
Ryde City Council
State of the Environment Report 1998®

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Foreword



Increased scientific knowledge continually reveals environmental problems and raises concerns about potential degradation of the environment. It is abundantly clear that protection of natural assets requires continuous efforts around the world.

Fortunately we now have some understanding of aspects of the environment and protective measures which were not available to former generations and we have a responsibility to ensure that this knowledge is advanced to benefit future generations.

In metropolitan Sydney councils such as Ryde are faced with the challenge of protecting and restoring the natural environment whilst overseeing new development and re-development of built areas. There is a fine balance to be struck taking into account economic and social implications.

The raft of recent environmental protection legislation will assist both State Government and Local Government in enforcing compliance with pollution control in all its forms.

There is an acknowledged need however, for Council to improve its mechanisms for monitoring the environment. This requires better development of data collection and interpretation of data to ensure proper integration between the State of Environment Report and management planning. We are conscious that this is a community expectation and to achieve this we seek informed community input.

Councillor Peter Graham OAM
Mayor

GM's Perspective



The past year has seen the introduction of a comprehensive package of environmental and associated legislation, much of which is already operative with the remainder coming into force shortly.

This will have a profound impact on the regulation of development, air, noise, water pollution, contaminated land, sewage management and control of companion animals.

The Protection of the Environment Operations Act 1997 provides a clearer definition of the responsibilities of the Environment Protection Authority and Local Government in environmental protection in New South Wales. The EPA is responsible for licensing "scheduled" activities with major impact on the environment. Local Councils assume responsibility for all other activities and related premises including approximately 900 premises previously licensed by the EPA. With the exception of licensing, Councils will have essentially the same enforcement tools as the EPA. Resourcing this responsibility will be an issue for all Councils.

In parallel with this, amended local government legislation is designed to improve environmental protection at the local government level by incorporating the principle of ecologically sustainable development in all Council activities.

Most importantly, in the context of environmental management planning, the legislation requires that when preparing its draft management plan a Council must consider its most recent comprehensive State of the Environment Report. The Council must also involve the community in the development of environmental management strategies.

Good links have already been established with a number of environmental groups in the Ryde community and Council is keen to build on those relationships to achieve common aims. Feedback on this report will therefore be most welcome.

Mrs G Brus
General Manager

Contents

ACKNOWLEDGMENTS	2
FOREWORD	3
GM'S PERSPECTIVE	4
INTRODUCTION	11
LAND	12
GENERAL DESCRIPTION	13
POPULATION AND HOUSING	13
STATE	14
PRESSURE	14
RESPONSE	14
BUSINESS AND EMPLOYMENT CENTRES	15
STATE	15
PRESSURE	16
RESPONSE	16
COMMUNITY CONSULTATION	17
TRANSPORT	19
PUBLIC TRANSPORT	20
RESPONSE	20
PRIVATE TRANSPORT	21
RESPONSE	21
PITTWATER ROAD TRAFFIC STUDY	22
TOP RYDE TRANSPORT STUDY AND MASTER PLAN	22
LINK BETWEEN THE M2 AND THE GORE HILL FREEWAY	22
VICTORIA ROAD OLYMPIC ROUTE	23
MACQUARIE PARK/NORTH RYDE TRANSPORT AND TRAFFIC PROJECT	23
ROAD SAFETY AND PEDESTRIAN/BICYCLE AMENITY	24
RESPONSE	24
TRAFFIC CALMING	24
ROUNDBOUTS	25
PEDESTRIAN REFUGE ISLAND AND/OR KERB BLISTERS	25
RAISED 'WOMBAT' CROSSING	25

BICYCLE NETWORKS	25
WATER	27
INTRODUCTION	28
COUNCIL'S MANAGEMENT PLAN	28
RECOMMENDED INDICATORS	29
CLIMATE	29
PRESSURE	29
STATE	29
STORMWATER MANAGEMENT PLANS	30
PRESSURE	30
STATE	30
RESPONSE	30
WATER QUALITY	30
PRESSURE	31
STATE	31
RESPONSE	32
AQUATIC HABITATS	33
PRESSURE	33
STATE	33
RESPONSE	33
AIR	34
PRESSURES ON LOCAL ENVIRONMENT	35
STATE OF LOCAL ENVIRONMENT	35
AIR POLLUTION INDICES	35
LOCAL COMPLAINTS	37
LOCAL VEHICLE REGISTRATIONS	37
RESPONSE FOR LOCAL ENVIRONMENT	37
GREENING OF RYDE	37
ACTION FOR AIR - THE NSW GOVERNMENT'S 25 YEAR AIR QUALITY MANAGEMENT PLAN	38
LOCAL AIR QUALITY MANAGEMENT PLAN	39
CLEAN THE AIR	39
REFERENCES	39
NOTES	39
BIODIVERSITY	40
KEY INDICATORS OF BIOLOGICAL DIVERSITY	42
ECOSYSTEM DIVERSITY	42
SPECIES DIVERSITY	42
GENETIC DIVERSITY	42
PRESSURE	42
HABITAT FRAGMENTATION	43
CLEARING NATIVE VEGETATION	43
STATE	43
COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION (CSIRO), NORTH RYDE	44

RAIL LINK	44
BOOBAJOOL RESERVE	44
BRUSH FARM PARK	44
BARTON RESERVE	45
MARSFIELD PARK	45
BUDGETARY CONSTRAINTS	45
COUNCIL POLICY REVIEW	45
BLUE GUM HIGH FOREST	45
RESPONSE	45
VEGETATION MANAGEMENT	45
SHRIMPTONS CREEK	46
FIELD OF MARS CEMETERY	46
NORTHERN SUBURBS CEMETERY	47
BRUSH FARM PARK	47
LAND TRANSFERS	47
EXISTING CLOSED ROAD	48
STEWART PARK REGENERATION	48
WALLUMATTA NATURE RESERVE (NPWS)	49
NORTH RYDE PARK	49
TERRYS CREEK	49
PAGES CREEK	49
RETIREMENT VILLAGE DEVELOPMENT	50
ABIGROUP-OBAYASHI M2 TOLLWAY	50
M2 SURPLUS LAND	50
LANE COVE RIVER STUDY	51
BARTON RESERVE	51
BURROWS PARK	51
RYDE HOSPITAL	51
BOOBAJOOL RESERVE	51
DARVALL PARK	51
MALLEE RESERVE	52
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979, SECTION 94 CONTRIBUTIONS	52
NATURAL HISTORY OF RYDE	52
THREATENED AND ENDANGERED SPECIES	52
CSIRO	53
MARSFIELD PARK	53
PRESSURE	53
INTRODUCED SPECIES	53
STATE	53
NOXIOUS PLANTS	53
THE COMPANION ANIMALS ACT, 1998	54
NOXIOUS PLANTS	54
RESPONSE	54
LANE COVE VALLEY FOX AWARENESS PROGRAM	55
VOLUNTEER FERAL ANIMAL TRAPPING	55
COMPANION ANIMAL ACT, 1998	55
FUNDING ALLOCATION	55
FIRE REGIMES	55
PRESSURE	55
STATE	55
RESPONSE	55
RESEARCH PROJECTS	56

SNOW WREATH WOOLLSIA PUNGENS PROJECT	56
MEMORIAL PARK	57
ORAL HISTORY PROJECT	58
SMALL BIRD HABITAT	58
KEY-CENTRE FOR BIODIVERSITY RESEARCH MACQUARIE UNIVERSITY	60
ALL TAXA BIODIVERSITY INVENTORY OF THE MACQUARIE UNIVERSITY ECOLOGY RESERVE (DR J.M. DANGERFIELD)	60
MILLIPEDE RESEARCH (DR J.M. DANGERFIELD)	60
MICROBIAL BIODIVERSITY (DR M GILLINGS)	60
LICHEN RESEARCH (DR M. GILLINGS)	60
REFERENCES	60
MOSQUITO CONTROL	64
STATE	65
THINKING GLOBALLY	65
LOCAL TRENDS	65
FACTS AND FIGURES	66
LOCATION OF REGULAR TRAPPING SITES IN RYDE	67
LARVACIDE USAGE IN RYDE	67
VIRUS DETECTION	67
PRESSURE	67
RESPONSE	68
CONCLUSION	68
WASTE MANAGEMENT	69
STATE	70
PRESSURE	71
DOMESTIC GARBAGE	71
RECYCLING SERVICE	71
INDUSTRIAL COLLECTION	72
RESPONSE	72
GARDEN WASTE	72
WASTE EDUCATION	72
COMMERCIAL WASTE	73
LITTER CONTROL	73
CLEAN UP AUSTRALIA DAY - 1 MARCH, 1997	73
TOXIC CHEMICAL COLLECTIONS	74
NOISE	75
TRANSPORTATION NOISE	76
ROAD TRAFFIC NOISE	76
AIRCRAFT NOISE	76
INDUSTRIAL NOISE	77
CURRENT SITUATION AND PRESSURES	77
RESPONSE	77
CURRENT SITUATION AND PRESSURES	78
DOMESTIC NOISE	78

RESPONSE	78
NOISE MONITORING PROGRAM	78
CURRENT SITUATION AND PRESSURES	78
RESPONSE	78
REFERENCES	78
HERITAGE	79
<hr/>	
NON-ABORIGINAL	80
STATE	80
PRESSURES	80
RESPONSE	81
ABORIGINAL	82
STATE	82
PRESSURE	82
RESPONSE	82
HERITAGE FUNDING OPPORTUNITIES	83
METROPOLITAN LOCAL ABORIGINAL LAND COUNCIL (MLALC)	83
MACQUARIE UNIVERSITY: PROMOTING ABORIGINAL HISTORY AND CULTURE	84
CELEBRATING DARUG CULTURE ON CAMPUS	84
INDIGENOUS STUDIES ON CAMPUS	84
GLADES BAY ABORIGINAL HERITAGE WALK	85
GOVERNMENT POLICY OVERVIEW	86
OPEN SPACE	88
<hr/>	
DESCRIPTION AND STATE	89
PRESSURES ON THE OPEN SPACE NETWORK	89
PASSIVE RECREATIONAL FACILITIES	89
SPORTING FACILITIES	90
REMNANT NATURAL AREAS	90
PLANS OF MANAGEMENT	90
RESPONSES TO THE STATE OF THE OPEN SPACE NETWORK	91
MASTER PLANS	91
LAND ACQUISITION	91
LAND DRAINAGE	92
PARKS EMBELLISHMENT PROGRAM	92
PARKS ACCESS PROGRAM	93
SPORTSFIELD MANAGEMENT	93
SPORTSFIELD UPGRADE PROGRAM	94
CREEKLINE REHABILITATION AND RESTORATION PROGRAM	94
BUSH REGENERATION PROGRAM (SEE ALSO BIODIVERSITY SECTION OF THIS REPORT)	95
VOLUNTEER BUSHLAND PROGRAM	95
COMMUNITY AND STREET TREE PROGRAMS	95
ENVIROMENTAL MANGEMENT PLANS	96
<hr/>	
APPENDIX	98
<hr/>	

COMMITMENT TO BIODIVERSITY	99
BUSH REGENERATION ACTIVITIES	101
BIODIVERSITY SUPPLEMENT - ISSUES	102
WILDLIFE SIGHTINGS	104
HERITAGE INVENTORY	106
OPEN SPACE CHEMICAL USAGE	107

Tables

TABLE 1 - ACCIDENT AND CASUALTY TRENDS	24
TABLE 2 - REGIONAL AIR POLLUTION INDEX	36
TABLE 3 - LOCAL COMPLAINTS	37
TABLE 4 - VEHICLE REGISTRATIONS IN RYDE	37
TABLE 5 - ADDITIONAL SHALE-BASED REMNANT BUSHLAND CONSERVED IN 1997/98	52
TABLE 6 - ABUNDANCE OF Aedes vigilax SPECIES IN HOMEBUSH BAY	66
TABLE 7 - TOTAL WASTE TONNAGES* JULY 1994 - 1998	71
TABLE 8 - RECYCLING TONNAGES* AS A % OF TOTAL WASTE TONNAGES	71
TABLE 9 - COMMERCIAL & INDUSTRIAL WASTE TONNAGES	72
TABLE 10 - SCHEDULED PREMISES: NOISE CONTROL ACT, 1975	77
TABLE 11 - MANAGEMENT PLAN COMMITMENT TO BIODIVERSITY	99
TABLE 12 - BUSH REGENERATION ACTIVITIES	101
TABLE 13 - NSW WILDLIFE INFORMATION & RESCUE SERVICE INC (WIRES)	104
TABLE 14 - HERITAGE INVENTORY UPDATE	106
TABLE 15 - CHEMICAL USAGE	107
TABLE 16 - METHOD OF TRAVEL TO WORK BY AGE (EMPLOYED PERSONS)- 1991 - RYDE LGA	108
TABLE 17 - METHOD OF TRAVEL TO WORK BY AGE (EMPLOYED PERSONS)- 1996 - RYDE LGA	109

Figures

FIGURE 1 - ISSUES, RESPONSES, ACTIONS TO IMPROVE AIR QUALITY	38
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Graphs

GRAPH 1 - MONTHLY RAINFALL AT MARSFIELD (MACQUARIE UNIVERSITY)	29
GRAPH 2 - PORTERS CREEK WATER QUALITY: NITRITE & NITRATE AS N	31
GRAPH 3 - PORTERS CREEK WATER QUALITY: TOTAL KJELDAHL NITROGEN AS N	32
GRAPH 4 - PORTERS CREEK WATER QUALITY: AMMONIA AS N	32
GRAPH 5 - AIR POLLUTION INDEX: NORTH WEST REGION	35
GRAPH 6 - AIR POLLUTION INDEX: CENTRAL REGION	36
GRAPH 7 - AIR POLLUTION INDEX: SOUTH WEST REGION	36
GRAPH 8 - TOTAL NO. OF MOSQUITOES TRAPPED IN RYDE BETWEEN DECEMBER AND MARCH 67	

Introduction

This report principally covers the period from 1 July 1997 to 30 June 1998, with references, as appropriate, to past and future events and activities.

Legislative changes relating to the reform of State of the Environment reporting provisions of the Local Government Act 1993 have been enacted during this period, and these changes are supported by State of the Environment Guidelines issued by the Department of Local Government in April 1998. When releasing the Guidelines the Minister for Local Government emphasised that “ecologically sustainable development is the chief objective of environment protection in New South Wales”.

That objective must be kept clearly in mind by all Councils and the community.

As foreshadowed in the Introduction to this Council’s 1997 State of the Environment Report there is scope for changing the structure of the report but more community input is desirable. This will be considered with other consultation issues required for the development of environmental management strategies prior to the preparation of Council’s next draft management plan.

An executive summary has been omitted from this year’s report as abstracts have been inserted at the front of each section of the report.

Telephone enquiries relating to this report may be made to Council’s Executive Manager Environmental Standards Rex Hamilton 9952 8263.

Environmental Indicators

Further information on “Total Private Dwellings” & “Net Dwelling Increase” not available until next Census period.

Other Land indicators not yet defined

Abstract

- Increasing medium density residential development in established suburbs
- Surplus land available for development following completion of the M2 Motorway
- Concept for revitalisation of commercial centres as “urban villages”
- Proposed Parramatta-Chatswood rail link supports the development of Macquarie Village Network

Recommendations For Management Plan

1. Review the performance of the Council’s Residential Housing Strategy “Improving Housing Choice & Housing Opportunities”
2. Update Council’s Housing database which was undertaken in 1996
3. Establish a process for the on-going maintenance of Council’s Housing database
4. Complete and progressively implement development master plans for the City’s traditional centres
5. Complete a structure plan setting out the strategic land use and development goals for the entire City.
6. Establish a working relationship with the state government to effectively plan for the impacts of the construction of the Parramatta-Chatswood rail link

It is in urban areas that dramatic change to the natural environment results, because of high concentrations of people. The consumption of land for housing, commerce and industry can create changes that are often of such a magnitude that natural environments are unable to adapt.

The management of land in the City of Ryde is about providing for the shelter, work and recreation for the people of Ryde, without compromising the quality of its natural environment.

GENERAL DESCRIPTION

The City of Ryde covers an area of approximately 40.47 km (ABS, 1996). The City is considered a middle ring local government area of Sydney. It is bordered by Hornsby Shire Council, the Lane Cove National Park, Parramatta City Council, the Parramatta River, Hunters Hill Municipal Council and the Lane Cove River.

The vast majority of the developed areas of the City are occupied by residential buildings. Most housing in the City is low density, being single detached houses, although these are now being more noticeably interspersed in some areas with villa homes (single storey attached houses). Elsewhere, medium and high density residential development such as flats, townhouses, duplexes and villa homes are distributed throughout the City.

The City's other land uses are essentially as described in previous SoE Reports:

- retail and commercial areas located principally around traditional suburban centres;
- educational uses including public and private schools, two colleges of TAFE and Macquarie University;
- institutional uses such as the CSIRO;
- technology based business and industrial uses concentrated in Macquarie Park, north of Epping Road;
- general industrial areas situated in Gladesville and Meadowbank;
- areas used for local and regional open space and recreational purposes; and
- land used for transport and communications (e.g. road, rail).

POPULATION AND HOUSING

The population level and housing numbers are important indicators of the quality of the environment and the

economy in the City of Ryde. An area that provides a healthy and prosperous life style, with a wide variety of housing choice, will attract people to live in the area.

State

In 1996, the time of the most recently available Census information, the City of Ryde had a resident population of 92,977 and a total of 37,285 dwellings.

During the 1970s and 1980s, many middle ring local government areas in the Metropolitan area experienced declining populations as a result of "ageing" demographic characteristics of those areas accompanied by modest growth in dwelling numbers. Only recently has this trend begun to be reversed.

Ryde has gone against this trend and increased its population since 1971 by some 4,741 people as a result of Council's positive attitude towards the provision of housing and its commitment to the principles of urban consolidation.

Pressure

Against a background of rapidly decreasing undeveloped land the increasing population is creating significant demand for housing in the City. This is reflected in the increased number of development applications for medium density residential developments in established suburbs.

Pressures of housing development are therefore felt by communities which are sensitive to physical change in the character of existing residential precincts. It is also apparent that individual large housing developments can alter the functioning of urban areas through increased traffic loads and associated impacts.

Population density in suburban Sydney is still extraordinarily low compared to many world centres, but the pressure on Councils to manage redevelopment in an environmentally sustainable manner is growing.

Response

Council during 1996-1997 approved its Residential Development Strategy, "Improving Housing Choice and Housing Opportunities", in response to the Minister for Urban Affairs and Planning's directive for all Sydney local councils to prepare local residential strategies.

Council's commitment to the principles established by this policy document has continued through the 1997-1998 period, and the effectiveness of the strategy will be reviewed in 1999-2000.

In response to the proliferation of telecommunications equipment on many sites in recent years a Local Environmental Plan was prepared. It restricts the location of facilities such as mobile phone towers to certain zones with adequate separation from residential and sensitive areas.

In addition to the Residential Development Strategy Council has embarked upon a program to revitalise its traditional suburban centres. This program focuses on the role and function of each centre in terms of retail and commercial activities, residential development and transport and community facilities. One of the key aims is to encourage increased residential activities within each centre to provide a wider housing choice within the City.

BUSINESS AND EMPLOYMENT CENTRES

In the development of any area it is important to achieve a balance between the built and natural environments.

The business and employment centres in the City of Ryde offer the residents of Ryde opportunities for work, recreation and the purchase of goods and services. These centres are seen as important indicators in the quality of life and environmental well-being of the City.

A healthy and active network of centres, in which residents draw upon the full range of resources, is a key element in creating sustainable environments.

State

Many of the existing business centres within the City are being transformed due to competition from larger centres, such as Macquarie Centre and Carlingford and changes in the retail industry.

Centres such as West Ryde, Top Ryde, Meadowbank and Eastwood have evolved without any defined strategy and plan to guide their nature and form. This has resulted in centres lacking in pedestrian and environmental amenity, accessibility and a good range of services and shops.

The Macquarie Park and North Ryde Area provides an important source of employment, education and recreation

in the City of Ryde. Changes in the traffic network and new development activity have resulted in significant economic and environmental pressures being placed on the area.

Pressure

The changes in the City's business centres has resulted in an under utilisation resources. Community pressure is growing to revitalise and manage these centres to optimise the use of existing resources.

As a result of the M2 Motorway completion tracts of surplus land have been identified. The most significant areas of land lie to the east of Wicks Road and adjoin properties currently used for light industrial purposes. Proposals have been put forward to rezone these parcels of land to provide for industrial and residential activities. Development of these parcels must be carefully managed to ensure that any impacts on the natural environment are minimised.

State government policy on the legalisation of prostitution has placed pressure on Council to facilitate the establishment of brothels, but Council has prepared planning instruments designed to limit their location to certain industrial zones.

Response

The revitalisation of the City's traditional suburban centres is based on the development of these centres as "urban villages". Council's urban village program is aimed at guiding its Centres through this period of change and return these Centres to vibrant and active centres of commerce and living.

These urban villages are designed to be pedestrian-friendly places with land uses which encourage pedestrian movement and 'street life'. Key components of the strategy to create urban villages include:

- 1) encouraging uses that attract people after hours (for example restaurants, cafes)
- 2) creating open and well lit public spaces
- 3) encouraging people to live right in the centre
- 4) making it easier and safer for more people to use public transport

For additional information on Urban Villages in Ryde see the brochure reproduced in the Appendix.

Planning studies and master plans have been prepared for the centres of West Ryde, Top Ryde and Meadowbank that form the "Ryde River Village Network". Council is continuing the development of future plans to promote and guide growth in these Centres.

A planning study and masterplan were started in January 1998 for the Eastwood Commercial Centre. This study is nearing completion for the Eastwood Centre that will also become part of the Ryde River Village Network.

The second urban village network that has been identified is the "Macquarie Village Network". This network links Macquarie University, North Ryde Industrial Estate, Macquarie Retail Centre, the CSIRO complex, Macquarie Hospital and associated residential areas.

Council has initiated a study of the North Ryde Industrial Area with the aim of providing a strategic land use plan to guide future development in the area. This study includes the land which is surplus to the requirements of the M2 Motorway.

The development of the Macquarie Village Network is strengthened by the State government's commitment to the Parramatta-Chatswood rail link, which would see several high frequency public transport nodes built in the locality.

Community Consultation

Ryde City residents have contributed much to consultations concerning proposed developments on Delhi Road, Nile Close, Blenheim Park and the Porters Creek Integrated Waste Management and Recycling Park.

Pages Creek bushland, Bundara Reserve, and Epping Road stormwater drainage system east of Delhi Road were inspected by community representatives together with Ryde City Council, Abigroup-Obayashi and North West Landscapes.

The consultation initiated by Ryde City Council concerning a proposed Works Depot and Nursery at Alma Road was considered to be a landmark exercise.

Two proposed M2 Motorway Service Centres have been the subject of community concern. The floor areas will be reduced from 9700 m² to 1400 m².

M2 Tollway surplus property is subject to further land use rationale by the relevant players. Vacant land between Kywung Reserve and Porters Creek tip, and some remnant bushland in Wicks Park should be considered for conservation.

Transport

Environmental Indicators

Total Accidents
(from 1996)

↑ 3.5%

Abstract

- Parramatta to Chatswood rail link via Macquarie Park committed to EIS stage
- Ferry and bus improvement projects currently under investigation
- Pittwater Road Traffic Study completed
- Transport Study and Master Plan for Top Ryde Retail Precinct endorsed in principle
- Feasibility Task Force established for the M2-Gore Hill Freeway link
- Victoria Road chosen as key Olympic Games route
- Macquarie Park/North Ryde Transport and Traffic Project underway
- Bicycle network projects completed/underway

Recommendations For Management Plan

1. That Council continue to support an appropriate tunnel link between the M2 Motorway and the Gore Hill Freeway.
 2. That Council continue to progressively provide appropriate black spot, traffic calming, and pedestrian amenity facilities.
 3. That Council implement the Top Ryde Retail Precinct Project over a 3 year period.
 4. That Council continue to support the development of public transport facilities.
 5. That Council continue to implement bicycle and pedestrian routes in the City.
-

PUBLIC TRANSPORT

People who live, work or study in Ryde are very much car dependent. Most public transport usage is largely confined to journey to work trips during weekdays by workers who reside in close proximity to railway stations or high frequency bus routes.

The heavy reliance on motor cars for transport in, from, to and through the City of Ryde has a significant social and environmental impact on the quality of life of people in Ryde, in terms of amenity and health risks due to declining air quality and increased congestion

Whilst it is impossible or impracticable to provide full public transport services in Ryde, it is considered that improved rail links and bus services and a policy to moderate demands for roads would encourage more public transport use.

Response

Council's concern with the future transport choice in the City led to Council promoting the construction of a high-speed railway from Parramatta to Chatswood via West Ryde and North Ryde as an optimum public transport solution for the corridor.

The State Government has recently committed the \$1.4 billion rail link between Parramatta and Chatswood to EIS stage. The Environment Impact Study is to begin shortly and construction is scheduled to begin in December 1999 and finish in 2006. The preferred route would start at Westmead, with a connecting tunnel through Parramatta to join the existing Carlingford line at James Ruse Drive to Epping and then pass through Macquarie University and Macquarie Park onto Chatswood.

Whilst Council is disappointed that the line will bypass West Ryde, the 28 kilometre line will involve construction of up to eight new stations including Macquarie University and Macquarie Park, and would provide a great boost to public transport use in Ryde.

Council's urban village development programs are designed to produce pedestrian friendly places which would encourage people to live in the centres and make it easier and safer to use public transport.

The following public transport projects are currently under investigation:

- An additional wharf to serve the Parramatta-Circular Quay Rivercat route, at either Putney Point or Kissing Point
- Upgrading the bus interchange at Macquarie Centre
- Installation of a continuous transit lane along Victoria Road, between Ryde and Gladesville
- Bus priority measures to facilitate bus operations and discourage through traffic in the Top Ryde shopping centre.

The above projects would assist in stimulating the shift from private car usage to public transport

PRIVATE TRANSPORT

The efficiency of the operation of the arterial road network is considered a paramount concern. The more the efficiency of that network is compromised, the greater the likelihood of traffic being diverted through local residential streets which were never designed to carry the volume and speed of traffic that they are then subjected to. The result is to transfer the impacts of traffic from arterial roads to local residential streets.

It appears that the M2 Tollway has reduced traffic in some routes such as Rutledge Street, Lovell Road and Quarry Road however, traffic congestion on some arterial roads like Lane Cove Road now often extends beyond peak periods.

Completion of the Devlin Street/Victoria Road Interchange project expected in late 1998 offers an opportunity to improve the pedestrian environment and general attractiveness of Top Ryde, and improve traffic along the Arterial Roads.

RESPONSE

Council has installed traffic calming measures along some local roads to reduce the impact caused by through traffic spill over into the local traffic network of Ryde. A 3 tonne load limit has also been imposed on a number of local roads for environmental reasons.

In North Ryde Industrial Area, extension of Lyon Park Road to provide a left-in and left-out at Epping Road was completed and opened to traffic in May 1998. This new connecting roadway has facilitated access and egress between Waterloo Road and Epping Road and reduced the congestion along Waterloo Road and Herring Road.

In conjunction with the Roads and Traffic Authority, the following studies have recently been undertaken or in progress:

Pittwater Road Traffic Study

A traffic study of Pittwater Road from Epping Road to Victoria Road was completed in 1997 to examine the likely impact on Pittwater Road following the opening of the M2 with or without traffic calming measures in place.

Public consultation meetings were held shortly after the commencement of the Study in May, and towards the conclusion of the Study in November 1997. The study identified a series of practical, cost effective improvements which would address the concerns of the local residents, control the volume and speed of traffic and reduce the potential for accidents. Part of the recommended improvements have been implemented.

Top Ryde Transport Study and Master Plan

Completion of the Devlin Street/Victoria Road Interchange project would necessitate traffic changes in early 1999. A study has been undertaken to examine the traffic implications concerning traffic changes include median closures, intersection closures and right turn bans which could affect some residents and businesses. Council publicly exhibited the Top Ryde Retail Precinct Transport Study and Master Plan for a period of six weeks in Top Ryde Shopping Centre

The study recommendations of the Transport Study and Master Plan for the Top Ryde Retail Precinct were endorsed in principle, with the exception of the proposed pedestrian footbridge at Devlin Street. Council has commenced detailed design for Traffic Calming and pedestrian safety improvements on Blaxland Road between Devlin Street and Victoria Road

Link between the M2 and the Gore Hill Freeway

The proposed Epping Road/Gore Hill Freeway connection forms part of the planned Ring Road known as the Sydney Orbital to facilitate the regional traffic and intra and interstate movements around the established areas of metropolitan Sydney. A tunnel and financial feasibility study report on a road link between the M2 and the Gore Hill Freeway was released by the State Government in May 1998 for public comment.

A Council submission indicated support for a longer Lane Cove by-pass tunnel subject to a full Environmental

Statement being prepared. In lieu of a toll, the cost of construction should be financed from income already generated through motor vehicle related sources such as registration and petrol levies.

A task force comprising representatives of the Lane Cove, Ryde, Willoughby and North Sydney councils was established to assess the feasibility of this missing link. The Mayor represents this Council on the task force.

Victoria Road Olympic Route

The Roads and Traffic Authority (RTA) is currently investigating proposals to provide a continuous transit lane from Top Ryde to Gladesville Bridge by providing three through lanes in both direction. This followed the announcement in early 1998 by the Olympic Road and Transport Authority (ORTA) that Victoria Road has been chosen as the key Olympic route linking Sydney and the Olympics Homebush site. The route will be along Victoria Road to Church Street and across the Ryde Bridge to the Olympic site.

The proposals would involve road widening at some "S' lane" locations and elimination of the "S' lane" at other locations where it is not possible to widen the roads. The RTA is undertaking a public consultation process in Ryde and Hunters Hill local government areas concerning the proposals along Victoria Road.

Macquarie Park/North Ryde Transport and Traffic Project

Whilst the M2 is underutilized at different points, the existing road system i.e. Epping Road, Lane Cove Road, Waterloo Road, Wicks Road and Delhi Road is at capacity and traffic problems are likely to be aggravated by the cumulative impact of future developments in the North Ryde Industrial Area. There is a need to review the transport infrastructure as a whole to investigate the traffic effect of all the proposals on the road network..

Council has recently appointed Transport & Traffic Planning Pty Ltd to carry out a traffic and land use study in Macquarie Park/North Ryde area. The main objective is to review the transport infrastructure as a whole and to investigate the cumulative traffic effect of all the proposals on land use, including the parcels of surplus land bounded by the M2 Motorway, Epping Road and Wicks Road and the former CSIRO site.

**ROAD SAFETY AND
PEDESTRIAN/BICYCLE AMENITY**

There has been a continued decline in motor vehicle accidents/casualties on Ryde roads over the past ten (10) years however, the recent downward trend in accident number and casualties is levelling off. Accident and casualty trends are shown in the following table:

Table 1 - Accident and Casualty Trends

Year	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Total Accidents	1246	1222	1149	1115	1156	983	898	912	986	928	952	919
Killed	18	14	13	14	7	4	9	5	3	3	4	5
Seriously Injured	99	108	108	108	109	99	72	83	76	64	95	85
Other Injured	454	424	476	428	428	353	333	281	241	205	308	226
Total Casualties	571	546	597	550	544	456	414	369	320	272	407	316

Response

Council has continued its policy of improving safety and traffic flow at the most critical locations in the City. Traffic calming measures and blackspot programs has improved safety and amenity in Council's road system. Accident statistics will be monitored continuously and the priority list for improvements updated when more recent information becomes available.

Completion of the Devlin Street/Victoria Road Interchange project would change the traffic patterns and eliminate several 'black spots' along Victoria Road and Church Street.

In conjunction with Ryde Hospital and Community Health Services and the Roads and Traffic Authority (RTA), a number of projects was launched in 1997/98 to increase community awareness and support of pedestrian safety issues in Ryde.

Council has continued implementation of the Pedestrian Amenity Projects and North Ryde Industrial Area Improvement Program.. The following identifies the key traffic facilities completed during 1997/98:

Traffic Calming

Traffic calming measures along the following roads are in progress:

- Lovell Road and Quarry Road
- Morrison Road
- Pittwater Road

Roundabouts

- Hillview Road/Lakeside Road
- Herring Road/Agincourt Road
- Quarry Road/Olive Street
- The Avenue/Lakeside Road
- Lovell Road/Pickford Avenue/Russell Street
- Ryedale Road/Florence Avenue
- Coxs Road/Cressy Road
- Bridge Road/Smalls Road

Pedestrian refuge island and/or kerb blisters

- Hillview Road near Marist Brother High School
- Hillview Road near St Kevin Primary School
- West Parade near Progress Avenue
- Morrison Road near Gladstone Avenue

Raised 'Wombat' crossing

- Gladesville Public School -Linsley Street

Bicycle Networks

A project which has been completed in 1997/98 as part of the Macquarie Sub-Regional Bicycle Network is the bikeway link from Vimiera Road, Marsfield, to Brown's Waterhole and Kissing Point Road, South Turramurra.

Several bikeway projects in progress during 1997/98 include:

- Shrimpton's Creek - Herring Road to Kent Road route
- Eastwood to Meadowbank route including Darvall Park Bikeway
- The bikeway link from Fontenoy Road to De Burgh's Bridge, then Riverside Drive in the Lane Cove River National Park

Parramatta Council is proceeding to linemark and sign post the bikeway in Eastwood commencing at Marsden Road, along Terry Road, Hillview Road to West Parade and link with the Eastwood to Marsfield bikeway and eventually to the Eastwood to Meadowbank bikeway.

Councils supports the proposed establishment of regional bikeways within railway corridors. Negotiations over access to State Rail land is proceeding with respect to the Darvall Park bikeway, which will connect to the bicycle route on the eastern side of Station (on East Parade and then heads north along Vimiera Road), along West Parade and then down Chatham Road. This will provide a route to Meadowbank, Bicentennial Park and the Olympic site.

The following bikeway links are under investigation:

- A bicycle network within Ryde connected to the John Whitton Bridge for access across the Parramatta River is

under investigation. This link would serve as a viable access route for the 2000 Olympics.

- A bikeway link through Macquarie University to link up the bikeways in the North Ryde/Macquarie Park area.

Environmental Indicators

Ryde Gross Pollutant Trap Tonnages

32 tonnes Trapped
(since Jan 1997)

Average Annual Rainfall

↑ 10.4%
(from 1997)

Street Cleaning Program

Tonnes Collected

↓ 15%
(from 1997)

Abstract

- Many constructed stormwater systems are unable to cope with increased urban runoff
- Water quality under pressure from urban erosion and runoff, litter, chemicals, animal droppings, and old landfills
- Construction of West Ryde Stormwater Drainage Tunnel commenced
- Preparation of stormwater management plans underway

Recommendations For Management Plan

1. That the indicators Climate/Weather, Stormwater Management Plans, Water Quality, and Aquatic Habitats be monitored in order to provide the following data:
 - Type and condition of point source discharges
 - Extent of area of riparian vegetation
2. Installation of a further gross pollutant trap on a piped waterway within the City.
3. That additional resources be allocated for sediment control.

INTRODUCTION

Reporting Guidelines produced by the Department of Local Government in April 1998 have been utilised to review the state of the *water environment* within the City of Ryde.

COUNCIL'S MANAGEMENT PLAN

Council's Management Plan for 1997-1998 states that Council *has built its strategy around properly managing, developing, protecting, restoring, enhancing and where appropriate, conserving the natural, physical, social, cultural and economic environment of the City.....*

Private and Public property will be serviced by our local drainage network....

Our local environment will be managed through the enforcement of standards for land and property use. standards legislated....to control behaviour concerning...nuisance and pollution

The implementation of these strategies in relation to the water environment within the City of Ryde resulted in:

- Ongoing flood control management with the commencement of construction of the West Ryde stormwater drainage tunnel to reduce the frequency of flooding through the West Ryde shopping centre and residential area to the south
- Replacement of failed drainage lines in Ryde Park, Quarry Road, Boyce Street, Eastwood Park and Wattle Street to maintain the drainage infrastructure for protection of the natural and built environment
- Cleaning of streets, gutters and drainage pits to reduce the pollution of our natural waterways.
- Monitoring the effectiveness of the Gross Pollutant Trap installed in Ryde Park to collect litter and silt from the pipe system before it enters the natural section of Buffalo Creek
- Collection and disposal of leachate from the Porters Creek landfill site to prevent pollution of the downstream natural waterways
- Requirement for property development and building activities to install siltation control during construction and on-site detention systems for post construction flooding control
- Inspection and enforcement of regulations where waterways are polluted by illegal discharges or spillages

- Council's support of the Sydney Water Streamwatch programme for promoting environmental education within schools and the community.
- Initial collation of data necessary for the preparation of Stormwater Management Plans for all the catchments within the City of Ryde, including liaison with other Councils working towards Total Catchment Management

RECOMMENDED INDICATORS

The Department of Local Government Environmental Guidelines to promote ecologically sustainable development provide recommended indicators to monitor environmental conditions and trends. For the water environment these include

- Climate/Weather
- Stormwater Management Plans
- Water Quality
- Aquatic Habitats

CLIMATE

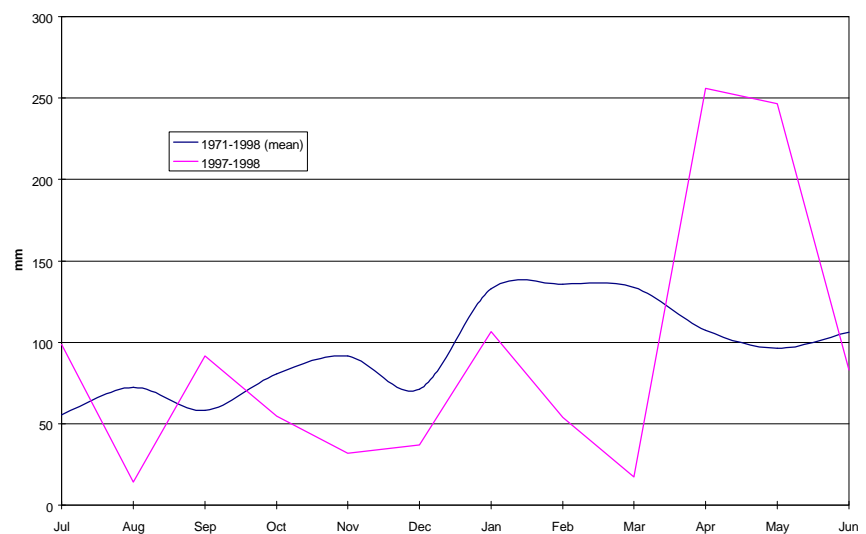
Pressure

The climate controls the cyclic movement of water within our planet; from land, plant and sea storage to atmosphere then return as precipitation. When climate changes occur, moisture patterns are affected.

State

One of the indicators to analyse any trend in climate change in Ryde are the average monthly rainfall figures.

Graph 1 - Monthly Rainfall at Marsfield (Macquarie University)



The recordings are made at Macquarie University with 1971 recordings being used as the baseline. Graph 1 on page 29 shows the 1997/98 monthly rainfall against the 27 year averages. The total rain for the year has been 1091 mm, making it a drier year than average but up 10.4% on 1997.

STORMWATER MANAGEMENT PLANS

Pressure

The management of stormwater in the urban area has traditionally been to protect the constructed environment, maintain the existing infrastructure, minimise the impact of flooding, and control erosion of the natural areas. The issues are under increasing pressure with the continued urbanisation of the area, in particular through the policy of urban consolidation.

State

The state of the constructed stormwater systems within Ryde is poor, with many of the pipelines reaching the end of their structural life. Hydraulically these lines are also inadequate to cope with the runoff resulting from urbanisation which increases the area of impervious surfaces.

The state of the natural stormwater systems is deteriorating, with siltation and pollutants finding their way into the systems resulting in environmental degradation and in some cases flooding by waterway restriction or diversion.

Response

The response has been the strategies implemented in Council's Management Plan. Flooding in the West Ryde shopping centre and residential area to the south is being addressed with the construction of the West Ryde Stormwater Tunnel.

Council has been served notice by the Environment Protection Authority to prepare Stormwater Management Plans by April 1999 for the Mid Parramatta River, Lower Parramatta River and Lane Cove River catchments. Collation of data for these plans has commenced.

WATER QUALITY

Trends in water quality in Ryde can be measured by:

- *Point source discharges* - the location and number of point source discharges to waterways
- *Stormwater* - effectiveness of Stormwater Management plan as shown by water quality monitoring and tonnages

collected in Gross Pollutant Traps on the stormwater systems.

Pressure

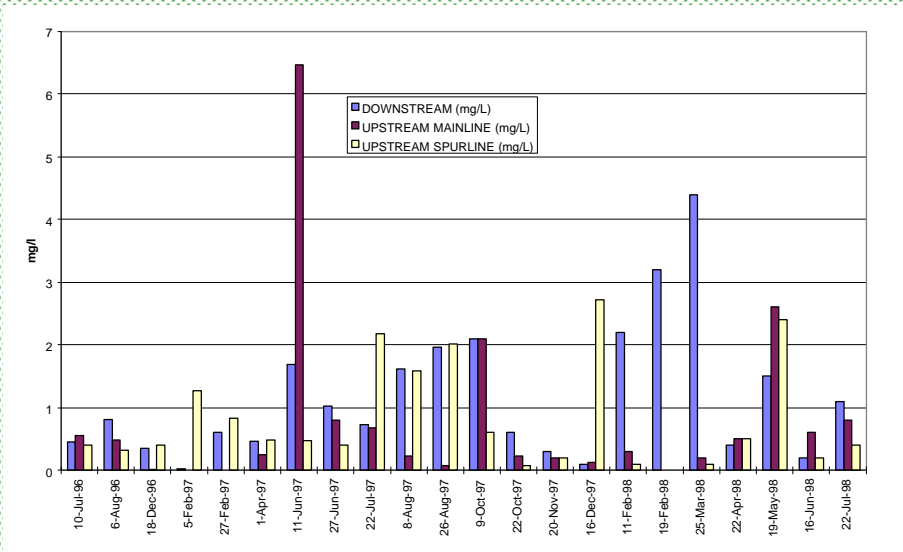
Water quality is under pressure from urban erosion and runoff, littering, garden fertilisers, herbicides, animal droppings, and old landfill areas. The number of point source discharges to the Parramatta River and the Lane Cove River from the stormwater system have grown over the years, and some of the older installations have limited facilities for sediment collection and velocity reduction.

State

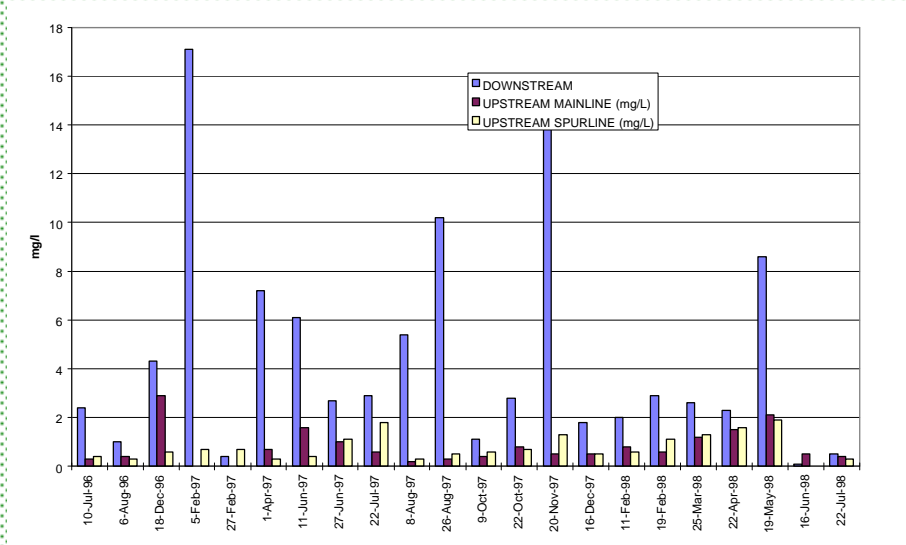
Preparation of the Stormwater Management Plans for the catchments will include an audit of existing discharge points to confirm the locations where the installations may be contributing to poor water quality.

The water quality of Porters Creek continues to be monitored by Council on a monthly basis, and recent results are shown below.

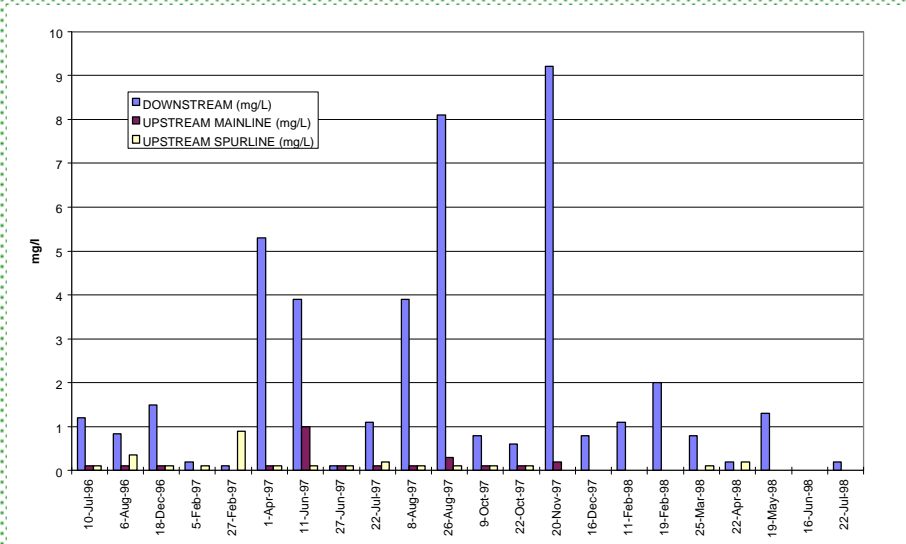
Graph 2 - Porters Creek Water Quality: Nitrite & Nitrate as N



Graph 3 - Porters Creek Water Quality: Total Kjeldahl Nitrogen as N



Graph 4 - Porters Creek Water Quality: Ammonia as N



Response

Council installed a Gross Pollutant Trap on the stormwater drainage system in Ryde Park. Tonnages of silt and litter collected in this device since January 1997 are:

- 1997 25 tonnes
- 1998 to date 7 tonnes

A further emptying of the trap is scheduled for October 1998, as apart of Water Week activities.

In addition, silt and leaves continue to be collected through the street cleaning program. This is a pollutant load that



would otherwise be washed into the creeks and rivers. Tonnages since 1991 as shown below:

- 1991/92 1022.8 tonnes
- 1992/93 1208.2 tonnes
- 1993/94 1074.8 tonnes
- 1994/95 1334.3 tonnes
- 1995/96 1290.6 tonnes
- 1996/97 1244.3 tonnes
- 1997/98 1058.7 tonnes

The response to the fluctuating results from the testing of the water from Porters Creek has been to identify external sources of possible contamination. Testing has revealed that on occasions, runoff from the adjoining Green Waste Recycling area and an incorrectly directed subsoil drain installed at the time of the M2 Motorway construction direct contaminated runoff into Porters Creek. Action is being taken to address these issues.

AQUATIC HABITATS

Variations in aquatic habitats within Ryde could be measured by analysis of the percentage of total streamlength with riparian vegetation per catchment.

Pressure

These habitats have been under pressure from past practices which resulted in the piping of natural waterways

State

The percentage of the total stream length remaining in its natural state that could provide aquatic habitat, has not previously been identified, and is to be part of the analysis in the preparation of the Stormwater Management Plans for Ryde

Response

The need and environmental consequences of further piping natural waterways is now part of Council's assessment in managing the stormwater system for the City.

Air

Environmental Indicators

Vehicle Registrations

↑ 1%
(from 1997)

Air Pollution Index (from 1996/97)

No. of High Readings

↑ 71

No. of Medium Readings

↑ 44

No. of Low Readings

↓ 64

Abstract

- The State Government released its Action for Air Plan to address air quality.
- An overall decrease in air quality is reflected in the indices provided by the NSW EPA.
- An increase in vehicle registrations in Ryde places greater pressure on our local air quality.
- It is estimated that in total Council has provided and/or planted over 23 000 plants in the local area.

Recommendations For Management Plan

That further consideration be given to the resources available for the continued development and implementation of a Local Air Quality Management Plan .

PRESSURES ON LOCAL ENVIRONMENT

Suggested core environmental indicators for the atmosphere are grouped under four issues: climate change, greenhouse gases, stratospheric ozone, and outdoor air quality. (ANZECC 1998)

Global data is available in the Federal and NSW State Government's' State of the Environment Reports.

Pressures on air quality in Ryde are similar to those around most of suburban Sydney; namely the effect of road traffic, local industrial, commercial and domestic sources.

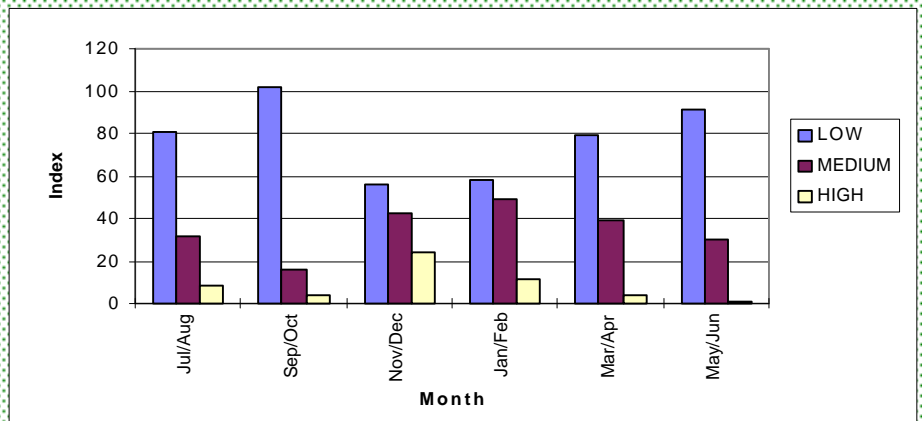
Most NSW local councils, including Ryde, rely on air quality data provided by the NSW Environment Protection Authority in the form of air indices.

The air pollution indices published daily by the NSW Environment Protection Authority are based on measured concentrations of fine particles, nitrogen dioxide and ozone in the lower atmosphere. Each of these pollutants plays a major role in the development of visible air pollution over most modern cities.

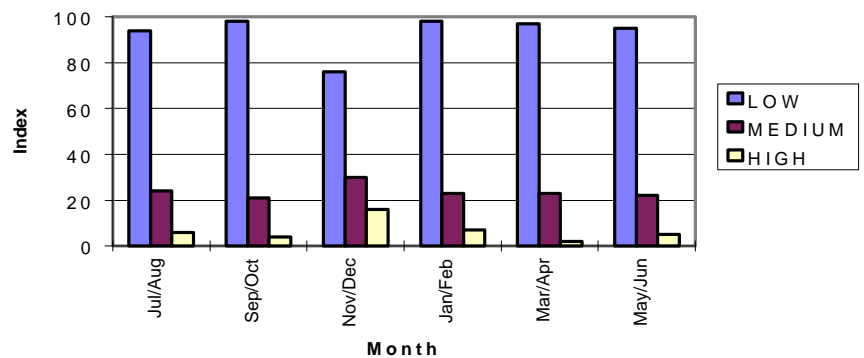
STATE OF LOCAL ENVIRONMENT
Air Pollution Indices

Ryde is located near the junction of the 3 metropolitan air regions (North West, Central and South West), and the following tables illustrate the number readings recorded for each air pollution level in those regions. The 'changes' column shows the increase/decreases from the readings for 1996 - 97. Note: readings were taken in the morning and afternoon of most days and these figures are combined.

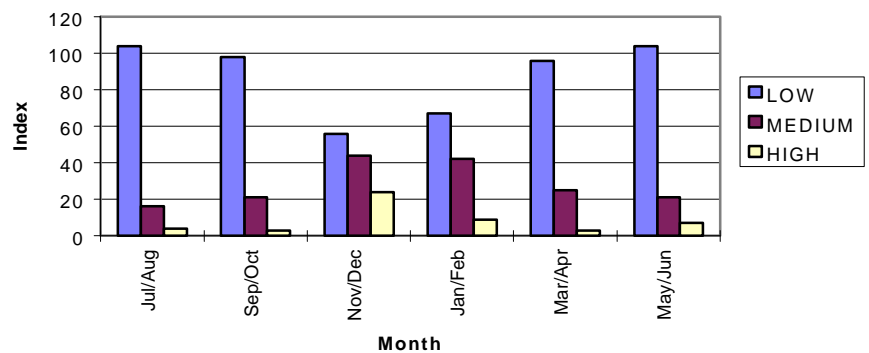
Graph 5 - Air Pollution Index: North West Region



**Graph 6 - Air Pollution Index:
Central Region**



**Graph 7 - Air Pollution Index:
South West Region**



Last summer record levels of ozone and fine particle pollution were recorded by the Environment Protection Authority and the number of days deemed to be a health risk rose to the worst level in 20 years.

Table 2 - Regional Air Pollution Index

AIR POLLUTION INDEX	TOTAL NO. OF READINGS	CHANGES FROM 1996 - 97
Low		
North West	467	-33
Central	558	-4
South West	525	-27
<i>Total</i>	1550	-64
Medium		
North West	208	38
Central	143	-4
South West	169	10
<i>Total</i>	520	44
High		
North West	52	25
Central	40	13
South West	50	33
<i>Total</i>	142	71

Local Complaints

The following table shows an increase in complaints from residents to Council about the quality of local air in the last three years, ending June 30, 1998.

Table 3 - Local Complaints

Air Pollution (Smoke, Dust, Odours)	Number of Complaints (July 1995 - June 1996)	Number of Complaints (July 1996 - June 1997)	Number of Complaints (July 1997 - June 1998)
Total	37	47	67 (+29 direct to EPA)

Local Vehicle Registrations

Table 4 - Vehicle Registrations in Ryde indicates an increase in most categories of vehicle registrations in Ryde. The total increase is approximately 1%. The Environment Protection Authority also indicates that there is state wide annual increase in vehicle kilometres traveled (VKT) of 1.6% (from 1997). For additional information see also Table 16 - Method of Travel to Work by Age (Employed Persons)- 1991 - Ryde LGA on page 108 and Table 17 - Method Of Travel to Work by Age (Employed Persons)- 1996 - Ryde LGA on page 109

Table 4 - Vehicle Registrations in Ryde

	Fuel Type Unknown	Diesel	LPG	Petrol & LPG	Leaded Petrol	Unleaded Petrol	Other Fuel Types	Group Total	Changes from 1997
Motorcycle	10				306	644	0	960	59
Passenger Vehicle	2591	99	124	167	10683	45540	8	59212	506
Utility & van	171	897	46	92	1348	4894	1	7449	103
Bus	11	137			10	15	0	173	6
Trailer	5295	0	0	0	0	0	0	5295	-99
Plant & Tractor	12	124	11	13	8	7	1	176	-5
Prime Mover	1	53					0	54	17
Rigid Truck	87	818	15	21	261	514	0	1716	81
Total	8178	2128	196	293	12616	51614	10	75035	668

RESPONSE FOR LOCAL ENVIRONMENT

Greening of Ryde

Planting trees and shrubs will help absorb and filter air pollutants. Throughout the City of Ryde in the last 12 months Council has provided and/or planted over 23 000 plants. This figure includes tree give-aways to the community and local schools, council planting in parks,

roadside landscaping and other works, and bush regeneration projects. Some protection of the existing tree canopy is afforded through the implementation of the Tree Preservation Order.

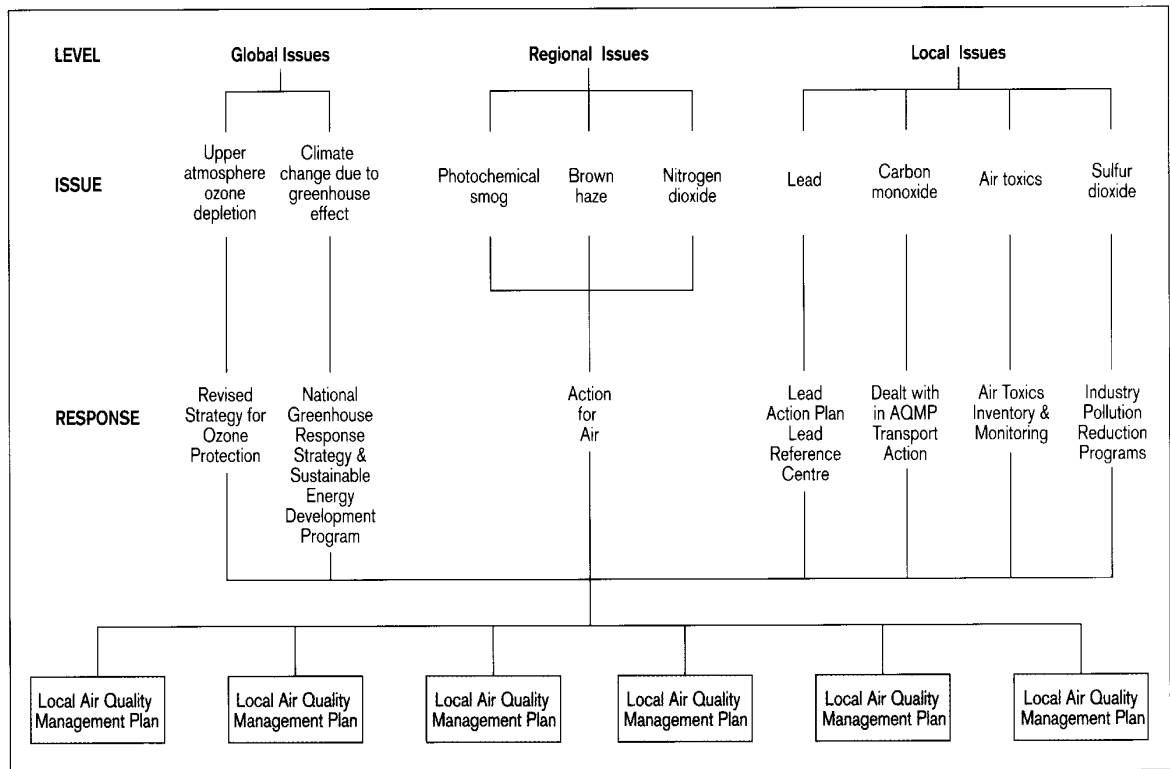
Action for AIR - The NSW Government's 25 Year Air Quality Management Plan

After the release of a number of draft documents (the Air Quality Management Plan and the Smog Action Plan, 1996 - 97), many years of research (chiefly MAQS¹ and HARP²) and consultation with key stakeholders, local government, industry and the community, the NSW Government's Action Plan was released in February 1998.

The Plan is a 25 year comprehensive plan which is designed to tackle the widest range of emissions specifically affecting the Greater Metropolitan Region of Sydney, the Illawarra and the Lower Hunter. The NSW Government is committed to health based ambient air quality goals.

The following figure illustrates the issues, responses and action plans to improve local and regional air quality.

Figure 1 - Issues, Responses, Actions to Improve Air Quality



**Local Air Quality
Management
Plan**

A total of \$7,502 has been budgeted in 1998/99 for the preliminary work to develop a Local Air Quality Management Plan for Ryde.

Clean the Air

This is the Commonwealth Government's initial response to the independent Inquiry into Urban Air Pollution, conducted by the Australian Academy of Technological Sciences and Engineering. The project and its subsequent recommended plans of action are funded through the Natural Heritage Trust Fund.

The Air Pollution in Major Cities Program (part of "Clean the Air") focuses on the six pollutants to which the majority of Australians are exposed. These are carbon dioxide, nitrogen dioxide, ozone, lead, particles and sulfur dioxide.

Specific projects are outlined under five key areas; transport, residential, monitoring, industry and co-ordination.

References

ANZECC, *"State of the Environment Reporting Task Force"* 1998

NSW EPA, *"Action for AIR - The NSW Government's 25 Year Air Quality Management Plan"* 1998

Environment Australia, *"Clean the Air."* Natural Heritage Trust 1998

Notes

¹ MAQS - Metropolitan Air Quality Study

² HARP - Health & Air Research Program

Biodiversity

Environmental Indicators

Council Paid Hours Spent
on Bush Regeneration
(from 1997)

↓ 12%

Land Transfers

33 ha of bushland
transferred to NPWS
Control

Abstract

- Habitat fragmentation and destruction is a major pressure.
- \$20,000 allocated for a Natural Vegetation Management Plan
- Noxious Weeds Study of Kittys Creek completed
- Projects carried out by Council, community groups and scientific groups
- Council controlled land to be transferred to the National Parks and Wildlife Service
- Special Research Projects
- Lack of information on local fauna

Recommendations For Management Plan

1. That works budgeted in the 1999/00 Capital Works Program be expedited, notably the following major projects:
 - Darvall Park Creekline Rehabilitation, \$60,000
 - Buffalo Creek, Stage 1, \$70,000
2. Additional funds be allocated for implementation of Plan of Management and co-ordination of bushcare volunteer works
3. Funds be allocated for faunal surveys of Ryde bushland

Responsible stewardship of the remaining biodiversity in the City of Ryde requires the co-operation of every landholder including the Council. In order to achieve this it is necessary that the principles of ecologically sustainable development be conveyed by academics in ways which are readily understood by the general public.

The Key Centre Biodiversity and Bioresource, Macquarie University has hi-tech biodiversity research programs that in the future will be suitable Internet material for high schools, primary schools, libraries and industrial use, see page 60

Biological diversity is difficult to quantify and indicators fall short of capturing the full range. Comprehensive, and accessible data of flora and fauna is a prerequisite to measuring change in biological diversity, human activities affecting it, and responses made to losses of that biodiversity.

In the previous SoE Reports it has been noted that mapping and monitoring processes occurring in each particular vegetation association is essential to future management of the natural areas. Known extinct, threatened and vulnerable flora and fauna has been listed. The 1995/1996 SoE Report listed the Rare or Threatened Australian Plants (ROTAP) occurring in Ryde City and the orchid species that have probably become extinct.

“The National Strategy for the Conservation of Australia’s Biodiversity (NSCABD) recognises local government’s role in the following areas:

Local government planning and environmental management

Standards of land management

Conservation of native vegetation, including “off reserve” conservation

Rehabilitation of degraded areas

Eradication of weeds

Pollution control

Implementing national policies at a local level”

(Berwick, M. & Thorman, R. 1998) ¹

Council is currently developing local environment planning strategies aimed at meeting the values, aspirations and needs of our future community.

¹ Rob Thorman, Local Government Bushcare Facilitator
GPO Box 2182, Canberra ACT 2601. ☎ (02) 6257 3379

**KEY INDICATORS OF
BIOLOGICAL DIVERSITY**

Ecosystem diversity

Put simply the extent and condition of native vegetation and marine habitats is the key indicator.

“We can recognise ecosystems but there is as yet no satisfactory way of classifying and counting them and on a world-wide scale, we have no idea how many there are.

At the national level, many schemes have been proposed such as Landcover types described by Dean Graetz of CSIRO. Another scheme is terrestrial and marine bioregions shown in the national State of the Environment Report. There is no clear resolution of the problem.” (Beattie 1996)

Species diversity

Extinct, endangered and vulnerable species of flora and fauna under Threatened Species Conservation Act 1995. Locally rare and uncommon flora and fauna species within the City of Ryde.

Genetic diversity

A measure of populations of selected species only. It is important that a set of core environmental indicators include some measures of change in genetic diversity. Population changes are the best measure currently available for trends in genetic diversity. As it is not practical to monitor populations of all species, it may be more useful to select some taxa that may be indicative of general trends.

PRESSURE

The major threats to biodiversity are habitat loss, the growth of human population and climate change. The global temperature and carbon dioxide (CO₂) concentrations continue to rise inexorably and the consequences have to be confronted. Most climatological models predict the loss of communities through climate change and within these communities, it may well be that taxa higher than the species are lost, for example, endemic genera and families. Extinction rates of species populations and the consequences of this process are well understood and a cause for alarm regionally and locally.

Little attention has been paid to the demise of keystone mutualist species. Examples include pollinators or seed dispersal agents that maintain plant populations. The fate of keystone species and the multiple species interactions in

which they participate should be a focus of future research.
(adapted from Beattie 1996)

Habitat fragmentation

A specific example is the North West Transport Link (M2 Motorway) from Epping Road to Lane Cove Road. This has been built through a narrow corridor of Lucas Heights soil fragmenting Berriwerri Reserve, one of the few remaining heathland areas in Ryde. Restoration works are required to be completed by Abi Group and Hills Motorway.

Clearing Native Vegetation

Native vegetation clearing and marine habitat destruction reduces the total area available to existing species, and can increase the risk of local extinction. Marine habitat clearing includes the loss of communities in areas such as algal (seaweed) beds, beaches, intertidal sands, mudflats, mangroves, saltmarsh and seagrassed areas.

STATE

Ecosystem and species diversity within the City of Ryde have not been accurately surveyed, mapped and digitised and therefore do not fully benefit from legislative protection. There is a further general lack of knowledge within the Council of the extent and type of remnant flora and fauna existing on private land in Ryde City.

It is however known that there are areas in Ryde containing significant vegetation requiring protection e.g., Marsfield Park and associated private and State owned land in the Marsfield area.

The degree of fragmentation of natural habitat is therefore difficult to monitor accurately. Moreover fragmentation causes disruption to ecological processes such as nutrient and energy cycling and creates further stress on already isolated sub-populations of species. This isolation increases the risk of extinction due to unpredictable environmental and/or demographic fluctuations.

Council Officers process development application approvals and for example, Section 149 Certificates, without access to vegetation data or information relating to threatened flora and fauna communities within the Local Government Area.

*Commonwealth Scientific and
Industrial Research
Organisation (CSIRO), North
Ryde*

Approximately 3 hectares of bushland at the CSIRO Riverside Corporate Park at Delhi Road, North Ryde were



cleared for commercial development in 1998. A recently discovered second group of *Darwinia biflora* plants has been located on the land and is likely to be impacted upon by development.

“This rare plant population is probably the southern most surviving population of the species. This gives the Riverside Corporate Park population of Darwinia biflora added conservation significance. To ensure the survival of this population, all of the surrounding bushland needs to be conserved, as this population has already been isolated by the intensive development of the area. The nearest known surviving population of D.biflora occurs north of Delhi Road. It is highly likely that D.biflora once occurred more widely on the Riverside Corporate Park site and the least that can be done is to conserve this small surviving population and its surrounding habitat.” (pers.comm. P.Kubiak 1998).

The bushland is adjacent to the Lane Cove National Park and forms part of an important wildlife corridor and much of this bushland has already been destroyed or damaged , e.g. the recent construction of the sewer pipeline.

Rail Link

In-principle agreement to the Chatswood to Parramatta Rail link has been given and the Environmental Impact Study is to begin shortly. These works have the potential for the removal of some bushland.

Boobajool Reserve

Approximately a quarter of an acre of illegal land filling occurred within Boobajool Reserve over areas of native vegetation at the interface of bushland and the leased land containing the North Ryde RSL sports oval.

Brush Farm Park

Brush Farm Park is important regionally and locally for its significant bushland. As Crown land it is not legally required for Council to formulate a Plan of Management under the Local Government Act, 1993, although responsibility for care and control is vested in Council. A coordinated works program is required to enable Council to achieve maximum potential in a unified rehabilitation strategy for the park.

Barton Reserve

Bush regeneration works in the reserve have continued for several years with excellent volunteer support. Suitable

stormwater drainage works are required to direct and pacify the volume of water running overland.

Marsfield Park

This 9.4 hectare park containing remnant shale based vegetation has been partly fragmented by horse riding activities in the area. The bushland could be consolidated into a more viable habitat by utilising fencing in strategic areas.

Budgetary constraints

There has been a lack of resources to fully implement bushland plans of management and to adequately service the growing number of bush care volunteer groups satisfactorily.

Council Policy Review

In fulfilling a Council policy to maintain tidy road verges a valuable roadside remnant of bushland was accidentally slashed in the Marsfield area.

Blue Gum High Forest

Near the Pioneer Park 'right of way' sign on Balaclava Road there is a patch of shale based vegetation which is regularly slashed which should be protected for conservation purposes.

RESPONSE

Vegetation Management

Local governments are seeking to include conservation issues in strategic land use plans in an attempt to minimise conflicts at the point of development. Furthermore, local governments' responsibilities for land use planning and development approvals are the most useful way in which councils are able to contribute to the conservation of native vegetation.

\$20,000 has been allocated for the preparation of a Natural Vegetation Management Plan. Stage One: Study Method and Information Collection And Assessment; Stage Two: Recommendations and Planning Mechanisms.

All of the available vegetation lists for the bushland areas in the City of Ryde have been collated on a computer program. This program will identify rare or uncommon species and their occurrence in the Ryde City area. It will also clarify the significance of each plant by focusing on particular species

other than Rare or Threatened Australian Plants (ROTAP) or Threatened Species Conservation Act species.

ROTAP and flora species scheduled under the Threatened Species Conservation Act, 1995 are being mapped on Councils Genamap system.

Lane Cove River Catchment Management Committee (LCRCMC) have commenced the collation of an inventory to identify all bushland remnants in the catchment, in order to establish land ownership, condition, current management regimes, and to allow the development of a more coordinated and integrated management system.

Shrimptons Creek

The Roads and Traffic Authority funded bicycle track access to Shrimptons Creek has a \$15,000 allocation for a 'rock ramp' structure and bush rehabilitation.

Field of Mars Cemetery

The Field of Mars Cemetery will become an important and large "buffer zone" for native vegetation contiguous to the Field of Mars Wildlife Refuge. A program has commenced to re-establish native groundcover, shrub and canopy layers within the cemetery. Subject to Council approval and receipt of a Master Plan for the site, removal of six of the existing Liquidambers *Liquidamber styraciflua* and one large Camphor laurel *Cinnamomum camphora* is planned. Three provenance seeded native plants will replace each exotic tree removed with species such as *Allocasuarina torulosa*, *Callistemon*, *Isopogon*, *Dianella* sp. and *Melaleuca decora*. Similar replacements are contemplated in 1999/2000. Over time the native vegetation from the Field of Mars Wildlife Reserve will 'modify' the cemetery grounds and the shale ridge line along Cressy Road reserve.

This concept is a part of the Draft Plan of Operations undertaken by the State Land Services, Cemetery Trustees, Ryde Hunters-Hill Flora and Fauna Preservation Society, Ryde City Council, and the current bush regeneration contractor for the Field of Mars Wildlife Refuge. A Plan of Management covering environmental and management issues will be co-ordinated by the Department of Land and Water Conservation.

Northern Suburbs Cemetery

There is a remnant of rare shale based vegetation with scattered canopy trees within the cemetery. This is also a valuable extension of habitat for birds and insects forming part of a wildlife corridor.

The mint bush *Prostanthera howelliae*, a locally rare plant species has been recorded in the area and steps will be taken to try to conserve it. Other plants recorded in the vicinity include the Donkey Orchid *Diuris maculata* which may still occur on the site. As a part of the conservation works a floristic list will be compiled. Seed can also be collected for future planting.

A rabbit eradication program has been implemented and a rabbit proof fence has been installed on the property perimeter.

A professional landscape company has been employed to undertake a number of environmental works.

Brush Farm Park

A Brush Farm Park Draft Plan of Management has been written and comment received from relevant groups and after these changes have been made the document it shall be presented to Council for adoption.

In Archers Creek tributary a \$17,200 rock structure has been placed at the stormwater outlet below Marsden Road this year. An application has been made for a further \$7,000 grant to allow Ryde City Council to complete the final upstream section of stormwater drainage works in Archers Creek. If successful, this will complete a \$112,200 creek line restoration project composed of 92% grant funding.

Land Transfers

There are a number of areas of Council land which are effectively a part of the wider Lane Cove National Park and in terms of good land management need to be rationalised with clearer land boundary definitions. The transfer of approximately 33 hectares of Council bushland to the National Parks and Wildlife Service (NPWS) hopefully will achieve this goal.

The lands recommended for transfer are as follows;

Reserve	Hectare
Dunholme Reserve	2.1119

Caldew Reserve	0.6379
Alston Reserve:	0.4038
Kobada Reserve:	3.3083
River Avenue/West Chatswood	0.0512
Quebec Reserve	0.4572
Ulmurra Reserve	0.4249
Berriwerri Reserve	6.3816
Boobajool Reserve	8.4207
Somerset Park	2.2156
Magdala Park	8.6658

Road reserves which form portions of the following roads are also proposed to be closed and transferred. These portions are currently unmade and extend into the bushland of the National Park

Alma Road	Barossa Road
Busaco Road	Christie Road
Fairyland Road	Pages Road
Khartoum Road	Quebec Road (part only)
Waterloo Road	

Existing Closed Road

The Plassey Road road reserve, North Ryde, has been formally closed. It is recommended that as this road reserve is contiguous with the Lane Cove National Park, it also be transferred to the National Parks and Wildlife Service.

Stewart Park Regeneration

The regeneration of understorey and groundcover since mowing ceased at Stewart Park over the last three years has been prolific although the natural forest association will take some years to fully re-establish.

The canopy species have been mapped on a surveyed plan of the main southern section of parkland. Tree diameters have been measured, and numbers counted, for all canopy species. The dominant tree is Turpentine, followed by Smooth-barked Apple, and then Blackbutt. Limited numbers of Iron bark trees occur strictly on the more elevated southern side of the park near Agincourt Road.

Since mowing ceased at least fifteen (15) new species have been identified which are listed below;

Clusiaceae (*St John's Wort family*)
 Hypericum gramineum
 Dilleniaceae (*Guinea fl. family*)

Hibbertia diffusa
 Epacridaceae
 Leucopogon juniperinus (*Bearded heath*)
 Fabaceae
 Desmodium varians/rhytidophyllum ?
 Kennedia rubicundra (*The Running Postman*)
 Pultenaea retusa
 Pultenaea linophylla
 Pultenaea villosa
 Haloragaceae
 Gonocarpus teucriodes (*Germander raspwort*)
 Lobeliaceae
 Pratia purpurascens (*White root*)
 Mimosaceae
 Acacia falcata (*Sickle wattle*)
 Myrtaceae
 Eucalyptus globoidea (*White Stringy Bark*)
 Proteaceae
 Persoonia pinifolia (*Pine-leaf Geebung*)
 Sterculiaceae
 Lasiopetalum ferrugineum var. ferrugineum (*Rusty
 Petals*)

**Wallumatta Nature
 Reserve (NPWS)**

A draft Plan of Management has been written by the Lane Cove National Parks and Wildlife Service for the Reserve. The development of a fire management plan is indicated as a high priority.

North Ryde Park

Good regeneration of the native plants has occurred since mowing ceased in the south east corner of the park. Some minor bush regeneration works are required. Some inappropriate planting of shale adapted native canopy has occurred here which can be removed and no further introduced planting should occur.

Terrys Creek

“Forrester Park Bushland Regeneration Project” was commenced by the Terrys Creek Bush Regeneration Group with the aid of a Lane Cove River Catchment Management Committee grant. The group is working in consultation with a professional bush regeneration company and Ryde City Council.

Pages Creek

Following the 1997 \$40,000 Environmental Trust Grant to the Ryde Hunters Hill Flora and Fauna Preservation Society, the

National Trust of Australia has been selected to undertake bush regeneration works in the middle catchment areas of Pages Creek. The objectives of the project are consistent with the Pages Creek Plan of Management adopted by Ryde City Council in July 1996. The Red-crowned Toadlet *Pseudophryne australis* and *Epacris purpurascens* var *purpurascens* have both been recorded in this locality which has good quality remnant bushland and one of the largest reed beds along the Lane Cove River.

**Retirement Village
Development**

A retirement village development at Vimiera Road, Marsfield is subject to conditions requiring that 3,297 square metres of "tree preservation area" be dedicated as a public reserve with at least \$115,000 being spent on its embellishment. The plant *Epacris purpurascens* var. *purpurascens* was located on the site. Cuttings and seeds have been propagated and will be planted with other locally collected native plant material. These works are important in contributing to the expansion of uncommon shale-based vegetation in Ryde.

**Abigroup-Obayashi
M2 Tollway**

As part of the M2 Tollway revegetation program Abi Group Joint Venture has contributed \$4,785.00 to Bundara Reserve. This money has funded bush regeneration works and suitable fencing materials. This has effectively increased the reserve size by 400 square metres. The volunteer ranger for the reserve, Mr John Cain has erected and painted the fence.

The north east corner of Epping and Pittwater Road intersection has been rehabilitated with the spraying and removal of exotic vegetation. Abi Group will finance rectification works at the stormwater outlet leading to the wetland drainage area (estimated cost \$15,000).

Abi-Group have assessed the works at Terrys Creek to rehabilitate either side of the Tollway embankments and under Terrys Creek bridge. Spraying of weeds, terracing with logs, mulching and replanting with provenance seeded species is expected to be undertaken.

M2 Surplus Land

Positive community input has resulted in on-going liaison among stakeholders including community representatives. Discussions are reaching consensus on the disposal of some land described as M2 Surplus. The community's major concern is bushland included in the original report and

recommendations by the Department of Urban Affairs and Planning. An important step in the process is now approaching completion, that is, the re-surveying of the M2 corridor by the Roads and Traffic Authority, in order to correctly determine the corridor boundaries (D Michel, 1998).

Lane Cove River Study

The Lane Cove River Estuary Management Committee commissioned a Data Compilation Study which was released in November 1997. Issues identified in the study include water quality, siltation, catchment practices, recreational and foreshore use and vegetation. The next stage is to carry out an Estuary Process Study

Barton Reserve

A grant application for \$80,000 has been lodged with the Natural Heritage Trust to undertake environmentally sympathetic stormwater drainage works in Barton Reserve to compliment the Buffalo Creek Plan of Management and works currently being undertaken in the reserve by National Trust.

Burrows Park

The Environmental Restoration and Rehabilitation Trust has granted Ryde City Council on behalf of Ryde Bushcare Group the sum of \$92,000.00 for a restoration project in Buffalo Creek at Burrows Park.

Ryde Hospital

Approximately 5 hectares of Blue Gum High Forest occur on the site, with over 100 species of native flora, which acts as a wildlife corridor for local and migratory birds. The option of transferring this land to Council has been raised with the NSW Government.

Boobajool Reserve

Ryde City Council is co-ordinating the rehabilitation of the illegal fill site. The majority of the fill has been removed, the slope contoured for drainage, and sandstone capped. Planting of provenance seeded native plants and further removal of exotic weeds is being undertaken by National Trust.

Darvall Park

A \$20,000 study of Darvall Park stormwater system to plan future drainage control structures was programmed last year for the 1998-99 financial year.

Mallee Reserve

Mallee Reserve is a small pocket of remnant native Turpentine/Ironbark forest which forms part of an earlier Aboriginal camping site. Bush regeneration works have been carried out in the Reserve by the Greening of Ryde Taskforce and Ryde City Council. This will be continued with an allocation of \$6000. A native vegetation list comprising 86 species has been compiled. Collection of native seeds for growing on as tube stock has been done by Cornucopia Native Nursery (Gladesville Hospital). The material has been planted out in the park by volunteers. Canna lilies have been removed by Ryde TAFE horticultural students. Department of Corrective Services day release personnel have undertaken mulch spreading (40 m³).

Table 5 - Additional Shale-based Remnant Bushland conserved in Environmental Planning and Assessment Act, 1979, Section 94 Contributions

Reserve	Area (ha)
Lyon Park Road	0.3
Stewart Park	0.2
Mallee Reserve	0.3
Bundara Reserve	0.5
Forrester Reserve	0.2

Council has adopted the recommendation that funding from section 94 contributions be listed for consideration in the 1999/2000 Management Plan. A Draft Public Space and Recreation Facilities Plan has outlined future projects for natural areas. Public comment on the draft document has requested inclusion of patches of shale based vegetation in Marsfield. Council will endeavour to secure these for conservation purposes through discussion with the owners.

Natural History of Ryde

Council could consider undertaking a Natural History of Ryde project to document the natural heritage of Ryde City. Council should support the local naturalists in their studies of local bushland. Legislation requires that the community (including environmental groups) must be involved in monitoring changes to the environment over time. Council could also institute a local bushwalking program which would require adequate funding.

Threatened and Endangered Species

The Scientific Committee, established by the Threatened Species Conservation Act, has made a final determination to list the Blue Gum High Forest occurring on the north shore and in the northern suburbs of Sydney as an endangered ecological community on Part 3 of Schedule 1 of the Act.

Further, the above Committee has made a final determination to support a proposal to list the Sydney Turpentine Ironbark Forest in the Sydney Basin Bioregion as an endangered ecological community on Part 3 of Schedule 1 of the Act.

CSIRO

Bushland has been removed in the past at CSIRO, e.g. building development and sewer construction works. More bushland is likely to be removed in the future and Council is requesting the developer to undertake bush regeneration on the remaining bush. The developer is going to take all steps necessary to preserve the remaining *Darwinia biflora* with the development of a bushland conservation area.

Marsfield Park

Erect bushland regeneration signs on Vimiera Road to indicate significant remnant bushland patch.

INTRODUCED SPECIES**Pressure**

Alien species and genetically modified organisms are a threat to biodiversity. Introduced species may cause extensive damage to native ecosystems. Within Ryde City they may have contributed to species extinctions by predation, habitat alteration and out-competing native species.

State

It is currently impossible to monitor the entire distribution and abundance of all non-indigenous terrestrial, marine and aquatic species of plants, vertebrates, invertebrates, and pathogens identified as pests. However, recording and mapping of introduced species should be done where appropriate. In the past volunteers have used inappropriate native plants in some localities, eg. Wallumatta Nature Reserve and Brush Farm Park.

Noxious Plants

Lynne McLoughlin, a lecturer in environmental education at Macquarie University, has addressed the problem of inappropriate planting in bush regeneration in an article entitled "The Impact of Planting for Restoration of Remnant Bushland on its Scientific and Educational Values: Implications for Conservation Planning" (McLoughlin 1997).

Ryde City's northern boundary has a proliferation of vigorously seeding weed species including *Paspalum* *Paspalum quadrifarium*, Scotch thistle *Onopordum acanthium*,

Montpellier broom *Genista monspessulana* and Pampas Grass *Cortaderia selloana* local environmental groups report that due to recent development works in Ryde these weeds have established (D.Michel).

*The Companion
Animals Act,
1998*

The Companion Animals Act, 1998 requires that Councils formulate "Local Animal Plans". to address problems caused by domestic dogs and cats.

RESPONSE

Noxious Plants

An initial NSW Agriculture grant for \$4,000.00 has funded a Noxious Weed Study of Kittys Creek. The report includes a comprehensive mapping of the catchment's noxious and alien weeds. A field strategy report details a management plan compartmentalising works which could be undertaken over a number of seasons depending on funding capacity.

Further funding has been applied for to NSW Agriculture for 1999 to continue mapping the other thirteen catchments as well as undertake a comprehensive targeting program of Alligator Weed *Alternanthera philoxeroides* within a number of parks along the Parramatta River. This program will support an *Alternanthera philoxeroides* weed eradication program upstream undertaken by Parramatta City Council.

A Lane Cove River CMC Grant has been awarded to Macquarie Hospital to commence works at the top of Kittys Creek Catchment. Rental from the child care centre in Pryor Park funds half of the \$5,000.00 bush regeneration program downstream of the Macquarie Hospital.

An annual \$12,000 bush regeneration contract in Martins Reserve has continued. Environmentally sympathetic drainage works funded by North Ryde RSL Club for \$36,000.00 are currently in progress at Martins Creek.

Incorrectly planted native species at Wallumatta Nature Reserve have been removed with the aid of volunteers.

Rail Services Australia fund an annual noxious weed contract along the railway line between Epping Station and North Strathfield Station. Noxious weeds are sprayed within the rail corridor at Darvall Park and Symon's Reserve. Council reciprocates with similar works on contiguous Council owned land.

Ryde City Council is working with contractors employed by Abigroup-Obayashi to undertake bush regeneration works along the M2 corridor. The invasive weeds, listed above, which occur on the northern boundary of the City will be removed.

**Lane Cove Valley Fox
Awareness Program**

The Urban Feral Action Group has been awarded a \$1,400.00 Lane Cove River CMC grant to create and distribute to the community a pamphlet on the urban fox. It is hoped the pamphlet will raise community awareness of the impact of foxes on urban wildlife.

**Volunteer Feral Animal
Trapping**

A large cage trap has been purchased by Council and is available for volunteers to utilise in bushland areas where there is known feral animal activity.

**Companion Animal
Act, 1998**

Ryde City Council staff are in the process of establishing policies for the Companion Animal Act under the "Local Animal Plan". A working party shall be formed by Council to complete this plan and address all of the relevant issues as they arise. It is understood there may be further legislative changes to the Companion Animal Act, 1998.

Funding Allocation

The allocation of bushland funding needs reassessing to allow more funding of ecologically significant areas such as Stewart Park and Marsfield Park to receive more of the available budget as their significance has developed in recent years with more legislative protection and changed Council management practices.

**FIRE REGIMES
Pressure**

The National Strategy for the Conservation of Australia's Biological Diversity lists altered fire regimes as a threatening process. Fire has played a major role in shaping Australia's biological diversity. Changes in fire regimes are highly likely to influence biological diversity.

State

A number of bushland areas in Ryde City have excessive fuel loads and require combined hazard reduction / ecology burns. A co-ordinated Plan of Fire Operations is required on a regional basis as indicated by the Rural Fires Act 1997.

Response

A District Bush Fire Management Committee is to be established in September 1998 and includes the NSW Fire Brigades, Ryde City Council, Lane Cove Council, Hunters

Hill Council, Lane Cove National Park, NSW Police Department and other Government bodies as deemed appropriate after review of the Draft Operation Plan.

Areas identified as high priority for hazard reduction/ecological burning for 1998/99:

- Field of Mars Wildlife Reserve - a pre-treatment has begun in this area and the burn is scheduled for 1998.
- The bushland along Terrys Creek near Crimea Road and Epping Road - listed as a hazard reduction/ecological burn site with the NSW Fire Brigades.
- Pages Creek bushland south from the creek to the Magdala Road area.

Lynne McLoughlin (1998) has written a paper about season of burning for fire ecology/hazard reduction burns in the Sydney area. Further, comparison is made with two current major land managers and contrasts seasons and types of burn. This paper has important implications for bushland management in the Ryde area.

RESEARCH PROJECTS

Macquarie University student, Ms K Atkins, is undertaking a study of the long nosed bandicoot *Perameles nasuta* in the northern Sydney area.

Part of this study involved over four weeks of trapping work in the Field of Mars Wildlife Refuge in 1997.

The results of the above study would indicate that the long nosed bandicoot *Perameles nasuta* may no longer inhabit the Reserve and that the native mammal fauna populations may be limited to the brushtail possum *Trichosurus vulpecula*, the ringtail possum *Pseudocheirus peregrinus* and bats. Fauna studies in the Field of Mars Wildlife Refuge, and Ryde generally, need to be conducted. Work needs to be done in the study of the less common mammal species, e.g. long-nosed bandicoots, echidnas, water-rats and insectivorous bats. The study should identify the location of surviving populations and make recommendations to protect them.

Snow Wreath Woollisia pungens Project

A University of NSW Environmental Science student, Ms Emily Kemp, is undertaking a quantitative assessment of mycorrhizal infection of *Woollisia pungens* at Almarra Reserve, River Avenue, West Chatswood. Mycorrhizal

fungus infects native plants, and nutrients such as nitrogen and phosphorous are passed on to the plant. A full report has been offered to Council at the completion of the study.

Memorial Park

There are five species of parrot in the park and four species are breeding as the parrots are attracted to the patch of old Forest Red Gum trees located in Memorial Park. The large trees have suitable hollows for nesting birds and the trees are now uncommon along the Parramatta River.

Two experimental bird nesting boxes built by Mr Thomas Kelso have been placed in the Forest Red Gums *Eucalyptus tereticornis* at Memorial Park. The Red-rumped parrot *Psephotus haematonotus*, a rare parrot within Ryde, is frequenting the boxes and breeding in the park. The Australian Museum, Southern Cross University, Birds Australia (formerly RAOU) and Cumberland Bird Observers Club support the development of the bird box nesting project.

Mr Kelso has recently noted a flock of fifty (50) Long-billed Corellas *Cacatua tenuirostris* in Memorial Park and frequenting the Ryde side of the Parramatta River.

The Greenspace and Parramatta River Foreshore Improvement Program has provided funding for bush regeneration works in excess of \$80,000 in the park. The resulting regeneration of the mid-story vegetation affords local small bird populations the required breeding grounds. Species such as the Superb Fairy-wren *Malurus cyaneus*, Silvereye *Zosterops lateralis*, White-browed Scrub Wren *Sericornis frontalis*, White-naped Honeyeater *Melithreptus lunatus*, Jacky Winter *Microeca leucophaea* and the Restless Flycatcher *Myiagra inquieta* have occurred in the past and bird observers will be looking for their return.

Due to the gradual spread of the exotic milkweed plant *Asclepias sp.* across the Pacific Ocean, the Wanderer or Monarch butterfly *Danaus plexippus*, has relatively recently arrived in Australia (1871). The milkweed plants *Asclepias sp* support the larvae of butterflies which may frequent the park during migratory periods.

Native butterfly species may be attracted into the park as the bushland undergoes further ecological restoration.

Oral History Project

Ryde City Council's Oral History Project Coordinator, Pauline Kirby, has interviewed local ornithologist, Mr Ern Hoskin, who has undertaken a lifetime study of birds. A transcript of the interview will be available through Ryde City Council Library Service.

Small Bird Habitat

Bushland dedicated for the sole purpose of the conservation of fauna is a prerequisite for the successful breeding of the sensitive, small native birds if they are to survive in urban Sydney. The concept of bushland purely for nature conservation has lost its appeal with recreational pursuits being put first and the concept of bushland parks being a recreational playground for people. The small birds require a very tranquil and still environment which requires visiting humans to make minimal impact when in such areas. People disturbance in many different forms is causing habitat loss for many small and larger native bird species in urban areas (pers. comm. Ern Hoskin 1998).

Because some smaller birds may not be able to travel long distances the species that have vacated urban areas may not be able to return. Fragmentation of vegetation corridors inhibits movement of these species of bird. The planting of native mid-storey and canopy native trees on private land and responsible supervision of domestic pets are both valuable community input to biodiversity conservation.

Vegetation management practices can affect fauna populations. The following extract from McLoughlin (1997) further illustrates this fact:

"The responses of vegetation communities to environmental conditions includes not only the presence/absence of a particular species but also the abundance of each species, as well as successional changes in abundance over time since fire or disturbance. This often has important habitat implications for fauna in both shelter and food requirements. A selected planting density may inadvertently favour some fauna species over others, or preclude establishment of other plant species providing for local fauna."

Birds Australia are making a grant application to the Federation Community Project Programs in liaison with Ryde Council, Ryde Bushcare Group, Ryde Hunters-Hill Flora and Fauna Society, Indigenous Regeneration Company, National Trust and Ern Hoskin. The project's aim

is to increase native bird habitat and populations by undertaking bush regeneration works in Buffalo Creek Reserve.

**KEY-CENTRE FOR BIODIVERSITY
RESEARCH MACQUARIE UNIVERSITY**

**All Taxa Biodiversity
Inventory of the Macquarie
University Ecology Reserve
(Dr J.M. Dangerfield)**

Within the undergraduate programme in the Department of Biological Sciences is a unit called Biodiversity. In the University Ecology Reserve, 4 ha. of Eucalyptus woodland that adjoins Lane Cove National Park, students have recorded over 50 orders of plants and animals, and estimate that this reserve contains more than 300 species of invertebrates and at least 54 species of ants.

In 1998 a rapid computerised sorting and specimen identification system called *virBAS* was introduced. This system not only speeds up identification but allows students to focus more closely on the real components of biodiversity. As this method is used each year the data also allows the monitoring of changes in biodiversity. This is very valuable given the M2 highway now passes through the reserve.

**Millipede research (Dr
J.M. Dangerfield)**

In 1997 a study was commenced in the ecology reserve on the importance of native millipede species for the consumption of leaf litter. The idea was to see if the feeding behaviours of these animals have any effect on the movements and release of nutrients for plants.

**Microbial Biodiversity
(Dr M Gillings)**

The Key Centre for Biodiversity conducts an undergraduate unit in Biological Sciences, devoted to understanding the diversity of micro-organisms. Biodiversity of micro-organisms, including fungi and bacteria, is one of the least understood components. The vast majority of species in these groups are yet to be described. Using the ecology reserve species of fungi and lichens are catalogued and a pictorial record is kept of specimens. Students also use advanced DNA based techniques. This work has discovered the presence of many undetermined bacterial species within the reserve.

**Lichen research
(Dr M. Gillings)**

A detailed genetic analysis is being conducted on the degree of genomic plasticity and genetic diversity of selected lichen species within the reserve. Lichens are important primary colonisers of bare rock, earth and bark, and are also sensitive indicators of pollutants in the environment. Of interest is whether the genetic diversity of lichen species in urban areas is decreased to that found in the same species collected in pristine areas.

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UFAG 1998 For further information contact Council or the Pest Species Officer, National Parks and Wildlife Service, ☎ (02) 9412-1811.

Mosquito Control

Environmental Indicators

No. of Complaints

↑ 327%
(from 1995/96)

No. of Mosquitoes Trapped

↑ 74%
(from 1997)

Larvicide Used

↑ 283%
(from 1997)

Abstract

- Arbovirus surveillance was stepped up in the metropolitan area following an outbreak of Ross River Fever in outer Northwestern Sydney
- Explosion of saltmarsh mosquitoes from Homebush Bay wetlands troubled residents of West Ryde and East Parramatta in February 1998
- Aerial larviciding of Homebush Bay wetlands carried out by the Olympic Co-ordination Authority in response to regional mosquito nuisance
- All locally trapped mosquito samples tested negative for viruses
- An independent survey of Ryde creeks and foreshores is recommended to assess priorities in terms of mosquito control, engineering and environmental aspects.

Recommendations For Management Plan

1. That a Council Mosquito Control Program be funded again during 1999/2000.
2. That an independent survey of creeks and foreshores be commissioned to determine priorities for maintenance and treatment in terms of mosquito control.
3. That the results of this survey be taken into consideration together with engineering and environmental needs in allocation of resources for creek maintenance in 2000/2001.

STATE

Thinking Globally

The global situation with mosquito borne disease is a matter for concern. Political instability, economic difficulties, and armed conflict in many parts of the world have disrupted basic public health and mosquito control programs.

Australia, despite its proximity to south east Asia and the south west Pacific islands, and the ever increasing volume of air travel, has so far escaped most of the disease hazards experienced in those regions. However, the need for vigilance is clearly increasing.

In south east Australia principal concerns currently relate to Ross River Fever and similar diseases, with the less likely but more acutely dangerous Murray Valley Encephalitis posing a latent threat.

Local Trends

Between December 1997 and March 1998, 47 mosquito complaints were recorded in Ryde - the highest number in the past five years, the lowest being 11 complaints in 1995/96.

Record numbers of mosquitoes were trapped at the regular trapping stations along the Ryde-Parramatta foreshores of the Parramatta River.

Throughout the season some 80% of all mosquitoes trapped in Ryde were saltmarsh species compared to 34.5% in 1995/96. This increase was exceeded in Parramatta where 93% of all trapped mosquitoes were identified as saltmarsh species.

It is extremely unlikely that the limited saltmarsh environments on the Ryde-Parramatta foreshores are capable of breeding the numbers of mosquitoes indicated by trapping, and certainly field surveillance provided no evidence of local breeding on this scale. However the major pest mosquitoes in the extensive Homebush Bay wetlands are saltmarsh species, in particular *Aedes vigilax*, which is known to disperse many tens of kilometres from larval habitats.

The comparative abundance of *Aedes vigilax* trapped at Homebush Bay in the summer of 1995/96 and the summer of 1997/98 is shown in Table 6 - Abundance of *Aedes vigilax* species in Homebush Bay. This supports the long held view that the occasions of extreme nuisance in the West Ryde-

Ermington area are attributable to breeding grounds on the south side of Parramatta River.

In fact 70% of Ryde's 1997/98 complaints related to premises west of the railway line and south of Eastwood Railway Station. Investigation of complaints in this area revealed that only two were definitely attributable to freshwater mosquito species. Scientific studies are being conducted which may throw further light on the migratory pattern of saltwater species breeding at Homebush Bay.

Table 6 - Abundance of *Aedes vigilax* species in Homebush Bay

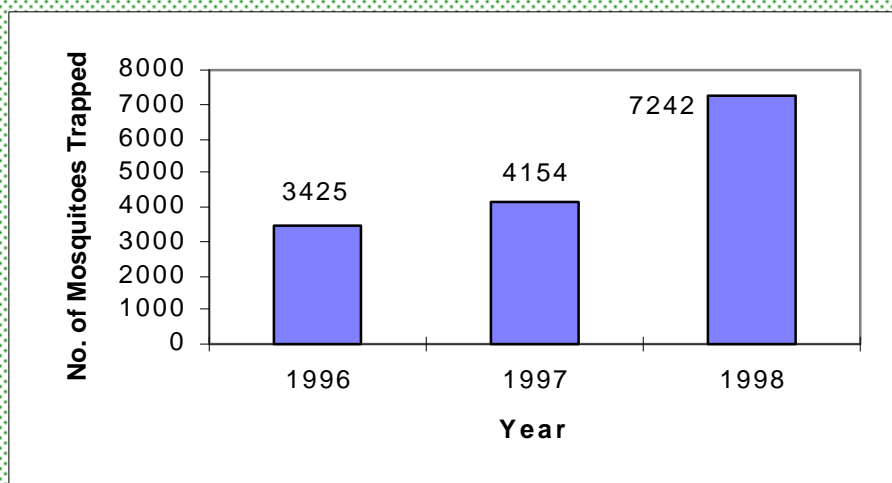
Month	Abundance (mosquitoes/trap night)	Month	Abundance (mosquitoes/trap night)
December 1995	22.39	December 1997	193.91
January 1996	91.79	January 1998	273.12
February 1996	93.93	February 1998	819.84
March 1996	22.77	March 1998	47.82

In recognition of mosquito nuisance at Homebush Bay, and its impact on adjoining areas, the Olympic Co-Ordination Authority secured a helicopter to carry out larvacidal spraying of Homebush Bay wetlands between 19 February 1998 and 15 April 1998. Although other factors come into play there is no doubt that aerial spraying was effective. The reduction of *Aedes vigilax* is demonstrated in Table 6 - Abundance of *Aedes vigilax* species in Homebush Bay.

Facts and Figures

Trapping in Ryde commenced on 10 December 1997 and continued until 24 March 1998 during which period 7,771 mosquitoes were trapped. However, trapping commenced earlier than in previous years and a fair comparison of the six regular trapping sites can best be made over the months of January to March, see Graph 8 - Total No. of Mosquitoes Trapped in Ryde Between December and March. The variety of species was unchanged being 16 in all.

Graph 8 - Total No. of Mosquitoes Trapped in Ryde Between December and March



Location of regular trapping sites in Ryde

- Wharf Road, West Ryde
- Ryde-Parramatta Golf Course
- Lambert Park, West Ryde
- Darvall Park, Denistone
- Maze Park, West Ryde
- Miriam Park, West Ryde

Larvacide usage in Ryde

All larvacide was applied manually using a biological preparation - "Vecto Bac"

Quantity: 1996 - 2,323 ml
 1997 - 1,337 ml
 1998 - 5,119 ml

Virus detection

No virus was detected from any of the mosquitoes trapped in Ryde or Parramatta but it should be noted that *Aedes vigilax* is a major vector of Ross River Fever elsewhere in New South Wales.

PRESSURE

"In early 1997, 69 cases of Ross River virus infection were reported in the north-western outskirts of Sydney. This represents a substantial increase over the maximum of 12 cases reported in any one year since 1991. The majority of cases (71%) are thought to have been locally acquired. This is the first reported outbreak of Ross River virus infection in this area, and highlights the need for metropolitan health services to be vigilant about a disease that has primarily been associated with rural and semi-rural areas in New

South Wales.” (Community Diseases Intelligence Vol 22 No. 6 June 1998.)

RESPONSE

Following a 1996 review of the NSW Health Arbovirus Surveillance Program, and in response to growing disquiet, a ministerial commitment was given to additional surveillance in metropolitan areas, increased health education, and the production of a NSW Government Green Paper. A whole of government approach to mosquito control and mosquito borne disease is proposed.

For its part Ryde City Council has continued funding a limited mosquito control program which commenced in 1990, at a time when no other metropolitan Council was involved. Since then close links have been forged with Parramatta City Council and various Government and other stakeholders on the south side of the Parramatta River.

CONCLUSION

Whilst the main mosquito nuisance for Ryde in the summer of 1997/98 emanated from Homebush Bay, breeding of freshwater species continued in backyards and in some creeks and drains in the Ryde area.

The Olympic Co-Ordination Authority is reinstating marine tidal flushing in the Newington saline wetlands to control saltmarsh mosquito breeding in the long term.

Waste Management

Environmental Indicators

Avg. Garbage Collected per Household per Annum*

846kg

↑ 1.7% (14kg)
(from 1997)

Avg. Recycling Collected per Household per Annum*

223 kg

↑ 6.2% (14 kg)
(from 1997)

Recycling as % of Total Waste Collected*

20.85%

↑ 0.69%
(from 1997)

* See notes Table 7 and Table 8

Abstract

- Preparation of a Waste Minimisation Plan for the Northern Sydney Region.
- Examination of alternative waste disposal sites
- Council employs a Waste Education Officer
- Introduction of separate “greenwaste” collection deferred
- “User pays” systems for commercial waste collection
- “Clean Up Australia Day” & Toxic Chemicals Collections

Recommendations For Management Plan

1. Continue investigations to develop a Waste Management and Recycling Park at Porters Creek.
2. Develop & implement a program to reduce the annual tonnage of garbage per household by encouraging on-site disposal through composting and vermicultr.

STATE

The implementation of Regional Waste Boards by the State Government over the past two years has seen an increase in interest in the developing of new waste reduction strategies. The Northern Sydney Waste Board, of which Ryde City Council, along with Hunters Hill, Lane Cove, Willoughby, Mosman, Manly, Warringah, Pittwater, Hornsby and Ku-ring-gai Councils are members, have been working on the Northern Sydney Regional Waste Minimisation Plan which is to be released early in the new financial year. This plan will assist Councils in establishing and improving new waste minimisation strategies without overlapping in trial studies.

Ryde City Council's domestic waste is collected by Collex Waste Management. This is currently transported to the Waste Management Centre, Wicks Road, North Ryde, prior to transfer to Lucas Heights Landfill site. This site, however is expected to be at near full capacity by the year 2000 and Councils in the Northern Sydney Region will be expected to dump their rubbish elsewhere. The Northern Sydney Waste Board is currently considering three landfill sites out of Sydney, (Woodlawn to the south, Cessnock and Singleton, to the north) to cater for the disposal of the City's waste. Tenders close in August, 1998 for the development of this new landfill site.

Unfortunately, a new site will also mean an increase in disposal charges, as the distance the waste is to be carted will need to be taken into account in costings. With this in mind, Council have employed a Waste Educator to assist in developing plans, brochures and programs, designed to assist residents in understanding better ways to reduce their waste going to landfill and therefore saving money.

The city's recycled waste is now being taken to the Chullora Materials Recovery Facility for sorting, as this site is closer to the City than the MRF at Alexandria. The same materials are sorted here as at the old site, however minimal liquid paper board is accepted in the paper section. Consequently, Council has requested that residents place this material in the yellow compartment of their recycling bins.

Ryde City Council's Porters Creek Depot continues to recycle the Council's excavated materials, bitumen, concrete etc from road works. These materials are crushed and stored at the Depot before being re-used in the reconstruction and rehabilitation of roads, footpaths and drainage works. Council is currently looking to further develop this site so

that other Councils in the area can also recycle their excavated materials and to be repurchased for use in their Engineering works. This saves Council a large amount in dumping costs as well as preventing precious landfill sites being filled up with recyclable materials.

PRESSURE

Domestic Garbage

Ryde City Council services approximately 35,700 residences with a weekly garbage service utilising a 240 litre mobile garbage bin and offers a bi-annual "clean up" collection on a zone scheduled basis. During the year July 1997 to June 1998 a total of 30,164 tonnes of solid waste was disposed of, or an average of 846 kilo per household.

Table 7 - Total Waste Tonnages*
July 1994 - 1998

Period	Tonnages	kg per Household
July 1994 - June 1995	31,759	945
July 1995 - June 1996	31,139	895
July 1996 - June 1997	29,547	832
July 1997 - June 1998	30,164	846

*Note: These figures are based on data received by Council from the North Ryde Waste Management Centre and the Collex Waste Management Greenacre Transfer Station. Household figures are based on the total number of bins distributed therefore Council cannot give an accurate figure of waste disposed per household as some residences may only place their bins out for collection on a fortnightly basis.

RECYCLING SERVICE

The recycling participation rate has remained at a high rate with approximately 80-90% of residents placing their recycling bins out for collection on a fortnightly basis. A total of 7,947.50 tonnes of recyclables were collected from the 35,350 recycling bins distributed for the year ending 30 June, 1998. This is an increase of 488 tonnes compared to the year ending 30 June, 1997. The total recycling tonnages collected as a percentage of the total waste stream also increased from 20.16% for the year ended June, 1997 to 20.853% for the current year ended.

Table 8 - Recycling Tonnages* as
a % of Total Waste Tonnages

Period	Garbage Tonnages	Recycling Tonnages*	% of Waste Recycled
July 1994 - June 1995	31759.00	3,904.47	10.91%
July 1995 - June 1996	31,139.29	5,395.24	14.77%
July 1996 - June 1997	29,546.86	7,459.97	20.16%
July 1997 - June 1998	30,164.33	7,947.50	20.853%

*Note: These figures are based on data received from Waste Services: Collex Greenacre Transfer Station, Sydney Recyclers, Alexandria and Waste Services Recycling Facility, Chullora

Industrial Collection



Currently, industrial waste tonnages cannot be accurately recorded from the Ryde City Council area as this waste comes from a variety of locations. Waste Services have provided the commercial and industrial tonnages received at their Waste Management Centre, North Ryde for period January to December, 1997.

Table 9 - Commercial & Industrial Waste Tonnages

1993	1994	1995	1996	1997
26,593	31,238	30,912	28,291	34,414

RESPONSE

Garden Waste

Further to the State Government's requirement for Councils to eliminate greenwaste from the waste stream, Council carried out a second greenwaste trial during October/November, 1997 in the Gladesville area. This trial utilised a 240 litre mobile bin collected on a fortnightly basis. The participation rate utilising this system was more than double that of the monthly kerbside trial carried out during the summer of 1996/97.

Participating residents were requested to complete a survey detailing the preferred frequency, and style of service they felt would suit their needs. The results varied considerably with the majority in favour of a containerised service carried out on a monthly basis. This was largely due to the cost involved in a more frequent service and the ease of utilising a mobile container.

The State Waste Advisory Council and the EPA have now extended the deadline of banning greenwaste from entering landfill to the end of 1999. Council has postponed introducing a separate greenwaste collection at this present time due to the lack of end market facilities and the additional cost which will be incurred by residents through their rates.

Waste Education

With the employment of a Waste Educator in April, 1998, Council designed and produced a new Recycling and Waste Guide. A "Hippo" mascot was designed to promote residents' awareness of Council's waste and recycling services. The "Hippo" will enable residents to easily identify all information on waste and recycling services via posters, brochures and advertising campaigns.

Commercial Waste

In response to the Waste Minimisation Act, Council will introduce a “user pays” system for the collection of rubbish from Business and Commercial properties effective July, 1998. The rate payer of the commercial property will be charged \$3.00 per garbage bin per lift and \$2.00 per recycle bin per lift, replacing the old \$162.00 per annum charge. Properties with a small amount of waste may only need to place their bin out for collection every two to three weeks and thus be charged accordingly. The bins will be identified by an orange lid with a sticker stating the address of the property placed on the lid. The garbage vehicle drivers will be required to mark off on a database, the number of commercial bins serviced at each property until the bins are computer chipped later in the year.

Litter Control

Council provides various services to reduce litter including:

- Mechanical Street Sweepers - day/night shifts on a rotating roster basis
- “Be tidy” bin collections - day/night shift 6 days per week
- “Public Relations” vehicle - provides an instant response service for the collection of illegally dumped rubbish, dead animals etc., where the owner cannot be identified
- Cleaning of public utilities
- Graffiti removal from public utilities.

**Clean Up Australia Day - 1
March, 1997**

Approximately 270 people took part in the “Clean Up Australia” campaign at 18 sites within the Ryde City Council area. Ten large skip bins were voluntarily supplied by Collex, Cleanaway and Dumpers waste companies at the larger sites. Approximately 61.63 tonnes from the “Clean Up Australia” campaign bags was accepted at the North Ryde Waste Management Centre.

Ryde Sites for Clean Up Australia Day 1998:

- Busaco Road, Marsfield - at the end of the Cul-de-Sac
- ELS Hall Park, Kent Road North Ryde
- Field of Mars, Visitors Centre, Pittwater Road, East Ryde
- Field of Mars, Cannon Walk
- Pidding Road, Ryde
- Looking Glass Bay, Bernard Avenue, Gladesville

- Bill Mitchell Park, Morrison Road, Putney
- Morrison Bay Park, Philip & Jetty Roads, Putney
- Memorial Park, Meadow Crescent, Meadowbank
- NE Side of Ryde Bridge, Waterview & Osborne Streets, Ryde
- Wharf Road, West Ryde
- Darvall Park, Chatham Road, West Ryde
- Pembroke Park, Vimiera Rd, Pembroke Street
- Brush Road, West Ryde
- Burrows Park, Princes Street, Ryde
- Meadowbank Wharf, Bowden Street, West Ryde
- Marsden High School
- The German School, Meadowbank

Toxic Chemical Collections

In recent years, Sydney Water with the support of Waste Services NSW provided residents of Ryde with an annual Toxic Chemical Collection. Due to cutbacks by Waste Services in 1997 this service was restricted to only eight sites throughout the Sydney Metropolitan Area with the North Ryde Waste Management Centre hosting the 1998 Anzac Day Weekend collection.

The Waste Management Centre at Wicks Road, North Ryde, accepts waste oil, paint, solvents and household cleaners free of charge from domestic households all year round. This service is designed to minimise the dumping of household chemicals into sewers, stormwater drains, domestic garbage or bushland. It does not extend to commercial or industrial waste or other toxic materials which can be taken to the Waste Services Liquid Processing Plant at Lidcombe.

Environmental Indicators

Aircraft Noise Complaints (To Air Services Australia)

↓ 4%
(from 1997)

Abstract

Road traffic noise continues to be the major cause of environmental noise in Ryde.

The Long Term Operating Plan for Sydney's Kingsford Smith Airport commenced but the target for air movements over the north has not been met.

Council continues to support the construction of a second Sydney Airport at Badgery's Creek.

Domestic noise continues to be a major cause of complaints to Council.

The proposed noise monitoring program was deferred.

Recommendations For Management Plan

1. That a consultant be employed to carry out a background noise level survey and prepare a noise contour map of the City.

TRANSPORTATION NOISE

*Current Situation and Pressures**Road Traffic Noise*

Road traffic noise continues to be the major cause of environmental noise in Ryde.

Response

Council considers the impact of traffic noise when assessing development applications for multi-unit developments adjacent to main roads and imposes conditions to minimise the impact where appropriate.

Council also imposes weight limits on roads and resurfaces roads where required.

*Aircraft Noise**Current Situation and Pressures*

Council received very few complaints about aircraft noise this year. However, Airservices Australia received approximately 290 complaints from Ryde residents over the same period (Airservices Australia, n.d.).

Introduction of the Long Term Operating Plan for Sydney Airport commenced in August 1997. This plan set a target of 17% for aircraft movements to the north of the airport. However, data from Airservices Australia (n.d.) indicates that this target has not been met, with between 24 and 35% of all aircraft movements over the north.

The Draft Environmental Impact Statement on the Second Sydney Airport Proposal was released for public comment in December 1997. This report examines the impact of a second Sydney Airport at Badgery's Creek and indicates that aircraft noise is not likely to be a significant issue for Ryde.

Holsworthy has been abandoned as a possible site for a second Sydney Airport.

Response

Council expressed support for the construction of a second Sydney Airport at Badgery's Creek and has made a submission on the Draft Environmental Impact Statement.

Ryde Library was also an exhibition point for the Draft Environmental Impact Statement during the exhibition period.

INDUSTRIAL NOISE**Current Situation and Pressures**

Industrial noise does not appear to be a major problem in Ryde, with few complaints received by Council. The main causes of complaints this year were building work, after-hours waste collection services, loading and unloading operations at night, and noisy mechanical plant.

Seven industrial premises were scheduled under the Noise Control Act 1975 and licensed by the Environment Protection Authority.

**Table 10 -
Scheduled
Premises: Noise
Control Act,
1975**

Premises Name	Address	Suburb
Astra Pharmaceuticals Pty Ltd	10 - 14 Khartoum Road	North Ryde
Astra Pharmaceuticals Pty Ltd	66 Talavera Road	North Ryde
Buttercup Bakeries	23 - 25 Waterloo Road	North Ryde
Gilbarco Aust. Ltd	12 - 38 Talavera Road	North Ryde
Hoover Company (Australia) Pty Ltd	41 -45 Belmore Street	Ryde
Hoover Company (Australia) Pty Ltd	84 Belmore Street	Ryde
Siemens Plessey Properties Pty Ltd	Railway Road	Meadowbank

Response

Council considers potential noise impacts when assessing development applications for industrial uses and imposes conditions restricting hours of operation and noise levels where appropriate.

Demolition and building approvals include a condition restricting work to between 7:00 a.m. and 7:00 p.m. on weekdays and 8:00 a.m. and 4:00 p.m. on Saturdays. No work is permitted on Sundays and public holidays.

Council officers investigate complaints in relation to non-scheduled premises and take action where appropriate. This may include issuing Noise Control Notices and Court action for non-compliance with Notices and approval conditions.

Scheduled premises are the responsibility of the Environment Protection Authority.

DOMESTIC NOISE***Current Situation
and Pressures***

Domestic noise continued to be a major cause of complaints to Council. The main causes of domestic noise complaints were barking dogs, crowing roosters, loud music, airconditioners, and pool pumps.

Response

Council officers investigate complaints and take action to resolve problems when they occur.

NOISE MONITORING PROGRAM***Current Situation
and Pressures***

As mentioned in last years report, there is little readily available data on background noise levels in Ryde. However, the noise monitoring program proposed in that report was deferred because of other work commitments.

Response

Council is proposing to allocated \$50,000 for environmental monitoring projects in 1998/99 and the preparation of a noise contour map for the City of Ryde is one of the projects being considered.

REFERENCES

Airservices Australia n.d., *Briefing notes on Sydney Airport*, 25 June 1997 - 16 July 1998

Heritage

Environmental Indicators

Heritage Inventory
Buildings Lost / Added

NIL

Changes in No. of known
Aboriginal sites

NIL

"Genamap" listing of
Aboriginal sites

COMMENCED

Abstract

- Continuing development places increasing pressure on heritage sites
- Ryde Heritage Inventory under review - lack of statutory status limits protection
- Table of permitted alterations to listed heritage items
- Preparation of Consolidating Local Environmental Plan nearing completion
- Heritage 2001 grant funding for Aboriginal cultural heritage available in 1999
- Macquarie University Institute of Aboriginal Studies and Research awarded \$150,000 grant to research reconciliation in Ryde schools
- Glades Bay Aboriginal Heritage Walk progress
- National Strategy for Australia's Heritage Plans
- Legislative amendments to the Native Title Act (NSW) 1994, Aboriginal Lands Rights Act 1983 (NSW) & Environmental Planning and Assessment Act, 1979 (Pt 4)

Recommendations For Management Plan

1. That Council continues to seek funding for the restoration or conservation of Brush Farm House
2. That the review of the Heritage Inventory be continued to ensure that it remains relevant
3. That "dollar for dollar" funding be allocated for a Heritage 2001 grant application
4. That funding be considered for the establishment of an Aboriginal Consultative Committee

**NON-ABORIGINAL
State**

The development of Ryde from a farming area in the early days of the Colony of New South Wales into a suburban city within the Sydney metropolitan area has been described in previous State of the Environment Reports.

Ryde as we now know it is an area with a strong emphasis on research and development industries, educational facilities and commercial centres. Although there are few remnants of the original farming community they are highly valued and Ryde retains several notable buildings constructed since European settlement.

The suburbs of Ryde contain layers of mostly pleasant though unremarkable 20th Century architecture. Changes in building materials and styles are readily identifiable from the Federation period to the decades after World War II.

The continuing development of Ryde places an increasing threat on the heritage sites, places and buildings in the area. In response to these development pressures, Council commissioned the Ryde Heritage Study which was completed in 1988. The current Ryde Heritage Inventory was developed from this study and the historical accuracy of the inventory listings and the classification system is currently being reviewed by Council staff. A copy of the Inventory is available for perusal in the Ryde library and Council's offices.

The Australian Charter (known as the Burra Charter) provides guidance for the conservation of places of cultural significance. These are defined as "places of aesthetic, historic, scientific or social value for past, present and future generations".

Whilst Council seeks to prevent the demolition of any heritage item listed in the Inventory, alterations and additions to these items have been permitted over the past 12 months. See Table 14 - Heritage Inventory Update, page 106.

Pressures

The lack of statutory status for the Heritage Inventory limits the extent of protection available.

The lack of a more comprehensive listing which includes wider criteria for heritage significance limits the identification and protection of potential significant items.

Response

The preparation of a Consolidating Local Environmental Plan for the City of Ryde is nearing completion. This Plan will contain Heritage clauses, and separate Development Control Plans and Policy Statements are also being prepared for each heritage item on the Inventory. See Table 14 - Heritage Inventory Update, page 106.

In order to ensure that these Development Control Plans and Policy Statements are based on historically correct information, Council officers and Council's Heritage Adviser have continued reviewing the Inventory and identifying items which require further review or additional data. This review will be completed in time for the public exhibition of the Consolidating Local Environmental Plan.

Council is continuing to provide its free heritage Adviser Service. In the past 12 months this has been beneficial to many local residents as well as architects and property developers. It has also assisted staff members in recognising the significance of heritage items when dealing with building and development applications. Council is also continuing to promote community interest in Heritage issues through the services provided by Council's Local Studies Librarian who has been an invaluable asset to local residents and others wishing to research the historical background of local properties.

In the final analysis, Council has to balance the reasonable rights and expectations of property owners with the overall community interest in heritage issues. The Heritage Conservation Strategy combines statutory regulation with incentives such as flexible planning and building controls and the waiver of application fees. It is considered that this approach, combined with the continuing promotion of heritage issues, will achieve reasonable and cohesive planning for the future conservation of heritage items in the City of Ryde.

ABORIGINAL

State

There are currently fifty (50) recorded Aboriginal Sites in Ryde City on land under the jurisdiction of the Council. There are approximately another forty (40) recognised Aboriginal sites within the Lane Cove National Park . These sites include grinding grooves, axes, engravings, middens and paintings. It is reported by a local archaeologist that throughout the Lane Cove Valley that there may be further Aboriginal culture heritage items.

Council's role in Aboriginal heritage includes;

- Implementing heritage legislation at the local government level by ensuring local planning and development controls are sensitive to cultural heritage
- Conserving places of heritage significance which are located on land owned or managed by Ryde City Council
- Providing opportunities for public involvement in the conservation of cultural heritage, encouraging public heritage awareness and sensitivity, and initiating heritage education programs.

Pressure

The situation is largely unchanged since the previous SoE report i.e.

- A need remains for the integration of Aboriginal site data with planning information held by Council - this is important for consideration of development applications
- There is no recognised forum for the various Aboriginal and non-Aboriginal groups in Ryde to establish coordinated heritage programs
- Further grant funding is required to manage the Aboriginal sites in Ryde City.

Response

At the local level Council is currently integrating the Aboriginal Site access list with the digitised planning information held by Council. This process will take a number of months to complete.

Ryde City Council was one of the first Councils to display the "Sorry book" which was located in the main library and all branch libraries in Ryde. This process has allowed the non-Aboriginal community to respond according to conscience and take some steps forward in the reconciliation process.

In June 1997, shortly after the release of the Human Rights and Equal Opportunity Commission report, "Bringing Them Home", the NSW Government was the first State government to apologise for its part in the policies of removal, separation and assimilation of indigenous people.

Nationally the Council for Aboriginal Reconciliation's vision is a united Australia which respects this land, values Aboriginal and Torres Strait Islander heritage and provides justice and equity for all by the year 2001, the centenary of Federation. The contribution of local government is crucial to this process of reconciliation

Heritage Funding Opportunities

Heritage Assistance Program

The Heritage Office offers funding for Aboriginal Cultural Heritage with submissions closing in April 1999

Heritage 2001

Conservation opportunities also arise with the Heritage 2001 program which covers major projects of state significance for Aboriginal heritage sites.

Ryde City Council will endeavour to seek funding in the above programs.

Metropolitan Local Aboriginal Land Council (MLALC)

Aboriginal Sites Officer Allen Madden (MLALC) has assisted Ryde City Council in the investigation of an Aboriginal camp site in Mallee Reserve, Gladesville. Research into the matter is continuing. Mr Madden is recognised as a traditional ancestral land owner for the Darug area.

It has been suggested by a local amateur archaeologist that the Wallumedegal clan of the Darug Tribe occupied a territory extending from Neutral Bay in the east to Ryde in the west. This hypothesis is based on ethnographic reports of the first European settlers that the shores opposite Sydney Cove was called Wallumeda and the tribe living there were known as Wallumedegal.

*Macquarie University: Promoting
Aboriginal History and Culture*

Macquarie University is an important institution in the City of Ryde with a commitment to indigenous culture and students.

The University's Institute of Aboriginal Studies and Research has been given \$150,000 to research how and where reconciliation is being advanced in schools. Working with Ryde Primary School, the University is trying to develop materials which would stimulate young people to think about reconciliation.

Director Nina Burrige is hoping to identify examples of best practice in the way schools approach reconciliation. The program will be run with the assistance of indigenous educators, the Aboriginal Education Consultative Group and the NSW Education Department.

Macquarie University has long acknowledged Darug heritage and custodianship of the land where the University now stands.

*Celebrating Darug
Culture on Campus*

Last March, the University invited Darug artists, Edna Mariong Watson and Patricia Karbo Jarvis, to take part in creating a sculpture installation symbolising the active traditions of the Darug.

Ms Watson and Ms Jarvis are among the very few remaining speakers of the Darug language. This project acts as a symbol of reconciliation within the university community and the City of Ryde.

*Indigenous
Studies on
Campus*

Macquarie University is very much involved in maintaining and promoting Aboriginal heritage.

These include the Diploma of Community Management and the Bachelor of Teaching (Early Childhood). They are referred to as identified courses for Aboriginal and Torres Strait Islander students.

More broadly, undergraduate students at Macquarie University can take courses in Aboriginal studies as part of a multi-disciplinary approach in combination with many other studies.

Information about Aboriginal studies at Macquarie University can be obtained from Ms Nina Burridge: ☎ (02) 9850-8660

*Glades Bay Aboriginal
Heritage Walk*

In the 1997 SoE Report it was noted that Stage 1 of the Aboriginal Heritage Walkway was implemented. The project recognises the value of Aboriginal heritage, its importance to the whole community, and to Aboriginal cultural tourism in Sydney.

The Objectives of the Stage 1 Planning Document include:

1. Provide Council and the Aboriginal community with a planned approach to the management and promotion of the Aboriginal heritage of Glades Bay
2. Provide an aboriginal Heritage database for Glades Bay Park
3. Prepare a Statement of Cultural significance for Glades Bay Park
4. Provide advice on cultural tourism planning and marketing and to identify the tourism potential of the Aboriginal Heritage of Glades Bay Park
5. Identify the management and conservation constraints and opportunities of the individual sites along Glades Bay in a cultural tourism context
6. Identify appropriate site interpretation and promotion in the form of a Heritage Walkway which is acceptable to the Aboriginal community and serve the local community and visitors to the area
7. Provide the design and construction requirements of the Heritage Walkway

The critical principle guiding the study is the role of the Metropolitan Local Aboriginal Land Council in aboriginal site protection, planning and management.

The Aboriginal sites along the eastern shore of Glades Bay include: an open rock engraving site, open and sheltered occupation sites, a sheltered stencilled art site and an axe grinding groove site. These sites represent a good selection of the range of site types that may be found in the Sydney region.

In future the Glades Bay Park section could form part of a network of foreshore walks which may include Looking Glass Bay, Banjo Paterson Park, Morrison Bay Park, Putney Park, Kissing Point and Settlers Park.

**Government Policy
Overview***National Heritage Strategy*

The National Strategy for Australia's Heritage Places for the period January 1999-December 2003 addresses the major challenges facing Australia's heritage places, and identifies key objectives, strategies and key result areas for each level of Government to meet those challenges.

While this Strategy is a document produced by and for government, it is intended to provide the framework for all Australians to carry out their common responsibilities for heritage. Governments acknowledge that development of detailed implementation plans will be required to achieve the objectives of the Strategy and associated standards.

Legislative Changes

The Minister for Aboriginal Affairs, Dr Andrew Refshauge, has recently approved the review of the operation of the Aboriginal Land Rights Act 1983 (NSW).

The Native Title (NSW) Amendment Bill 1998 has been introduced into Parliament. The bill is intended to bring NSW legislation into line with the Commonwealth Native Title Act 1993 following the recent "Wik" amendments.

Aboriginal Consultative Committee

The establishment of an Aboriginal Consultative Committee for Ryde is a matter which Council may wish to consider. Members could include Macquarie University Aboriginal Studies Program staff, the Metropolitan Local Aboriginal Land Council, and other key groups.

Amendments to the Environmental Planning & Assessment Act, 1979

One of the aims of recent amendments to the Environmental Planning and Assessment Act 1979 is to integrate the development approval process. Section 91 of the Environmental Planning and Assessment Amendment (EP&AA) Act 1997 lists the approvals of other agencies which are included in the Integrated Development Assessment (IDA) process. This includes Section 90 approvals under the National Parks and Wildlife (NPW) Act 1974 regarding consent to knowingly destroy, deface or

damage or knowingly cause or permit the destruction or defacement of or damage to an Aboriginal relic or Aboriginal place. Where a relic or an Aboriginal place is known to occur on land prior to the lodgement of a development application, the National Parks and Wildlife Service (NPWS) will become the approval body.

Where a relic or aboriginal place is found to occur on land subsequent to the granting of development consent, separate NPWS approval will still be required under Section 90 of the NPW Act 1974. The above processes relate only to Aboriginal heritage issues, and do not relate to threatened species issues. The threatened species provisions of the EP&A ACT 1979 still apply, separate to IDA, and the Department of Urban Affairs and Planning (DUAP) and NPWS circulars on these provisions will continue to apply.

The National Parks and Wildlife Service reports that a new Aboriginal Sites officer has been employed by the Sydney Zone Team. The officer's work will include the recording of any new sites found in the Ryde City and Lane Cove valley areas. The National Parks and Wildlife Service policy in regard to Aboriginal sites is that they are better left in isolation and not be readily accessible to the general public, until the relevant studies, interpretation and management plans have been undertaken.

Open Space

Environmental Indicators

Chemical Use

↓ 17%

Non-organic Fertiliser Use

↑ 14%

Sporting Facility Bookings

↑ 5%

Abstract

- Parramatta River reserves give public access to over 50% of the Ryde foreshores
- Work continues on network of recreational and picnic facilities across Ryde
- Substantial improvements to bikeways network
- Demand and use continues to increase maintenance costs on sportsfields
- Urban development continues to impact on natural areas
- Open Space Plans and land acquisition continues.

Recommendations For Management Plan

1. That works budgeted in the 1999/00 Capital Works Program be expedited, notably the following major projects:
 - Sheperds Bay, Stage 2, \$178,000
 - Buffalo Creek, Stage 1, \$70,000

DESCRIPTION AND STATE

Ryde, “the city between the rivers” is an important part of the Parramatta / Lane Cove River system. Comprising 14 natural sub-catchments (*SoE Report 1993*), with each catchment containing a network of wildlife and open space corridors following the creeklines to the rivers. Urban development still continues to have an impact on the long, narrow natural areas, fragmented along the creeklines, or as isolated pockets higher in the catchments.

A fairly even distribution and wide range of sporting fields, bushland reserves and passive open space exists across the city with large numbers of small open space pockets and neighbourhood parks scattered amongst residential zones.

Ryde over the past 5 years has developed an extensive yet incomplete network of passive recreational / picnic facilities that incorporate the natural and built environment. The Parramatta River reserves comprises a large scale network and variety of generally linked open spaces with access to over 50% of the river. Several other large open spaces scattered across central areas of the city have been developed into high use recreational areas.

Responsibility for 61 sporting fields involves a complex range of issues in balancing the needs of the local sporting community, extensive maintenance and management practices, improvement of facilities and protection of nearby natural areas. Sporting fields occupy large open spaces on cleared land or filled sites within wider natural catchment environments.

Significant remnant natural areas exist in Buffalo, Archers, Denistone, Kittys, Pages, Terrys & Shrimptons catchments and along the Parramatta River. (*SoE Report 1993-95*). Most of the Lane Cove River valley is managed by the National Parks and Wildlife Service (NPWS).

PRESSURES ON THE OPEN SPACE NETWORK

Passive Recreational Facilities

Demand and use remains high due to the attraction of the Parramatta River foreshores and other popular parks for both local residents and visitors from outside the city.

If anything this trend has further increased due to Council’s policy of improving access to, and quality of, recreational facilities:

- This is reflected in the Parks Access Program and development of a Bikeways network.
- Projects in some areas, notably the central Ryde and East Ryde precincts are yet to be initiated and this has put pressure on other recently embellished reserves.

Sporting Facilities

Demand and use has continued to increase the maintenance and management costs on most sports fields, due to:

- Fields nearing maximum capacity with overuse by some sporting codes, especially concentrated training use for winter sports with high impact.
- Additional formal bookings (seasonal and casual hire) have increased by a further 5% (now 100% use on Saturdays and an increase on Sundays).
- Expanding activity of a traditionally strong sporting community with several high profile sporting associations at capacity for venues.
- Increased community expectations of quality of facilities provided.
- Poor playing surface conditions on a number of high use fields due to poor original construction and deterioration over 20 to 30 years and now requiring major reconstruction.
- Extreme wet weather conditions has caused major structural damage to sporting facilities with poor field drainage and forced ongoing closures.

Remnant Natural Areas

Pressures remain due to:

- Fragmentation and destruction of wildlife corridors and isolation of remnant plant communities.
- Stormwater runoff from residential development and sportsfields creating erosion, siltation and continuing gross pollutants.
- Poor water quality with high nutrient content feeding invasive weeds and reducing the natural tree canopy.
- Recreational use causing wear and disturbance.
- Illegal encroachments causing rubbish and weed problems.

RESPONSES TO THE STATE OF
THE OPEN SPACE NETWORK

- Plans of Management though not all adopted, are being used to cover the broad generic planning issues and a number of specific issues associated with the management of Ryde's parks and reserves. The plans outline the existing conditions and the strategies needed to manage and develop the network of open space.
- Specific embellishment and rehabilitation strategies have been developed for a number of environmentally sensitive natural areas (notably the Draft Buffalo Creek and the Parramatta River Foreshore Plans of Management) with many projects included in Council's Management Plan.

Master Plans

- Integrated Civic Policy includes renewed public landscaping and streetscapes with several "urban village" areas being developed as described in the Appendix.
- Preparation of an Open Space and Facilities Plan as part of a Section 94 Development Contribution Plan is in progress.
- Implementation of a Master Plan for redevelopment of the Ryde Swimming Centre is to be commenced over the next 2 years in conjunction with the Sydney 2000 Olympics.
- A Master Plan for the embellishment of Shepherd's Bay on the Parramatta River has been completed. Detailed project plans are being developed for the medium term for high profile public spaces as part of the Parramatta River Plan, Sydney 2000 and beyond.
- Completion of the \$1.5 million embellishment of the Pellisier Road site in Putney on the Parramatta River as part of a Master Plan for Putney Park.
- Ryde Park Embellishment Stage 1 - \$20,000 allocated in Council's Management Plan to develop plans for long term embellishment of premier open space in the Top Ryde precinct.

Land Acquisition

- 10 residential properties purchased in 1996 & 1997 along the Charity Creek catchment have been cleared and profiled at a cost of approximately \$2 million for land drainage and future open space embellishment. Additional purchases scheduled over the next two years.
- Acceptance from the State Government of a 7 hectare site within the Macquarie Hospital for use as public open space. Lease agreements have not been finalised, but

agreements include minimum embellishments and management of area as undeveloped “green” open space.

- Negotiations are still in progress with the RTA for the acquisition of surplus land adjacent to Tasman Place and other locations along the M2 Freeway for use as public open space.
- The planned redevelopment of Shepherds Bay includes securing of “Operational Land” presently used as Council’s Works Depot and the initiation of high quality public open spaces.
- Negotiations are in progress for the acquisition of some foreshore Commonwealth land (ADI site) on the Parramatta River for use as foreshore open space to provide extended public access to the Parramatta River.
- Negotiations are in progress with the NPWS to transfer a number of Council’s natural reserve areas contiguous to the Lane Cove NP to facilitate better management of these areas.
- Planned acquisition of several residential blocks in Denistone East, North Ryde and West Ryde for development of embellished open space.

Land Drainage

- Construction of the West Ryde Flood Management Project has begun. Plans include the installation of a gross pollutant trap, upgrade and drainage to 3 sportsfields at Meadowbank Park and the use of this park for stormwater retention purposes.
- Several creekline rehabilitation projects have been completed at the head of catchments which will assist with stormwater management further downstream, notably Brush Farm Park and Looking Glass Bay.
- Planned reconstruction of headwater of Buffalo Creek West Arm - Burrows Park (\$92,000) using contemporary rock engineering structures and natural area rehabilitation.

Parks Embellishment Program

- Pellisier Road Embellishment (\$1,400,000) completed and \$237,000 of works allocated for 1998/99 including an amenities building and connections to Putney Park.
- Major park embellishments are planned at Yamble Reserve, Shepherd’s Bay, Buffalo Creek and Blenheim Park with \$1,000,000 included in Financial Management Plan.
- Stage 5 Playground Upgrade Program (\$85,000) completed.

- Stages 6 & 7 Playground Upgrade Program (\$315,000) are included in Council's Management Plan to complete network of playgrounds across the city. Works include new equipment, safety surfacing and fencing, shade shelters and expanded playground spaces.
- Picnic Facility Development Program (\$95,000) included in Council's Management Plan to compliment major embellishments and provide an extended network of passive recreational open space.
- The reconstruction of the Ryde Swimming Centre into the Ryde Aquatic Leisure Centre includes the development of a range of sports facilities including multi-purpose indoor courts, squash courts, aquatic leisure facilities, and a gymnasium.

Parks Access Program

- Stage 2 Parks Access Program (\$50,000) completed providing further equal access to a range of high profile sports and passive recreational facilities.
- Pellisier Road Embellishment includes equal access to premier parkland on the Parramatta River.
- Shrimptons Creek Bikeway Underpass at Epping Road (\$570,000) completed to provide major access link across the city from central Ryde to the Macquarie Park precinct.
- Sub Regional Bikeway Routes (\$900,000) at Browns Waterhole completed to provide arterial bikeway network from Ryde to Ku-Ring-Gai.
- Morrison Bay Bikeway (\$120,000) completed as part of the Parramatta Valley Cycleway.
- Sub Regional Bikeway Routes in progress at DeBurghs Bridge (\$120,000), West Ryde to Meadowbank (\$100,000) and Eastwood to West Ryde (\$250,000) as joint projects with RTA.
- Sub Regional Bikeway Routes (\$210,000) included in Capital Works Program for 1998/99.

Sportsfield Management

- Council's 1996 Sportsfield Plan of Management guides the development control and maintenance of all sports facilities.
- The Council's Management Plan includes a range of fees and charges for the hire of all sportsfields, and allocation of funding for the maintenance and renovation of all playing surfaces.

- Automatic Control Systems have been implemented on floodlighting and amenity blocks to control use at all major sports facilities.
- Irrigation Upgrade and Use Control Program has been implemented to minimise wastage and excessive water runoff, particularly into natural areas.
- Chemical applications on sportsfields have been further minimised as indicated in Chart 1
- Stage 2 Eastwood Park Drainage (\$80,000) has been completed and provides an all-weather sports surface for year round sports and community events such as the Granny Smith Festival and the Youth Concert.
- Christie Park Water Reticulation Design (\$10,000) has been completed with a view to developing a program for recycling irrigation and storm water. \$70,000 has been allocated in Council's Management Plan for 1999/2000.

Sportsfield Upgrade Program

- ELS Hall Park Baseball Upgrade Stage 2 (\$162,000) is in progress with a 100% contribution from club and state government to provide international standard facilities to be used as part of Sydney 2000 Olympic Games.
- Morrison Bay Park Sportsfield Upgrade (\$120,000) has been completed and provides quality sports surfaces for 3 fields used by both men's and women's major soccer Associations.
- Provision has been made for significant upgrading at other locations as detailed in Council's Management Plan including Magdala Park soccer fields and Ryde Oval (\$270,000).
- Synthetic Wicket Upgrade (\$38,000) has been completed at Gannan, Pidding and Tuckwell Parks.
- Christie Park Upgrade (\$25,000) has been completed and includes fencing, spectator mounding, equal access and several auxilliary structures.
- The Open Space Facilities Plan includes a number of other upgrade projects to be carried out in the near future as funding allows. These include further upgrades to synthetic wicket, sub-soil drainage to poor and damaged sportsfields, installation of bocce courts, additional basketball facilities and additional baseball facilities.

Creepline Rehabilitation and Restoration Program

- Brush Farm Park project (\$25,000) has been completed providing further stormwater erosion control within a significant bushland area.

- Darvall Park (\$20,000) allocated in Financial Management Plan to develop concept and construction plans for major creekline structures to protect the rare and threatened plant communities in this reserve.

Bush Regeneration Program (see also Biodiversity section of this report)

- Natural Areas Buffer Zone Program further extended into 6 new areas with 31 areas in total. Areas for regeneration segregated from remainder of site by use of old electricity poles. Regeneration of indigenous plant communities occurs once previously mown grass areas are allowed to grow back naturally. Initial pilot site at Greenwood Park (1992) has produced a further 500 potential canopy trees (total now 1000) over an extended 2 hectare site.
- 21 Bush Regeneration Projects (\$224,000) completed as part of an ongoing program to rehabilitate significant and environmentally sensitive bushland areas. These projects will continue over the next 2 years.

Volunteer Bushland Program

- 10 Council sponsored volunteer groups are active in various bushland focus areas.

Community and Street Tree Programs

- The Greening of Ryde Taskforce carried out 2 treeplanting projects in McCauley Park and Mallee Reserve with 500 native canopy trees planted.
- Schools Treeplanting Program continued with over 400 native trees and shrubs planted to enhance tree canopy and bird habitats.
- Community Tree Giveaways (\$20,000) completed with over 10,000 native tree and shrub seedlings given away to residents.
- Street Tree planting Program carried out in 8 streets with over 200 trees planted to enhance streetscape and tree canopy. Major treeplanting presently in progress along Lane Cove Road (\$100,000) as part of Sydney 2000 and Main Roads Embellishment Program. \$200,000 has been allocated for 1998/99.

Environmental Management Plans

Environmental Indicators

Ryde Local Environmental Plan

PROGRESSED

Landfill Environmental Management Plan

IN PLACE

Abstract

- Draft citywide Local Environmental Plan virtually completed
- Future management strategies -
 - Bushland vegetation
 - Macquarie Park and North Ryde
 - Estuary and Catchment Management
 - Landfill Environmental Management Plan

Recommendations For Management Plan

1. That a community focus group be formed to examine the current State of the Environment Report, and to make recommendations for future environmental management strategies
-

This Council has always endeavoured to respond positively to any environmental problems which have arisen, and has sought to prevent problems arising within the constraints of development control and approval processes. These controls and processes are constantly under review. For example, in 1997/98 childcare centres, dwelling house and duplex buildings were the subject of development control plans.

Reference has been made in previous State of the Environment Reports to the Ryde Local Environmental Plan Project, a citywide LEP called "For Now and the Future", designed to consolidate past changes and confirm the current thrust of development policies. This is now virtually completed in draft form, with a steering committee being formed to take the draft through to community consultation.

During 1997/98 preparatory work was completed for a proposed survey of bushland vegetation communities within the Ryde Local Government Area. An intended outcome is a management strategy for conservation and restoration of bushland vegetation.

A future strategy was also drawn up for the Macquarie Park and North Ryde Project. This has implications for traffic and transport, land use and employment.

Councils are now required to adopt a strategic "whole of Council" approach towards the recognition of ecologically sustainable development, and to build on community involvement in the development of environmental management strategies.

There has always been community involvement in various forms and recently this has been valuable in committees for catchment and estuary management. In November 1997, for example, the Lane Cove River Data Compilation Study was produced as a prerequisite to an estuary management plan.

Work is currently proceeding on the production of stormwater management plans for the Lane Cove River and Parramatta River catchments.

Other Council initiatives in 1997/98 include a Landfill Environmental Management Plan for the Porters Creek Waste Depot at North Ryde, and the development of a Medical Waste Management Program to be implemented in 1998/99.

Appendix

COMMITMENT TO BIODIVERSITY

Table 11 - Management Plan Commitment to Biodiversity

Urban Landscape Service.	Objectives	Priorities	Cost (\$k)	Time Frame
Sports Facility Improvement Program	Protection of environmentally sensitive areas	Brush Farm Park Creek line drainage rehabilitation & protection works	21	June 98
		Bush Regeneration Per annum	15	Aug97- Jun2000
	Protection Plan under Threatened Species Conservation Act 1995. Blue Gum High Forest & Turpentine/Ironbark Forest	Darvall Park Bush regeneration Per annum	15	Jun98-Jun99
		Creek line rehabilitation study	20	Jun98-Jun99
	High ecological value/>funding	Marsfield Park Bush Regeneration	3	Jun98-Jun99
		E.L.S Hall Pk/Shrimpton's Ck. Bush Regeneration/Creekline Component of Access & Bikeway	15	Jun98-Jun99
Community Land Capital Works Program	Capital works-rehabilitation	Barton Reserve	15	Jun98-Jun99
		Bundara Reserve	3	Jun97-Jun2000
		Burrows Park	12	Jun96-Jun99
	Protection of environmentally sensitive areas	Denistone Park	15	Jun96-Jun99
		Field of Mars Wildlife Refuge	20	Jun96-Jun99
		Glades Bay	15	Jun96-Jun99
		Kobada Park	3	Jun96-Jun99
		Lambert Park	15	Jun96-Jun98
		Looking Glass Bay Park	15	Jun97-Jun2000
		Marsfield Park	4	Jun97-Jun2000
		Martins Reserve	12	Jun96-Jun99
		Memorial Park	10	Jun98-Jun99
Outlook Park	3	Jun97-Jun2000		

Commitment to Biodiversity Cont'd.....

Urban Landscape Services	Objectives	Priorities	Cost (\$k)	Time Frame
Community Land Capital Works Program cont'd	High ecological value/>funding	Pembroke Park	12	Jun97-Jun2000
		Putney Park	4	Jun97-Jun2000
		Stewart Park	3	Jun97-Jun2000
		Wilga Park	15	Jun97-Jun2000
City Partnership Centre Greening of Ryde Task Force	Community Involvement Education & Support	Mallee Reserve	7.5	Jun. 98
		Mc Cauley Pk Santa Rosa Clean Up Australia Day		Mar 99

BUSH REGENERATION ACTIVITIES

Table 12 - Bush Regeneration Activities

Park	App. total native bush area (Sq. m.)	App.area of bushland regenerated (Sq. m.)	Bush regeneration hours in 1997/98	Seedlings planted	Volunteer hours	Current Projects
Barton Reserve	4	1,500	644	596	69.5	National Heritage Grant Application for \$80K
Brush Farm	6	3,200	547	120	216	\$3.2K grant from Boral \$7K request to Minister
Burrows Park	3	6,500	422	376	0	\$92K grant EPA
Darvall Park	7	12,200	550	120	20	\$20K Stormwater drainage works plan
Denistone Park	5	4,500	550	220	50	Blue Gum High Forest Fire regime established excellent regeneration
Field of Mars Wildlife Refuge	49	12,000	739.5	540	122.5	\$5K contract rehabilitate Sth Cemetery embankment \$4K Grant rehabilitate Nth. Cemetery embankment
Glades Bay	3	6,000	550	130	25	App. 15.6 cu. m of silt removed from the rock structure.
Lambert Park	0.3	3,000	360	500	0	Southern section rehabilitating
Looking Glass Bay	2	5,300	547	250	0	Ecological burn planned
Martin reserve	1	550	511	179	0	Drainage works \$36K in progress
Memorial Park	2.5	5,000	358	2000	20	Six species of parrots habituating
Stewart Park	1	155	120	0	0	Six species of eucalypt
Pidding Park		100	0	80	120.75	Ecological burn planned
Wilga Reserve	0.8	320	644	725	0	AMP to finance drainage works
TOTAL	84.6	60325	6542.5hrs	5836	643.75hrs	

BIODIVERSITY SUPPLEMENT - ISSUES

The following issues have been raised as discussion points for further possible actions to preserve and enhance biodiversity:

- All remnant vegetation on public land could be re-classified Conservation Zones and listed as items of Environmental Natural Heritage managed for the protection and enhancement of biodiversity.¹
- The development of a Vegetation and Habitat Protection Order for the Protection of Remnant Indigenous Plants.¹
- The preparation of a generic Development Control Plan that protects indigenous plant communities including understorey plants such as wildflowers and native grasses as worthy of protection¹
- Consider the introduction of the requirement to use plants indigenous to the area for landscaping of new developments within half a kilometre of remnant bushland to create buffer zones.¹
- Consider the introduction of a biodiversity incentive schemes for ratepayers, landowners and developers who identify and reserve remnant indigenous species. These fragmented populations can be included as protected open space or wildflower regeneration areas in site planning and development applications. Incentives such as rate rebates, small grants for fencing works, levies (under Ministerial approval e.g. Warringah and Manly Councils have obtained small parcels of bushland via ratepayer levies) and voluntary conservation agreements could be possible policy practices.¹
- Residents who wish to preserve remnant vegetation and native fauna on their own properties can create a conservation covenant on their land title in perpetuity for bushland protection. Alternatively, a conservation agreement may be entered into with the National Parks and Wildlife Service.²
- Adoption of appropriate zoning and open space allocation for the establishment of habitat corridors and linkages to allow for the movement and dispersal of native animals and plants to encourage natural regeneration and diversity.¹
- Incorporate habitat requirements in landscape design controls and guidelines for public and future private open space in new developments. Landscape design principles for biodiversity conservation need to protect, enhance and create habitat corridors for indigenous plants and animals.¹
- Include a standard specification which requires the creation of suitable habitat and the use of indigenous, provenance seeded plants in Council's briefs and contracts for landscape works on council owned land.¹
- Develop an indigenous plant list describing species suitable for landscape restoration work and formal landscape design to suit the natural conditions of the different environments in the LGA. A Ryde Planting Locality Guide booklet can be developed indicating the soil types in the different suburbs and the list of plant species which naturally occur in these areas.¹

¹ Seidlich, B., 1997, Green Web - Sydney - Vegetation Management Plan for Sydney Region; Sydney Regional Organisation of Councils

² David Robinson, Natural Areas Co-ordinator, Ryde City Council

- An accreditation system for persons undertaking Environmental Impact Statements and Review of Environmental Factors should be developed. This co-ordinates with the requirement for firms to be approved for the undertaking of Species Impact Statements under the Threatened Species Conservation Act (1995). This would ensure adequate investigations and surveys of the issues involved and to create a consistent approach.¹
- In applying the precautionary principle, public and private decisions should be guided by careful evaluation to avoid, wherever possible, serious or irreversible damage to biodiversity through an assessment of the risk-weighted consequences of various options. A lack of full knowledge should not lead to the postponing of action until further understanding is acquired to conserve biodiversity.¹

¹ Seidlich, B., 1997, Green Web - Sydney - Vegetation Management Plan for Sydney Region; Sydney Regional Organisation of Councils

² David Robinson, Natural Areas Co-ordinator, Ryde City Council

WILDLIFE SIGHTINGS

The following table is a compilation of information from NSW Wildlife Information and Rescue Service and the Sydney Metropolitan Wildlife Rescue Service. It summarises the number and type of animals brought to these organisations for care from 1996 to mid 1998. It is part of the very limited information available regarding animal sightings, either rare or common, in the Ryde area. More detailed information is available from the organisations themselves.

Table 13 - NSW Wildlife Information & Rescue Service Inc (WIRES)

Name of Animal	No.
Australian Magpie	34
Australian Raven	5
Australian Wood Duck	1
Barn Owl	1
Black Rat	2
Black-faced Cuckoo-shrike	4
Brown Goshawk	1
Bush Rat (particularly significant species)	1
Channel Billed Cuckoos	2
Cockatiel	3
Cockatoo	1
Common Brushtail Possum	29
Common Koel	4
Common Myna	2
Common Ringtail Possum	5
Crested Pigeon	8
Crimson Rosella	2
Dainty Tree Frog	1
Diamond (Carpet) Python	3
Eastern Blue-Tongued Lizard	9
Galah	14
Green Tree Frog	1
Green Tree Snake	1
Grey Butcherbird	6
Grey-headed Flying-fox	4
Kingfisher	6
Laughing Kookaburra	28
Long-necked Tortoise	3
Magpie-lark	4
Masked Lapwing	3
Noisy Miner	23
Pacific Black Duck	1
Pacific Wood Duck with ducklings	1
Pied Currawong	21

Name of Animal	No.
Rabbit	1
Rainbow lorikeet	30
Red Wattlebird	4
Red-bellied Black Snake	6
Red-browed Treecreeper	1
Rock Dove	2
Sacred Kingfisher	2
Short-beaked Echidna (particularly significant species)	1
Silvereye	1
Southern Boobook	2
Spotted Pardalote	1
Spotted Turtle-dove	7
Sulphur-crested Cockatoo	8
Tawny Frogmouth	4
Unknown Rosella	6
Unknown Sandpiper	1
Unknown Snake	5
Unknown Species	1
Unknown Swallow	1
Unknown Wattlebird	1
Welcome Swallow	2
White-headed Pigeon	1
Willie Wagtail	2

HERITAGE INVENTORY

Whilst Council seeks to prevent the demolition of any heritage item listed in the Inventory, alterations and additions to these items have been permitted over the past 12 months, and a list of these follows:-

Table 14 - Heritage Inventory Update

Item No.	Heritage item	Type	Description
3.14	24 Maxim Street West Ryde	House	New addition to dwelling
1.2 & 2.4	1-13 Pennant Avenue Denistone "The Hermitage" & "Wollondilly"	House & garden	Rezoning & subdivision application consideration.
2.53	37 Pennant Avenue Denistone	House	Subdivision application
1.9	1-13 Denistone Road Denistone "Denistone House" (Ryde Hospital)	Hospital	Conservation plan
2.68	139 Tennyson Road Tennyson	house	Building application to construct a garage.
2.82	642-678 Victoria Road Ryde "Dalton House"	Hospital	Stage 7-Development application & construction near Dalton House
2.93	60-62 Wicks Road North Ryde	House	Alterations & additions to a dwelling
2.1	74 Agincourt Road Eastwood	Hall	Alteration to hall.
3.23	10 Pelican Street Gladesville	House	Additions to dwelling
2.32	197 Delhi Road North Ryde Northern Suburbs Crematorium	Crematorium	New chapel & condolence facilities
3.5	85 Champion road Tennyson	Cottage	Addition to dwelling
4.4	69 Ryedale Road West Ryde	Shops	Alterations & additions to shop

OPEN SPACE CHEMICAL USAGE

Table 15 - Chemical Usage

Chemical Group	Chemical [®]	94/95 (Litres)	95/96 (Litres)	96/97 (Litres)	97/98 (Litres)	Variation (from previous year) (Litres)	Comments
Total kill herbicides	<ul style="list-style-type: none"> Glyphosate 	1650	1200	1400	1100	- 300	<ul style="list-style-type: none"> Additional cultural practices (mulching, planting, mist spraying)
Selective herbicides	<ul style="list-style-type: none"> MSMA DSMA Bindii Dicamba Bromoxyil 	180	100	120	100	- 20	<ul style="list-style-type: none"> Reduction of chemicals Change in cultural turf practices
Insecticides	<ul style="list-style-type: none"> Rogor Malathion 	30	15	15	5	- 10	<ul style="list-style-type: none"> As Above
Line marking compounds	<ul style="list-style-type: none"> Oxide based Water based 	900	600	900	800	- 100	<ul style="list-style-type: none"> Change to water based paints (1996)
Growth retardents and stimulants	<ul style="list-style-type: none"> Primo Gibberelic acid Kelp extracts 	0	20	50	50	No change	<ul style="list-style-type: none"> Used in conjunction with changed horticultural practices
Total		2760	1935	2485	2055	430	17% reduction

Fertilizers	Type	94/95 (Tonnes)	95/96 (Tonnes)	96/97 (Tonnes)	97/98 (Tonnes)	Variation (from previous year) (Litres)	Comments
Chemical fertilizers	<ul style="list-style-type: none"> High NPK fertilizers 	15	10	12	14	+2	<ul style="list-style-type: none"> Reduction of Phosphorus
Organic fertilizer & Others	<ul style="list-style-type: none"> Dynamic lifter Lime, Gypsum 	1	3	1	1	No change	<ul style="list-style-type: none"> Increase in organic fertilizer Increase in trace elements
Total		16	13	14	16	14% increase in non-organic fertilizer use	

Table 16 - Method of Travel to Work by Age (Employed Persons)- 1991 - Ryde LGA

	15-24 years	25-34 years	35-44 years	45-54 years	55 years or more	Total
One method:						
Train	529	847	549	273	153	2351
Bus	1003	1153	809	533	301	3799
Ferry/tram	7	15	10	3	3	38
Taxi	28	45	42	26	18	159
Car as driver	2960	6676	6056	4152	2500	22354
Car as passenger	666	695	543	401	288	2593
Motorbike/motor scooter	58	110	39	18	6	231
Bicycle	57	64	29	8	6	164
Walked only	487	451	398	310	180	1826
Other	41	97	78	72	51	339
<i>Total</i>	<i>5836</i>	<i>10153</i>	<i>8563</i>	<i>5796</i>	<i>3506</i>	<i>33854</i>
Two methods:						
Train and:						
Bus	177	201	165	94	57	694
Ferry/tram	0	0	0	3	0	3
Car as driver	64	149	92	43	24	372
Car as passenger	44	82	41	26	10	203
Other	3	9	0	3	3	18
<i>Total</i>	<i>288</i>	<i>441</i>	<i>298</i>	<i>169</i>	<i>94</i>	<i>1290</i>
Bus and:						
Ferry/tram	6	0	6	3	3	18
Car as driver	27	54	27	27	13	148
Car as passenger	37	51	30	28	13	159
Other	8	10	8	6	3	35
<i>Total</i>	<i>78</i>	<i>115</i>	<i>71</i>	<i>64</i>	<i>32</i>	<i>360</i>
Ferry/tram and:						
Car as driver	5	9	22	9	3	48
Car as passenger	3	3	3	0	0	9
Other	0	0	0	0	0	0
<i>Total</i>	<i>8</i>	<i>12</i>	<i>25</i>	<i>9</i>	<i>3</i>	<i>57</i>
Other	44	62	43	31	11	191
<i>Total</i>	<i>418</i>	<i>630</i>	<i>437</i>	<i>273</i>	<i>140</i>	<i>1898</i>
Three methods	37	62	39	12	12	162
Worked at home	51	273	407	281	247	1259
Did not go to work	1026	916	729	426	372	3469
Not stated ^(b)	368	443	392	247	201	1651
Total	7736	12477	10567	7035	4472	42293

Employed persons counted at home^(a) on census night

(a) Excludes visitors, and usual residents who were absent on census night.

(b) Includes cases when method of travel to work could not be determined.

Source: Australian Bureau of Statistics 1991 Census of Population and Housing;
Expanded Community Profile Cat. No. 2722.1 Ryde LGA

Table 17 - Method Of Travel to Work by Age (Employed Persons)- 1996 - Ryde LGA

	15-24 years	25-34 years	35-44 years	45-54 years	55 years or more	Total
One method:						
Train	409	792	676	381	131	2389
Bus	967	1195	894	608	281	3945
Ferry/tram	13	43	31	13	5	105
Taxi	25	61	36	30	10	162
Car as driver	2766	7184	6791	5156	2513	24410
Car as passenger	666	713	568	472	256	2675
Motorbike/motor scooter	44	97	61	22	8	232
Bicycle	66	64	33	14	5	182
Other	37	89	76	99	72	373
Walked only	475	397	376	266	171	1685
<i>Total</i>	<i>5468</i>	<i>10635</i>	<i>9542</i>	<i>7061</i>	<i>3452</i>	<i>36158</i>
Two methods:						
Train and:						
Bus	156	198	134	105	51	644
Ferry/tram	3	3	4	4	3	17
Car as driver	49	116	80	54	19	318
Car as passenger	41	66	35	12	11	165
Other	4	6	3	6	0	19
<i>Total</i>	<i>253</i>	<i>389</i>	<i>256</i>	<i>181</i>	<i>84</i>	<i>1163</i>
Bus and:						
Ferry/tram	5	10	13	6	3	37
Car as driver	24	47	40	29	14	154
Car as passenger	48	42	15	28	12	145
Other	9	9	10	5	3	36
<i>Total</i>	<i>86</i>	<i>108</i>	<i>78</i>	<i>68</i>	<i>32</i>	<i>372</i>
Ferry/tram and:						
Car as driver	4	13	10	6	3	36
Car as passenger	0	7	0	3	0	10
Other	0	3	0	0	3	6
<i>Total</i>	<i>4</i>	<i>23</i>	<i>10</i>	<i>9</i>	<i>6</i>	<i>52</i>
Other	31	55	47	38	15	186
<i>Total</i>	<i>374</i>	<i>575</i>	<i>391</i>	<i>296</i>	<i>137</i>	<i>1773</i>
Three methods	38	62	32	19	13	164
Worked at home	40	317	459	368	296	1480
Did not go to work	1309	1040	888	574	418	4229
Not stated ^(a)	180	120	131	92	110	633
Total	7409	12749	11443	8410	4426	44437

(a) Includes cases where method of travel to work could not be determined.

Source: Australian Bureau of Statistics 1996 Census of Population and Housing;
Expanded Community Profile Cat. No. 2020.0 Ryde LGA