

A photograph of two White-bellied Swallows perched on a thick, dark tree branch. The birds have white underparts, brown upperparts, and a distinctive white forehead with a brown stripe through the eye. They are facing left, with the bird on the right slightly behind the one on the left. The background is a dense canopy of green leaves and branches, with a clear blue sky visible through the foliage. The lighting is bright, suggesting a sunny day.

STATE OF THE ENVIRONMENT

Report 2012 - 2017

Biodiversity | Climate Change and Air Quality | Waste | Transport

Total Water Cycle | Planning, Built Environment and Heritage

Engagement and Education for Sustainability

THE MOSMAN LOCAL GOVERNMENT AREA

The Mosman LGA is located 8km north-east of the CBD on Sydney’s lower north shore. It is one of Australia’s premier suburbs with an unmatched harbourside setting. Occupying some 8.7 sq km, Mosman features stunning bays and beaches punctuated by rugged headlands, sandstone cliffs, bushland areas and foreshore parklands.

Mosman’s undulating foreshore is approximately 24km in length and is emphasised by more than a dozen headlands. Mosman is home to many popular swimming and recreation beaches and bays including Chinamans and Balmoral Beach, The Spit, Cobblers Beach and Clifton Gardens. The majority of the foreshore include significant rocky areas, bushland, including many protected areas, and reserves and tourist attractions, such as Sydney Harbour National Park and Taronga Zoo.

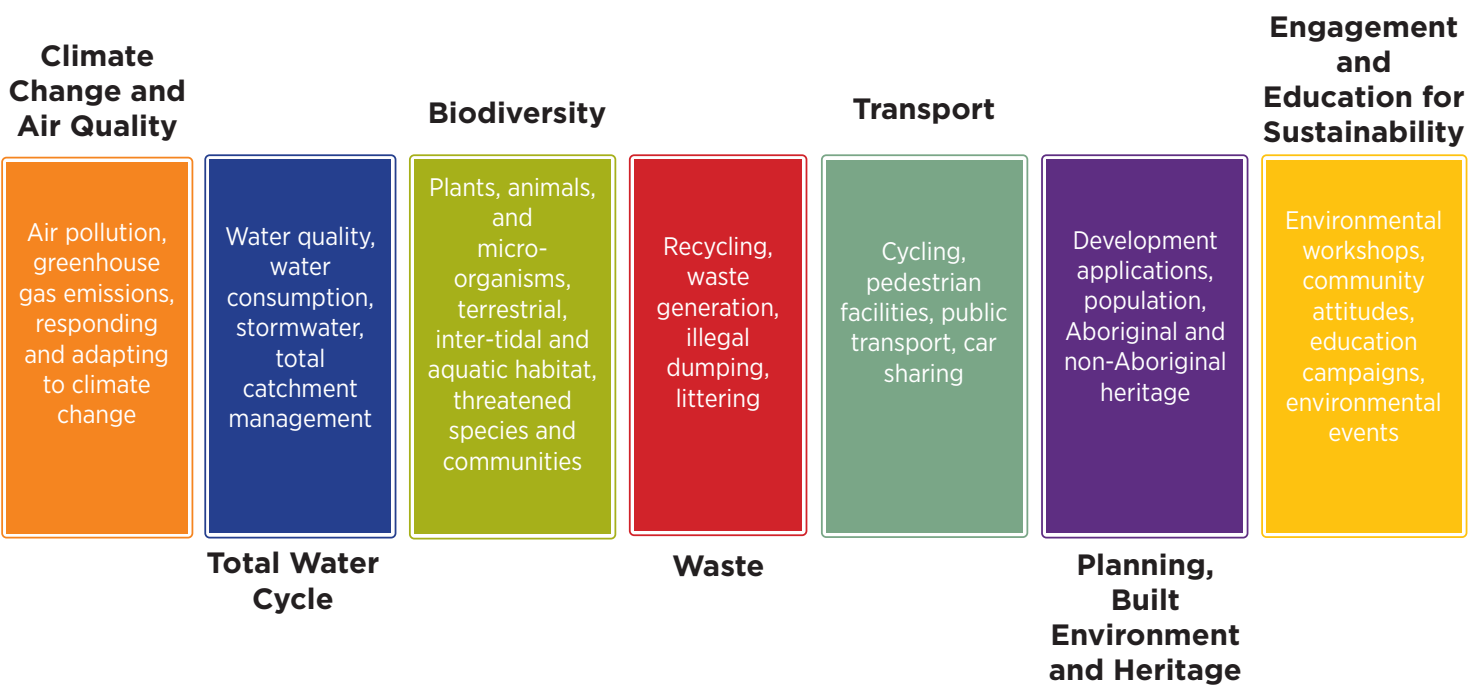
Mosman Council’s vision is to preserve and enhance biodiversity, including Mosman’s bushland, parks, open space, beaches and marine environment through best practice operational and maintenance programs, infrastructure, regulatory practice and education campaigns.

STATE OF THE ENVIRONMENT REPORTING

A State of the Environment (SOE) Report provides a snapshot of the condition of the environment, impacts on the environment and the Council’s response to these impacts. The 2012-2017 SOE summaries initiatives, programs and projects undertaken by Council to improve the local environment.

KEY AREAS

This SOE focuses on seven key areas identified in MOSPLAN



A number of standard indicators have been chosen by the State Government to measure each key area. These indicators align with the goals and objectives of MOSPLAN and allow for changes in the environment to be measured over time.



CLIMATE CHANGE AND AIR QUALITY

THE ATMOSPHERE SURROUNDING THE EARTH CONSISTS OF A COMPLEX BALANCE OF GASES THAT SUPPORTS LIFE. HUMAN ACTIVITY, SUCH AS BURNING FOSSIL FUELS, HAS RAPIDLY INCREASED THE PERCENTAGE OF PARTICULAR GASES IN OUR ATMOSPHERE RESULTING IN NEGATIVE IMPACTS TO URBAN AIR QUALITY, CHANGES TO OUR CLIMATE SYSTEM AND IMPACTS ON HUMAN HEALTH.



AIR QUALITY	2012-13	2013-14	2014-15	2015-16	2016-17	Change from previous year
Number of air pollution complaints received by Council	2	5	3	2	2	↔
ENERGY						
Electricity use Council operations (kWh)	1,838,441	1,726,501	1,577,961	1,666,642	1,588,203	↓
Council energy and consumption (GJ)	7,676	7,211	6,396*	7,087	6,648	↓
GHG emissions from Council energy and gas use (tonnes CO2-e)	1,874	1,755	1,605	1,588	1,511	↓
Total residential and non residential electricity use for Mosman (MWh)	140,698	133,958	138,437	137,569	136,916	↓

*Unknown reason for lower energy and consumption in 2014-2015



KEY ACHIEVEMENTS

- Lighting retrofit upgrade undertaken across all Council major buildings and carparks.
- Council retrofitted existing floodlights at sporting fields with automated timing devices that can be updated remotely by SMS.
- Trial of solar lighting on public land with the installation of a solar light at Clifton Gardens.
- Council replaced electric hot water system at the depot with a 305 litre solar system.
- Staff training and engagement through the PIRATES program.
- Council supported the Fridge Buy Back scheme, resulting in an average of 24 fridges back per year.

ENERGY SAVINGS

Throughout the term Council completed its lighting upgrade project at all major Council buildings and facilities including the Vista Street Carpark, Mosman Library and Art Gallery. The fluorescent lights were replaced with LEDs to help Council save money, energy and greenhouse gas emissions.

Prior to the upgrade the combined consumption of electricity for these facilities and including the Civic Centre was 102MWh per month, accounting for 77% of total Council electricity use. After the lighting retrofit, the electricity usage was 84.5MWh per month. This saving of 17.5MWh per month equates to 210MWh annually, saving Council in the last financial year \$74,888. It is estimated that the lighting retrofit will save 216,000kg CO₂-e emissions annually.



SOLAR LIGHT TRIAL

An investigation into solar lighting in public areas resulted in a trial light being installed at Clifton Gardens in 2016. The light is in an optimal position to provide greater lighting distribution along the walkway and a nearby parking meter. From dusk until dawn a dim light is constantly on, but with a motion sensor to increase light when movement is sensed.

ENVIRONMENTAL NETWORKS

Council staff have continued their involvement in collaborative networks such as Northern Sydney Environmental Educators Network, Sydney North Weeds Committee, Sydney Coastal Councils Group, Urban Feral Action Management Group, Local Government Tree Resources Association and the Waste Educators Network.

These partnerships assist in Council's learning and collaborating on mitigative and adaptive strategies relating to climate change.

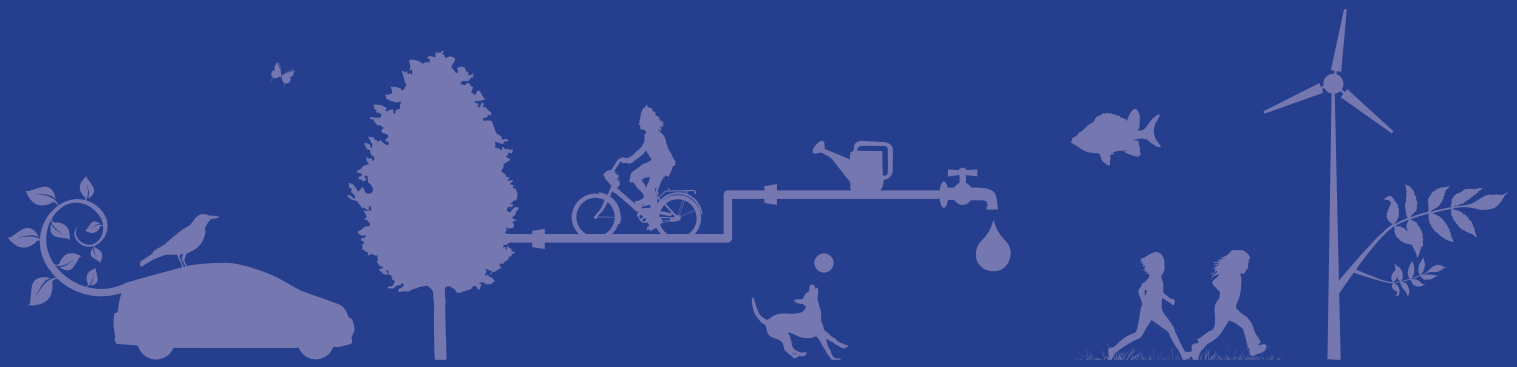
STAFF ENGAGEMENT

The staff sustainability group, PIRATES continued to operate throughout the term. The aim of the group is to drive awareness, education and involvement of staff in sustainability issues at Council, in the community and within their own homes. PIRATES aim to build resilience and foster innovative thinking, creating a better sustainability outcome for the community and Council.

Programs undertaken by the PIRATES during the Council term included a computer Switch Off Blitz, sixteen 'Food-4Thought' lunch time guest speaker sessions featuring innovative and well-known sustainability practitioners such as Ronni Khan, the founder of OzHarvest, as well as thirty environmental workshops for staff. Boomerang bags and Keep Cup coffee initiatives were also introduced.

FRIDGE BUY BACK SCHEME

Over the term, Council continued to support of the Fridge Buyback Scheme, an award-winning energy savings program. An average of 24 fridges were collected per year from the area, resulting in Fridges and freezers were professionally degassed and the metals recycled.



TOTAL WATER CYCLE

MOSMAN HAS AN ARRAY OF WATER ASSETS INCLUDING BEACHES, BAYS, CREEKS, GROUNDWATER, STORMWATER AND POTABLE WATER. MOSMAN'S WATERWAYS PROVIDE IMPORTANT HABITAT FOR NATIVE FLORA AND FAUNA AND ARE HIGHLY VALUED FOR THEIR AESTHETIC AND RECREATIONAL OPPORTUNITIES.



STORMWATER	2012-13	2013-14	2014-15	2015-16	2016-17	Change from previous year
Number of gross pollutant traps (GPTs)	33	34	34	34	34	↔
Total gross pollutants removed from GPTs (tonnes)	406	197	247	376	368	↓
WATER CONSUMPTION						
Total LGA potable water use (kilolitres)	3,089,433	3,237,561	3,128,482	3,062,906	3,201,659	↑
Total residential potable water use (kilolitres per capita)	104	108	103	100	89	↓
Total Council potable water use (kilolitres)	69,583	82,072*	67,352	61,850	71,329#	↑

*increased due to the Balmoral stormwater harvesting system having a maintenance upgrade during the period.
#extremely dry spring/summer period with parks, reserves and sporting fields requiring increased irrigation.
Water leaks discovered and repaired at Civic Centre and Spit West.

KEY ACHIEVEMENTS

- 1,800 tonnes of waste were captured by stormwater quality improvement devices
- Remediation of Cowles Road SQID to improve efficiency and safety
- Audits undertaken of 29 of Councils SQID/ GPT units to assess efficiency and inadequacies, and to prioritize remediation and upgrade works.
- Amenities upgrades as a result of the Council's Water Efficiency Plan.
- Installation of twelve water refill stations.



STORMWATER QUALITY IMPROVEMENT DEVICES

Through the 2012 -2017 term, 90% of Mosman's stormwater network was treated by stormwater quality improvement devices (SQIDs) which collected approximately 1800 tonnes of waste that would have otherwise ended up in Sydney Harbour.

In 2014, Council engaged external consultants to undertake a review of critical Mosman Council SQIDs and their associated cleaning processes. The recommended actions from that review have since been successfully carried out. For example, stormwater from the Balmoral south catchment has now replaced the use of potable water to irrigate Balmoral Oval and the foreshore areas.

Mosman Council Botanic Road Stormwater Harvesting Scheme Operation - 'Enhancing the yield and reliability of recycled water' was awarded "Highly Commended" in the category of Asset Management at the Stormwater (NSW) Conference 2017.



WATER EFFICIENCY PLAN

The Water Efficiency Plan was adopted by Council in 2011. Since then there have been a number of upgrades to amenities within Council managed properties to reduce water consumption and utilise water more efficiently. These include sensors on urinals and dual flush toilets.

PLANET FOOTPRINT

Continual work with Planet Footprint helps Council to understand and aim to reduce energy and water consumption, and keep track of overall performance.

Using the data and analysis information, Council has been able to identify anomalies, investigate and rectify them. For example the identification of a spike in water use in 2013-2014 led to finding and fixing a leak.

MOSMAN BAY FALLS WATERSHED PROJECT

Mosman Council received funding of \$13,500 from Greater Sydney Local Land Services in 2013 to assist in improving water quality and freshwater aquatic habitat within Mosman Bay Falls Watershed.

The project involved rock armouring of a 15 metre trapezoidal water channel and restoring and revegetating bushland in surrounding areas to enhance the biodiversity and resilience of Sydney Sandstone Gully Forest (SSGF) and the aquatic environment that leads to Mosman Bay.

The success of this project is recognised through the increase in freshwater aquatic species and native birdlife as has been observed within the project vicinity by the Millet Road Bushcare Group.

POTABLE WATER STATIONS

A litter survey study conducted by Two Hands, revealed plastic water bottles were the top litter item to be found within the Mosman area.

The findings led to Council installing twelve accessible water stations at popular beach locations, sport fields, and one in Mosman Square. This allows the public to refill their reusable water bottle or use the bubbler, playing an important role in litter reduction.

Over a period of 12 months, it was found that 37,000 single use plastic bottles were saved from landfill through the use of six water fountains.

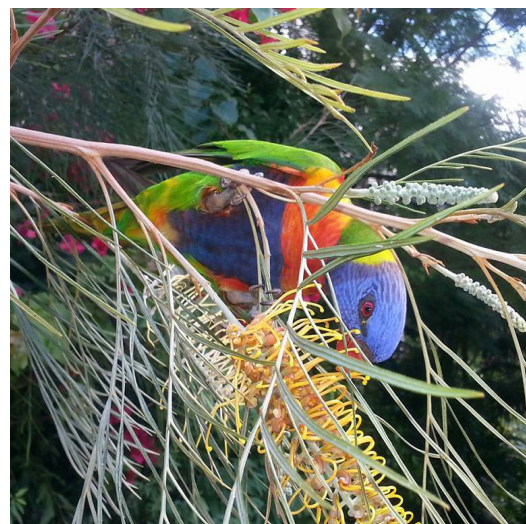


BIODIVERSITY

BIODIVERSITY IS DEFINED AS THE VARIETY OF LIFE FORMS, THE DIFFERENT PLANTS, ANIMALS AND MICRO-ORGANISMS, THE GENES THEY CONTAIN, AND THE ECOSYSTEMS THEY FORM.

BIODIVERSITY INCLUDES GENETIC DIVERSITY, SPECIES DIVERSITY AND ECOSYSTEM DIVERSITY.

BIODIVERSITY IS ESSENTIAL IN FORMING FUNCTIONING ECOSYSTEMS WHICH MAINTAIN IMPORTANT PROCESSES ON WHICH ALL LIFE DEPENDS. MOSMAN HAS AN ARRAY OF TERRESTRIAL, AQUATIC AND INTERTIDAL PLANTS, ANIMALS, MICRO-ORGANISMS AND ECOSYSTEMS WHICH CONTRIBUTE TO OUR UNIQUE BIODIVERSITY.



BIODIVERSITY CONDITION	2012-13	2013-14	2014-15	2015-16	2016-17	Change from previous year
Noxious weed notices	0	0	0	0	0	↔
Noxious weed assessments undertaken	11	14	21	11	15	↑
Number of registered active bushcare volunteers	102	77	80	79	86	↑
Bushcare Program volunteer hours	2,511	1,895	1,800	1,750	1,860	↑
Number of active bushcare groups	14	14	17	17	21	↑
Total number of native plants supplied to volunteers, contractors and residents	8,430	8,026	8,455	8,500	13,000	↑
Number of native plant species recorded in LGA	454	454	454	490	490	↔
Number of threatened flora species	3	3	3	3	3	↔
Number of threatened fauna species	4	4	5	5	5	↔
Number of endangered ecological communities	0	0	0	2	2	↔
Number of endangered fauna populations	0	0	0	0	0	↔

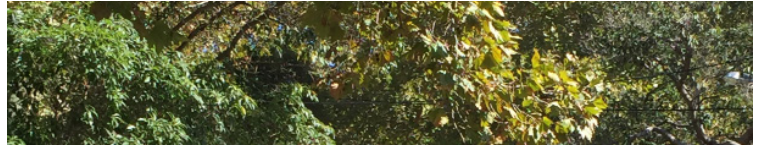
KEY ACHIEVEMENTS

- 40,000 native tubestock were planted on Council land.
- 500 advanced street trees were planted on street verges and in parks.
- Increased canopy coverage by 0.8%.
- Reduction of hard surfaces by 0.7%.
- Development and delivery of the Salty Communities Project Grant, including an intertidal assessment.
- Nature Havens Program launched, connecting biodiverse foreshores of Mosman.
- Over 25,000 volunteer Bushcare hours worked.

FLORA AND FAUNA SURVEY

Council continued its support for its bushland restoration program during the Council term, with work on all bushland sites, including unmade road sites, continuing under various contracts. Council successfully rezoned 15 unmade road sites from RE1 Recreation Sites to E2 Environmental Conservation Sites. In December 2015, Council engaged Ecosure, an ecological consultancy firm, to undertake a comprehensive flora and fauna survey of Council's bushland areas, including selected unmade road reserves.

The survey found that Council's flora and fauna and ecological health of bushland and unmade road sites continues to improve. This is testament to Council's consistent work program aided by dedicated Bushcare volunteers. Notably, the survey showed that from 2011 to 2016 areas of greater than 90% native vegetation cover have increased from 53.7% to 65.8% of the total area of environmental conservation sites.



BUSHLAND 10 YEAR CONTRACT

Mosman Council manages a total of 38ha of bushland. This 38ha comprises of many "pockets" located in highly urbanised areas. Collectively they form a network of bushland that provides potential habitat corridors and link to larger neighbouring natural areas including Sydney Harbour National Park. The areas include coastal woodlands, heathlands and dune systems.

The bushland restoration contracts 2012-2022 for the Port Jackson, Middle Harbour East and Middle Harbour West catchments began on 1 June 2012. Given the time required to achieve biodiversity outcomes and the beneficial outcomes of the previous 10 year contract (2001-2011), the current contract is for 10 years with review options at the end of year 1, year 4 and year 7.

Currently 28ha of the 38ha of bushland areas in Mosman LGA is covered by a Bushland Contract. The area is separated into three catchments being Port Jackson, Middle Harbour East and Middle Harbour West. Over the past decade the bushland restoration contracts have resulted in demonstrated improvements in the quality and resilience of bushland areas under Council's control.

The commencement of a second ten year contract has meant that advances made previously will be consolidated and expanded to new areas.



TREE MANAGEMENT

Like normal it has been a busy time in tree management with over 3600 tree permit applications assessed and audited over the term of the Council and over 15,000 tree enquiries serviced.

The introduction of the 10/50 law by the NSW Rural Fire Service caused heavy loss of private canopy trees (that would otherwise not have been removed) until the Council lobbied the State Government to reduce the areas affected under the law. When the scheme was introduced it applied to 56% of residential properties. It was reduced to 37% in September 2014 and since August 2015 only 6% of Mosman properties are affected.

Over the term Council has investigated and prosecuted several persons for tree vandalism on private land. Staff developed a breach rating system for vandalism and through this introduced a Penalty Infringement Notice system to fine mid-range vandalism incidences. An incident in the high range is managed through the courts. At Joel's Reserve Council took firm action against tree vandalism on public land by installing a 3 x 8 metre tree banner. The banner was required as native trees on public land were repeatedly vandalised with the final act killing two substantial native trees. Council has since worked with the community to establish clear communication and work collaboratively to prevent further incidences of tree vandalism.

Council reviewed its Street Master Plan with additional funds provided to increase planting of street and park trees.

Council approved a new tree contract the Tree Management and Associated Works 2012-2017 contract and tendered for additional contractors to be permitted to carry out works on public land for private residents through the public permit system. Council engaged a consultant to assess and provide a new management plan for the Balmoral figs to ensure their long term survival and removed many public trees deemed to be hazardous by appropriately qualified staff.

BUSHCARE PROGRAM

The number of registered volunteer hours is continuing to increase due to the successful promotion of the Bushcare program through the Living Mosman 'Nature Connect' workshop series. This success is further reflected in the increase in volunteer hours.

The Bushcare group numbers have increased due to the incorporation of the individual Bushcare volunteer sites into the final number of volunteer groups.



RABBIT MANAGEMENT PLAN

In 2012 Council adopted the Sydney North Rabbit Management Plan 2013-2017. This plan provides directions for staff when dealing with this feral animal and over the term of the Council there have been several releases of RHDV and many shooting programs. At present rabbit numbers are low, indicating that the current plan is working.

ENDANGERED ECOLOGICAL COMMUNITIES

The number of Endangered Ecological Communities (EEC) has increased from 0 to 2, with the most recent survey identifying areas of Littoral Rainforest in the NSW North Coast, Sydney Basin and South East Bioregions and Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions. The 2016 Flora and Fauna survey incorporated different vegetation mapping classification and assessment systems and therefore a specific set of vegetation types and in turn EEC were identified.



BRINGING ANIMALS BACK

This term has seen a number of fauna species returning to Mosman.

Mosman has seen a significant increase in Brush Turkey numbers and as such received increased enquiries from the public. Through providing the community with information on nesting and foraging habits some understanding has been reached.

A Fishing Bat colony was found at Sirius Cove, with numbers estimated between 50-100, and there has been confirmed presence of long-nosed bandicoots. All of this on top of the successful reintroduction of the native brown rat by NPWS and UNSW.

Following a study conducted by the UNSW, ghost crab burrows were found along Chinamans Beach. Council continued to manually clean and maintain beaches to ensure diverse ecology along the foreshores.

SALTY COMMUNITIES GRANT PROJECT - CONNECTING BIODIVERSE FORESHORES

In 2015 Mosman Council received a Sydney's Salty Communities grant, supported by Sydney Coastal Council under funding through the Australian Government.

The project involved 6 key elements; bushland regeneration around the foreshore of Quakers Hat Park and Harnett Park, selective management of invasive noxious and environmental weed species, addressing encroachment along the foreshore in the interfaces between bushland and private land, engaging residents in a pilot Native Havens program, engaging the Bushcare community in a working bee and undertaking an assessment on intertidal zones.

The Native Havens program was launched in 2016 in a special introductory workshop with Author and TV Personality from ABC Gardening Australia, Angus Stewart. The first round of participants were given an opportunity to be provided with a simple landscape plan, a supply of native plants and ongoing support. The aim of the program is to provide an opportunity to link green corridors and provide a wildlife refuge for native fauna on private property.

The assessment of the intertidal zone was conducted along two different foreshore areas - Pearl Bay, an area with high recreational use, and Quakers Hat Bay, a primarily residential area. This report looks at the existing fauna and identifying invasive species for future management. This monitoring plan and program design is a shared resource that can be utilised in other intertidal foreshore zones across Sydney Harbour.

The grant project was successfully completed with ongoing benefits to the community.





WASTE ISSUES ARE IMPORTANT TO MOSMAN RESIDENTS. IN THE LATEST COMMUNITY ENVIRONMENTAL SURVEY RESIDENTS RATED “WASTE” IN THE TOP FOUR MOST IMPORTANT ISSUES FACING MOSMAN.



WASTE	2012-13	2013-14	2014-15	2015-16	2016-17	Change from previous year
Total waste to landfill, including general cleanup (tonnes)	6,455	6,596	7,102	7,097	6,701	↓
Total waste to recycling including paper, co-mingled, metal and green waste (tonnes)	5,450	5,243	5,227	5,156	4,326	↓
Total waste to landfill, including general cleanup per capita (kg)	219	220	234	232	218	↓
Total waste to recycling, including metal and green waste per capita (kg)	185	175	173	169	141	↓
Green waste diverted from landfill per capita (kg)	72	65	78	71	49^	↓
Total e-waste collected (kg)	N/A*	73,854	56,815	50,371	59,039	↑

^ Decrease due to newly introduced screening and weighing of residents delivery free Greenwaste at Kimbriki.

* No data available

KEY ACHIEVEMENTS

- 2,156 tonnes of waste was collected from Mosman beaches and reserves.
- Green waste diverted from landfill was 282 kg per Mosman resident.
- 240,000+ kg of e-waste collected and diverted from landfill.
- Over 1000 mattresses recycled in one year trial program started in 2016.
- It's in the Bag Campaign saw 112,000 paper bags used instead of plastic.
- Over 200 students engaged in Waste to Music workshops.



WASTE MANAGEMENT

Overall amount of waste in the Mosman Council area decreased over the past two years. The percentage of which was recycling has also decreased. This may be due to changes in industry packaging. Industry trends for light weighting of packaging means packaging is getting lighter, glass bottles are being replaced with plastic and thick newspapers and magazines are thinner and people are reading their news online. This has influenced the local waste diversion targets and most likely explains reduction in recycling. Recycling rates are expected to see an increase in the next review due to recent changes to MUD bins.

DOMESTIC WASTE AND RECYCLING PROCESS

The process for waste and recycling collection and disposal for Mosman Council are all within contracts with URM, the Council's contractor for waste and recycling collection. Council has a separate contract with SUEZ for receiving and processing and/or disposal of Municipal Solid Waste.

Councils waste is collected by URM who deliver it to Belrose transfer station which is operated by SUEZ. Once the materials are tipped at the transfer station, located in Belrose, SUEZ has ownership of the product. SUEZ then transfer the waste to Chullora waste management centre where the waste materials are put through either the Advanced Resource Recovery Technology (ARRT) facility or the Material Recycling Facility (MRF) to maximise the recovery of recycled products any materials that are not recovered or deemed non-recyclable are sent to landfill. Any residual waste delivered to SUEZ from the Mosman Council LGA, is then disposed of at the Eastern Creek or Lucas Heights Landfills. SUEZ has advised that they have been a strong advocate of stopping the transportation of waste interstate. Yellow bin recycling, including plastic and glass bottles, is collected and taken to Kimbriki Resource Recovery Centre, then to the Central Coast.



WASTE TO MUSIC

The Waste to Music programme was initiated in 2013 with the idea for children to create percussion instruments from items that would normally be discarded. Once the children had made their instruments, they had the opportunity to come together as a group and perform simple rhythms guided by professional musicians from Drum Beats. The program was delivered to three different primary school and one after school care group had the opportunity to perform to an audience and have a video taken called Mosman Kids Rethink Waste as part of the Festival for Mosman 2015.

The program was concluded in 2016 with three musical fences built from recycled and new materials for the Mosman Occasional Childcare Centre. In all over 200 hundred children have benefited from the program and many younger children will continue to benefit from the musical fences.



RECYCLING IN MOSMAN

Recycling has become a confusing space as new technologies increase the type of items that can be listed as recyclable and as different Council areas contract waste services to varying operators. Our pre-resident surveys confirmed that many people were unaware of what could be recycled at home and past Council audits revealed 20% recyclables are commonly found in general waste bins and contamination of non-recyclables were found in home recycling bins such as plastic bags. To reduce confusion Mosman Council designed and distributed new bin stickers for all householders and bin room signs for unit blocks. The new resources displayed word descriptions and clear photographs of items for the landfill bin and those items that should be placed in recycling. Special bin lid stickers were also designed with the message that no plastic bags should be placed in home recycling bins.

Multiple strategies, including funding from the EPA's Waste Less Recycle More Grant, have assisted in programs designed to help householders to reduce their waste and increase recycling by reducing contamination. During the earlier months of 2017, multi unit dwelling bins were updated with new stickers to educate residents on what can be recycled.

Public place recycling and landfill waste was reviewed with both local and out of area visitors in mind. New designs were developed to capture the most common items used in outdoor settings such as plastic bottles, glass bottles and drink cans. Still other signs were specifically developed for wharfs as a reminder to fishermen to properly dispose of fishing waste such as fishing line, hooks and bait bags. All public place waste signs were made from marine grade metal and colour fast pigments to replace our less enduring and out dated stickers.

All the above mentioned projects were conducted with the assistance of NSW EPA Waste Less Recycle More Initiative funded from the waste levy.



MATTRESS RECYCLING

A new recycling trial option was introduced in regard to mattress recycling which took place over two household clean up periods in 2016/17 with over 1000 mattresses collected with an estimated landfill diversion of 25.425 tonnes. The trial was considered a success however financial costs for the longer term remain a consideration.

E-WASTE

A total of 5488 people have participated in Council e-waste events since September 2013 with 240,079 kg of e-waste dropped off for recycling. Computers and TV's made up 181,705 kilos. Other items collected included stereo equipment, batteries, light bulbs and small electrical devices. Ninety eight percent of these items collectively have been diverted from landfill.

LITTER, SINGLE-USE PLASTICS AND MARINE DEBRIS

Annual litter surveys have been conducted by external contractors for the last three years in an attempt to better understand the nature of litter in our local area. The first litter survey reported by Two Hands revealed the top four litter items in Mosman were take-away coffee cups, single use water bottles, plastic straws and single-use plastic bags. These litter items are commonly discarded in our parks, ovals and beaches. Over flowing bins are another source of litter as wind and scavenging animals spread rubbish to the natural environment. In Mosman it is a short stop to the ocean where litter from our catchment adds to aggregated marine debris from other catchments. A significant portion of marine debris is comprised of plastic, a well-known cause of ill health and death to many of our marine animals such as whales, turtles and seals.



As a result of survey findings a strategy was developed to raise awareness of the local story relating to litter and how people can take positive action to reduce litter. One of the first projects was to have Anton Pulvirento from Zest International illustrate the story of how litter becomes marine debris on the path along Balmoral beach. Anton's last illustration in the series was an amazing depiction of how marine plastics can find its way into the human food chain via our seafood. New infrastructure was required to reduce the number of discarded water bottles which led to the installation water stations. People can now more easily find a bubbler or refill a reusable water bottle. Twelve water stations are currently situated around the Mosman precinct. The latest surveys show a positive result with areas such as Balmoral Oval showing a 23% drop in water bottles and a 45% reduction in discarded water bottles at Middle Head Oval.

The second litter survey revealed an increased amount of single use plastic sporting tape left on ovals. Once again Anton was engaged to illustrate the problem with chalk drawings along the esplanade at Balmoral. Next a new set of public place bin signs were designed and installed so locals and visitors to the area alike could easily see what could be recycled in Mosman's public place bins. Signs were placed at sporting sites in time for a follow up education program with actors from Eaton Gorge Theatre Company. The actors spoke to the sporting community about litter and single-use items. At the conclusion of a program spanning 6 weeks the team had collected over 550 pledges to reduce litter. Post litter surveys revealed a 50% reduction of sporting tape at Middle Head Oval, a 36% reduction at Balmoral oval and a 75% reduction in tape at Georges Heights.

In order to keep the momentum going The Ocean Action Pod (a marine debris mobile interactive education display) came to Mosman and continued the story of litter, single-use plastics and marine debris. Over 120 children from Blessed Sacrament Primary School attended the day's activities. Students highlighted litter problems they had seen for themselves and told how they had taken action against rubbish in their area. Participants in the program also brainstormed a set of solutions for other plastic waste problems they had identified. A box of prizes was given to the school containing colouring books, reusable lunch pockets, plastic free toothbrushes, and reusable bags to encourage future engagement in waste and litter reduction.

The most recent litter survey to date as eluded to earlier reveal Mosman is moving in the right direction with an overall 22% reduction in single-use packaging and 37% reduction in plastic toys, sporting and hobby items found on Mosman's ovals. Many of these programs were made possible through the EPA Better Waste Recycling Fund.



MOSMAN HAS REGIONAL AND ARTERIAL ROADS RUNNING THROUGH THE SUBURB SO TRAFFIC CONGESTION AND POLLUTION FROM MOTOR VEHICLES ARE MAJOR ISSUES.



TRANSPORT	2012-13	2013-14	2014-15	2015-16	2016-17	Change from previous year
Registered vehicles in Council LGA	18,871	19,261	19,697	19,497	20,138	↑
Number of Council fleet vehicles	24	22	22	22	22	↔
GHG emissions from Council fleet vehicles (tonnes CO2-e)	86*	76*	116*	110*	117**	↑
Number of passengers using the Mosman Rider Bus	46,325	42,172	46,202	28,097^	24,220	↓
Number of people using the GoGet carshare scheme	505 (454)	768 (528)	982 (613)	1102 (713)	825#	↑

* GHG emissions offset via Greenfleet.

** Increase in 2017 due to changes in vehicle types.

^ Change due to different counting system

Drop in member numbers in 2016 is a result of improved spatial analysis and reporting methods carried out by GoGet. Prior to this date some memberships outside of council boundaries in neighbouring suburb Cremore were recorded as in Mosman. Numbers in brackets reflect estimate for Mosman based on average growth rate.

KEY ACHIEVEMENTS

- Introduction of a Council Car Share Policy.
- Formation of Active Transport Working Group within Council.
- Development of the Bicycle Plan 2013 - 2018
- New route and timetable introduced for the Mosman Rider.
- WalkMosman iPhone app was developed.



BICYCLE PLAN 2013-2018

Census data indicates cycling has been steadily increasing in Mosman since 2006. The Bicycle Plan 2013-2018 was developed to ensure that Council's infrastructure supports resident cyclists and those commuting through Mosman reducing risks to them and others. The Active Transport Working Group (ATWG) was formed in 2013 and conducted much of the background work including exploring ways in which the Bicycle Plan could be achieved at a low cost to Council, with no loss of parking and efficient use of the highly contested space in the streetscape. The plan is 85% complete with many bicycle routes now marked on roads. Notable routes include Moruben Road - between Mandalong Road and Awaba, Bradley's Head Road - between Zoo entrance and Whiting Beach Road, Athol Wharf Road and Bickell Road - Between Spit Road and Bapaume.



MOSMAN RIDER

Continuing support of the Mosman Rider, a free bus service provided by Council that transports persons around the Mosman area. An app was developed and launched in July 2012, which provides real-time tracking of the Rider. The app has had over 4,000 downloads.



CAR SHARING

Over the term, Mosman Council developed and adopted a Car Share Policy. The policy is available on the Council website and details fees and charges associated with the car spots, which are a mixture of designated and floating spots.

The past 5 years has seen a steady increase in the membership numbers of GoGet car share, showing local support for an alternative to car ownership.



Council is currently undertaking community consultation in regards to the proposed locations.

WALK MOSMAN APP

Walking is a great way to discover and explore the Mosman area, due to its unique environment with a range of bushland, beaches, wildlife and coastal areas. In order to better facilitate locals and visitors to enjoy walking in Mosman, a phone app has been launched by the environment team in partnership with an external developer, as well as the installation of Walk Mosman Trail Markers across the local area.

The Walk Mosman App showcases seven walks around Mosman, and since the launch has had over 4,000 downloads. The Walks are also included in the new resident app, MyMosman. It is possible to complete a single walk or join the walks together to complete a loop of the entire suburb.



PLANNING, BUILT ENVIRONMENT AND HERITAGE

THE MOSMAN AREA IS CHARACTERISED BY A VARIETY OF LAND USES INCLUDING RESIDENTIAL, COMMERCIAL, PUBLIC RECREATION, NATIONAL PARKS AND RESERVES AND ENVIRONMENTAL PROTECTION ZONES.

POPULATION	2012-13	2013-14	2014-15	2015-16	2016-17	Change from previous year
Estimated population of LGA - at 30 June	29,716	29,983	30,276	30,489	30,646	↑
Residential density (persons per hectare)	34.35	34.66	34.99	35.24	35.43	↑
NOISE						
General noise complaints received by Council	77	63	86	38	49	↑
Barking dog complaints received by Council	33	32	29	25	25	↔
DEVELOPMENT APPLICATIONS						
Total number of development applications received by Council	343	392	352	332	260	↓
Number of development applications approved	363	371	325	301	197	↓
ABORIGINAL HERITAGE						
Total number of Aboriginal heritage sites	105	105	105	105	105	↔
NON ABORIGINAL HERITAGE						
Total number of non-Aboriginal heritage items	485	485	485	483 [^]	483	↔
Number of built items*	444	444	444	444	444	↔
Number of landscape items*	34	34	34	34	34	↔
Number of archeological items	16	16	16	13 [^]	13	↔
Heritage conservation areas	13	13	13	13	13	↔

*Some items in Mosman are classified as both built and landscape items, therefore the breakdown figures add up to a number greater than the total number of items.

[^] Change is a result due to review of archeological sights undertaken in 2016.

KEY ACHIEVEMENTS

- Establishing a strong web and social media presence, with a 420% increase in Twitter followers and 320% increase in Facebook followers since 2013.
- Completing a number of amendments to Mosman LEP2012, including a review of objectives, height controls, landscape area controls, rezoning some bushland areas from RE1 Public Recreation to E2 Environmental Conservation and a review of archaeological sites and heritage items at Taronga Zoo.
- Advocating for Mosman, during a period of major planning reform by the State Government.
- Advocating for the recognition of Mosman's significant foreshore slopes.
- Celebrating good design, with the hosting of the Mosman Design Awards in 2013, 2015 and 2017.
- Planning for the built form and creating public spaces at Spit Junction.

CONSERVING MOSMAN'S HERITAGE

Managing Mosman's built heritage continues to be a priority for council. In addition to our long standing programs, such as the heritage fund and heritage advisor service, a review of the rankings of all properties within the 13 heritage conservation areas was undertaken. The original rankings were identified as part of the Mosman Heritage Review 1996. Since then numerous changes to the built form have occurred which meant it was timely for a review of the rankings.

A review of archaeological sites in Mosman was undertaken in 2015 to more accurately identify their location and assess their significance. The resultant study provides a valuable resource on the history of Mosman, especially relating to trams, wharves and quarrying.

PROTECTING MOSMAN'S FORESHORE SLOPES

Advocacy with the State Government for the protection of Mosman's foreshore slopes from inappropriate development has continued. A measure of protection is afforded by a temporary exclusion from the provisions of the General Housing Code of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 which was due to expire on 30 November 2015. An extension until 30 November 2018 was granted by the State as a result of urging from Council. Land on the foreshore slopes will continue to be excluded from allowing development as Complying Development, such as new two storey houses or alterations and additions. This continuation of the status quo will ensure that detailed development assessment is undertaken and neighbours will continue to have the opportunity to make submissions on applications and their concerns considered by Council. This is particularly relevant on the slopes where views, overshadowing, privacy and appearance from the harbour are important considerations.



REVIEW OF BUSHLAND ZONINGS

Mosman Local Environmental Plan 2012 was amended to rezone 16 bushland sites from RE1 (Public Recreation) to E2 (Environmental Conservation). The rezoning means that areas of quality bushland and remnant vegetation of a high ecological, social and aesthetic value will now have a greater level of protection. The rezoning of these sites was based on an extensive review and consultation process.



ENGAGEMENT AND EDUCATION FOR SUSTAINABILITY

ENGAGING AND EDUCATING THE MOSMAN COMMUNITY ABOUT SUSTAINABILITY IS KEY TO REDUCING OUR ECOLOGICAL FOOTPRINT. COUNCIL USES DIVERSE METHODS TO SPREAD THE WORD ABOUT SUSTAINABILITY INCLUDING WORKSHOPS, EVENTS, CAMPAIGNS, LETTER BOX DROPS, COUNCIL'S WEBSITE, FACEBOOK, TWITTER, NEWSLETTERS, LOCAL PAPERS AND BY PROVIDING VOLUNTEER OPPORTUNITIES FOR RESIDENTS.



EDUCATION	2012-13	2013-14	2014-15	2015-16	2016-17	Change from previous year
Total number of environmental programs (workshops, events, surveys) delivered to the community.	63	88	78	102	87 [#]	↓
Total number of environmental programs (workshops, events, surveys) delivered to Council staff.	25 [*]	27 [*]	6	9	11	↑
Number of HarbourCare volunteers	N/A	N/A	N/A	N/A	19 [^]	N/A

[^] HarbourCare was a new program introduced in July 2016.

^{*} additional inclusion of marketing campaigns and newsletters.

[#] no winter (June, July) programs run due to minimal community interest

KEY ACHIEVEMENTS

- Over 300 community sustainability education programs were conducted.
- Introduction of the HarbourCare Mosman program.
- Introduction of the Living Mosman social media brand.
- The Living Mosman program was highly commended in 2014 LGNSW Excellence in the Environment Awards.
- Introduction of the Award winning 'There's no such thing as the dog poo fairy' campaign, resulting in a 65% reduction of dog poo left in Council parks and reserves.
- Nature Connect program launched in 2017, with initial workshops being highly successful.



HARBOURCARE MOSMAN

The HarbourCare Program was originally established by North Sydney Council and is now supported by Mosman Council, launching in the area in the second half of 2016. Locals collect rubbish from along Mosman foreshores, at times and locations of their choice, and report the data to Council. This data helps guide infrastructure installation and environmental education programs.

Eighteen volunteers signed up at the opening day of HarbourCare Mosman. Council provides volunteers with personal protective equipment and assistance in rubbish collection if required. Currently the volunteers are collecting data that Council has not captured previously.

This innovative program allows the volunteers flexibility and to have a voice, increasing community awareness, engagement and education.



LIVING MOSMAN

The Living Mosman program is an all-encompassing community education program which focuses on sustainability issues relevant to the residents of Mosman using apps and technology, social media, face to face workshops, guest speakers, and hands-on programs to engage with a wide cross section of the community.

A Living Mosman community newsletter, in which sustainable workshops and Council actions are detailed and promoted, is distributed monthly to over 900 residents, with over 50 editions produced over throughout the term.

In recent years, the program engaged an more focussed online communications strategy. Social media predominately covers Facebook, with over 500 followers, as well as having a presence on Instagram and Twitter.

NATURE CONNECT

In 2017 Bushcare launched a 'Nature Connect' program, to encourage people to reconnect with nature through a year-long journey of learning and rediscovering their local environment. The program stems from an understanding of evidence based knowledge showing that time spent in nature improves on health and wellbeing. The Nature Connect program provides an interdisciplinary approach drawing from science, art and nature conservation to foster activities that support time spent in nature.

Continuing the journey of restoring people and place. The 'Drawn to Nature' workshop encouraged participants to explore their creativity and connect to nature through observation and drawing, and a workshop on Frogs, Damselflies and Dragonflies provided a scientific understanding of nature. Workshops have thus far been a great success with positive feedback from workshop participants.



“THERE’S NO SUCH THING AS THE DOG POO FAIRY”

Council introduced the “There’s no such thing as the dog poo fairy” education campaign in 2014. The campaign aimed to address the cleanliness of streets, parks and reserves, together with the issues caused by non-compliance of dog owners with the Companion Animals Act through owners not picking up after their dogs.

The campaign was developed to target Mosman dog owners to inform, involve and engage them in the campaign with the ultimate goal of changing behaviour to the social norm expected by the Council and the community.



Annually every year in the January school holidays, an audit of parks and reserves is undertaken. The January 2017 audit showed a 36% decrease in the amount of dog poo left in-situ compared to the previous year, with a total decrease of 65% from the commencement of monitoring in 2014. The education campaign continues to have an impact on dog owner behaviour, leading to positive environmental outcomes for our parks and reserves.

ENVIRONMENTAL AWARDS

A number of Mosman Council’s environmental programs have been recognised and awarded over the term.

Mosman Council was a finalist in the 2014 LGNSW Excellence in the Environment Awards, being highly commended for its Living Mosman program in the Community, Education and Empowerment Category (Division B).

Mosman Council’s innovative ‘There’s no such thing as the dog poo fairy’ campaign was the overall winner in the Excellence in Communication (less than 30,000 population) category of the 2015 RH Dougherty Awards.



PEDAL POWERED FILM SCREENINGS

There have been four pedal powered movies presented to the community, including Dolphin Tale and Project Wild Thing.

Project Wild Thing was a movie that encouraged parents to offer children more outdoor playtime. The screening was sponsored by URM and a local restaurant Fourth Village offered a wonderful selection of Italian street foods. As this movie was hosted as part of Mental Health Month a celebrity fitness and lifestyle expert Alexa Towersey from mental health support group Livin, spoke about issues relating to mental health, fitness and appreciating nature to improve a sense of wellbeing.

Some events also incorporated a pedal powder smoothie maker, requiring an individual to pedal a bike to blend their own fruit smoothie.

FUTURE DIRECTIONS

Mosman Council is committed to protecting the environment and reducing its ecological footprint by identifying areas where improvements can be made and to formulate strategies to achieve better environmental outcomes in the future.

Future planning

- Upgrade of street lighting to LED through SSROC.
- Ensuring our foreshores and biodiversity are ready for predicted impacts of climate change.
- Lighting retrofit upgrade at Council Depot.
- Implement better waste management, including recycling at Council Depot.
- Explore new domestic waste bins to improve residential waste management.
- Green waste collection improvements.
- Increase education campaigns to improve Mosman residential recycling rates.
- Waste avoidance programs and education.
- Pursue the possibility of solar lighting in Council parks and reserves.
- Continue biodiversity management and improvement in fauna habitats and connectivity of natural areas.
- Continue Intertidal studies.
- Increase street tree planting to build on recent increases to canopy coverage across the LGA.
- Continue to collaborate with regional networks and forums to increase knowledge and resource sharing.
- Continue to expand the HarbourCare and Bushcare programs and encourage foreshore community engagement and connectiveness based on environmental protection works.





Mosman COUNCIL

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