the community in addition to facilitating sound decision making.

As a community service organisation it is anticipated that Council will continue to play an increasing role in the provision and coordination of services provided by all levels of government. In particular local government expects to play a more significant role in representing local community sentiment in relation to government policy decisions.

If funding remains the same, continuing improvement will only occur as technology changes provide easy access to some data which is currently not available. This may not respond to an ever changing work force and Councillor turnover every four years.

Identified Data Gaps

- Name, workforce numbers of Federal Government agencies based in Wyong Shire and/or on the Central Coast

References

- Code of Conduct
- Code of Meeting Practice
- Facilities and Expenses Policy for Councillors
- Annual Report 2006/2007
- Governance Committee
- Information Readily Available

Governance

Appendix

Future Trends Summary Table

Projected Rating	2004-05	2005-06	2006-07	2007-08	2008-09	Trend Change Since 2007/08
COMMUNITY						
Population Growth (rate of)	Declining	Declining	Declining	Declining	Declining	
Community Connectedness	N/A	N/A	N/A	Stable	Stable	
Arts and Culture	N/A	N/A	N/A	Improving	Improving	
Crime Rates	N/A	N/A	N/A	Increasing	Stable	X
Perception of Crime	N/A	N/A	N/A	Increasing	Increasing	
Community Facilities	N/A	N/A	N/A	Declining	Declining	
Education (School and University Levels)	N/A	N/A	N/A	Declining	Declining	
Health	N/A	N/A	N/A	Declining	Declining	
Housing	N/A	N/A	N/A	Declining	Declining	
Built Environment	Declining	Declining	Declining	Declining	Declining	
Natural Areas	N/A	N/A	N/A	Declining	Declining	
Passive Recreation Areas	N/A	N/A	N/A	Declining	Declining	
Active Recreation Areas	N/A	N/A	N/A	Stable	Stable	
Aquatic Centers	N/A	N/A	N/A	Declining	Declining	
Heritage	N/A	Stable	Stable	Stable	Stable	
Transport	Declining	Declining	Declining	Declining	Declining	
Telecommunications	N/A	N/A	N/A	Declining	Declining	
Energy	N/A	Declining	Declining	Declining	Declining	
ECONOMY						
Employment and Income	N/A	N/A	N/A	Declining	Stable	X
ENVIRONMENT						
Highlands and Vallys	N/A	Stable	Stable	Stable	Stable	
Coastal Lowlands and Flood-plains	N/A	Stable	Declining	Stable	Stable	
Coastline and Wallarah Peninsula	N/A	Stable	Stable	Stable	Stable	
Lakes	N/A	Improving	Improving	Improving	Improving	
Creeks and Rivers	N/A	Improving	Improving	Improving	Improving	
Wetlands	N/A	Improving	Improving	Stable	Stable	
Oceans	N/A	Stable	Stable	Stable	Stable	
Biodiversity	N/A	Declining	Declining	Declining	Declining	
Climate Change	Declining	Declining	Declining	Declining	Declining	
Air Quality	Stable	Stable	Declining	Declining	Declining	
INFRASTRUCTURE						
Roads	Declining	Declining	Declining	Declining	Stable	X
Sewerage System	N/A	N/A	N/A	Stable	Stable	
Waste	Declining	Declining	Declining	Stable	Stable	
Water	Declining	Declining	Stable	Stable	Improving	X
Drainage	N/A	N/A	N/A	Stable	Stable	
GOVERNANCE						
Governance	N/A	N/A	N/A	Stable	Stable	