

STATE OF THE ENVIRONMENT

Summary Scorecard 2015 - 2016



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.

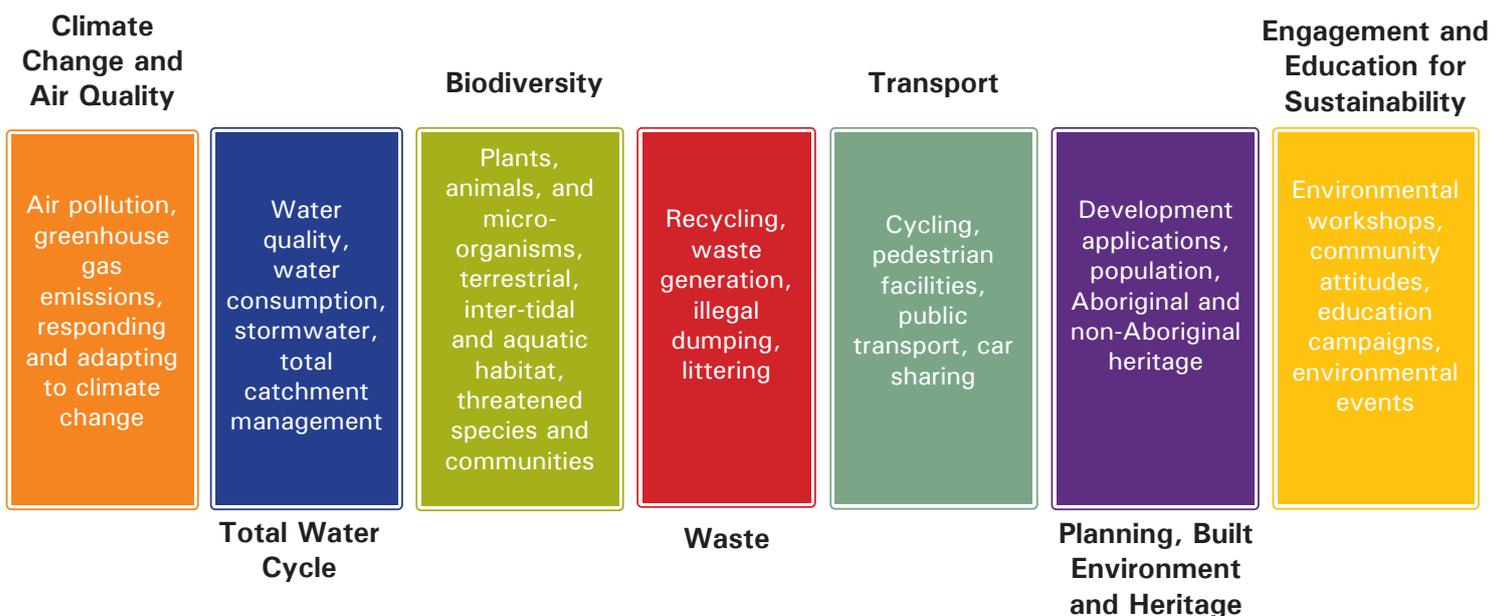
Mosman Council's vision is to preserve and enhance biodiversity, including Mosman's bushland, parks, open space, beaches and marine environment through best practice operational and maintenance programs, infrastructure, regulatory practice and education campaigns.

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 2015-2016 SOE takes the form of a "scorecard" providing a quick snapshot of the State of the Mosman local environment and examples of initiatives implemented by Council.

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.



1. CLIMATE CHANGE AND AIR QUALITY

AIR QUALITY	2012-13	2013-14	2014-15	2015-16	Change from previous year
Number of air pollution complaints received by Council	2	5	3	2	↓
ENERGY					
Electricity use Council operations (kWh)	1,811,017	1,628,913	1,554,759	1,673,099	↑
Council energy consumption (GJ)	7,731	7,402	7,184	7,622	↑
GHG emissions from Council energy use (tonnes CO ₂ -e)	1,841	1,660	1,566	1,673	↑
Total residential and non residential electricity use for Mosman (MWh)	140,698	133,958	138,437	137,569	↓
Solar generation exported to the grid (MWh)	546	599	640	729	↑

RESPONDING TO CLIMATE CHANGE AND AIR QUALITY ISSUES – CASE STUDIES

Automated Floodlights

Following the success of the installation of Middle Head Oval automatic floodlights, Allan Border Oval, Rawson and Balmoral Ovals floodlights were retrofitted. Council installed the existing floodlights with automated timing devices that can be updated remotely by SMS. This has allowed floodlight use to be directly matched to booking times and allows lights to be quickly changed during periods of wet weather improving energy efficiency and restricting unauthorised use of our already over used sporting fields.



Community Education

Council continued to engage the community about how to reduce the energy consumption through the use of workshops, advertising in the Mosman Daily and social media. An example is provided on the right.



Solar Lighting

Council installed a solar light at Clifton Gardens reserve as a trial initiative. If successful, more solar lighting may be installed in other Council parks and reserves in the future once cost benefit analysis work has been completed.



2. TOTAL WATER CYCLE

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

*water consumption has increased largely due to the stormwater harvesting system at Balmoral being offline due to mechanical failure. This issue has now been resolved.

RESPONDING TO TOTAL WATER CYCLE MANAGEMENT ISSUES – CASE STUDIES

Botanic Road Stormwater Harvesting project

The Botanic Road Stormwater Harvesting project consists of a Stormwater Quality Improvement Device (SQID) in Botanic Road, an underground stormwater storage tank in Lawry Plunkett Reserve, a pump house and a network of pipes.

The SQID was designed to screen and catch rubbish within the stormwater system, enhancing Harbour water quality at Balmoral.

The underground stormwater storage tank and associated pump house was upgraded in 2015/16. Technologies within the pump house were replaced with more efficient and more reliable systems.

Balmoral south is one of Mosman’s largest stormwater catchments and this created an opportunity to capture and reuse the stormwater that would have simply dispersed into the ocean. Council uses this stormwater to replace the potable water use to irrigate Balmoral Oval and foreshore areas. To facilitate these requirements, an appropriate treatment regime was required.





3. BIODIVERSITY

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

RESPONDING TO BIODIVERSITY ISSUES – CASE STUDIES

Flora and Fauna Survey

In December 2015 Council engaged Ecosure, an ecological consultant firm, to undertake a comprehensive flora and fauna survey of Council's bushland areas including selected unmade road reserves. The purpose of the survey, which replicated previous surveys, was to provide a snapshot of the current biodiversity values and condition assessment of Council's major natural assets. The study area comprised all large bushland sites and 33 Unmade Road Reserves, all of which are Zoned E2 (Environmental Conservation) and managed by Council.

Report Findings

The 2016 survey has highlighted that Council's flora and fauna and ecological health of bushland sites continues to improve. This is testament to Council's consistent work program aided by dedicated Bushcare volunteers. Some of the key findings and changes from the last survey include:

- There were 490 indigenous native plant species recorded (up from 454 in the 2007 survey).
- Two (previously unlisted) threatened plant communities were identified in five reserves.
- An additional threatened fauna species, the Large-footed Myotis, a type of fishing bat was identified. This species was initially recorded as part of a Department of Primary Industries study in the species presence in Sydney Harbour after it was discovered in 2014. It is now officially recorded in the 2016 flora and fauna survey.
- Confirmation of the presence of bandicoots.
- Updated vegetation types to include all classification types commonly used within the industry.
- An inventory of fauna habitat features for each site has also been provided. This provides an indication of which species are likely to occur and what habitat niches can be created on a site to improve biodiversity.

Bushland Management

The bushland contract specifications are designed to preserve and enhance the biodiversity of bushland sites through regeneration of resilient bushland areas, revegetating non-resilient areas and retaining areas that either offer good habitat for native fauna or are undisturbed remnant vegetation. The following principles are used to achieve this:

1. Removal or control of the effects or impacts of the stressors (i.e. weed colonisation in particular vine, noxious and environmental weeds)
2. Encouraging regeneration through natural process (i.e. weed control, seed production, dispersal and germination)
3. Establishment and stabilisation of the non-resilient areas through weed suppression and revegetation

There are other specifications required for the sites and these include track and drainage line clearance works, fire hazard mitigation work, litter removal and preparation and delivery of annual work plans and reports for each site.



Over the contract period from 1 June 2013 until April 2016 biannual performance audits have been completed including regular inspection of sites. The audits have shown that the current contractors are working satisfactorily, are meeting contract specifications and work, health and safety requirements. Further, in February 2016, through the flora and fauna survey, each site managed under the contract was assessed to determine progress of works against contract specification and to compare with native vegetation cover maps from 2011.

Notably, the audit showed that from 2011 to 2016 areas of greater than 90% native vegetation cover of bushland areas have increased from 53.7% to 65.8%.

Native Havens Program

In 2015 Mosman Council received grant funding from the Sydney Coastal Councils Group funded by the Australian Government as part of the Sydney's Salty Communities Grant to assist in connecting biodiverse foreshores of Mosman. Under the grant, a Native Havens program was launched in late February 2016 with guest speaker, Angus Stewart (ABC Gardening Australia Presenter, author and horticulturalist) presenting a talk on Australian Native Gardens which sparked interest and discussion on establishing native gardens for habitat resulting in a small group of residents signing up to a pilot Native Havens Program.

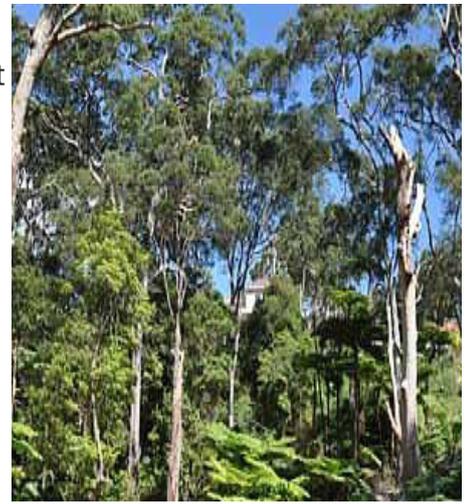
The aim of the Native Havens program is to assist residents in providing backyard habitat for wildlife and to connect green corridors. The type of support offered to participants included free advice, assistance in planning, limited free plants, onsite training, loan of some tools and an information kit.

Due to the success of Mosman's Native Havens, the program will be continuing as an extension to the Bushcare Program and will focus on targeting residential areas within Mosman identified as important wildlife corridors.

Joel's Reserve

Since 2012 Council has had a number of incidences of tree vandalism on public land in Joel's Reserve. The instances of tree vandalism include tree poisoning, snapping young trees and the cutting down of semi-mature trees. In response Council staff installed temporary signage asking for the illegal works to cease and issued several letters at different times to surrounding residents asking for information.

With no information forth coming Council resolved unanimously in September 2015 to install a 3 metre by 5 metre banner on a 8 metre temporary pole as seen on the right. The banner's aim was to provide information to the community and to seek information from the community on tree vandalism. Council have now formed a community working group to improve Joel's Reserve and work to reduce vandalism in the area.





4. WASTE

WASTE	2012-13	2013-14	2014-15	2015-16	Change from previous year
Total waste to landfill, including general cleanup (tonnes)	6,455	6,596	7,102	7,097	↓
Total waste to recycling including paper, co-mingled, metal and green waste (tonnes)	5,450	5,243	5,227	5,156	↓
Total waste to landfill, including general cleanup per capita (kg)	219	220	234	232	↓
Total waste to recycling, including metal and green waste per capita (kg)	185	175	173	169	↓
Green waste diverted from landfill per capita (kg)	72	65	78	71	↓

RESPONDING TO WASTE GENERATION ISSUES – CASE STUDIES

E-Waste Collection

Mosman Council in partnership with MRI E-Cycle Solutions, held two community e-waste recycling events in the last financial year. A total of 1,283 community members (95% who lived in Mosman) dropped off 5,0371kg of recyclable e-waste. Computers/peripherals were the most recorded item to be collected at both events. Non-regulated material collected included batteries, fluorescent tubes, microwaves and phones. Ninety eight percent of all material collected was diverted from landfill.



Musical Percussion Fences- A Waste to Music Project

Three musical fences were installed by Drum Beats at Mosman Occasional Child Care Centre in June. The fences incorporated an old trampoline found by the side of the road using both the metal tubing and the springs from the trampoline. Children from as young as six months to six years have played the percussion styled fences offering children a fun and enduring educational tool made from both new and



discarded materials. This project is a NSW EPA Waste Less, Recycle More initiative funded from the waste levy.

Potable Water Stations

Litter surveys conducted by Two Hands revealed plastic water bottles were the top litter item to be found within the Mosman area. The study led Council to install six water stations at popular beach locations and Mosman Square. A further five were also recently added to sport fields.

The public can now fill their reusable water bottles or stop to use the bubblers. Each water station is wheelchair accessible and in dog friendly areas dog bowls have been provided. The bubblers will play an important role in litter reduction

Over 37,000 single use water bottles were saved from landfill through the use of the six water fountains over a period of 12 months. This project is a NSW EPA Waste Less, Recycle More initiative funded from the waste levy.



Chickens

In May 2016, Council Environment and Children's Services Teams joined up to form a new partnership. Both Council's Before and After School Care and Mosman Occasional Childcare Centre (MOCC) welcomed two chickens to their grounds.

The chickens were introduced to provide recycling of food scraps into valuable compost, as well as an interactive tool to engage the children around the topic of food production and waste reduction. Eggs by the chickens are eaten by Children in Before and After School care.



Chalk Drawings

Another series of chalk drawings were installed over the January holidays at Balmoral. The project encouraged sports people to keep our sportsfields clean by disposing of rubbish and sports tape after use. The project was funded by the EPA Waste Less, Recycle more initiative.



Festival of Mosman and Waste

Mosman Before and After school kids rethink rubbish by creating amazing sounds from items of waste that would normally be placed in our bins. Plastic tubes became flutes, drink bottles containing out of date popcorn became maracas and used plastic buckets were transformed into drums.

Kimbriki Resource and Recovery Centre donated used 44 gallon drums to help give a richer sound to the band and with the help of Angela from Drum Beats and a grant from the EPA a workshop series was provided to the children with a smaller group being able to provide a concert at the opening night of the Festival of Mosman. The children were well received and gave the audience of approximately 250 people something to think about as they watched.





5. TRANSPORT

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

[^] Change due to different counting system.

RESPONDING TO TRANSPORT ISSUES – CASE STUDIES

Mosman Bicycle Plan 2014-2019

The bicycle plan 2014 -2019 is 80% complete and one year ahead of schedule, with 8km of bicycle routes installed. These included Raglan Street, The Esplanade, Upper Almora and The Crescent. Bicycle numbers have increased by approximately 75% on some of the major routes in Mosman (Middle Head and Bradleys Head Road). Designs have been completed for Rangers Avenue cycle way and a joint project with North Sydney Council regarding a cycle route from North Sydney Oval to Spit Bridge is currently being investigated.



Pedestrian Access Mobility Plan

Council undertook a number of activities under the Pedestrian Access Mobility Plan, including:

- Raised pedestrian crossings along Military Road at Mandalong Road, Gouldsbury Street and Upper Almora have been installed to improve pedestrian movement in Council's major retail area
- Way finding signs installed at Clifton Gardens and Mosman Square
- 300 metres of bushland walking track from Cremorne to Mosman Bay upgraded



Car Share Policy

Council developed a Car Share Policy to guide the future usage of car share vehicles within the LGA. The policy along with fees and charges were exhibited to the community before Council adopted it on the 5 July 2016.



6. PLANNING, BUILT ENVIRONMENT AND HERITAGE

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

Review of archaeological sites

In 2015, a review of all archaeological sites listed in Mosman Local Environmental Plan 2012 was undertaken. The sites include former tram infrastructure, wharves, quarries and other relics of early European settlement in Mosman during the 1800s and early 1900s.

The purpose of the review was to identify more specific site and property information for the 16 archaeological sites, and make recommendations regarding their heritage significance. Council has amended the listing of archaeological sites identified in the LEP based on the findings of this review with three sites being removed.

Protecting Mosman's foreshore slopes

Advocacy with the State Government for the protection of Mosman's foreshore slopes from inappropriate development has continued.

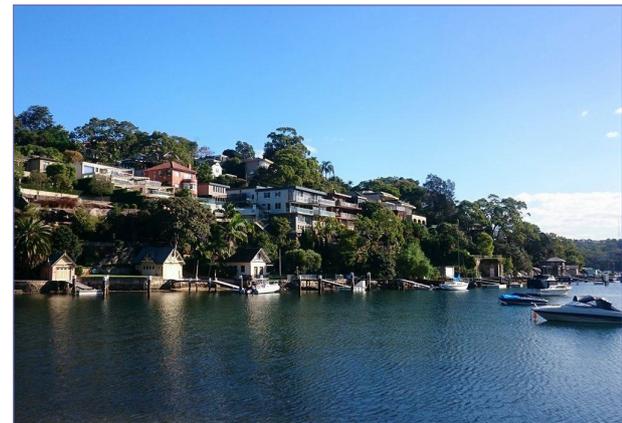
Mosman had a temporary exclusion from the provisions of the General Housing Code of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 which was due to expire on 30 November 2015. An extension until 30 November 2018 was granted by the State as a result of Council pressure. 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.

Providing feedback on major development proposals and State Government reforms

Over the past year, there have been a number of proposals by the State Government requiring input from Council. The interests of Mosman have been presented in submissions on major proposed developments (e.g. at Taronga Zoo) as well as State Government reforms (e.g. amendments to the Codes SEPP to allow medium density housing.)

Council has also participated in planning for the preparation of a District Plan, being developed by the Greater Sydney Commission, promoting the need for it to reflect Mosman's important and unique natural and built elements.





7. ENGAGEMENT AND EDUCATION FOR SUSTAINABILITY

EDUCATION	2012-13	2013-14	2014-15	2015-16	Change from previous year
Total number of environmental programs (workshops, events, surveys) delivered to the community.	63	88	78	102	↑
Total number of environmental programs (workshops, events, surveys) delivered to Council staff.	25*	27*	6	9	↑

*additional inclusion of marketing campaigns, newsletters.

RESPONDING TO ENGAGEMENT AND EDUCATION FOR SUSTAINABILITY ISSUES – CASE STUDIES

Fish Mosman Signage

As part of the Recreational Fishing Trust grant Mosman Council has installed an interpretative display on the toilet block at Clifton Gardens. The display uses illustrations to highlight key actions recreational fishers can take to ensure their actions are responsible. Included on the display is also a map highlighting the rules and regulations regarding fishing within Mosman.



Fish Mosman Kits

As part of the Recreational Fishing Trust Grant Mosman Council is providing residents with a free FishMosman kit. The kit showcases a number of materials that are on the market that reduce the impact that fishing can have on the marine environment. These include:

- Non-stainless steel circle fishing hooks
- Lead free sinkers
- Tape measure
- Fish chart
- Local fishing information and map



Snorkel Mosman

There are some great snorkelling locations within the Mosman LGA. This year Council aimed to highlight some of the incredible marine life found within the local area. Education and engagement has been through the installation of a marine interpretative display on the toilet block at Clifton Gardens. The display showcases 10 different marine animals which can be found snorkelling at Chowder Bay, Chinamans Beach or Balmoral.



OzHarvest

Mosman Council joined forces with seven other Councils (including SHOROC) and Oz Harvest to rescue good food that would otherwise go to landfill. Grant funding from the EPA allowed Oz Harvest to purchase a new van and Councils - Mosman, North Sydney, Willoughby, Ku-ring-gai, Warringah, Manly and Pittwater assisted with the cost of a driver. Surplus food collected from restaurants and cafes will be redistributed to charities that in turn will help those in need of a hearty meal.



Food rescue not only helps those in need but also helps businesses to save money, reduce space required for landfill and reduces excess greenhouse gasses caused from compacted food waste. As part of this program Council managed to sign up three of the biggest food retailers in Mosman.



Nappy Collective

In October 2015, Council hosted collection points for the Nappy Collective. This was the second year Council has participated in this great initiative. Residents donated over 1,400 clean, unused disposable nappies, which through the Nappy Collective were given to families in need.

Dog Poo Fairy Monitoring

Our annual monitoring of dog poo left in Council parks and reserves found a decrease of 22% in the amount of dog poo left behind, compared to the same time last year. This continual decrease is a result of Council's active responsible pet ownership campaign through the "there's no such thing as the dog poo fairy" education program. The campaign also shows sustained compliance and behaviour change by the community.



Intertidal Assessment

As part of the Sydney Coastal Councils Salty Community Grant, Council has started a long term intertidal assessment of the Quakers Hat and Pearl Bay intertidal zones. The assessment was developed by external consultants and was carried out by Council sustainability staff.

The aim of the study is to gain a long term understanding of the intertidal zone and how the ecology of the ecosystem might change over time.



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.

2015-16 Successes

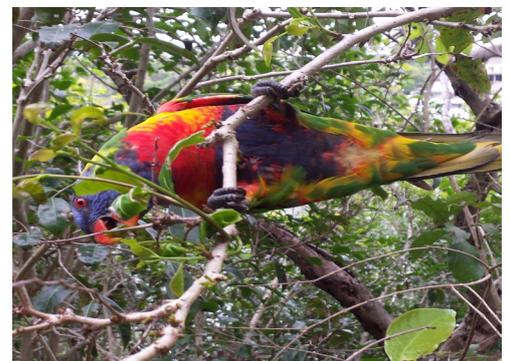
There are a number of successes highlighted in this report:

- 27% increase in the total number of environmental programs delivered to the community
- 13% increase in the number of homes with solar installed
- Decrease in the number of cars registered within the LGA
- 8% decrease in the total amount of water used by Council operations
- Increase in the percentage > 90% native vegetation cover of bushland sites from 53.7% in 2011 to 65.8% in 2016.
- 22% reduction in the amount of dog poo found in our parks and reserves, showing long term behaviour change within the community
- High presence of ghost crab burrows at Chinamans Beach due do the manual cleaning regime of the beach.
- Developed an intertidal monitoring guide and plan
- Flora and fauna survey identified two previously undescribed endangered ecological communities in Mosman
- Using data analysis to identify and fix water leaks within Council parks and reserves

2016-17 Planning

Going forward, Council will use the data from this report to help guide programs and actions for the coming year:

- Implement Multi-Unit Dwelling (MUD) bin audits and bin room improvement program
- Increase Mosman Council recycling rates
- Improve connectivity of natural areas through increased street tree planting and grove plantings in parks
- Improve public place recycling at Spit West and Spit East Reserves
- Continue to monitor Mosman Council water and energy use and take appropriate action when necessary
- Continue to collaborate with regional networks and forums
- Continue to manually clean Chinaman's Beach to ensure diverse marine ecology along the foreshore
- Develop HarbourCare program and encourage foreshore community engagement





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