



Mosman Council

State of the Environment

Supplementary Report

2005/2006

Mosman Municipal Council

Supplementary State of the Environment Report 2005/06

Prepared by Mosman Council, Environment and Services section.

Copyright Mosman Council

This work is copyright. It may be reproduced provided that the source and publisher are adequately acknowledged.

Published by Mosman Council
Civic Centre, Spit Junction

council@mosman.nsw.gov.au
www.mosman.nsw.gov.au



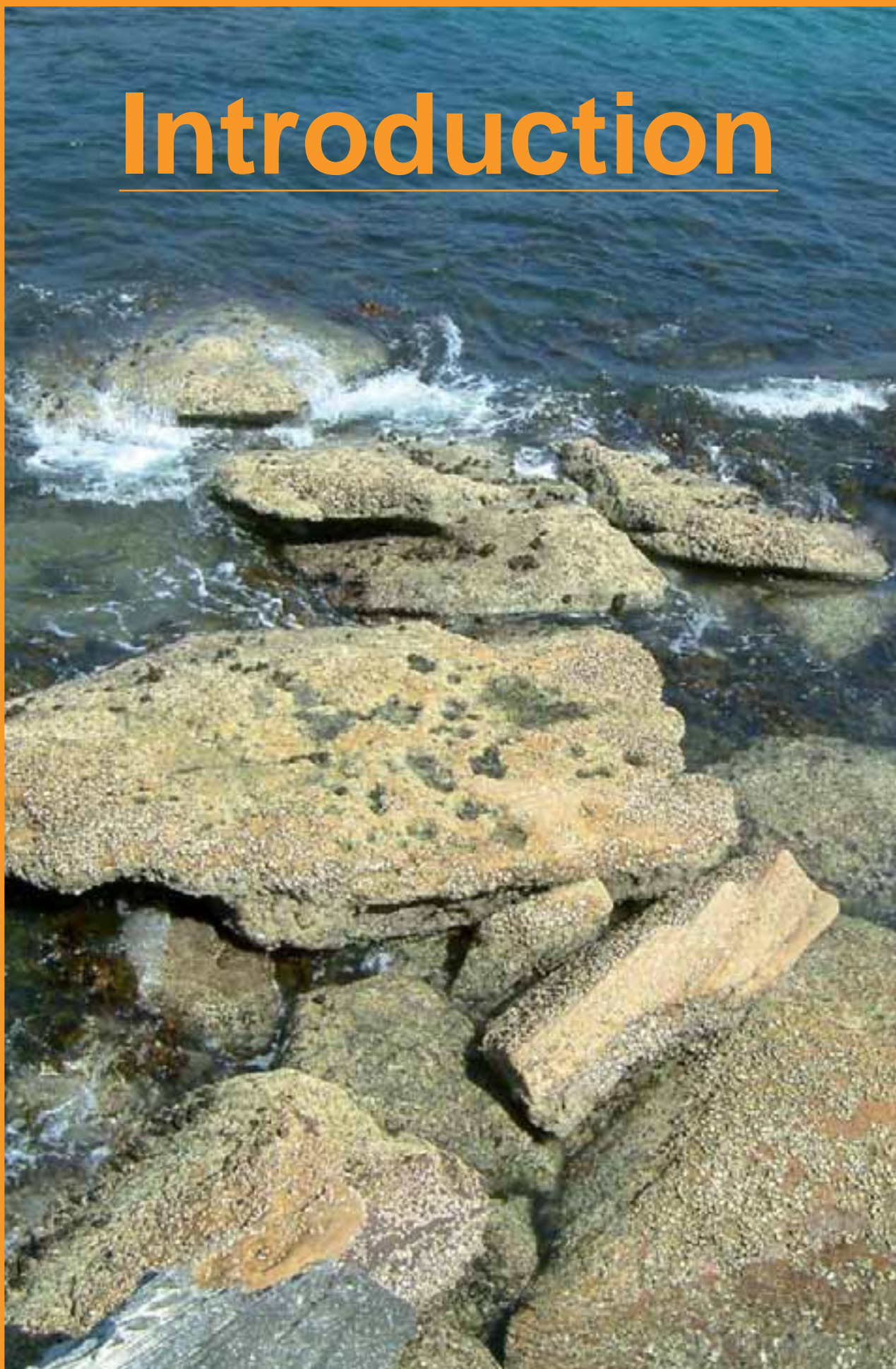
Contents

Introduction	4	Water	31
Introduction to this Report	5	Summary of Indicators	32
References	5	Local Waterways and Water Quality	33
People & Sustainability	6	Water Supply & Consumption in Mosman	37
Social Environment	7	References	41
Sustainability	7	Biodiversity	42
The Ecological Footprint in Mosman	7	Summary of Indicators	43
Environmental Management Plan	8	Bushland and Terrestrial Biodiversity	44
Land	9	Aquatic Biodiversity	48
Summary of Indicators	10	Intertidal Biodiversity	50
Land Use Planning & Development Control	11	References	51
Land Use, Accessibility and Transport	14	Waste	52
Contaminated Lands	17	Summary of Indicators	53
Acid Sulphate Soils	19	Domestic Waste	54
Harbour Sediments	19	Non Domestic and Civic Waste Management	55
References	20	Heritage	57
Atmosphere	21	Aboriginal Heritage	58
Summary of Indicators	22	Non Aboriginal Heritage	58
Urban Air Quality	23	Noise	60
Greenhouse Gas Emissions	24	Noise Management in Mosman	61
References	30		

Appendix

CEC Annual Report 2005/06

Introduction



Introduction to this Report

This is a supplementary State of the Environment (SoE) report for Mosman Municipal Council for 2005-06.

SoE reporting is an important tool for governments. SoE reports can illustrate the condition of the natural and cultural environment, the human and natural pressures that impact on the environment, and the effectiveness of management responses to environmental problems.

This report has used the Condition – Pressure – Response (CPR) model to illustrate particular environmental issues that are relevant to Mosman. In other words, each environmental issue is discussed in terms of the condition of the environmental issue, the pressures that are causing or exacerbating the situation, and the response that Council or others are making.

This structured response has been chosen so that readers can easily see the steps that Council and other managers have been making to address environmental issues of concern.

Environmental Indicators

Environmental Indicators have also been used throughout the report. An environmental indicator is a figure that reflects the condition of the natural environment, or the success of management programs, that can be monitored to provide evidence of change. Most of the indicators used in this report are also used in Council's Environmental Management Plan, so that the effectiveness of EMP actions can, to some extent, be measured.

Impetus for This Report

Mosman Council produces state of the environment reports for several different reasons.

Section 428 of the Local Government Act (1993) requires Council to produce an annual report. Among other things, it must report on: "the state of the environment in the area, and in particular in relation to the following environmental sectors:

- (i) land,
- (ii) air,
- (iii) water,
- (iv) biodiversity,
- (v) waste,
- (vi) noise,
- (vii) Aboriginal heritage,

(viii) non-Aboriginal heritage,

with particular reference, with regard to each such environmental sector, to:

- (ix) management plans relating to the environment,
- (x) special council projects relating to the environment,
- (xi) the environmental impact of council activities.

A comprehensive report is required after each electoral year, and one was produced for the 2003-04 year. Consequently, this is the second supplementary report for that Comprehensive Report.

Indicators that can be measured annually have been included in this report, as has information about new projects, or where new information about the local environment has become known during the reporting period.

For more detailed background about the local environment, and for a more indepth analysis of the condition and pressures on the local environment, and long term responses, readers should refer to the 2003-04 Comprehensive Report. It is available on Council's website and hard copies are available in Council's library.

Environmental Management Plan

Mosman Council has an Environmental Management Plan (EMP) which has been integrated into its strategic management plan, MOSPLAN. Council's EMP is designed to identify outstanding environmental issues in Mosman and the most effective policy responses to them.

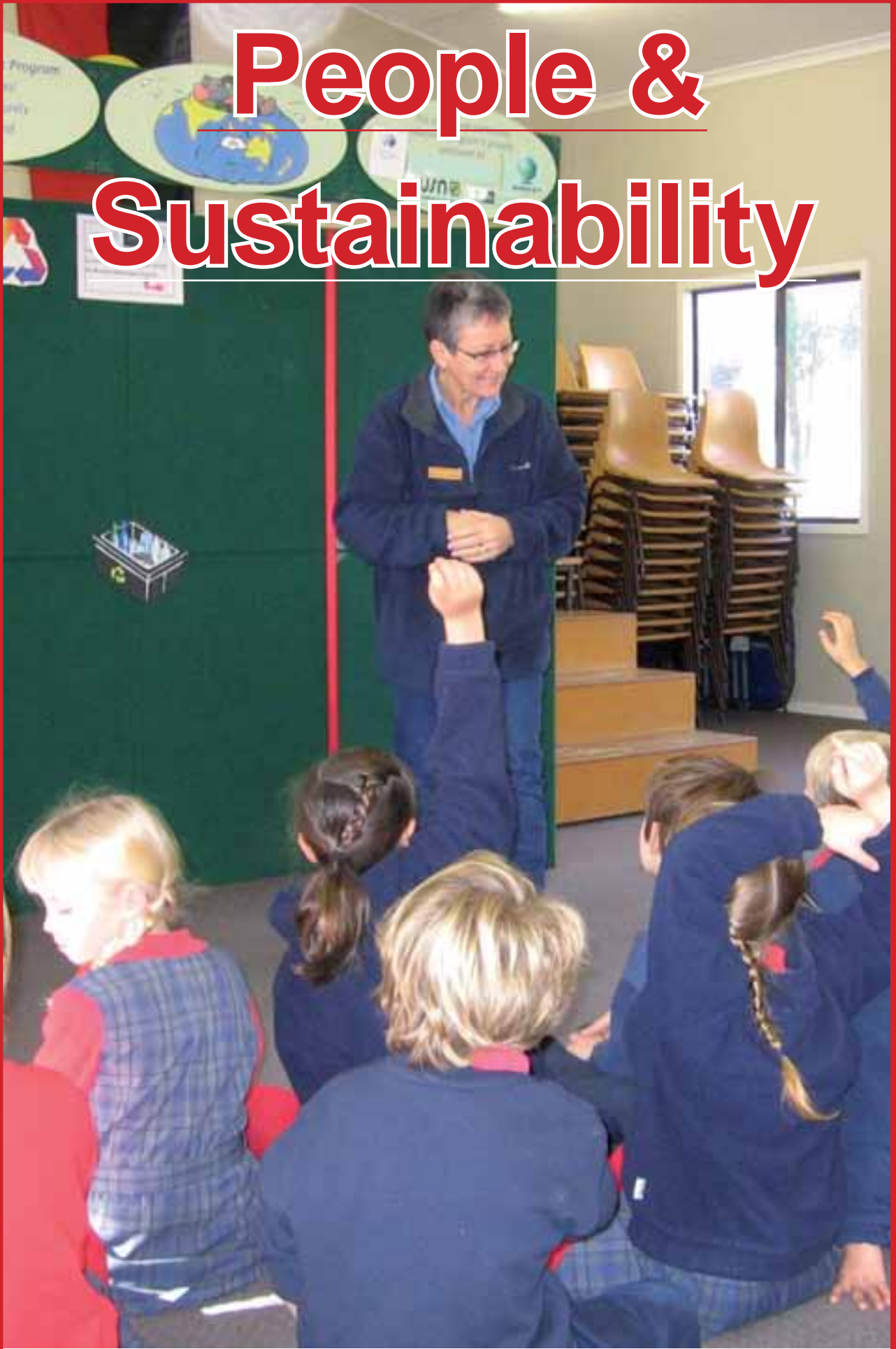
The EMP was first adopted in June 2006, and thus this State of the Environment report will reflect the first year of the implementation of the EMP.

Other issues presented in this report may be beyond the immediate jurisdiction of Council's management, and therefore responses of other agencies will have to be considered.

References

Local Government Act, 1993, [Online]
Available: http://www.austlii.edu.au/au/legis/nsw/consol_act/lga1993182/ [Accessed 1 September 2004]

People & Sustainability



Social Environment

Mosman is a small metropolitan Council located about nine kilometres from the Sydney CBD, on the northern side of Sydney Harbour. There has been little change to the social environment since the last comprehensive report or the last supplementary report.

The last complete measure of Mosman's population was taken during the Australian census on 8 August, but these figures will not be available for some months.

The census count of population in 2001 was 25,475, leading to an overall estimated resident population in 2005 of 28,363.

The Australian Bureau of Statistics projected population in Mosman by 2020 is 29,856. This is quite a stable population compared to other areas in Sydney.

Sustainability

Sustainability has been included in this chapter, because it is a concept that is closely linked to both human needs, and the scale of human impact on the environment.

Broadly speaking, sustainability can be defined as the ability to meet the needs and aspirations of the present, without compromising the ability to meet them in the future. It is known that human societies have impacts on the environment in many ways. Because economic growth and population growth increase the rate at which human societies use resources from the environment and dispose of waste into the environment, the rate and scale of impact on the environment is accelerating.

This will compromise the ability of the environment to support future generations, with resources including clean air and water, biologically productive soils, wild species harvested for food, and non-renewable resources, including fossil fuels. The impact of climate change - which is being caused by increased emissions of greenhouse gases from human activities into the atmosphere - will also affect our ability to house human populations in low lying areas in safety, and will change patterns of climate that may make more people vulnerable to extreme weather events, and will affect the viability of current agricultural production in many areas.

Sustainability recognises the need to meet human needs with fewer material inputs, and the need to share resources more equitably.

The consumption of natural resources by the local community will also influence environmental quality in the local area, and in the region. For example, use of petrol and diesel to fuel transport in the local area will have direct impacts on local air quality, as can be seen in the Atmosphere chapter. Likewise, patterns of land use, energy use, housing, transport and the consumption of manufactured goods and food also have a major effect on other sectors of the local environment, as discussed in the other chapters of this report. The waste chapter illustrates some of these issues, as the amount of solid waste produced is one important indicator of the overall resource use of a society.

The Local Government Act (1993) encompasses the principles of sustainability, and the purposes of the Act include the requirement of "councils, councillors and council employees to have regard to the principles of ecologically sustainable development in carrying out their responsibilities."

The Ecological Footprint in Mosman

To try and raise awareness of sustainability in Mosman, and promote ways of living that reduce use of environmental resources without compromising quality of life, Council conducted a community sustainability project.

Living Within the Means of Nature - Eco Living in Mosman was partly funded by the Department of Environment and Conservation (NSW) through "It's a Living Thing" project.

The project used the ecological footprint as a tool to measure the scale of resources used at both a household and a municipal level. The ecological footprint was also used as a way to measure the improvements made as a result of the project, and to demonstrate how sustainability can be influenced by everyday life in Mosman.

The ecological footprint is a way to measure the area of land required for the all the resources we need to support our lifestyle. This includes the area required by housing, transport, crops, pasture, and food production as well as land area needed to collect and store water, house the wastes that we generate, absorb our greenhouse gas emissions, and to extract and produce all the

resources and energy that make up the products we use daily.

The Ecological Footprint has become a popular tool for educating for sustainability, because it allows for some quantification of the impacts different aspects of lifestyle (such as energy use or purchases), it is a tangible measure of our overall impact upon the earth, and measurement can be an interactive and fun experience.

If the Earth's resources are divided equally, and taking into account the need to conserve some areas and allow biological processes to regenerate, each person on earth has a share of 2.3 hectares of productive land area available to them.

Ecological Footprint Calculation

In addition to calculating the ecological footprint of each participating householder, Council calculated the overall ecological footprint for the entire municipality. Council staff used detailed ecological footprint calculators developed by Redefining Progress, an organisation which has been at the forefront of developing the ecological footprint concept.

The calculation showed that the average ecological footprint of each resident of Mosman is 14.7 global hectares.

This is approximately twice that of the average Australian footprint, and over six times the global earth share.

A breakdown of the ecological footprint result shows that the land required to supply fossil fuel resources and absorb the waste products from their combustion contributes to 55% of Mosman's ecological footprint.

The use of resources to provide food and goods account for 26 percent and 30 percent of the total footprint result respectively. Interestingly, the fossil fuel required for transportation services is

less than that required for goods, services, and only marginally greater than that required for food. This shows the importance of the concept of "embedded energy" in other goods. Embedded energy takes into account the energy used to extract and refine resources, manufacture goods, and transport them to market.

The ecological footprint result can now be used as an overall environmental indicator for the local government area. It can also help Mosman measure progress towards reducing overall use of environmental resources and moving towards sustainability.

Environmental Management Plan

This state of the environment report will report on the first year that Council's Environmental Management Plan was in operation.

The Plan is designed to allow Council to systematically address the priority environmental issues in the environment of Mosman, and that are imposed by the operations and services of Council. The actions identified by the Environmental Management Plan are being introduced into Council's management plan, Mosplan.

This report will include data on environmental indicators that have been designed to give some insight into the success of Environmental Management Plan actions.

Ecological Footprint Distribution for Mosman							
CATEGORIES	FOSSIL ENERGY	CROP LAND	PASTURE	FOREST	BUILT-UP LAND	FISHERIES	TOTAL
FOOD	7%	10%	3%	0%	0%	7%	26%
HOUSING	8%	0%	0%	7%	0%	0%	15%
TRANSPORTATION	8%	0%	0%	0%	1%	0%	9%
GOODS	16%	6%	0%	7%	0%	0%	30%
SERVICES	10%	0%	0%	3%	0%	0%	13%
WASTE	4%	0%	0%	3%	0%	0%	7%
TOTAL	53%	15%	3%	20%	2%	7%	100%



Land: Summary of Indicators

Pressure

Indicator	Result	Comments
Development Applications received 2005/06	503	Unchanged
Construction Certificates issued	344	Includes Construction Certificates issued by Council. 260 issued by private certifiers.

Response

Indicator	Result	Comments
Development Applications determined 2005/06	503.	Includes DAs approved as well as rejected. Slight reduction on previous year.

Land Use Planning & Development Control

Condition

The overall pattern of land use and development in Mosman is little changed from the previous state of the environment report.

Pressure

Overall pressures are little changed from the previous State of the Environment Report, however changes to planning systems are continuing, but slow, population growth in Mosman will exert future pressures on land use and redevelopment to house new residents.

In order to accommodate the projected Mosman population of 29,856 in 2020, an average of 57 new dwellings each year would be required. This is similar to the current rate of development in Mosman.

The number of new dwellings required would change if occupancy rates changed significantly. In particular, an increase in the number of older residents and a subsequent decline in the occupancy rate of each dwelling, would mean that more dwellings are required to house the same number of people.

The forecast population for 2005 implies a population density of 32.45 people per hectare.

Response

Development Control

Council continued to assess development applications (DAs) during the reporting period.

In 2005-06 there were 503 development applications received, little changed from the previous reporting period. Council also determined 503 applications. There were also 385 applications for construction certificates received, and 344 determined. Of those determined, 260 were determined by private certifiers. According to the Australian Bureau of Statistics, there were 20 approvals for private separate dwellings, and 31 for other dwellings.

Building Sustainability: BASIX

Building stock has a long life time. Therefore, improving the environmental performance of new dwellings can improve environmental conditions for the future.

BASIX, the Building Sustainability Index is a development standard introduced by the NSW Government which is designed to ensure that new dwellings have reduced demand for energy and improved thermal comfort for occupants.

In 2005/06 Council received 36 BASIX certificates, from 34 DAs for new dwellings (multi unit as well as stand alone houses)

If all BASIX commitments are implemented as planned, this would result in 36 rainwater tanks with 260,300L of rainwater storage. Rainwater would be captured from 6032m² of impervious area.

BASIX certificates included 26 commitments for tank connection to toilets, 15 for tank connection to washing machines, and 28 for tank connection to an outside tap, for use in garden irrigation and/or vehicle wash bay.

Additionally, there were commitments for 2 stormwater tanks with a total storage volume of 28,300L.

There were also commitments for 399m² of water efficient landscaping.

Most applicants also elected to install water efficient appliances, with 29 certificates including AAA showers (or better), 19 with AAA tapware (or better), and 27 with AAA toilets (or better).

In terms of energy efficiency, 25 certificates included AAA gas hot water heaters or better (storage as well as instantaneous), and there were 4 that included commitments for gas-boosted solar hot water systems.

Additionally, 22 certificates also included some form of additional or rated building insulation.

There were also commitments for one co-generation plant, and one building management system included.

Building Sustainably: Mosman Green

A rundown cottage in Killarney St Mosman was renovated by Archicentre to showcase how environmental building design can improve comfort, while reducing energy and water consumption.

Features of the new design include a 30,000 litre rainwater tank to supply all household water needs, including drinking water. This system is forecast to have a 90-95% dependability with Mosman's rainfall. Water is filtered and disinfected with UV light.

The rainwater tank is located under the building's carport, meaning that no living area is lost. The house also features passive solar design, meaning the house maximizes access to natural light and ventilation, to reduce the need for energy intensive heating, cooling and lighting.

Review of Planning Instruments and Standard Instrument

The NSW State Government (Department of Planning) has been implementing changes to the planning systems and amendments to the Environmental Planning and Assessment (EP&A) Act 1979 since it initiated its planning reform program in 2004. The EP&A Act is the main instrument of land use planning and development control in NSW.

The reforms have implications for planning in Mosman, in particular—the Standard Instrument (Local Environmental Plans) Order 2006 (the standard instrument), changes to the preparation of development control plans (DCPs), increasing powers to the Minister to intervene in local planning matters such as development application determination, and the preparations or amendment of local environmental plans (LEPs), DCPs and developer contributions.

Metropolitan Strategy

Sydney's population is anticipated to grow by 1.1 million people by 2031, that is, from 4.2 million in 2004 to 5.3 million by 2031.

The State Government has developed a metropolitan strategy called the "City of Cities - A Plan for Sydney's Future", which seeks to position Sydney for this growth.

The City of Cities Plan identifies that by 2031, 640,000 new dwellings will be required in the Sydney Metropolitan Region to cater for the anticipated population increase.

This includes 30,000 new dwellings and 54,000 new jobs in the Inner North Subregion. The Inner North Subregion is defined as Mosman, North Sydney, Willoughby, Lane Cove, Ryde and Hunters Hill local council areas.

All Sydney metropolitan councils have been arranged into ten subregions that combine council areas with similar planning issues and challenges, and these councils must work together to achieve subregional housing and employment targets.

Subregional planning is the primary means by which the objectives and actions of the State Government's City of Cities Plan will be delivered at the local level. It includes subregional strategies that will set the vision for the future role of the subregion, define the roles of business and neighbourhood centres, and establish detailed housing and employment targets for each subregion.

All councils, working together in their subregional groups, must demonstrate to the satisfaction of the State Government, how they will provide for increased housing and employment opportunities to accommodate population growth over the next 25 years to 2031.

Sydney Metropolitan Catchment Management Authority

Mosman is within the area managed by the Sydney Metropolitan Catchment Management Authority. Thirteen of these bodies were established around the state to co-ordinate natural resource management on a catchment basis. The catchment management authority will help to direct funds from the National Action Plan for Salinity and Water Quality (NAP) and the Natural Heritage Trust (NHT) to on-ground works within the Sydney metropolitan region.

The Sydney Metropolitan CMA developed a Catchment Action Plan (CAP), in order to set the direction and investment priorities of the CMA for the next decade. The plan will be based on five themes of:

- Water;
- Land & Development;
- Biodiversity;
- Estuaries,
- Coasts & Marine, and
- Community.

It is understood that the former Sydney Harbour Catchment Blueprints were used to help establish Catchment and Management Targets in the plan.

The plan was submitted to the Natural Resources Commission for review and it is expected to be placed on public exhibition by mid to late 2006.

Local government and other land managers in the Sydney metropolitan catchment generally have good understanding of the pressures in their area of the catchment.

For local government, it is essential that the Catchment Action Plan gives access to

resources to conduct projects to address pressures on environmental quality within the catchment.

Public Land Stock

In April Mosman Council concluded negotiations with Sydney Water and purchased three lots of land at Julian St.

The land acquisition will give Council certainty of access to its Stormwater Quality Improvement Devices, which are being installed on the land.

Additionally, Council plans to improve the environmental quality of the land.

The land currently has little native vegetation cover, and a large number of weed species. Council plans to remove weed species, and replant the site with suitable indigenous species.

A walking track to the foreshore of Quakers Hat Bay is also planned. Foreshore access in this part of Middle Harbour is poor, as much of the foreshore has been alienated by private development.

All works on the land will be conducted in accordance with the site environmental management plan, as described in the Contaminated Lands section of this chapter.

The land will be zoned Open Space under Council's Local Environmental Plan.



Above: Recently acquired land at Julian St before construction works to install a SQID began.

Environmental Management Plan Actions

Council's EMP contains the following actions relevant to land use, transport and accessibility.

- *Ensure reviews of Council's LEP and DCPs as identified in Program 2 of MOSPLAN 2005 - 2008 result in planning instruments founded on the principles of ESD.*

This action is underway, and environmental staff have been liaising with planning staff to review changes required by the Standard Instrument LEP. Staff will be investigating closer links between the LEP and Council's Environmental Management Plan.

- *Incorporate sustainable design principles into any redevelopment plans for Spit Junction/Civic Centre and Mosman Junction. Annual Review - June*

No redevelopment plans have been made for the Spit Junction/Civic Centre site nor Mosman Junction. Staff continue to explore environmentally sound building and public infrastructure methods.

- *Enforce the requirements of BASIX for all relevant Development Applications Ongoing - June*

BASIX has been implemented as part of Council's ongoing development assessment procedures, and results are included in this chapter.

Land Use, Accessibility and Transport

Condition

Patterns of land use, and the provision of transport infrastructure has an obvious influence on how people are able to access services including work, education and entertainment. Transport directly influences air quality issues which are addressed in the next chapter, and is also related to land taken up for transport corridors, and other environmental issues such as noise. The ease with which people can access services and move around their local area has important implications for well being, equity and community safety.

The ease with which people can access their local area and local services without a car is an important social indicator, especially with increasing fuel prices, which has increased the cost of private motor vehicle use.

Buses are the main form of public transport in the suburb. Whilst Mosman is generally reliant upon road transport, ferries also service the area. There is a relatively high use of private motor vehicle in Mosman, although car ownership is marginally lower than the Sydney average, as a result of Mosman's central location, higher density housing, and access to relatively frequent bus services.

Pressure

Transport and its related concerns are a key concern for Mosman residents, and are often raised in Mosman Council community conversations.

Many concerns relate to the volume of traffic along the Military/Spit Road corridor, and the associated noise, danger and exhaust emissions.

As noted in the Atmosphere chapter of this report, emissions from motor vehicles account for up to 25% of the urban air pollutants in Mosman. Likewise, motor vehicles are significant contributors to greenhouse emissions, and are significant contributors to urban noise.

The use of private motor vehicles also contributes to the demand for parking, which can be problematic in an established suburb such as Mosman, with limited land availability and many competing land uses. Congestion is also

often noted as a concern, which is closely related to transport systems reliant of private motor vehicles.

Community debate continues on issues of parking and parking meters. This is especially pronounced in beachside areas during summer months.

There has also been significant public comment on possible solutions to the northern beaches transport problem, with suggested solutions including an underground rail or road link.

Buses are the dominant form of public transport in Mosman. Whilst services in Mosman along main roads are relatively frequent, the speed and reliability of services is hampered by the lack of a dedicated bus corridor.

Likewise, the steep topography of Mosman, and narrow streets constrains access by standard size buses. Community conversations have raised the general concern that bus services in Mosman need to be more flexible and consider inter-connections. Small mini-buses for non main road routes and more ferry services have been proposed by residents to improve existing services.

Supporting the concerns of Mosman residents, a survey by transport advocacy group 10,000 Friends of Greater Sydney has found that 50% of bus users rate Sydney's transport problems as "severe".

The needs and concerns of cyclists have also been raised during Community Conversations. The lack of bicycle lanes that "went somewhere" have been raised as concerns for the safety of cyclists, and impediments to the ability to access the suburb by bike. It has been noted that more people would cycle if greater cycle facilities were provided.

Spit Road and Spit Bridge

Spit Road is the main road corridor through Mosman, connecting the Northern Beaches with North Sydney and the City.

During the year, the Roads and Traffic Authority confirmed that they intend to begin constructing extra lanes on the Spit Bridge by late 2006 or early 2007.

Approval of the project was given by the Minister for Planning, not Mosman Council.

Council has been negotiating with the RTA to seek the inclusion of cycle paths on the east and

the west of the project, in order to offset some of the expected negative impacts on Mosman from the road widening. Negative impacts upon Mosman from the widening may include additional traffic volumes or congestion along areas of Spit Rd closer to Spit Junction.

Council has also been seeking an alignment of the existing traffic lights at Spit West with the exit to Spit West carpark.

During the year, the Roads and Traffic Authority introduced a weekend clearway along Spit Rd to improve traffic flow. This has affected main road parking availability for adjacent businesses, but may improve provision of bus services along the Military/Spit Rd corridor.

Road Safety

Other concerns raised by community conversations include road safety along Spit and Military Rd.

Road safety data for 2004, the last year for which data is currently available, showed that there was one fatal crash in Mosman, a figure consistent with the five year average. There were also 58 accidents which involved non-fatal injury, and a further 77 accidents which did not involve a casualty.

Compared to figures from Sydney region and from NSW, Mosman has the highest percentage of crashes with motorcyclist involvement (21%) and pedal cyclist involvement (10%) as contributing factors, which are over double the amount of Sydney and NSW.

These figures demonstrate that there are significant safety issues for non-car road users. These need to be offset by continuing Council's road safety programs, and by continuing Council's construction and maintenance of cycle paths, footpaths, and safe crossings of roads.

Response

Travel Demand Management

Given the social and environmental issues associated with heavy reliance on private motor

vehicles, Council developed a Travel Demand Management report in 2004. Some aspects of this program have been implemented.

Council's program of offering interest free loans to staff to purchase periodical travel passes has continued, and has been taken up by staff who are daily public transport users. Some staff are saving up to \$10.40 per week by using this scheme. So far, there are no schemes to offset staff who travel by a number of different modes (eg walking and cycling and public transport without periodical tickets).

Council's greenhouse and sustainable purchasing policy includes a requirement for Council to develop a staff education campaign to promote the use of public transport and walking for staff attending meetings and site visits. This can reduce demand on Council's vehicle fleet, which is quite small compared to some other local governments.

The plan also requires Council to put sustainable transport information on the back of business cards and envelopes, to raise awareness of how to use non-car transport to access services in Mosman.

Public Transport Use

According to information from the State Transit Authority, patronage of public buses has been increasing on routes, including the Military Rd corridor, because of increasing fuel prices. (Sydney Morning Herald, 2006).

Motor Cycle Parking

Council has continued installation of motor cycle parking around Mosman, in locations including Mosman Civic Centre and Balmoral Beach.

Anecdotally, the use of motor cycles and motor scooters has been increasing, probably as a response to increasing fuel prices and traffic congestion. Whilst performance motor bikes are not designed for fuel efficiency, they require significantly less land area for transport and parking than cars

Table 12: Percentage of casualties by road user class (2000 – 2004)

	NSW	Sydney Region	Mosman
Motor Vehicle Driver	56%	56%	47%
Motor Vehicle Passenger	23%	21%	12%
Motorcyclist	8%	8%	21%
Pedal Cyclist	4%	4%	10%
Pedestrian	9%	11%	10%

Council Transport Provision

Mosman Council operates several programs to provide transport to the community.

Two community buses provide transport services, generally for the aged. These include door-to-door transport for activities offered at the Mosman Seniors Centre, shopping activities and transport to medical appointments or hospital visiting. A bus service is also offered between Balmoral Beach and Royal North Shore Hospital.

Mosman Council again operated its Summer Bus in January and February 2006. The service operates in a loop from Spit Junction to Balmoral Beach, and is designed to alleviate transport and parking shortages at Balmoral Beach.

The service is free and gives visitors an opportunity to take advantage of ample parking at, or frequent public bus services to Spit Junction. In 2006, the service carried 940 passengers.

Subject to sufficient sponsorship being gained, the Summer Bus will run again in 2007. Promotion of the service will become the responsibility of the Community Development Department.

Bicycle Plan

The Mosman Bicycle plan was adopted during the reporting year, and some funds allocated for its implementation in the 2005-06 budget.

Work on the Taronga Zoo wharf to Balmoral cycle way continued, with bicycle lanes and signage installed.

The Mosman Bicycle Plan has been adopted and funds allocated for projects in the 2005-06 budget. Bicycle parking was also installed at Taronga Zoo wharf. Council also installed bicycle parking at Mosman Square.



Above: Motorcycle parking outside the Civic Centre.

Top: Ferry at Mosman Bay
Above: Bicycle parking near Mosman Civic Centre.

Environmental Management Plan Actions

- *Install bicycle parking at Taronga Zoo and Balmoral. To be Completed by - June 2006*

Completed

- Complete the Taronga Zoo to Balmoral cycle path. To be completed by - June 2006

Completed

- *Implement Mosman Bicycle Strategy, Travel Demand Management, and other sustainable transport initiatives as identified in Program 11 of MOSPLAN 2005-2008. Quarterly Review - June*

Interest free loans on periodical travel passes continue to be offered. Provision of staff showers and additional bicycle parking allows some staff to walk and cycle to work. Additional resources for users of public transport, walking and cycling may be negotiated.



Above: Balmoral Oval in 1947 (photograph courtesy Mosman Local Studies Collection)

Contaminated Lands

Condition

It is known that several sites owned by Council have been contaminated by past activities, including landfilling of various substances, and the disposal of ashy wastes.

Sites where investigations have revealed some contaminating substances at levels higher than relevant guideline investigation levels include Balmoral Oval, and Reid Park. Substances have also been detected in land in Julian St, which Council has purchased from Sydney Water.

It is also known that some privately owned sites in Mosman have been contaminated by past activities, such as service station operations.

No sites in Mosman are on the DEC register of sites considered to pose significant risk of harm to human health or the environment.

Pressure

Redevelopment of land for more sensitive purposes may both increase the likelihood that historic contamination is disturbed, and require remediation so that more intense human occupation is still safe. Such development may occur when sites that were used for purposes such as service stations are redeveloped into residential apartments.

Ongoing maintenance activities in Council owned open space, which is known to have a history of polluting activities, may also have the potential to disturb historic contamination. For example, digging for construction works may disturb contamination which has been formerly covered by clean top soils.

Response

Balmoral Oval

Balmoral oval is a former municipal tip site. Although originally planned to be only a temporary tipping site, household waste was disposed of at the site between 1908 and 1936. The landfill was capped and the area was turned into playing fields in the 1940s.

Various investigations prior to works have showed the presence of contaminants under the surface soils of the park. Investigations prior to the construction of a BMX track revealed higher than expected levels of contamination. In order to ensure the ongoing safe management of the

entire site, Council decided to investigate the contamination status of the entire Balmoral Oval site. Council worked with consultants and an accredited site auditor to develop a workplan for contamination investigations at the site. Given the scale of the works, Council went to open tender to choose a consultant to undertake the works outlined in the workplan.

Lots 13 – 15 Julian St

Mosman Council purchased land at Julian St from Sydney Water, and installed a SQID.

The site is known to be contaminated because of historic waste dumping. A remediation action plan for the site has been developed, and was enacted when Council began installing the SQID on the land. Works also involved the removal and disposal of some contaminated soils that were excavated for the project.

A site environmental management plan will also be developed once SQID works are fully completed, to ensure that ongoing management of the site prevents residual contamination from harming human health or the environment.

Potentially Contaminated Land & Development Activities

In order to ensure that Council's activities comply with all relevant planning and contaminated land legislation, Council has streamlined its procedures for record keeping and notification of site audit statements. These statements are made by an accredited auditor when they are satisfied that formerly contaminated land has been remediated and is now suitable for its new use.

A procedure is also being developed to ensure that all development assessments that may involve contaminated land, and that land remediation activities, are adequately assessed.

Council received only one site audit statement during the year.

The Sydney Harbour Federation Trust sold several lots of former defence land. Remediation activities had been undertaken on the land prior to sale to ensure that they would be suitable for their new uses. Site Audit Statements for these lands will be noted when received by Council. Additionally, Council will note the presence of a Site Environmental Management Plan for each lot on s.149(5) planning certificates.

Environmental Management Plan Actions

Council's EMP contains the following actions to ensure ongoing management of contaminated lands in Mosman:

- *Develop a contaminated lands policy to improve identification and assessment of potentially contaminated sites. To be completed by December 2005.*

A draft of this document has been completed.

- *Update and maintain Council's GIS to include all matters prescribed under the Contaminated Land Management Act for inclusion on planning certificates under s149(2) of the Environmental Planning and Assessment Act. Ongoing – September 2005.*

This action was achieved.

- *Develop site environmental management plans for Council sites known to be contaminated by past activities. To be completed by March 2006.*

Due to the complexity of investigations at Balmoral Oval, this action was not achieved by deadline. Investigations to be completed at Balmoral will result in a comprehensive site environmental management plan that may be able to be applied to other similar sites in Mosman.

- *Ensure compliance with the Site Environmental Management Plan for Lots 13 - 15 Julian Street. Quarterly Review - September.*

The installation of the SQID at Julian St neared completion during the year, and the SEMP will be developed once the installation is complete. Council has nominated officers to be responsible for the surveillance of SEMP compliance.

Acid Sulphate Soils

Condition & Pressure

Some low lying areas of Mosman have been identified as potential acid sulphate areas. When potential acid sulphate soils are disturbed the iron sulfides in the soil become oxidised and form sulfuric acid.

Therefore, the greatest pressure is related to disturbance of potential acid sulphate soils during development activities, including dredging.

Response

Council tests for the presence of acid sulphate soils in risk areas prior to any excavations taking place in accordance with the Acid Sulfate Soils Assessment Guidelines developed by the former department of Urban Affairs and Planning (now the Department of Planning). If potential acid sulphate soils are detected, projects or processes are altered accordingly, or management plans developed.

In order to obtain information about the likelihood of acid sulphate soils at Balmoral Oval, Council has been preparing to go to tender for a comprehensive acid sulphate soils investigation at Balmoral.

Balmoral is one of the most popular recreational areas in Mosman, and future projects, including trenching for floodlighting, and installation of tanks and pipes for Council's stormwater reuse project at Balmoral Oval, will involve soil disturbance that will require assessment of acid sulphate soils, as the area is in an acid sulphate soils risk area.

Knowledge of the presence or otherwise of potential acid sulphate soils will allow Council to plan the location of future projects, and develop appropriate site management techniques.

Council manages the risk of acid sulphate soil exposure through private development by the application of clauses in the Mosman Local Environmental Plan.

Harbour Sediments

Condition & Pressure

Sediments in Sydney Harbour are known to be contaminated because of past industrial uses of waterways and their catchments.

It is known that there are significantly elevated levels of lead, zinc and PAH (polycyclic aromatic hydrocarbons) in the sediments of Mosman Bay. (Birch and Taylor, 2004)

Additionally, sediments in some parts of the Parramatta River, including Homebush Bay, have significantly elevated levels of dioxins.

Dioxins can originate in natural processes, such as bushfires, but have been made in vast amounts as a by product of industrial production. Dioxins are very persistent in the environment. (NSW Food Authority, 2006)

Dioxins are not a significant contaminant of concern in the embayments around Mosman, but contaminants in sediments can move through the food chain when they are ingested by bottom-feeding fish and other marine organisms. As fish are mobile, those caught in areas of the harbour around Mosman can still carry elevated levels of dioxins. Bream and prawns caught near Mosman, as well as other areas in the harbour, have been found to have unacceptably high levels of dioxins.

Humans who eat fish contaminated with dioxins can ingest the contaminants. However, while dioxins can cause health affects, a normal level of consumption of harbour fish is unlikely to cause any ill effects. It is believed that dioxin related illnesses in humans such as cancer and reproductive difficulties only occur at exposure levels many times higher than those that would be incurred by consuming harbour fish and prawns. (NSW Health, 2006)

Response

Environmental Impact Assessment for Council Projects

The presence of contaminated harbour sediments in some of the embayments around Mosman demonstrates a need for Council to boost its environmental impact assessment procedures for projects that may take place in areas where reclamation activities may have resulted in contaminated fill being deposited or in areas where projects may lead to disturbance of

contaminated fills.

Development of improved environmental impact assessment guidelines is planned for the 2006-07 year.

Additionally, it is probable that Council's seawall restoration works will help prevent movement of potentially contaminated fill materials on the foreshore by stabilising foreshore soils and preventing the percolation of fine sediments into harbour waters.

Harbour Fishing Ban

In January 2006, the state government banned commercial fishing in Sydney Harbour for at least three months because bream caught in the harbour contained elevated levels of dioxin. This extended a decision to halt commercial prawn harvesting because of elevated dioxin levels in these fish. This ban will apply to the estuary prawn trawl and other commercial fishing activities that are permitted in waters around Mosman.

As a result of the fishing ban, the state government is buying back commercial fishing licenses.

Recreational fishing is still allowed in Sydney Harbour. However, an expert panel advising the NSW Food Authority and the State Government recommends anglers only eat up to 150g of fish per month caught from inside Sydney Harbour or Parramatta River. Up to 300g of prawns from the same area per month can be eaten, but not both amounts in the same month. (NSW Food Authority, 2006)

References

10,000 Friends of Greater Sydney, 2006, ***Measuring Up: The Sustainable Sydney Scorecard Project - Community Values Survey***, 10,000 Friends of Greater Sydney (The Warren Centre), University of Sydney.

Birch, G and Taylor, S, 2004, ***The Contaminant Status of Sydney Harbour Sediments A Handbook for the Public and Professionals***, Environmental Engineering and Hydrogeology Specialist Group, Geological Society of Australia

Department of Urban Affairs and Planning and Environment Protection Authority, 1998, ***Managing Land Contamination – Planning Guidelines SEPP 55***, DUAP and EPA

NSW Food Authority, 2006, ***Sydney Harbour closure to commercial fishing – overview and facts about dioxins*** [Online] Available: <http://www.foodauthority.nsw.gov.au/c-dioxins.htm> [Accessed 27 June 2006]

NSW Health, 2006, ***Dioxins Health Factsheet*** [Online] Available: http://www.health.nsw.gov.au/pubs/2006/dioxins_fs.html [Accessed 27 June 2006]



Elevated levels of dioxin in harbour fish has led to dietary guidelines for recreational fishers to limit dioxin ingestion.



Atmosphere

Atmosphere: Summary of Indicators

Condition & Pressure

Indicator	Result	Comments
National Pollutant Inventory: sources of pollution	Motor vehicles 25% of emissions.	Slight increase from previous year: largest identified source of emissions.
National Pollutant Inventory: pollutants emitted	2.2 million kg of carbon monoxide. 300,000 kg oxides of nitrogen. 420,000 kg volatile organic compounds in 2004/03.	Motor vehicles account for 2 million kg of carbon monoxide emissions, 300,000 kg of oxides of nitrogen, and 250,000 kg of volatile organic compounds.
Energy Use: Mosman Council (2005/06)	17903 gigajoules	9% increase in energy use
Greenhouse gas emissions: Mosman Council 2005/06	4063 tonnes of CO ₂ equivalent.	Recycling of organic SQID waste has led to decrease in emissions, and offset some increases in greenhouse gas emissions per unit of energy use. Council needs to cut emissions by more than 50% to meet 2010 targets.

Response

Indicator	Result	Comments
Greenhouse gas emissions abatement - corporate	131.78 tonnes of CO ₂ equivalent.	Main abatement measures include efficient computer equipment, hot water efficiency, greenpower measures and LPG fleet. Abatement is measured by calculating the greenhouse savings compared to a baseline or business as usual case.
Greenhouse gas emissions abatement - community	7892.04 tonnes of CO ₂ equivalent.	Main abatement measure is recycling of green waste and paper. Other measures include community use of energy efficient lightglobes and AAA rated showerheads.
Greenhouse offsets	24.33 tonnes of CO ₂	Calculation conducted on net increase in tree stock between 2000 and 2006. Does not include other vegetation planted (shrubs, grasses etc). Calculation on net change in tree stock may underestimate future CO ₂ uptake if new trees have replaced older stock.

Urban Air Quality

Condition and Pressure

Air Quality Data

The nearest air quality monitoring stations to Mosman are located at Rozelle and Lindfield. Rozelle is approximately 10 kilometres away from Mosman upstream and on the southern side of the Parramatta River. Lindfield is further inland, and at a higher elevation. Neither stations are expected to give particularly accurate information as to the state of Mosman's air quality.

The central eastern regional pollution index generally does not exceed Low. Despite concerns about levels of pollution from vehicle traffic on Military and Spit Rd, the overall air quality in Mosman is generally assumed to be quite good, due to its coastal location, lack of industry, limited numbers of commercial premises and lack of additional major highways in the area.

National Pollutant Inventory Data

Data from the National Pollutant Inventory shows the indicative causes of emissions into the atmosphere in Mosman.

Figures from the 2005/2006 financial year again show motor vehicles to be the largest single source of substance emissions in the Local Government Area, accounting for approximately 25% of emissions.

Carbon monoxide and oxides of nitrogen emitted by motor vehicles were again the most significant urban air pollutants.

Motor Vehicle Transport

As indicated in the results of the National Pollutant Inventory, Mosman is heavily reliant on motor vehicle transport, although its share of no-vehicle households is slightly larger than the Sydney average.

Mosman had 16,161 vehicles registered in 2005. Four wheel drive vehicles comprise nearly 18 percent of Mosman's vehicle fleet. These vehicles are generally heavier and have worse fuel consumption than smaller passenger vehicles, leading to an overall increase in pollutants emitted from the local vehicle fleet.

Pressure

It is known that those who live near busy roads, particularly those which carry a lot of truck traffic, bear a high burden of ill health. Ill health is likely caused by traffic pollutants, such as soot, benzene, benzopyrene, although it is also likely that noise, stress and sleep deprivation from vehicle traffic also contribute to poor health. Fine particles, such as PM10 and PM2.5 are often used as indicators of pollution in studies, however work by Brunekeef has shown that these do not necessarily increase near busy roads.

Significantly, it appears that the lower the speed of traffic, the lower the air pollutants from traffic. Therefore, road safety programs that encourage a reduction in speeding, and an expansion of local speed zones, can reduce the impact of urban air pollutants on the population, as well as the acute impacts of traffic accidents

Response

As detailed in the land use and accessibility section of the Land chapter, Council has implemented programs that are designed to improve local air quality by reducing reliance on private motor vehicles.

These include Travel Demand Management Programs, implementation of Bike Plan projects, and maintenance of footpaths. Council's ongoing maintenance of good quality footpaths and walking-only access paths and laneways improves the amenity of walking throughout the suburb, and can help reduce the number of motor vehicle trips.

Council also runs a number of road safety programs, including education programs for four wheel drive owners.



Nearly 18% of Mosman's vehicle fleet is comprised of four wheel drive vehicles.

Environmental Management Plan Actions

Mosman Council's Environmental Management Plan includes the following actions to address urban air pollution:

- *Review Council's system of fleet management and report upon the feasibility of introducing environmentally preferred alternatives including a greater uptake of LPG vehicles or introducing hybrid electric and/or bio-diesel vehicles. To be Completed by March 2006*

As a result of a report submitted to Council, Council resolved to undertake a two year trial of a Toyota Prius. The Prius is a hybrid vehicle with a fuel consumption as little as 4.4 litres per 100 kilometres. Council currently operates a predominantly LPG fleet. The main obstacle to switching to a predominantly hybrid vehicle fleet are the higher market costs of hybrid vehicles and lower resale values. These conditions may change as higher energy prices encourage motorists to switch to more efficient vehicles and boost the value of such cars in the second hand market.

- *Research and report upon potential approaches to discourage the community's use of energy intensive motor vehicles. To be completed by September 2006*

Council does not control some of the main factors that determine people's choice of vehicle, such as cost, running costs, and market preference. However, increases in the price of fuel are reducing the demand for large and energy intensive motor vehicles. Council also controls many of the parking areas in Mosman, and supply of available parking can influence preference for particular vehicle or journey type.

- *Install bicycle parking at Taronga Zoo and Balmoral. To be Completed by June 2006*

Bicycle parking has been installed.

- *Complete the Taronga Zoo to Balmoral cycle path. To be completed by June 2006*

This project has been delayed, but was substantially finished by June 2006.

- Implement Mosman Bicycle Strategy, Travel Demand Management, and other sustainable transport initiatives as identified in Program 11 of MOSPLAN 2005-2008. Quarterly Review June

Greenhouse Gas Emissions

Condition & Pressure

Background information on the enhanced greenhouse effect is contained in the previous Comprehensive State of the Environment report. The general causes of greenhouse gas emissions are little changed.

Council Greenhouse Gas Emissions

Council's greenhouse gas emissions for 2005/06 have been calculated at 4063 tonnes of CO₂ equivalent, with an energy use of 17,903 gigajoules.

This compares with emissions of 4685 in 2004 and 2435t CO₂e in 1995, the first year for which emissions were calculated. It is important to note that since emissions were calculated for 1995, Council has expanded its range of services, with the addition of buildings such as the Mosman Art Gallery and Community Centre. Emission factors for some energy sources, such as electricity generated from coal, have also increased. However, the figures also indicate that Council is using more energy in its existing operations.

Given Council's overall increase in emissions, Council needs to make significant progress in its emission reduction programs in order to reach its adopted target of a 20% reduction in greenhouse gas emissions (from a 1995 baseline) by 2010.

Council's target equates to greenhouse gas emissions of 1948 tonnes of CO₂e.

Whilst reducing emissions by this factor will require investment by Council, and changed practices, it has been calculated that global emissions will need to reduce by 60% in order to simply stabilise global temperatures at their current level.

Emission Sources

The largest contributor to Council's greenhouse gas emissions is the use of electricity for buildings and street and oval lighting. This accounted for 2696 tonnes of CO₂e, or two thirds of Council's total emissions.

Operation of vehicles (Council fleet and waste collection trucks) accounted for 535 tonnes of CO₂e, but this figure does not account for the operation of private vehicles for work purposes, the impacts of employee commute, or vehicles

used by other contractors.

The disposal of significant amounts of organic wastes from public place cleaning has also contributed significantly to Council's emissions of greenhouse gases. This has accounted for 810 tonnes of CO₂e in 2005/06.

However, as detailed in the response section, many of these emissions can be significantly offset through recycling of organic wastes. The figure is significantly lower in this year, because many of the organic wastes collected in SQIDs are being recycled, instead of being landfilled.

Community Greenhouse Gas Emissions

Community greenhouse gas emissions are also primarily caused by the use of electricity produced from burning coal, followed by other processes, such as the use of fossil fuel for motorised transport. Another significant source of community emissions is the disposal of organic wastes to landfill, including paper, garden waste and food scraps. The disposal of organic material from households through Council's domestic waste service contributed 15626 tonnes of CO₂e.

Response

Streetlighting Efficiencies

Council is a member of the streetlighting improvement program (SLIP), an organisation of 29 local Councils which is working to improve the efficiency of streetlighting.

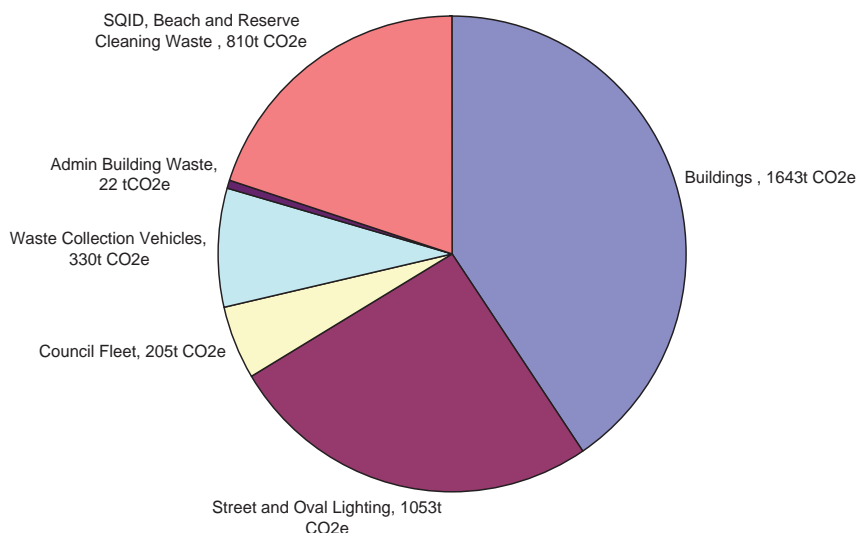
Council and Energy Australia are trialling 100 new streetlights in a block of about 10 residential streets with newer style fluorescent lamps that use about 36% less energy than current models. The trial is reducing greenhouse gas emissions by 8 tonnes annually. Replacing all streetlights in Mosman with lamps of similar energy efficiency would lead to emission reductions of about 415 tonnes

Additionally, through Council's membership of SLIP, funding has been gained which will allow Council to replace 20% of streetlights in the local government area models that will use 40% less energy than standard models. This program will be rolled out over the next several years, and should lead to emission reductions of about 93 tonnes of CO₂e.

Energy Efficient Product Giveaway

Council continued to promote the use of energy efficient products in the community by giving away energy and water efficient products.

In the year, Council gave away an estimated 1934 energy efficient lightglobes and 188 AAA rated showerheads. The products were made



Greenhouse Gas Emissions from Council activities in 2005/06.

available as a result of the State Government's Greenhouse Gas Abatement Scheme.

It is estimated that an average household that switches to using an AAA rated showerhead and six energy efficient lightglobes will save \$150 a year on energy costs, up to 50,000 litres of water and a tonne of greenhouse gases.

Cities for Climate Protection

Mosman Council remains a member of the Cities for Climate Protection Program, which in Australia is run by the International Council for Local Environmental Initiatives (ICLEI) and the Australian Greenhouse Office (AGO). Mosman is at the CCP+ stage of the program.

As a result of its membership of CCP, Council received a grant for a joint Council energy efficient schools education program, and also developed a Greenhouse and Sustainable Purchasing Policy, which was adopted by Council.

Energy Efficient Schools Program

The Energy Efficient Schools Program worked with schools to conduct an energy audit, provide opportunities to reduce school energy consumption and deliver energy and greenhouse education to students.

The project was funded by the Australian Greenhouse Office through the Community Abatement Assistance Grants and was conducted by the four Councils of Mosman, Manly, Hornsby and Ku-ring-gai, who each worked with two schools in their local area. Mosman Council worked with Middle Harbour Public School and Mosman High School.

Energy audits were conducted by trained auditors and aimed to give the schools a general



Energy Efficient streetlights installed in Mosman

idea of their total energy consumption and the primary sources of energy use within the schools. A comparison was provided between the eight schools so that they could each see how much energy they were using compared to other schools of similar or varying size.

The primary sources of energy use were similar for the majority of schools and were identified as lighting, airconditioning, heating, hot water systems, and office equipment/computers. The audit reports also detailed the equivalent amount of greenhouse gas emissions produced on a per annum basis as well as per student.

The audit reports provided the schools with recommendations of actions that could be implemented to reduce energy use and greenhouse gas emissions.

In the short term Councils have assisted the schools in facilitating decision-making amongst the staff and students on the measures that they will implement with small grants that were made available to them through this program.

Both Mosman High School and Middle Harbour Public School will be retrofitting one classroom with more energy efficient lighting, removing the old and worn fluorescent T12 rapid start light fittings and replacing them with new T5 light fittings which use up to 48% less energy.

Mosman High will also put their own funds towards implementing a monitoring program with the students, undertaken through the Student Environment Council which was established for the purpose of being involved in the Energy Efficient Schools Program.

The newly formed group is approximately 50 students strong and will continue to be facilitated by staff at the school to assist in energy projects and other environmental aspects around the school.

Actual figures on greenhouse gas abatement from the project's measures will not be seen until the next reporting year.

The program was primarily undertaken between November 2005 and May 2006.

Greenhouse and Sustainable Purchasing Policy

Council's Greenhouse and Sustainable Purchasing Policy has been created to assist Council to improve the environmental performance of its purchasing, and is supported

by both Council's Environmental Management Plan and its Procurement Policy.

Mosman Council has a relatively modest budget, but still spends a significant amount of money on procuring goods and services every year. Goods and services range from purchasing stationery and vehicles, to contracting the provision of waste collection services and footpath maintenance.

The variety of goods and services purchased by Council gives Council a significant opportunity to support market players who provide environmentally preferred products. Greenhouse and Sustainable Purchasing also gives Council the opportunity to directly reduce some of its environmental liabilities, and introduce more sustainable products and services to Council.

As Council has not funded larger scale infrastructure projects (such as those proposed in the Energy Performance Contract) Council needs to concentrate on smaller scale, ongoing purchases in order to continue pursuing its greenhouse gas reduction targets.

Council's goals for its greenhouse and sustainable purchasing policy are:

- i. By 2007, quantify current levels of greenhouse-efficient purchasing
- ii. By 2008, increase greenhouse (or sustainable and ethical) purchasing by 20%
- iii. By 2007, ensure that consistent environmental criteria are included in Council's tendering and direct purchasing processes
- iv. By 2008, increase proportion of recycled or remanufactured materials used in Council's works and service contracts by 20%

The key areas for action for Council are:

Electricity: Most of the energy used in Council buildings and public place lighting is supplied as electricity generated from burning fossil fuels. Buying more electricity from renewable energy can directly reduce Council's greenhouse gas emissions, and support the development of the renewable energy generation industry. Council currently purchases 5% greenpower (energy generated from entirely renewable sources) for the Civic Centre, Library, Cultural Centre and Vista St carpark.

Waste disposal services: Council collects domestic waste and recycling from all residents in Mosman, and some businesses in the local

government area. The treatment of waste and recycling, and the reuse of recovered resources, can directly reduce the creation of greenhouse gas emissions, and offset the need for extraction of new resources

Electrical and IT equipment: Council has a high penetration of IT and electrical equipment. Purchasing energy efficient electrical and computer equipment can directly reduce Council's energy use and greenhouse gas emissions.

Tendering processes: Council contracts out the provision of a number of services. Tender planning, assessment and contract management are key skills to ensure that these services are conducted in an environmentally satisfactory manner.

Education: Purchasing at Council is largely decentralised; so many staff have an important role to play in greenhouse purchasing. In order to give staff the information and tools required to successfully implement sustainable and greenhouse purchasing, education is important. This can also give Council the opportunity to increase awareness of its Procurement Policy, which contains important probity and fairness guidelines.

The actions included in the Greenhouse and Sustainable Procurement Action Plan have been developed to directly address priority action areas. In addition, actions have been drawn from Council's Waste Reduction and Procurement Policy (WRAPP), Environmental Management Plan, and other documents, such as Council's Travel Demand Management studies. Actions have also been developed especially for this document.

Key actions include:

- Develop a consistent tender evaluation form for Council that includes a compulsory and weighted environmental category
- Increase percentage Greenpower purchased by 1% a year.
- Purchase and install energy efficient streetlights
- Conduct two year trial of hybrid electric car.
- Replace library air conditioning with new model.
- Develop a staff education campaign to promote use of public transport for staff attending meetings, promote walking to attend site visits or meetings within 1km radius of work. Provide

travel passes for staff use as an alternative to cab charges or fleet cars.

Where possible, actions have been developed so that they are complementary to work already being undertaken by Council. For example, the action plan recognises the progress Council has made in improving streetlighting quality and efficiency through the Streetlighting Improvement Program, and is consistent with the deadlines Council has set for the implementation of its new Asset Management Plan.

Responsibility for implementing the actions contained in the plan is shared by all staff, as procurement is largely decentralised at Mosman Council. The involvement of all staff in the implementation of this plan underscores the need for the education and promotion activities which are included in the plan.

Greenwaste Recycling

The expansion of Council's greenwaste service, through its Waste and Recycling Services contract, has led to an increase in the diversion of organic matter from landfill.

Council collected 1068 tonnes of green waste this financial year. Council sends all its green waste to Kimbriki Recycling and Waste Disposal Centre, where it is recycled into garden and compost products. Likewise, Council collected 2868 tonnes of paper, which was recycled into new paper goods.

The collection and recycling of greenwaste and paper has prevented the emission of approximately 7682.80 tonnes of greenhouse gas being emitted from Council's waste management operations. This is the most significant community greenhouse abatement measure conducted by Council.



Vegetation recycling at Kimbriki Recycling and Waste Disposal Centre.

Additionally, Council is now purchasing finished composted greenwaste from Kimbriki, mixing it with recycled sand, and applying it as top dressing to Council's ovals. This has offset Council's requirement to import extracted top soil to dress its ovals, which has reduced demand for extracted materials, reduced transport impacts, and created a market for recycled resources.

Efficient IT and Office Equipment

Council leases most of its computer equipment on two year leases. Council has approximately 135 LCD computer monitors. These use approximately 15 percent less energy than equivalent cathode ray tube monitors, and Council saves approximately 20 tonnes of CO2 emissions per year from this measure.

Most of Council's computer equipment has power management, allowing the hard disk to power down, the fan to slow, and the screen to power off when the computer is not being used in order to reduce power consumption.

Additionally, photocopiers and multifunction devices are on a five year lease, rather than purchased. This ensures that Council has access to newer technology with energy saving features, including power save and double siding.

Fleet Management

Council has resolved to purchase a hybrid vehicle for a two year trial, to evaluate its fuel consumption and running costs this is in addition to Council's passenger fleet, which is primarily comprised of LPG vehicles.

Per kilometre travelled, LPG emits approximately 15% fewer greenhouse gas emissions compared to petrol. This measure saves approximately 23 tonnes of CO2 emissions per year compared to running a fleet of equivalent vehicles powered by



Top dressing Allan Border Oval with recycled organics and sand.

petrol. Additionally, Council has made significant financial savings running an LPG fleet because of the low price of LPG compared to petrol, and the relatively good resale prices for LPG vehicles.

However, it is important to note that because of the size of vehicles run by Council's fleet they still emit more greenhouse gases per kilometre than small cars run on petrol. The main obstacle in running a fleet comprised of smaller vehicles is their poor resale value. However it is expected that increasing fuel costs will boost demand, and prices, for energy efficient vehicles, in the second hand market.

Development Control

BASIX, the Building Sustainability Index, applies to all new residential developments in metropolitan areas.

BASIX requires that all new residential dwellings achieve a 40% reduction in greenhouse gas emissions compared with the average existing dwelling.

The long life of housing stock means that projects to reduce energy and water consumption can produce savings over a long period. Conversely, the construction of new and inefficient buildings means that inefficient resource use is entrenched, probably for the life of the dwelling.

Research by the Department of Planning and Energy Australia has demonstrated that residents of high density multi-unit dwellings have higher per-capita greenhouse gas emissions than residents in other dwelling types because of high energy consumption in common areas, and the lower occupancy rates of apartments compared to detached houses. (Myors et al, 2005). Despite this, the introduction of more strict BASIX targets for multi unit dwelling developments were dropped by the state government.

BASIX for alterations and additions will become mandatory on 1 October 2006.

Environmental Management Plan Actions

Mosman Council's Environmental Management Plan includes the following actions to address greenhouse gas emissions:

- *Develop an environmental management policy and guidelines for facility development, redevelopment, and asset refurbishment and renewal. To be completed by December 2005*

Information will be incorporated into Council's new asset management system. It is hoped that there will be scope for significant environmental design features to be incorporated into any large scale building works funded by Council's new infrastructure levy, if approved.

- *Develop an environmental management policy and guidelines for the leasing of Council property. To be completed by December 2005*

- *Report to Council on the status and future of the energy performance contract project. To be completed by July 2005*

A report was submitted to Council.

- *Develop a plan to progressively improve the efficiency of heating, ventilation and air conditioning systems in Council facilities. To be Completed by - March 2006*

The library air conditioning is being upgraded. While specifications for the design differ from those suggested by the Energy Performance Contract, the new model will still be more energy efficient than the existing plant.

- *Set up a revolving energy fund to reinvest savings from improved energy efficiencies into other sustainable energy projects. To be completed by June 2006*

As no investment was made in significant energy saving capital works, no major savings were made in energy, and none were re-invested.

- *Review and report upon the potential for Council to purchase a greater percentage of energy from renewable resources (accredited GREEN ENERGY). To be completed by March 2006*

As a result of the Greenhouse and Sustainable Purchasing Plan, Council will be increasing the percentage of Greenpower purchased for the Civic Centre/Library, Vista St Carpark and Art Gallery & Community Centre by 1% to 6%.

- *Participate in the Street Lighting Improvement Program. Quarterly Review September*

Council has continued to participate with Street Lighting Improvement Program and gained grant funding to install more energy efficient streetlighting as a result.

- *Commence investigations into the risk to Mosman's coastal assets and infrastructure from global warming. Annual Review September 2005*

Council is undertaking a general risk survey of its assets and operations, and global warming risk is being incorporated. Sydney Coastal Councils Group Inc and Macquarie University are also conducting a climate change risk program, but have not produced a report yet.

References

Department of Environment and Heritage, 2005, **National Pollutant Inventory Database**, [Online] Available: <http://www.npi.gov.au/> [Accessed 20 August 2006]

Myors, P; O'Leary R; and Helstroom R, 2005, **Multi-Unit Residential Building Energy & Peak Demand Study**, in "Energy News" Vol 23 No. 4, 2005. Also available online: www.sustainability.nsw.gov.au/information/common/pdf/energy_peak_multi.pdf#search=%22Department%20of%20Planning%20and%20EnergyAustralia%20greenhouse%20gas%20emissions%20dwellings%22 [Accessed 22 August 2006]

Water



Water: Summary of Indicators

Condition

Indicator	Result	Comments
Receiving water quality - ecosystem health	Acceptable	All parameters within guidelines except nitrogen and phosphorus at many sites; oil and grease in some.
Receiving water quality - human health (Harbourwatch)	Good	100% compliance at all sites except Little Sirius Cove, at 67% compliance.
Algal blooms	Two blooms recorded in 2005/06	

Pressure

Indicator	Result	Comments
Imperviousness:	Estimated 71%	Increases run off, pollutant transport and peak flows from storms.
Major sewer overflows:	None recorded.	No overflows from Northside Storage Tunnel recorded, primarily due to ongoing dry weather.
Minor sewer overflows	10 recorded	
Water Demand: Mosman community	3.06 million kL	0.93% increase in community water use from 2004/2005.
Water Demand: Mosman Council	51,626 kL	7.4% reduction on 2004/2005 consumption levels due to water restrictions and efficiency measures.

Response

Indicator	Result	Comments
Material captured in SQIDs	312.6 tonnes	Increase in tonnages reflects increase percent of catchment treated
Water Demand Reduction: Mosman Community	0.93% increase since 2004/2005	Slight increase in water consumption by the community. Still much lower than 2003/2004 levels due to continued restrictions.
Water Demand Reduction: Mosman Council	7.4% reduction since 2004/2005	Water savings measures and restrictions have reduced usage.

Local Waterways and Water Quality






Condition & Pressure

Environmental Values of Water



In May 2006 amendments to the Protection of the Environment Operations Act came into force. These amendments require regulatory authorities to consider the environmental values of water when issuing prevention notices for pollution of waters under section 96 (3A) of the Act.

The POEO Act dictionary states that this means the environmental values of water specified in the ANZECC Guidelines. The ANZECC 2000 Guidelines define environmental values as: 'particular values or uses of the environment that are important for a healthy ecosystem or for public benefit, welfare, safety or health and that require protection from the effects of pollution, waste discharges and deposits. Several environmental values may be designated for a specific waterbody.'

For marine waters around Mosman (Port Jackson and Middle Harbour and their embayments) , the key environmental values may be considered to be:

-  • Aquatic ecosystems
-  • Visual amenity
-  • Secondary contact recreation
-  • Primary contact recreation
-  • Aquatic foods (to be cooked before eating)

Freshwater streams in Mosman are generally intermittent, but still have important roles for

-  • Freshwater/terrestrial ecosystems
-  • Visual amenity

Stormwater canals and drains in Mosman do not generally have environmental values covered by these definitions. However, all stormwater drains in Mosman lead to freshwater streams and/or receiving waters in Middle Harbour and Port Jackson. Therefore, water quality in stormwater drainage systems should not be detrimental to the environmental values of downstream receiving waters.

A statutory requirement to consider environmental values of water was not included for clean-up notices in the revisions to the POEO, given the rapid nature of action that is required by such notices.



Above: Environmental values of water for Mosman's receiving harbour waters include aquatic ecosystems; visual amenity; secondary contact recreation; primary contact recreation; and aquatic foods

Compliance of Receiving Waters with Recommended Guidelines for 2005/2006 FY

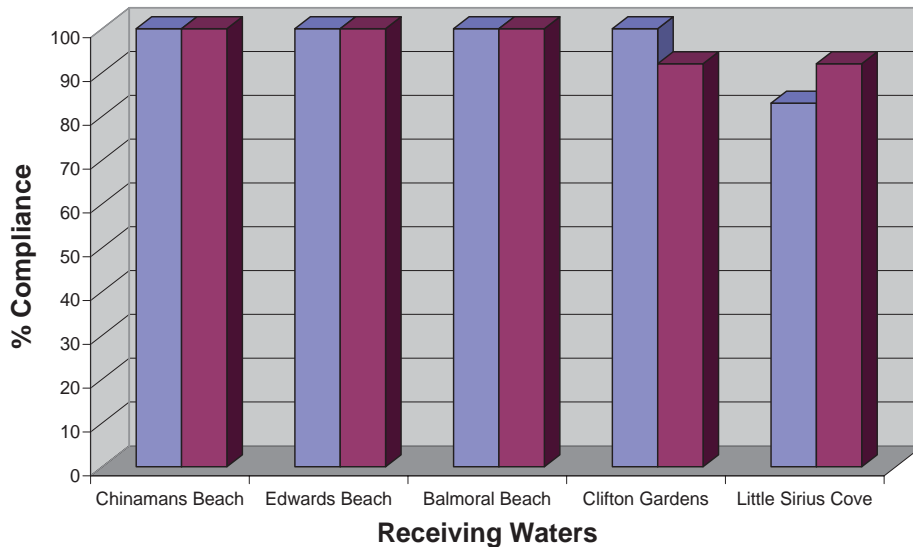


Figure 5.2: Compliance of receiving waters with recommended water quality guidelines in 2005/06. (Harbourwatch data)

Harbourwatch Sampling

Information on harbour water quality was again obtained from the Harbourwatch water quality sampling program which monitors levels of two bacteria: thermo-tolerant (faecal) coliforms and enterococci. Levels of these bacteria above limits set by the National Health and Medical Research Council (NHMRC) indicate that swimming in such waters may not be safe for human health.

The following graph show results from water quality monitoring from Harbourwatch.

As shown by the blue columns in Figure 5.2, all receiving waters sampled by Harbourwatch were 100% compliant with median guideline levels for faecal coliforms except Little Sirius Cove. Chinamans Beach, Edwards Beach and Balmoral Beach were 100% compliant for enterococci (as shown by the maroon columns).

Whilst faecal coliforms indicate recent sewage contamination, enterococci indicates aged sewage in the waterway.

Sirius Cove regularly shows up as the worst performing Mosman site monitored by Harbourwatch, which may be due to catchment conditions, its location upstream in Port Jackson, or particular features of the embayment.

Sirius Cove was 83% compliant with faecal coliforms, and 92% compliant with enterococci.

Sewage Overflows

According to Sydney Water figures, during the reporting period the Northside Storage Tunnel did not overflow to the environment, and this can again be attributed to the low rainfall across the catchment during the year (Sydney Water, 2006).

There were 10 additional sewer overflows from private sewers and other smaller overflow points on Sydney Water's system in Mosman.

Algal Blooms

There were two algal blooms in waterways around Mosman in the year, one in late August and one in September.

The algal blooms were identified as the non-toxic algae *Noctiluca scintillans*, which presented as a rusty or pink colouration on the surface of the water.

This species of algae is normally considered harmless. However, it is recommended that people avoid contact with all visible blooms.

The occurrence of *Noctiluca* blooms in Sydney tends to increase in early spring and summer. *Noctiluca* occurs naturally due to prevailing wind and water conditions and can become concentrated in bays, forming red colourations on the surface of the water.

During the August algal bloom, purple-blue water colourations and jelly-like scums were

also observed in the water. Samples collected from Manly and Mosman were identified as semi-transparent free-swimming marine animals called Salps. Salps form purple-blue gelatinous, harmless masses, are closely related to sea-squirts and resemble (but are not related to) jellyfish.



Above: The non-toxic red algae *Noctiluca scintillans* at Balmoral Baths.

Bottom: Semi-transparent free-swimming marine animals called Salps

Response

Council has continued to undertake on-ground projects to reduce the negative impact of polluted stormwater on both bushland areas and receiving waters, through its Community Environmental Contract (CEC). Greater detail on each of the individual projects is contained in the attached CEC Annual Report. A brief summary of projects is shown below.

Stormwater Pollutant Removal

During the reporting period, Council installed nine Stormwater Quality Improvement Devices (SQIDs) on stormwater outlets around Mosman. Council now has 30 SQIDs installed, which treat stormwater from 72 percent of the catchment area of Mosman. The devices capture pollutants including leaves, litter and sediments from stormwater, before stormwater is discharged into harbour receiving waters.

During the financial year, Council's SQIDs removed a total of 312.6 tonnes of pollutants. The total amount of material removed from the SQIDs since installation is 1232.93 tonnes.

Quakers Hat Bay Stormwater Project

This long running stormwater project was largely completed during the year. Council purchased land at Julian St. from Sydney Water and installed a Stormwater Quality Improvement Device to capture pollutants from the catchment.

Water Quality Monitoring

The wet weather monitoring of SQIDs during storm events, has also been continued this financial year.

Statistical analysis and interpretation of the monitoring data will be provided once the wet weather monitoring of all three nominated SQIDs has been completed.

Additional details about SQID installation, pollutant capture, and the CEC water quality monitoring program are contained in the CEC Annual Report, which is contained as the Appendix to this report.

Regulation

During the reporting period, Council officers issued eight clean up notices to stop water pollution under the Protection of the Environment Operations Act.

Environmental Management Plan Actions

Mosman Council's Environmental Management Plan includes the following actions to improve water quality:

- *Install SQIDs and undertake creek rehabilitation works as per the CEC schedule. Quarterly Review September*

Council has continued to implement its SQID and creek projects. More details are contained in the attached CEC Annual Report.

- *Undertake a monitoring program to evaluate the efficiency and effectiveness of SQIDs in the capture and removal of pollutants. To be completed by June 2006*

Ongoing. Refer to the attached CEC Annual Report for more information.

- *Review of SQID clean out and waste water disposal procedures and implement recommendations from the review. To be completed by September 2005*

Ongoing. Refer to the attached CEC Annual Report for more information.

- *Research and report upon the feasibility of introducing a private sewerage inspection program associated with property conveyancing. To be completed by December 2006*

This program could be of great benefit because it would identify faults in private sewage systems before they cause environmental harm. Presently, Council does not have the staff or funding to undertake such as program. However, Council has been pro-active in inspecting sewage systems in areas where there has been a history of sewage leaks in areas of high environmental values, such as Pearl Bay. After the reporting period, Sydney Water announced it was beginning an improvement program for the sewer network for a sewer catchment which includes all of Balmoral Beach.

- *Research and report upon the feasibility of rehabilitating (dechannelising) open stormwater culverts. To be completed by June 2007*

As a preliminary action on this project, Council has provided information to DIPNR (now Department of Infrastructure) and projects of this type may be addressed in the Catchment Action Plan.

- *Collect, collate and report upon data from the State Government's Beachwatch program. Quarterly Review September*

Ongoing. Details have been provided in this chapter.

- *Develop a plan to collect bio-indicator, and physical and chemical data from Mosman creeks. To be completed by September 2005*

A plan has been developed and if sufficient funds are received, implementation is expected to begin in 2006/07.

Water Supply and Consumption in Mosman

Condition & Pressure

Mosman's reticulated water supply is supplied to the Municipality by Sydney Water via the Ryde customer supply system.

The main environmental impacts related to the provision of potable water to urban areas arise from the collection and storage of water supply in other catchments and the disposal of waste waters through the North Head treatment plant near Manly.

At the end of the reporting period, Sydney's dam storage levels were 41.7 percent. While this is little changed since the end of last year, it includes the benefit of new works which enable water deep in dams to be accessed, and extensive water transfers from dams on the Shoalhaven River, south of Sydney. Without these actions, storage levels would be significantly lower.

Dam levels have been falling since 1998 as a result of drought and continuing demand from a growing population in Sydney (SCA, 2005).

Mosman Water Consumption

Total Mosman water consumption in the 2005/06 reporting year was 3,068,629 kilolitres (KL), with an average consumption in houses of 296.5 KL per year and in units of 129.9 KL per year. In comparison to 2004/2005 data shown in Table 5.2, water consumption in houses in 2005/2006 has increased by 4.6% on 2004/2005 levels despite continued water restrictions. Whilst water

consumption in units during 2005/2006 has been reduced by 1.6% from 2004/2005.

According to Sydney Water figures, the overall average water consumption in Mosman increased by approximately 0.9% compared to 2004/05.

Mosman Council Water Consumption

According to Sydney Water data for the 2005/2006 financial year, Mosman Council's water consumption in 2005/06 was 51,626 KL. Comparative to the 2004/2005 data provided by Sydney Water, Council has reduced its water consumption by approximately 7.4%.

At the time that Council conducted an environmental audit of the Swim Centre in May 2005, it was estimated that the Swim Centre uses approximately 111.3 KL per day.

The Swim Centre does not contain its own water meter, so an estimate of water use was made using information on the water consumption of the entire building, and the calculated water consumption of other units in the building, based on Sydney Water consumption data for Mosman.

An estimate of the water using processes within the Centre was made with reference to the frequency and water consumption of filter backwashing, the number of patrons and the known consumption of water using fixtures in the building.

Response

Water Restrictions

A significant reason for the continuing lower level of water consumption in Mosman since 2003/2004 is the ongoing implementation of

Summary Code	No. of Meters	No. of Properties	Total Consumption 2004/05	Average Annual Consumption (KL) 2004/05	Consumption Change from 2003/04
Commercial	239	264	156,551	593	-4.40%
Houses	5,331	5,331	1,506,158	283	-9.10%
Industrial	5	5	1,592	318	18.20%
Other	188	338	370,559	1,096	6.40%
Units/Flats	1,317	7,604	1,005,436	132	-3.64%
Total	7,080	13,542	3,040,296	225	-5.06%

Table 5.2: Water consumption in Mosman in 2004/2005

Facility Type	1986/1987	1987/1988	1988/1989	1989/1990	1990/1991	1991/1992	1992/1993	1993/1994	1994/1995	1995/1996	1996/1997	1997/1998	1998/1999	1999/2000	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005
	1525	3090	3769	4819	7271	5709	4353	3579	2763	4370	3128	2851	3875	4317	3915	3669	3179	2837	7954
Club	20	779	542	600	758	828	461	609	346	210	633	101	58	238	178	289	312	153	0
	3459	12407	12225	8651	5018	6340	5294	10146	11405	16368	15693	11536	13854	26835	23143	21782	20248	17501	17,187
Misc.	3	3687	4769	7472	7698	1594	5598	9447	6104	7234	7396	8636	6618	8170	7983	5906	5583	4787	5
Public Reserve	10819	51217	47695	29996	51755	53095	33133	57589	48510	46182	62564	61765	68933	52656	49895	70888	71261	39183	31,365
	0	0	0	0	0	0	0	0	2	107	84	14	0	53	18	73	11	7	0
kL/an-num	15826	71180	69000	51538	72500	67566	48839	81370	69130	74471	89498	84903	93338	92269	85132	102607	100594	64468	56,511
kL/d	43.36	195.01	189.04	141.2	198.63	185.11	133.81	222.93	189.4	204.03	245.2	232.61	255.72	252.79	233.24	281.12	275.6	176.62	155.25

Mosman Council water consumption

water consumption restrictions imposed by Sydney Water.

Level Three water restrictions were introduced on 1 June 2005 (Sydney Water, 2005).

Restrictions have reduced the number of times Council can water its ovals, significantly reducing Council's overall water consumption.

Water Savings Plan and Every Drop Counts Program

In accordance with state government requirements, Council submitted a water savings plan to the Department of Energy, Utilities and Sustainability (DEUS) in April 2006. The plan covered Council's largest water using assets, including Council's Civic Centre, several playing fields, the Mosman Swim Centre and commercial buildings, such as 601-661 Military Rd.

Most of the actions recommended by the plan follow on from recommendations of the Every Drop Counts project. As of the end of the reporting year, the plan had not been assessed by DEUS, but Council began implementing cost-effective actions identified by the Plan.

As a result of the development of the Water Savings Plan, Council installed flow restrictors in taps in the Civic Centre, Seniors Centre, residential units at 601-611 Military Rd, and in many of Council's public toilets and showers. Further sites will be fitted with water saving equipment during 2006/07.

AAA rated plumbing equipment is installed into all facilities when fixtures are replaced.

It is likely that Council will begin to see the impact of improved efficiencies in the 2006-07 year.



Mosman Swim Centre has implemented water saving actions.

Swim Centre Operations

An environmental audit of the Mosman Swim Centre was conducted in 2005. Although the design and operation of the pool is generally water efficient, management of the Centre have adopted additional practices to reduce water consumption.

These include a reduction in the number of times filter backwashing is performed, to once per week. Each backwash cycle uses between 10,000 and 30,000L of water. Trigger nozzles have been installed on all hoses, and as much cleaning of the pool concourse as possible is undertaken with a mop rather than a running tap.

The pool was designed with several water conserving measures. These include a relatively new filter design which does not require backwashing as frequently as older models, reuse of water which enters the splash drains at the side of the pool, and the installation of water efficient fixtures and timed showers. The pool is also indoors, which minimises evaporation and water loss.

Development Control

A state government planning control called BASIX (which stands for Building Sustainability Index) applied to new dwellings assessed in Mosman from the beginning of June 2005. BASIX requires that new houses are at least 40% more water efficient than average. While applicants can achieve water efficiencies through any combination of measures they choose, BASIX is likely to make rainwater tanks almost mandatory in all new dwellings. Measures committed to by applicants are discussed in Chapter 3.

Rainwater Tanks

Most rainwater tank installations don't require development assessment, so the number installed in Mosman is difficult to determine. However, as noted in Chapter 3, BASIX commitments from 2005/06 alone should result in 36 rainwater tanks with 260,300L of rainwater storage. Rainwater would be captured from 6032m² of impervious area. While BASIX allows applicants to choose what measures they wish to employ to achieve targets, most applicants have elected to install a rainwater tank of some size.

These figures do not count the number of rainwater tanks installed during alterations and additions, or installed using the provisions of Council's exempt and complying development

control plan.

Stormwater Reuse Projects

Balmoral Oval

Council has developed plans for a project to capture, treat and reuse stormwater from parts of the Balmoral catchment to irrigate Balmoral Oval. When all stages are completed, the project will provide up to 16,500KL of irrigation water per year.

Mosman Council uses the majority of potable water it purchases from Sydney Water for irrigation of sports fields.

While water restrictions have significantly reduced allowable water consumption, the ovals continue to be heavily used for active sports, and current irrigation levels are not really sufficient to maintain the ovals' good playing surface. Additionally, using high quality drinking water to irrigate ovals is not an efficient use of resources, especially with the declining storage levels in Sydney's major water storages.

The Balmoral Stormwater Reuse project will be implemented in three stages to allow Council to evaluate its design and fine tune the system if necessary. When the project is completed, it will supply up to 65% of the water required to maintain the ovals at an optimum level. It will also provide water to irrigate the gardens along the Esplanade at Balmoral Beach.

All water collected for re-use will be pre-treated by Council's SQIDs, and subjected to ultra-violet disinfection before being reused.

Council received \$50,000 from the Federal Government's Community Water Grants, and \$140,000 from the state government's Water Savings Fund to conduct the project. The entire project is expected to cost \$300,000.

Rawson Park

Council has also been negotiating with the Sydney Harbour Federation Trust to lease Trust land at the Drill Hall Precinct, adjacent to Rawson Park. Council proposes to build indoor and outdoor sports courts on the site, and is planning to implement rainwater and stormwater capture and reuse systems into the project.



Council may implement a water reuse project at the Drill Hall Precinct, if leased from SHFT.

Environmental Management Plan Actions

Mosman Council's Environmental Management Plan includes the following actions to address water demand:

- *Research and report upon the feasibility of stormwater reuse, groundwater extraction and rainwater harvesting for a range of uses at Balmoral. To be completed by November 2005*

A report was completed and submitted to Council. Due to the known contaminants beneath Balmoral Oval, as a result of its history as a landfill, use of groundwater has been dismissed as an option for this site. As reported in this chapter, stormwater capture and reuse is being pursued.

- *Research and report on the feasibility of using backwash water from the Mosman Swim Centre to irrigate Allan Border Oval. To be completed by November 2005*

Due to the relatively low volumes of water used by the Mosman Swim Centre, and the further reduction in water use achieved by reducing backwash frequency, detailed investigations have been postponed. Council will monitor the success of other reuse programs for swimming pool backwash water proposed by Councils including Lane Cove and Blacktown.

- *Research and report upon non-mains based water supply options (including the reuse of sewage) for Council reserves. To be completed by June 2006*

The development of the Balmoral Stormwater Reuse project and the Drill Hall Precinct/Rawson Park project satisfies this objective.

- *Prepare greywater reuse system guidelines. To be completed by September 2005*

State government guidelines were released, but did not significantly reduce barriers to the adoption of domestic greywater reuse. Council is continuing to develop its own guidelines.

- *Investigate opportunities for large scale water sensitive urban design asset renewal projects consistent with the development of asset management plans and public domain improvement projects. To be completed by June 2006*

No major asset management or public domain projects were either planned or in progress during the year. However, Council is preparing

an electronic asset management system, which may assist in identifying suitable sites for WSUD techniques.

- *Develop a Rainwater Tank Policy. To be Completed by December 2005*

A draft policy was developed by Council's Assets and Services team

- *Review On Site Detention Guidelines. To be Completed by December 2005*

A draft policy was developed by Council's Assets and Services team

- *Implement outstanding Every Drop Counts recommendations. To be Completed by - December 2005*

Council has installed flow restrictors in numerous locations, adjusted float valves in toilets, and continued maintenance of plumbing assets.

- *Investigate the feasibility of setting up a water conservation community advisory service. To be completed by March 2006*

Council does not have the staff resources to run such as service at present, but continues to refer people to relevant information, including the rainwater tank section in Council's Exempt and Complying DCP and information provided by Sydney Water and others.

Council officers have considered the establishment of a community facility that could showcase the use of rainwater tanks, amongst other environmental projects, and are seeking appropriate grant opportunities.



Biodiversity

Biodiversity: Summary of Indicators

Condition

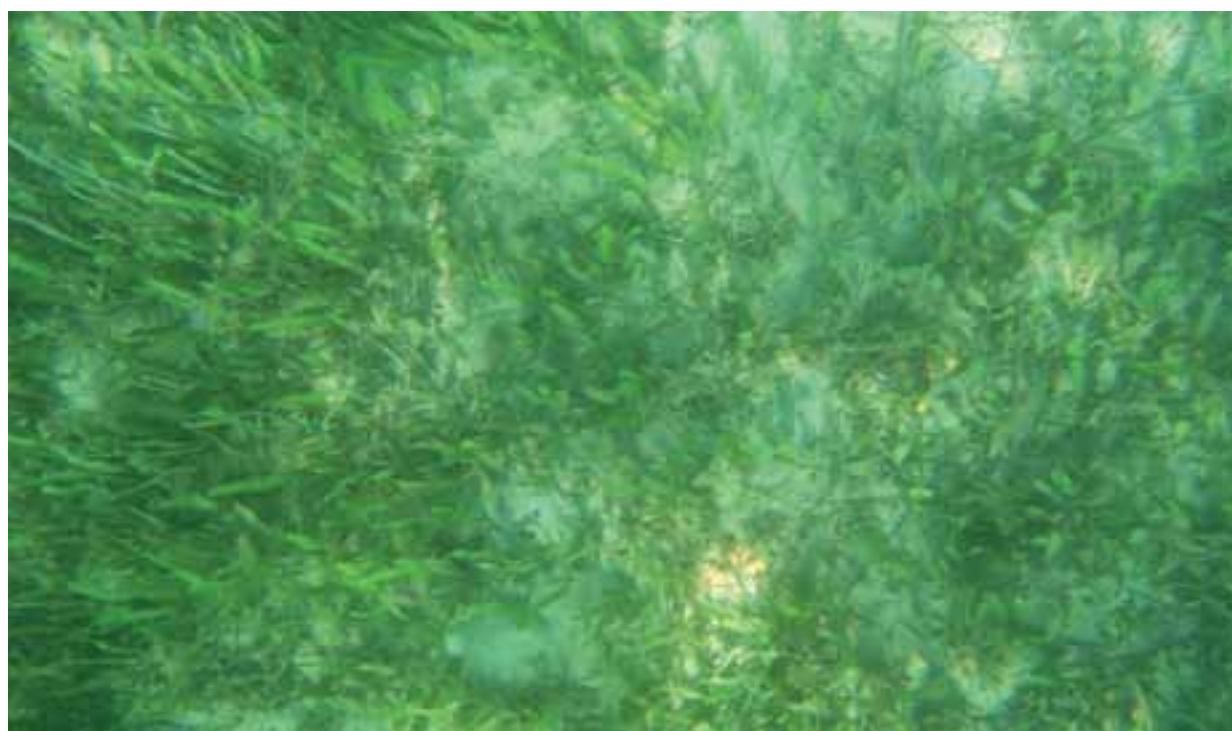
Indicator	Result	Comments
Area of Mosman Council bushland under active management	30.5 ha.	Stable. 80% of bushland areas in Mosman under active management.
Number of native plant species recorded in Mosman	430	New count due in 2006 Flora and Fauna survey
Number of native animal species recorded in Mosman	221	New count due in 2006 Flora and Fauna survey.

Pressure

Indicator	Result	Comments
Area of bushland affected by stormwater	Estimated 14.5% of bushland	Verified by on-ground mapping.

Response

Indicator	Result	Comments
Ha of bushland under contract greater than 90% weed free that is representative of original vegetation type.	40%	Target of 40% achieved.



Seagrass at Chowder Bay

Bushland & Terrestrial Biodiversity

Condition

The general status of Mosman's bushland is little changed from that described in the 2003/04 comprehensive state of the environment report. The condition of many bushland reserves continues to improve due to the ongoing bushland management programs of Council.

Pressure

The pressures described in the 2003/04 state of the environment still apply to the bushland and terrestrial environment of Mosman. The following additional pressures have been identified for this report.

Feral Rabbit Populations

Competition and grazing by the feral European Rabbit (*Oryctolagus cuniculus*) has been recognised as a Key Threatening Process by the NSW Scientific Committee. (DEC, 2006) During the last several years, feral rabbit populations in Mosman have increased dramatically. This may be because a successful regional fox baiting program has reduced predation on rabbit populations.

While it is not known if the rabbit populations in Mosman have affected any threatened species of populations, high rabbit populations in areas such as Sirius Cove, Little Ashton Park, Balmoral Oval and areas near Taronga Zoo have removed vegetation and exposed erodible soils. Damage has also been caused to private gardens.

Response

Feral Animal Control Programs

Fox Control Programs

The regional fox control program continues to be implemented. Mosman Council does not participate but neighbouring agencies Sydney Harbour Federation Trust and the NSW National Parks and Wildlife Service do carry out baiting.

Rabbit Control Programs

A rabbit control program was undertaken in February 2006 by Mosman Council, Sydney Harbour Federation Trust, Taronga Zoo and NSW National Parks and Wildlife Service. The program involved rabbit poisoning and follow-up shooting. The project reduced observed rabbit numbers by approximately 80%. A smaller follow-up program



Rabbit control programs have been undertaken.

is planned so that the rabbit population does not significantly expand with the spring breeding season and availability of ample food.

Stormwater-Affected Bushland

In Mosman, as in most urban areas, stormwater is one of the main degrading influences on bushland quality. Council has undertaken many projects to reduce the impact of stormwater upon bushland, and undertook a ground survey to measure the current extent of bushland which is being directly affected by stormwater. The survey showed that approximately 14.5% of the areas surveyed were affected by bushland. They survey covered most of the larger bushland reserves in Mosman. The overall figure may be marginally higher, as some smaller reserves and unmade road reserves may have a larger proportion of their area affected by stormwater.

The amount of bushland affected by stormwater has been significantly reduced by projects such as the Lawry Plunkett Reserve Environment and Heritage Project and the Beauty Point Foreshores Project.

Red Crowned Toadlet Project

This co-operative project is being undertaken by Council, National Parks and Wildlife Service, and Taronga Zoo.

The project is designed to manage the impacts of urban stormwater runoff from parking areas adjacent to Taronga Zoo in order to minimize impacts on Red Crowned Toadlet (*Pseudophryne australis*) habitat further downstream in the Taylors Bay catchment.

The Red Crowned Toadlet, a small amphibian, is a listed vulnerable species, because of loss and degradation of its habitat which is only found in Hawkesbury sandstone areas of the Sydney region.

The main on-ground works completed by the project included stormwater management and creek armouring. The project was partly funded by the Environmental Trust.

Bushland Management and Bushcare

Council continued its bushland management contracts. The main indicator for this program is hectares of bushland under contract greater than 90% weed free that is representative of its original vegetation type. In 2005/06 the target was calculated at 45%, and the upcoming Flora and Fauna survey will provide a new benchmark figure.

To ensure that bushland management activities do not contribute to pressures on bushland, Council's contractors continued to implement *Phytophthora cinamomi* management protocols in bushland areas.

Council continued to support the Bushcare program during 2005-06. There were approximately 180 active volunteers during the reporting period working on 17 sites.

Tree Planting

Council's street tree planting program continued. During the year, Ironbarks (*Eucalyptus sideroxylon*) were planted along Spit and Military Rd. These trees will significantly improve canopy cover in some of the most urbanised areas of Mosman, and will significantly enhance the aesthetics of these roads.

Council continued to plant trees, shrubs, grasses and sedges of local provenance in Council's

bushland reserves and open spaces during the year. Council planted 722 trees.

Noxious Weeds Management

Council has increased the resources dedicated to noxious weeds management. During 2005/06 Council issued 28 noxious weeds assessment notices, which led to the removal of weeds including pampas grass, balloon vine, Madeira vine, asthma weed, privet, green cestrum, rhus and lantana.

Bushland Education

Council continued to conduct bushland and biodiversity awareness programs. Activities included the publication of the "Bushland Matters" newsletter, and a Living Environment Information Evening on feral animal populations and control. Council also supported Weedbusters Week.

Middle Harbour Public School Threatened Species Garden

Middle Harbour Public school received a grant from waste management company WSN Environmental Solutions to turn a neglected part of the school grounds into a threatened species garden.

Works involved the removal of several weed species, and with the advice of Council's Bushcare Officer, the planting of a range of locally indigenous species. Plantings included several vulnerable and locally significant species.

School classes were involved in the planning and



Creek armouring undertaken for the Red Crowned Toadlet project



National Tree Day planting at Clifton Gardens

planting of the garden, and the project was also included into the school's formal classes.

Flora and Fauna Survey

During the reporting year, Mosman Council engaged consultants to undertake a Flora and Fauna survey of bushland areas controlled by Mosman Council.

The survey has been designed so that changes in the condition of bushland since the last survey was undertaken in 1999/2000 can be measured. This will allow Council to assess the effectiveness of its Bushland management programs, and if necessary alter management practices to address any areas that have not improved or any emerging problems.

Environmental Management Plan Actions

Mosman Council's Environmental Management Plan contains the following actions to manage terrestrial biodiversity:

- *Manage the Middle Harbour catchment Contract for Bushland Restoration 2001 - 2011.*

Council continued to manage the Middle Harbour catchment Contract for Bushland Restoration 2001 - 2011

- *Manage the Port Jackson catchment Contract for Bushland Restoration 2001 - 2011.*

Ongoing. Council continued to Manage the Port Jackson catchment Contract for Bushland Restoration 2001 - 2011

- *Progressively implement the Unmade Roads Rehabilitation Strategy in accordance with the program timetable. Ongoing*

Council continued to manage the Port Jackson catchment Contract for Bushland Restoration 2001 - 2011

- *Co-ordinate and support Council's volunteer Bushcare Program. Ongoing*

Council continues to support Bushcare.

- *Implement bushland management activities as per the CEC schedule. Ongoing*

Council continues to implement bushland management activities, as reported in this chapter.

- *Implement the 2005 - 2006 fire hazard reduction burn program. To be completed by June 2006*

Council continues to implement the fire hazard reduction program.

- *Prepare the 2006 - 2007 annual fire hazard reduction burn program. To be completed by May 2006*

The program has been prepared.

- *Engage a consultant to undertake a survey of bushland and unmade road reserves to identify the diversity of flora and fauna communities, determine habitat value and threats to the communities, and report on opportunities for conservation. To be completed by June 2006*

Council engaged consultants and the survey will be undertaken before the end of 2006.



Green Tree Snakes were not recorded in the 1999/2000 Flora and Fauna survey, but have been sighted around Mosman since then.

- *Develop a program to identify and map vegetation and habitat in non-bushland areas and on or adjacent to privately owned land in Mosman, and determine its habitat value. To be completed by June 2006*

The program has not been completed, but will be assisted by information gained from the Flora and Fauna survey.

- *Research and report upon opportunities for conservation of valuable privately owned bushland, including opportunities for incentives, rewards, awards and recognition. To be completed by December 2006*

The program has not been completed, but will be assisted by information gained from the Flora and Fauna survey.

- *Implement the plan for the future management of *Phytophthora cinnamomi* as adopted by Council on 4 April 2005. Quarterly Review September*

Phytophthora cinnamomi management is ongoing through Bushland contracts

- *Review, revise and implement the 5 year rolling program for the upgrade of walking tracks and trails through Council's bushland areas. Annual Review May*

This program is ongoing, and walking track upgrades are funded according to priority.

Develop a pest animal (feral and companion) control program. To be completed by - July 2007

Council has been implementing a rabbit control program, as reported in this chapter. Companion animal education is ongoing through forums such as the Pets Day Out.

- *Map on the GIS the location of stormwater discharges affecting bushland. To be Completed by October 2005*

Project completed, as reported in this chapter

- *Map on the GIS the location of track upgrade works, soil testing and monitoring sites, and re-vegetation sites. Annual Review June*

Ongoing

- *Implement the Urban Forest Policy as identified in Program 5.05 Trees of MOSPLAN 2005 - 2008. Quarterly Review - September*

Tree management is ongoing, through avenues such as the Tree Preservation Order.

- *Survey boundaries of Council bushland areas to determine extent and impacts of private property encroachments. To be completed by May 2007.*

Information gained from the Flora and Fauna survey will assist this project.

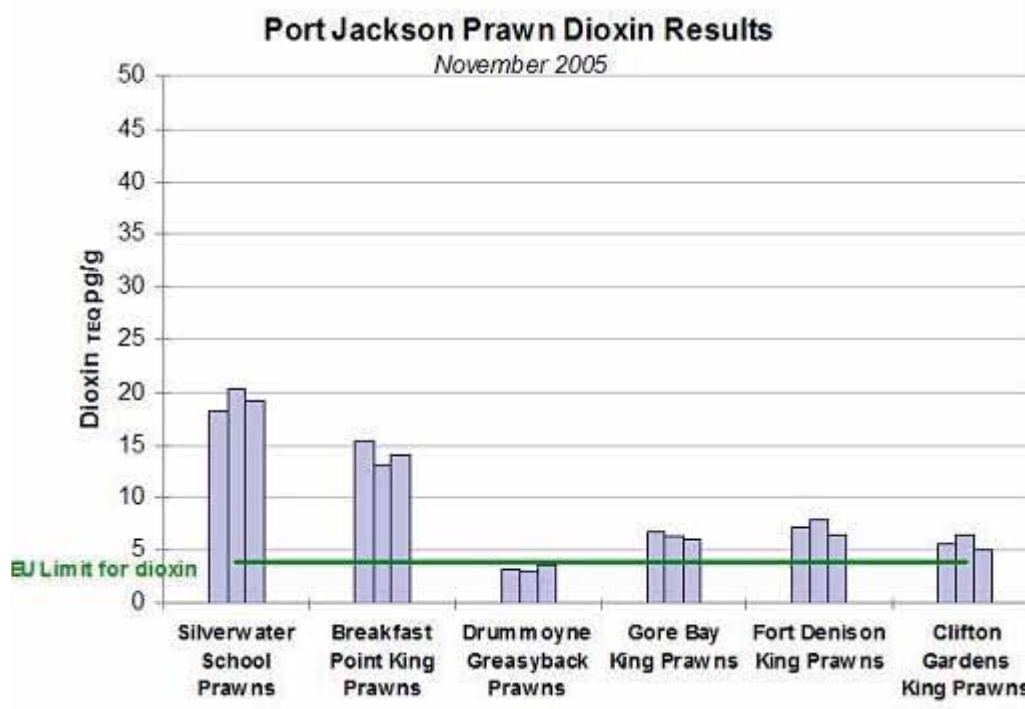
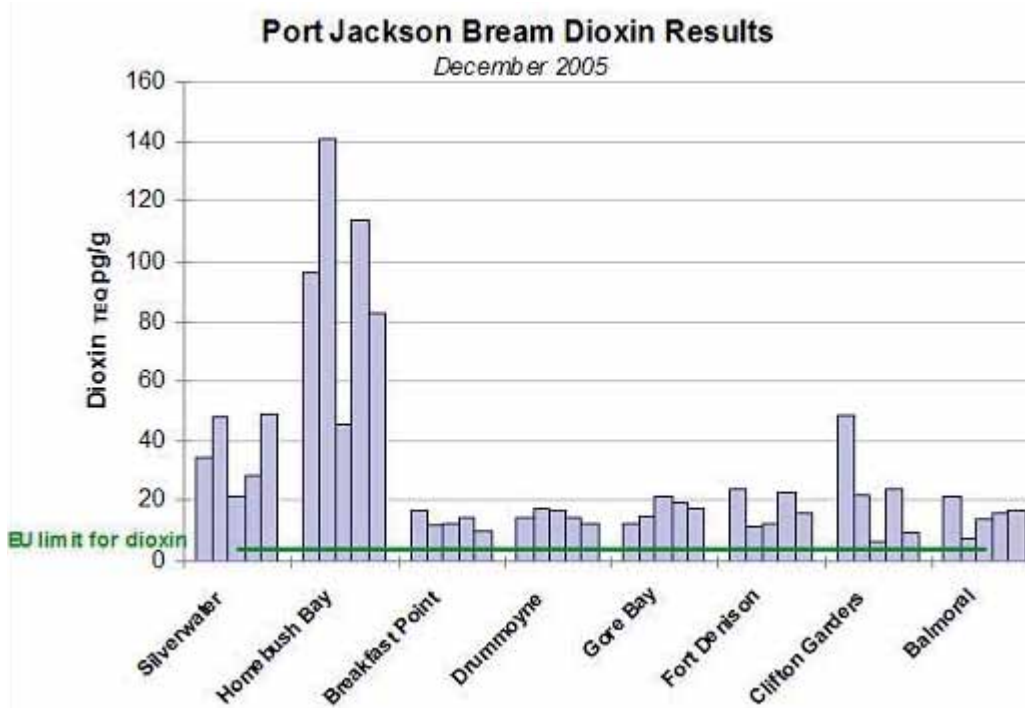
Aquatic Biodiversity

Condition and Pressure

The general conditions and pressures on Aquatic Biodiversity are little changed since the 2003/04 comprehensive report. Additional pressures identified by this report are discussed below.

Elevated Dioxin Levels in Harbour Fish

As discussed in the Land chapter, elevated levels of dioxins in some Sydney Harbour sediments have led to unacceptably high dioxin levels in prawns and some fish species in Sydney Harbour. Levels of dioxin in different species caught in different areas of the Harbour, including Clifton Gardens and Balmoral are shown below. Dioxin levels in bream and prawns caught in all parts of the Harbour are above European Union limits. (NSW Food Authority, 2006)



Dioxin levels in harbour fish and prawns (sourced from the NSW Food Authority)

Biodiversity

Entanglement of Marine Animals

Council maintains shark-free swimming enclosures at Balmoral and Clifton Gardens. Whilst Council has adopted measures to ensure that the removal, cleaning and replacement of nets does not unnecessarily disturb marine animals who rely on these structures for habitat. Additional biodiversity impacts are now apparent because of the mesh of the nets which can entangle marine creatures.

During the year, several marine species have been discovered entangled in the nets at Balmoral and Clifton Gardens, including Port Jackson Sharks and Shovelnose Rays. Most have been released alive by recreational divers, however in May a Silky Shark (*Carcharhinus falciformis*) was found dead after becoming entangled in the mesh of the Clifton Garden net.

The Silky Shark can grow to 3.3m in length, and Sydney Harbour is its southern most limit.

Response

Harbour Fishing Ban

As discussed in the Land chapter, the state government has banned commercial fishing in Sydney Harbour due to elevated dioxin levels found in prawns and bream.

It is not known what impact dioxin levels in these species will have on their health or reproductive capacity, if any.

The halt on commercial fishing activities will probably reduce pressure on the main target species, the Eastern King Prawn and whitebait. It is not known if the reduction in fish trawling will have effects on the populations of any other predatory fish or birds.

Asset Management

Given evidence of the entanglement of marine species in swimming nets, Council must investigate the use of netting material for its swimming enclosures that is not so prone to entanglement of marine creatures. The current mesh may be performing so poorly because of the lightweight materials, or the size of the meshing.

Additionally, Council may wish to consider the risks of shark attack on swimmers in Sydney Harbour and the overall effectiveness of swimming enclosures in reducing that risk.

report prepared by Australian Museum Business Services (1999) notes that the shark population in Sydney harbour has decreased from its peak in the 1920s. The decline in the shark population is due to the compound effect of shark netting at ocean beaches, which is designed to capture and kill sharks, sharks' low reproductive potential, and the decline in readily available food with the closure of the Homebush Bay Abattoir.



Top: The state government has banned commercial fishing in the Harbour. Some trawlers formerly operated near Chinamans Beach. Above: Swimming net at Clifton Gardens.

Environmental Management Plan Actions

Mosman Council's Environmental Management Plan contains the following actions to manage aquatic biodiversity:

- *Research and report upon the opportunity to have NSW Fisheries establish an aquatic reserve in harbour waters surrounding Mosman. To be completed by March 2006.*

Fisheries conducted an assessment of the Hawkesbury bio-region, which includes the waters of Sydney Harbour, in 2003. As a result of this assessment, several marine reserves were declared, but none in waters around Mosman were declared. However, there is increasing community interest in the development of a marine reserve in waters around Mosman.

- *Develop an environmental management policy and guidelines for the management of marine assets, facility development, redevelopment, and asset refurbishment and renewal. To be completed by December 2005*

This project has been incorporated into the development of the Asset Management Plan.

- *Liaise with NSW Fisheries and enforce all regulations and policies restricting near shore boating activities. To be completed by March 2006.*

Council conducts informal liaison with Fisheries officers on matters including littering and other pollution from vessels is ongoing.

Intertidal Biodiversity

Condition and Pressure

Pressures, including modification of rocky foreshores to create seawalls, beach cleaning, and collection of intertidal organisms for food and bait, are little changed from the previous comprehensive report.

Response

Ecological Seawall Projects

During the year, the Centre for Ecological Impacts of Coastal Cities (EICC), in association with Mosman Council and other local government and industry partners, was successful in its application to the Australian Research Council, for funds to conduct and study additional habitat enhancing seawall works.

Ongoing monitoring of the Quakers Hat Bay Seawall by the EICC has identified that recruitment of new intertidal life on the wall has been very slow. The monitoring program has been rescheduled to account for the slow rate of recolonisation.

Chinamans Beach Monitoring Program

As a result of the Chinamans Beach photopoint monitoring program, Council's contractors continue to hand clean Chinamans Beach. This has significantly reduced the amount of natural wrack removed from the beach during beach cleaning.

Council is developing signs to be installed at the beach to inform beach goers about the program, and explain why there is more visible wrack than on a mechanically raked beach.



Fishing line discarded onto oysters in the intertidal zone. Such line can also entangle marine creatures and birds.

Environmental Management Plan Actions

Mosman Council's Environmental Management Plan contains the following actions to manage intertidal biodiversity:

- *Consider intertidal biodiversity issues in undertaking seawall works as per the CEC schedule. Quarterly Review*

Ongoing

- *Pending funding from the Australian Research Council (ARC), commence participation in the Centre for Research on Ecological Impacts on Coastal Cities' seawall habitat project. To be commenced by January 2006*

Funding was received from ARC for this project.

- *Undertake Chinamans Beach Photo Point Winter Monitoring Program and report upon the need for beach raking, the ideal cleaning frequency and the viability of hand cleaning. To be completed by October 2005*

The project was completed and recommendations from the report implemented.

- *Liaise with NSW Fisheries to review Council's role in the management of Intertidal Protected Areas, including enforcement and training requirements. To be completed by August 2005*

This action was not completed.

References

Department of Environment and Conservation (DEC), 2006, **Competition and grazing by the feral European rabbit - key threatening process declaration** [Online] Available: <http://www.nationalparks.nsw.gov.au/npws.nsf/Content/Competition+and+grazing+by+the+feral+European+rabbit+key+threatening+process+declaration> [Accessed 21 August 2006]

NSW Food Authority, 2006, **Sydney Harbour closure to commercial fishing – overview and facts about dioxins** [Online] Available: <http://www.foodauthority.nsw.gov.au/c-dioxins.htm> [Accessed 27 June 2006]



Waste

Waste: Summary of Indicators

Condition

Indicator	Result	Comments
Total domestic waste to landfill in 2005/06	6559 tonnes	Increase of 5.5% since 2004/05, due to population growth.

Pressure

Indicator	Result	Comments
Total waste to landfill per capita in 2005/06	231 kg/person	Decrease of 3.6%

Response

Indicator	Result	Comments
Diversion rate (recycling as a percentage of total waste stream)	45.7%	Diversion rates slightly lower than last year, but improved from the 42% recorded in 1999/2000.

Domestic Waste

Condition and Pressure

Council's waste collection and recycling system is similar to that described in the previous comprehensive report, and processes for recycling, landfilling and reprocessing are similar.

Waste Per Capita

Mosman residents generated an average of 231 kilograms of waste per capita in 2005/06. Council collected 6559 tonnes of domestic waste in 2005/06. This is an increase of 5.5 percent from the previous reporting period.

During 2005/06, Council collected 5520 tonnes of recyclable material, implying a diversion rate of 45.7%, which is lower than the previous year. The diversion rate expresses the total amount of recyclable materials collected as a percentage of the total waste stream.

Recyclables in Waste Stream

It has been calculated that the percentage of materials remaining in the waste stream that could be diverted into Council's recycling system is approximately 20%. Reducing the amount of recyclables in the waste stream will improve the effectiveness of Council's resource recovery, and may assist the effectiveness of any future alternative waste technology site. Council is investigating options for replacing the existing recycling crate system and introducing larger mobile recycling bins.

Energy and Greenhouse Gas Emissions

Disposal of waste in landfills can generate significant amounts of greenhouse gases. In 2005/06, waste generated by the Mosman community and disposed of to landfill will generate an estimated 11,278 tonnes CO₂ equivalent during its time in landfill. That compares to 8963 tonnes for waste disposed of in 2004/05, an increase of 10.8%.

Decomposition of organic material in the anaerobic conditions of landfills also creates methane, a potent greenhouse gas, with 24 times the greenhouse warming potential of carbon dioxide. This can be largely avoided by removing organic matter from landfilled waste.

Therefore, Council's paper and vegetation recycling programs are important greenhouse gas abatement measures.

The recycling of greenwaste and paper reduced

Council's greenhouse gas emissions by approximately 8345 tonnes. This is the most significant abatement measure implemented by Council.

Management of waste also leads to measurable greenhouse gas emissions. Council's contractors use an estimated 119,613 litres of diesel annually to collect and transport Mosman's waste and recyclables, and 3765 litres of petrol in contract management and control. The operations of the contractors fleet led to estimated emissions of 330 tonnes of CO₂ equivalent. This is an increase from last reporting year, in line with the additional amount of waste collected, but still less than the reported figure for 2003/04.

This figure does not include transport of recyclable material from transfer station to recycling facility, or energy used in landfill management.

Response

Council has continued to manage its waste contract, which includes a number of actions to encourage waste reduction and recycling. These include variable rate pricing (smaller bins attract a smaller charge), and a domestic recycling system. Other newer actions to encourage diversion include Council's resolution to investigate an alternative waste treatment facility, and the rollout of bio-insert bins.

Bio-insert Bins

Bio-insert bins are 240L mobile garbage bins with a liner insert designed for green waste collection. Since the introduction of bio insert bins, the amount of green waste collected by Council has risen significantly.

Domestic Waste Audit

In 2005/06, Council plans to conduct a domestic waste audit, in conjunction with other SHOROC Councils. This will help to characterise the types of materials being disposed of in the waste system, and assist Council in developing better waste reduction strategies.

Environmental Management Plan Actions

Council's Environmental Management Plan contains the following actions relevant to domestic waste and recycling.

- *Review and report upon the viability of introducing a best practice domestic recycling system utilising Mobile Garbage Bins. To be completed by September 2005*

The review is still underway

- *Undertake regular audits of the domestic waste stream Ongoing August 2005*

During the reporting period, SHOROC Councils called for tenders to conduct a domestic waste audit. The audit will be conducted in 2005/06

- *Through SHOROC, investigate the viability of a regional waste facility that recovers resources, generates energy and sustainably manages organic by-products. Annual Review – June*

This process of identifying suitable processes and sites is ongoing.

- *Review and report upon Council's system of collection of organic material under the Waste and Recycling Services Contract. To be completed by June 2006*

This action was not completed

- *Review Council's system of managing construction and demolition waste through the approvals process with a view to adopting a less prescriptive approach that; promotes opportunities for the use of recovered materials and recycling opportunities. To be completed by January 2006*

This action was not completed

- *Promote disposal and recycling schemes for household and commercial hazardous and toxic wastes. Bi-annual Review, November*

Annual chemical and hazardous waste collection days are promoted by Council.

Non Domestic and Civic Waste Management

Condition and Pressure

Mosman Council generates waste from office and administrative activities and depot activities each year. No audit of waste and recycling generated by Council was conducted for this reporting year.

Council also disposes of wastes collected by SQIDs and waste generated by street, reserve, and beach cleaning activities.

In 2005/06, 400 tonnes was disposed of from street sweeping, a reduction of nearly 16 percent since the last reporting period. Council also disposed of 273 tonnes from beach and reserve cleaning.

Council also collected 312.6 tonnes of waste from Council's SQIDs. Approximately two thirds of this is comprised of organic matter. To avoid landfilling this waste, Council's SQID clean out contractor recycles about 80% of the organic matter from Council's SQIDs.

The amount of waste generated from municipal maintenance activities is vastly greater than the amount of waste generated by Council administrative activities. However, many of Council's services are provided by external contractors, and therefore waste generated by these services is not reflected in Council's figures.

Waste is also generated by businesses, educational and health providers in Mosman. It is estimated that this waste stream is approximately 2000 tonnes per annum.

Response

Council has continued to operate its commercial waste business, and operate public place waste and recycling bins.

Environmental Management Plan Actions

Council's EMP contains the following actions relevant to Council, public and commercial waste and recycling.

- *Develop and adopt a sustainable procurement policy and procedures manual to complement Council's Procurement Policy. To be completed by December 2005*

Council adopted a Greenhouse and Sustainable Purchasing Action Plan in May. This outlines a number of actions for Council to undertake to reduce the environmental impacts of its purchasing.

- *As part of the development of the sustainable procurement policy investigate the opportunities afforded to Council by joining the Local Government Buy Recycled Alliance. To be Completed by July 2005*

Council joined the Buy Recycled Alliance. The program is currently in flux and has been rebadged 'Sustainable Choice'.

- *Lobby for more comprehensive Extended Producer Responsibility programs.*

Ongoing

- *Undertake regular audits of waste generated from Council facilities. Ongoing February 2006*

Lack of staff has prevented regular audits of Council facilities

- *Based on findings of audits, develop a strategy to reduce the amount of waste generated from Council facilities. To be completed by March 2006*

This action was not completed

- *Concurrent with the development of Council's Sustainable Procurement Policy and Guidelines, investigate the opportunities for the prevention of waste generated through Council's works and services contracts. To be completed by December 2005*

This was incorporated into Council's Greenhouse and Sustainable Purchasing Action Plan.

- *Audit toxic and hazardous materials used by Council and contractors and recommend alternatives products or processes. To be Completed by March 2006*

This action was begun during works to

implement recommendations arising from a DEC regulatory audit of the Depot.

- *Develop an illegal dumping strategy primarily focussing on units, townhouses and commercial areas. To be Completed by March 2006*

This action was not completed

- *Develop a litter prevention strategy that integrates approaches including; education (leading to behavioural change), regulation and enforcement (penalties), and structural approaches (signage, public place litter and recycling bins). To be Completed by March 2006*

This action was not completed

- *Concurrent with the development of the Litter Prevention Strategy review the viability of introducing public place recycling stations in key public access areas. To be completed by March 2006*

This action is underway

- *Concurrent with the development of Council's Sustainable Procurement Policy and Guidelines, investigate the opportunities for the use of recovered materials through Council's works and services contracts. To be completed by December 2005*

Where possible, Council is sourcing products such as recycled asphalt, concrete and recycled plastic pipes for use in civil works.

- *Provide support for Clean Up Australia Day. Ongoing March annually*

Council continues to support Clean Up Australia Day. In 2006, Council supported 13 Clean Up sites in Mosman which collected 180kg of waste.



Underwater clean up site at Balmoral Baths

Heritage



Aboriginal Heritage

Condition and Pressure

The condition of and pressures on Aboriginal heritage in Mosman is little changed since the 2003/04 comprehensive report or the 2004/05 supplementary report.

Response

The Mosman Aboriginal Heritage Study was released in September 2005. An Implementation plan has subsequently been prepared and adopted by Council. The main focus initially will be on creating awareness amongst Council staff and the community, and on education.

Non Aboriginal Heritage

Condition and Pressure

Condition and pressures are largely unchanged since the last report.

Response

Land Use and Strategic Planning

Work is underway on the Review of Council's planning documents. The State Government's release of the Standard Instrument as part of a number of planning reforms has implications for the Review. The Standard Instrument requires mandatory provisions for LEPs across NSW including standard heritage clauses and definitions. These have implications for heritage planning in Mosman

5 Morella Rd

5 Morella Road is a large private residence in Clifton Gardens built in the Burley Griffin style of architecture, designed by Eric Nicholls. It is listed as a property of heritage significance under Mosman LEP 1998 and the Royal Australian Institute of Architects' list of significant 20th century buildings.

The building and gardens remain in a neglected state and their condition continues to deteriorate.

Council nominated the building to the Heritage Office to be listed on the State Heritage Register, in an effort to ensure that minimum maintenance standards are met. After informing Council that it intended to consider the listing, the Heritage Office met to consider the proposal in May 2006. A schedule of urgent works is being prepared and no resolution has been made on the building

Local Heritage Assistance Fund

In 2005/06 there were nine successful applications for the local heritage assistance fund with a total value of \$20,000. Works undertaken included replacement and repair of fences, restoration of façade, external painting and repairs to carpark for heritage listed unit block.

Curlew Camp Artists' Camp

In the 1880s Australian artists including Arthur Streeton and Tom Roberts established an artists' camp on the shores of Sydney Harbour on Little Sirius Cove near Curraghbeena Pt. The artists who stayed and painted at the camp were part of a movement loosely known as the Australian Impressionists, and they introduced a new way of



Works completed with funding from the local Heritage Assistance Fund.

depicting the Australian landscape.

Mosman Council has engaged heritage consultants Godden Mackay Logan to prepare an Interpretation Plan and Design Study for the site. The draft was completed in April 2006.

Some ground works have been undertaken to date, and the proposed walking track provides the opportunity to implement some conservation works identified in the Aboriginal Study, such as protection of a midden on the shores of Little Sirius Cove.

The project was inspired when Mosman resident John Dansie, rediscovered stairs that formed part of the original walking track to the camp.

Heritage Management Awards

Council's management of its heritage responsibilities was recognised in 2005 by the Keep Australia Beautiful Sustainable Cities Awards with a highly commended award for Excellence in Heritage Management. Council's heritage management includes:

- Protection of heritage buildings under Mosman Local Environmental Plan 1998
- Identification of Heritage Conservation Areas
- Measures to assess development of heritage items contained within Mosman LEP 1998 and Development Control Plans
- A Heritage Advisory Service which has been in operation for 9 years.
- Training for staff in heritage related matters
- Design Awards for heritage and architecture every second year.
- Council's website contains a comprehensive selection of heritage information.
- Completion of an Aboriginal Heritage Study in 2005.
- Council has been running a Local Heritage Assistance Fund since 1998
- An extensive local history collection is contained within Mosman Library
- Council has recently funded Interpretation Studies for a number of sites.
- Council is currently undertaking an additional heritage study
- Council runs a Heritage and Architecture Community Group
- Plans of Management have been prepared for several parks and recreational areas which are listed as heritage items.

Productivity Commission Report

In 2005 the Australian Government approached the Productivity Commission to compile a report

on the management of heritage in Australia. The draft report was released in December 2005. The draft report makes a number of findings and recommendations which have implications for the management of heritage by local government.

Council prepared a submission to the Commission for consideration. A final report has been prepared by the Commission for consideration by Federal Parliament in its next sitting.

Environmental Management Plan

Heritage has not been specifically addressed by Council's Environmental Management Plan.

Noise



Noise Management in Mosman

Environmental Management Plan

Noise has not been specifically addressed by Council's Environmental Management Plan.

Condition and Pressure

The number of noise complaints received by Council is somewhat lower than in previous years.

Council received 84 noise complaints. Over half of these complaints related to barking dogs.

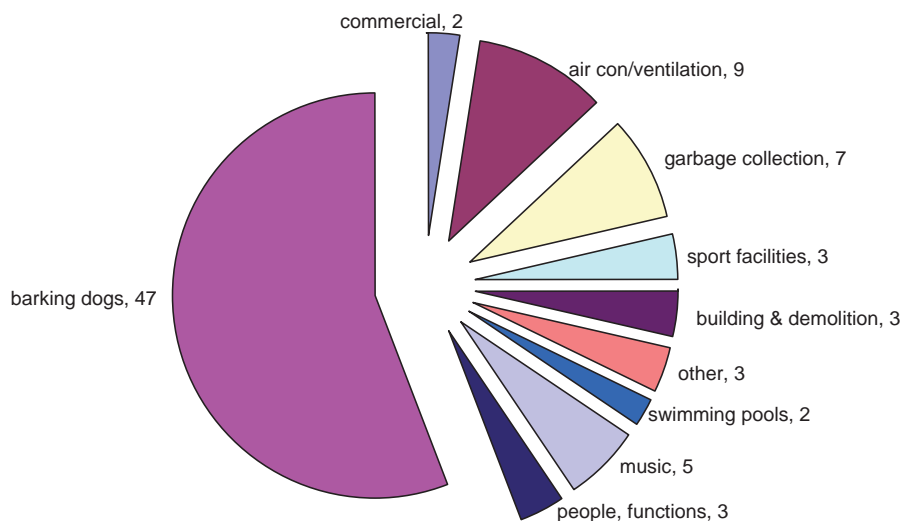
Other common sources of noise complaints in Mosman include: air conditioners and mechanical ventilation systems, swimming pools, early morning garbage collections and commercial delivery vehicles, and construction noise.

Response

Council has continued to use planning strategies to avoid future noise problems. This may be partly responsible for the apparent reduction in noise complaints related to construction noise and air conditioners.

Council also continues to apply the Protection of the Environment Operations Act 1997 (POEO) and the Protection of the Environment Operations (Noise Control) Regulation 2000 when a regulatory response is required.

During the reporting period, Council issued one prevention notice for noise offences, under the POEO Act. Council also worked with other property owners to ensure that offensive noise was ceased without the need to apply legal instruments.



Noise complaints 2005/06