

# STATE OF THE ENVIRONMENT

## Summary Scorecard 2013 - 2014



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

Mosman is a harbourside suburb located on Sydney's lower North Shore. It is bordered by Middle Harbour, Sydney Harbour and Port Jackson. The Mosman Local Government Area (LGA) is approximately 8.7 square kilometres and is home to 29,983 people. The Council forms part of the Shore Regional Organisation of Councils (SHOROC), which also includes Manly, Warringah and Pittwater.

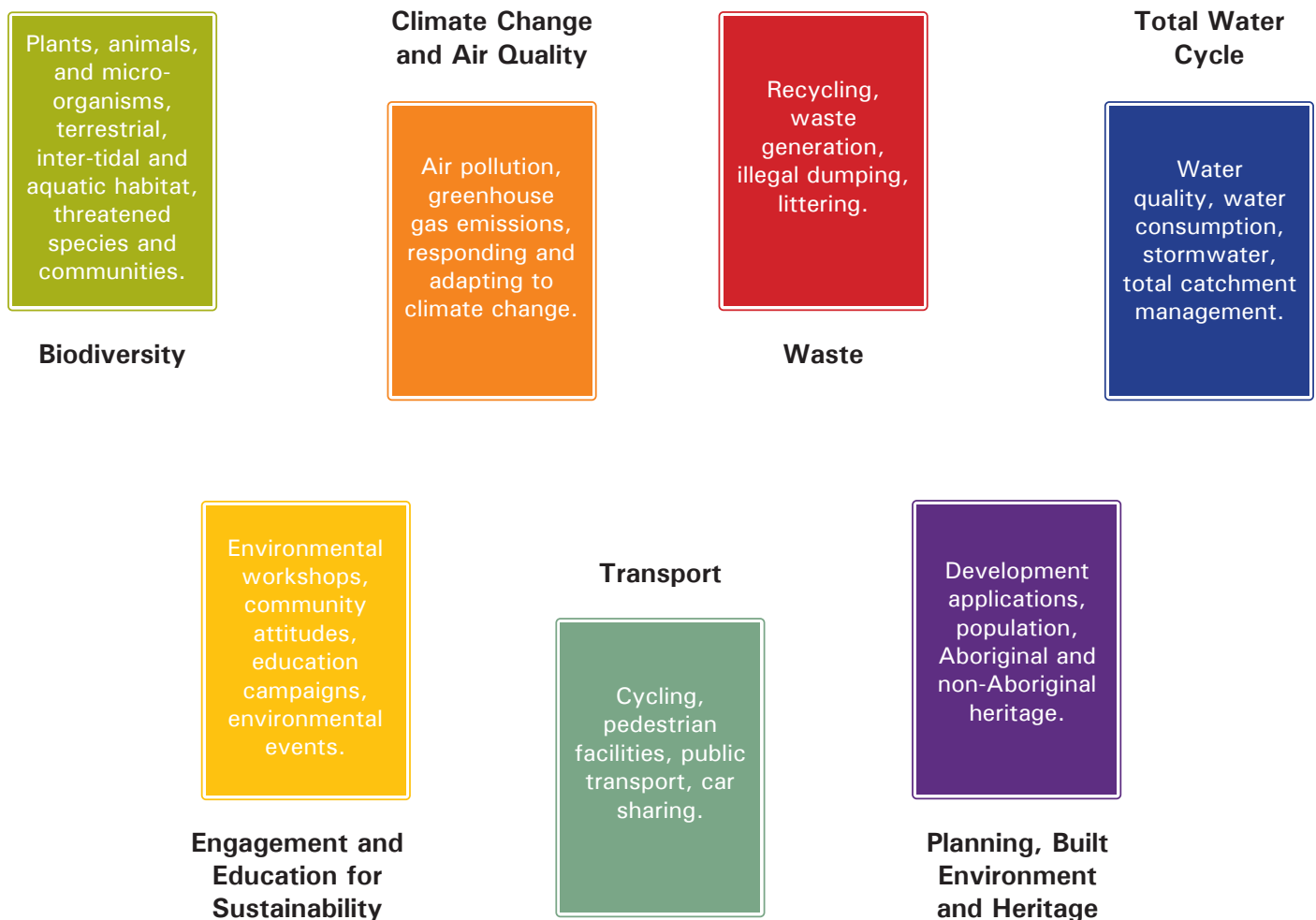
## STATE OF THE ENVIRONMENT REPORTING

A State of the Environment (SOE) Report provides a snapshot of the condition of the environment, pressures impacting on the environment and the Council's response to these pressures.

The 2013-2014 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 indicators have been chosen 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	2010-11	2011-12	2012-13	2013-14	Change from previous year
Number of air pollution complaints received by Council	2	3	2	5	↑
ENERGY					
Electricity use Council operations (kWh)	2,769,062	1,741,663	1,737,180	1,618,761	↓
Council energy consumption (GJ)	7,168	6,711	6,976	6708	↓
GHG emissions from Council energy use (tonnes CO2-e)	1,847	1,733	1,566	1,454	↓
Total residential and non residential electricity use for Mosman (MWh)	153,336	146,393	140,685	133,344	↓
Solar generation exported to the grid (MWh)	213	470	546	599	↑

### RESPONDING TO CLIMATE CHANGE AND AIR QUALITY ISSUES – CASE STUDIES

#### LIGHTING UPGRADE

In May and June 2013 Council completed a lighting upgrade of the Mosman Library. Fluorescent lights were replaced with light-emitting diodes (LEDs) to help Council save money, energy and greenhouse gas emissions.

Prior to the upgrade the combined consumption of electricity for the Civic Centre and Library buildings was 74MWh per month. After the lighting retrofit, the monthly electricity usage for both buildings was 66.5MWh per month. This saving of 8.5MWh per month equates to 102 MWh annually, saving Council in the last financial year \$41,888.00. It is estimated that the lighting retrofit will save 108,000kg CO2-e emissions annually.

This retrofit was the last stage of the Civic Centre and Library building retrofit program.

#### WITNESS KING TIDES PROJECT

Council promoted the Witness King Tides project to the Mosman community encouraging residents to capture king tide events on camera across the Mosman LGA. These photos assist the Green Cross Australia project to create a photographic database of king tide levels and impacts across Australia. Together, these images build a picture of the potential threat posed by sea level rise across Australia and help track the future impact of climate change.



## 2. TOTAL WATER CYCLE

STORMWATER	2010-11	2011-12	2012-13	2013-14	Change from previous year
Number of gross pollutant traps (GPTs)	32	32	33	33	↔
Total gross pollutants removed from GPTs (tonnes)	300	332	406	197	↓
WATER CONSUMPTION					
Total LGA potable water use (kilolitres)	2,966,059	2,841,397	3,089,433	3,237,561	↑
Total LGA potable water use (kilolitres)	86	81	104	108	↑
Total Council potable water use (kilolitres)	44,662	46,489	69,583	82,072*	↑

\*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

#### MOSMAN FLOOD STUDY

Council is currently working on the Mosman Flood Study with the draft technical report under review. As part of the Stormwater Asset Management plan attributes (eg pipe size, location and depth) were assigned to all stormwater assets. The information on these attributes was collated and used for the Mosman Flood Study. The flood study model has been calibrated using 18 months worth of stream gauging data. Additional funding has been received from the Office of Environment and Heritage to undertake further works to improve the flood study model.

#### MOSMAN COASTAL ZONE MANAGEMENT PLAN

The development of the Coastal Zone Management Plan was ongoing during the 2013-14 financial year. The Coastal Zone Management Plan will identify coastal hazards and include an assessment of community uses, public amenity values, accessibility and environmental issues to determine the best approach to managing Mosman's Coastal Zone.

#### AMENITIES

Council's Water Efficiency Plan includes actions to reduce water consumption and utilise water more efficiently within Council managed properties.

In 2014, the remaining seven toilets within the Council Civic Centre were converted to a dual flush system. The installation of water efficiency measures aims to reduce Council's water consumption within one of its main buildings.





### 3. BIODIVERSITY

BIODIVERSITY CONDITION	2010-11	2011-12	2012-13	2013-14	Change from previous year
Noxious weed notices	0	0	0	0	↔
Noxious weed assessments undertaken	17	23	11	14	↑
Number of registered active bushcare volunteers	97	102	102	77	↓
Bushcare Program volunteer hours	2,677	2,800	2,511	1,895	↓
Number of active bushcare groups	23	17	14	14	↔
Total number of native plants supplied to volunteers, contractors and residents	9,000	8,500	8,430	8026	↓
Number of native plant species recorded in LGA	454	454	454	454	↔
Number of threatened flora species	3	3	3	3	↔
Number of threatened fauna species	4	4	4	4	↔
Number of endangered ecological communities	0*	0	0	0	↔
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**

### **MOSMAN BAY FALLS WATERSHED PROJECT**

Mosman Council received funding from the Greater Sydney Local Land Services to improve the Mosman Bay Falls watershed located in Reid Park and unmade Millet Road. The aim of project was to improve water quality and freshwater aquatic habitat within the watercourse. This was achieved by rock armouring 15 metres of the channel with sandstone boulders, improving riparian habitat and reducing impacts on the estuarine habitat of Mosman Bay. This project also included the removal of noxious and environmental weeds and the stabilisation of soil with jute matting and planting on an embankment upslope of the waterfall. The project has enhanced the biodiversity of the Sydney Sandstone Gully Forest and the riparian corridor which supports the habitat of the Powerful Owl.

### **LITTLE ASHTON RESTORATION PROJECT**

Little Ashton Park is a small reserve tucked in behind Taronga Zoo and contains two areas of degraded bushland. A small portion of this site has been maintained by a Mosman Council Bushcare group. The restoration project began in February 2013 with the aim of controlling noxious climbing and woody weeds in the better of the two bushland remnants.

With some grant funding support, the project scope was expanded to include the restoration of the second area to improve the connectivity across the site. These projects have been supported by National Tree Day activities for the last two years with assistance from Taronga Zoo. At the 2014 event approximately ninety people attended and planted 1781 shrubs and groundcovers across the site.

### **RAWSON PARK EMBANKMENT RESTORATION PROJECT**

The embankment at Rawson Park, above the croquet lawn courts, is a fill slope that was identified as being infested with weeds. In an effort to control weeds of national significance in the Mosman local government area, grant funding was secured from the Catchment Management Authority. This funding was utilised to control weeds on the slope and create a fauna corridor extending to Bradley's Bushland Reserve.

The slope has been cleared of lantana and phoenix palms, and the exotic vines morning glory and madeira vine have also been controlled. The area has been revegetated with 1500 native plants that will create a fauna corridor and improve the visual amenity of the site.

### **FAUNA MONITORING**

In recent years there has been evidence of bandicoot activity in the Mosman area. The return of bandicoots to the area is due to both local and regional efforts to preserve and enhance biodiversity through bushland restoration works.

Council acquired trail cameras to monitor fauna in Council reserves. The first goal of this project was to obtain a visual confirmation of bandicoot activity. Monitoring at Parriwi Park has provided a number of photographs of bandicoots within the reserve, which have been identified as the Long-nosed Bandicoot (*Perameles nasuta*). This is the first photographic evidence that confirms the presence of bandicoots in Mosman.





## 4. WASTE

WASTE	2010-11	2011-12	2012-13	2013-14	Change from previous year
Total waste to landfill, including general cleanup (tonnes)	6,382	6,195	6,455	6,596	↑
Total waste to recycling including paper, co-mingled, metal and green waste (tonnes)	5,559	5,613	5,450	5,243	↓
Total waste to landfill, including general cleanup per capita (kg)	218	211	219	220	↑
Total waste to recycling, including metal and green waste per capita (kg)	190	191	185	175	↓
Green waste diverted from landfill per capita (kg)	59	66	72	65	↓

### RESPONDING TO WASTE GENERATION ISSUES – CASE STUDIES

#### **READY SET GROW**

Ready Set Grow is a regional program being undertaken jointly by Hornsby, Warringah, Willoughby, Pittwater and Mosman Councils in partnership with Health Promotion, Northern Sydney Local Health District. The three year program aims to educate primary aged children on the importance of edible gardens. Apart from encouraging healthy eating, the gardens form an engaging space for children to learn about the basic principles of sustainability.

In Mosman, one school took part in the first year with an additional two schools signing on to participate. The schools started the program with a waste audit then progressed to setting up a worm farm or compost system. Once the food waste recycling system was established a no dig garden was created during a workshop with the school students. Materials from within the school were used where possible such as leaves, twigs, waste paper and compost to build the garden layers. In order for the students to understand the importance of microbial diversity a game was played to act as different types of microbes such as spring tails and scorpions. The game taught about the web of life and how ultimately this invisible world holds great significance to the food they eat.

In caring for their new garden the students learn the importance of energy from the sun and how a no dig garden is water efficient. School scraps composted become an important food for the plants and at the same time a valuable diversion from landfill. The efforts of the students will be rewarded at harvest time when new wonders are realised such as the taste of fresh food direct from the garden, beautiful flowers attracting butterflies and the seeds which allows the whole growing process to be renewed.

### **CHALK ART- MARINE DEBRIS**

Rudy Kistler in partnership with Mosman Council created a series of 3D chalk drawings along Balmoral esplanade, highlighting to passersby the need for greater action to reduce marine debris from entering our waterways.

The drawings were constructed in January (2014) in the summer school holidays. At this time of year local residents and visitors alike flock to the area to enjoy the beautiful surrounds. Rudy was photographed and happily spoke to people as they walked by. When not engaged in conversation or photos Rudy continued work on his drawings.

Particular emphasis was placed on cigarette butts, plastic waste and fishing tackle and the harmful impact these litter items have on wildlife. Tag lines such as 'Butt it and Bin it', and 'Reel it in and put it in the bin' accompanied each chalk drawing.

The Mosman Daily ran a half page story and Council received positive feedback from the community on the chalk art and the message being told.

### **WHISPERS FROM WASTE WORKSHOP SERIES**

In 2013 Mosman Council partnered with Drum Beats to facilitate a series of workshops for primary schools, to engage young people in reusing clean waste materials. The aim was to show that waste regularly thrown into the bin, such as PET bottles, can be reinvented by making a simple percussion instrument. At the beginning of each workshop Angela Grimma and Peter Kennard from Drum Beats performed a piece of music using instruments made from a combination of car parts, plastic serving trays, old saucepans and plastic bins. These instruments produced an amazing sound and provided students with an idea of what can be achieved with imagination and waste items.

During the workshop the students learnt about rhythm before progressing to making musical instruments from waste materials. Popcorn in a sealed PET bottle for example made a good shaker and a discarded metal tray or plastic bucket was quickly converted into a drum. Once the instruments had been made the students were sorted into groups to create an orchestra, and by the end of the workshop were playing simple rhythms.

The schools have been encouraged to keep the program running, with Council hosting a separate workshop for teachers. Waste to music workshops will continue for other interested schools during 2014-15.







## 5. TRANSPORT

TRANSPORT	2010-11	2011-12	2012-13	2013-14	Change from previous year
Registered vehicles in Council LGA	18,247	18,203	18,871	19,261	↑
Number of Council fleet vehicles	29	25	24	22	↓
GHG emissions from Council fleet vehicles (tonnes CO <sub>2</sub> -e)	185	163	86	76*	↓
Number of passengers using the Mosman Rider Bus	45,000	49,053	46,325	42,172	↓
Number of people using the GoGet carshare scheme	177	330	505	768	↑

\*72.02t CO<sub>2</sub>-e was offset via Greenfleet.

### RESPONDING TO TRANSPORT ISSUES – CASE STUDIES

#### **COUNCIL BICYCLE PLAN**

Census data indicates cycling has been steadily increasing in Mosman since 2006. The Bicycle Plan is an important step in ensuring that Council's infrastructure supports resident cyclists, reducing risks to them and others. The Bicycle Plan review commenced in 2013-14.

The Active Transport Working Group (ATWG) 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 process of developing the Bicycle Plan included:

- Reviewing best practice treatments for cycling infrastructure
- Surveying cyclists, residents and hosting a public meeting
- Evaluating accident data
- Adopting a set of consistent treatment guidelines
- Employing consultants to critically review the proposed network, develop detailed designs, costs and undertake a cost benefit analysis
- Prioritise the works for maximum impact with minimum cost

#### **BICYCLE WORKS**

Throughout the 2013-14 financial year bicycle lanes, on road markings and directional signage were completed at the following road locations:

- Moruben Road - between Mandalong Road and Awaba
- Bradley's Head Road - between Zoo entrance and Whiting Beach Road
- Parriwi Road
- Athol Wharf Road
- Bickell Road - Between Spit Road and Bapaume
- Killarney Street - Bullecourt Road and Wyong



## 6. PLANNING, BUILT ENVIRONMENT AND HERITAGE

POPULATION	2010-11	2011-12	2012-13	2013-14	Change from previous year
Estimated population of LGA – at 30 June	29,232	29,414	29,716	29,983	↑
Residential density (persons per hectare)	34.31	34.5	34.35	34.66	↑
NOISE					
General noise complaints received by Council	56	41	77	63	↓
Barking dog complaints received by Council	35	29	33	32	↓
DEVELOPMENT APPLICATIONS					
Total number of development applications received by Council	438	248	226	261	↑
Number of development applications approved	376	274	282	246	↓
ABORIGINAL HERITAGE					
Total number of Aboriginal heritage sites	105	105	105	105	↔
NON ABORIGINAL HERITAGE					
Total number of non-Aboriginal heritage items	478	485	485	485	↔
Number of built items*	437	444	444	444	↔
Number of landscape items*	34	34	34	34	↔
Number of archeological items	16	16	16	16	↔
Heritage conservation areas	11	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.

## **RESPONDING TO PLANNING, BUILT ENVIRONMENT AND HERITAGE ISSUES – CASE STUDIES**

### **MOSMAN HERITAGE ASSISTANCE FUND**

The Mosman Heritage Fund was established in 1998 and offers small dollar for dollar grants for conservation work to owners of heritage items and properties located within heritage conservation areas. This year the Fund has assisted more projects than previous years with 17 projects completed in 2013-14 compared with 10 projects in 2012-13. Of these projects, eight were heritage items and nine were properties in heritage conservation areas.

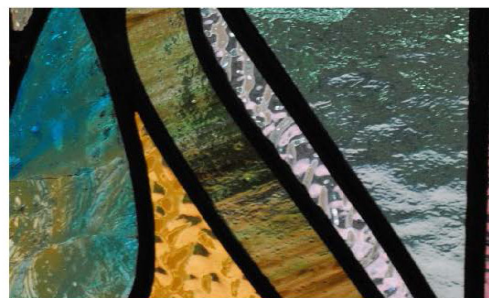
A variety of projects have been completed under the Fund this year such as roof repairs, replacement of fences, restoration of original features, repair work and repainting. These projects have all been completed to a high standard improving the heritage character and integrity of the property. The importance of the Fund was highlighted recently when Council received an award (highly commended) in recognition of the Fund at the 2014 Sustainable Cities Awards in the Cultural Heritage Category.

### **BUSHLAND AREAS ZONING REVIEW**

Following a resolution of Council on 3 December 2013, the Urban Planning team reviewed the zoning of unmade road bushland areas zoned RE1 Public Recreation with a view to preparing a planning proposal to rezone suitable land to E2 Environmental Conservation. This project is still ongoing.

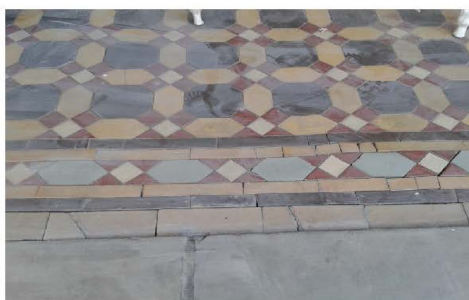


**Before**



**After**

Repair the damage to stain glass panel in front door (leadlight)



**Before**



**After**

Repair the tessellated tiles on front verandah



## 7. ENGAGEMENT AND EDUCATION FOR SUSTAINABILITY

EDUCATION	2010-11	2011-12	2012-13	2013-14	Change from previous year
Total number of environmental programs (workshops, events, surveys) delivered to the community.	24	20	63*	88*	↑
Total number of environmental programs (workshops, events, surveys) delivered to Council staff.	4	8	25*	27*	↑

\* Increase due to inclusion of marketing campaigns, newsletters.

### RESPONDING TO ENGAGEMENT AND EDUCATION FOR SUSTAINABILITY ISSUES – CASE STUDIES

#### CHRISTMAS GIFT WORKSHOP

As part of the lead up towards Christmas 2013, Mosman residents were invited to a workshop with Penelope Quinn. The workshop was designed to show people how to create simple gifts for Christmas that were fun to make, economical and environmentally friendly.

Residents gathered into two groups with one table moulding handmade bath bombs and the other dream catchers. Those crafting dream catchers incorporated odd pieces they had brought from home such as beads, old ribbons, buttons and doilies. Participants quickly moved into a creative space and there was much excitement and discussion as they worked.

The second group making bath bombs were amazed at how simple the process was and loved the essences that were provided to make their bath bombs more aromatic. Garden herbs and flowers were used to decorate the bath bombs.

Once finished the two groups swapped activities so that everyone went home with a dream catcher and a set of bath bombs. The response from this workshop was very positive.





## **PEDAL POWER CINEMA- FINDING NEMO**

As part of the Festival of Mosman a pedal power cinema was hosted to screen 'I will be a hummingbird' and Finding Nemo.

As the crowds gathered a 'Seahorse' and 'Pirate' spoke to children about the importance of not polluting our waterways. The catch phrase 'all drains lead to the ocean' taken from the movie Finding Nemo was incorporated into the discussions and featured in posters.

Three students from Queenwood distributed a brochure to the audience about the impacts of disposable cups, and spoke on stage about the importance of using reusable cups when purchasing take away hot drinks.

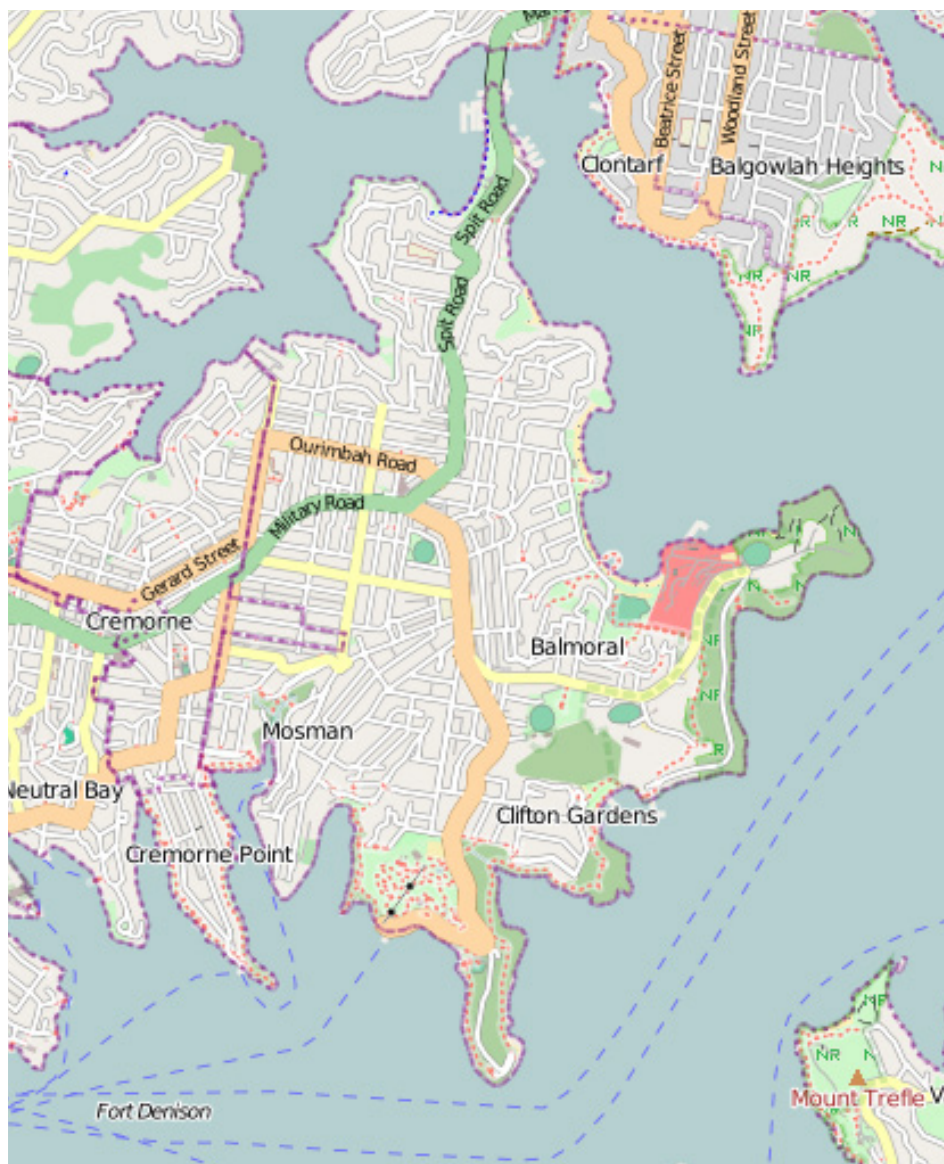
'I will be a hummingbird' narrated by Wangari Maathai was the first film to be screened. The short environmental story was about a group of African animals besieged by fire. All felt helpless except for the little humming bird who tried to put the fire out one small drop at a time. The moral being that it is better to do something no matter how small than to stand and do nothing.

Finding Nemo was then screened with up to 10 people peddling hard at one time to keep the film running. Riding the bikes was popular with the young audience and volunteer staff were kept very busy ensuring everyone had a turn.

The project required the joint cooperation of a number of departments within Council. Approximately 400 people attended with the public feedback being so positive that another pedal power cinema is in the planning phase for the next Festival of Mosman.

## **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. Based on the data in this report, future programs will focus on reducing residential waste and increasing recycling, as well as reducing community and Council water consumption.



## FOR MORE INFORMATION

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