

# ENVIRONMENT

Protecting and enhancing Wellington's environment.

## ENVIRONMENT ACTIVITIES

The Council works with the Wellington community to look after the city's 34+ square kilometres of Town Belt and reserve land, as well as beaches, the coastline, and world-class botanic gardens.

We supply billions of litres of high quality drinking water each year to homes and other buildings throughout the city, and safely dispose of wastewater, stormwater and solid waste.

Nature-based attractions including Wellington Zoo and Zealandia –the Karori Sanctuary are Council-funded.

## STRATEGIC APPROACH

All cities face environmental challenges, ranging from the need to reduce carbon emissions to managing demand for water to reducing and safely disposing of waste to protecting valuable wildlife to ensuring that land, air and waterways are free from pollution.

Our long-term approach is focused on:

- protecting sensitive natural areas
- reducing resource use and relying more on renewable energy
- minimising the impact of resource use on landscapes and ecosystems
- disposing of waste in ways that protect the environment
- providing quality, accessible open spaces for recreation and enjoyment.

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# HIGHLIGHTS

## Berhampore Nursery was recognised as New Zealand's premier nursery.

Each year, more than 100,000 eco-sourced plants are grown at the Council's Berhampore Nursery and used by Council staff, community groups and schools for ecological restoration plantings.

There are few parts of the city where the nursery's shrubs, flowers and trees have not been planted. The nursery grows a wide range of species, including northern rata in association with Project Crimson, and a range of podocarps – conifers – such as rimu, miro, matai and kahikatea.

At the New Zealand Plant Conservation Network's annual conference in August 2008 the nursery won the best nursery award.

The Kelburn School Gully Project, which is supported by the Council, also won an award. Over the past decade Kelburn School has returned a blackberry-infested gully to something like its native state, using plants from Otari-Wilton's Bush and the nursery.

The nursery's highly popular annual open day in May 2009 again attracted large crowds. This year's open day theme was 'Bringing Back the Birds' and focused on plant species that attract birds to gardens.

## The former Owhiro Bay quarry entrance has become a natural winner.

Since 2000, the Council has been restoring the former quarry site as a reserve, aiming to protect its natural beauty.

In June 2008 the Te Kopahou Reserve Interpretation Shelter was opened. Designed to be consistent with the rugged environment, it was constructed using materials from old quarry equipment which could withstand extreme coastal conditions. The area has been fully landscaped with rocks, exposed aggregates, timber and native coastal plants, and a three-metre bronze shark sculpture Frenzy was installed.

The interpretation centre has won three awards: the New Zealand Recreation Association Outstanding Park award, the Wellington Civic Trust Best Environmental Project award, and a Merit award in the Special Purpose category at the Property Council New Zealand Awards.

The centre forms part of a south coast that has been transformed since the establishment of the sewage treatment plants at Moa Point and Karori. Establishment of the South Coast marine reserve in August 2008 was another major milestone for the coast.

## PROGRESS TOWARDS LONG-TERM GOALS

### **MORE LIVEABLE – Wellington will provide a wide range of social and recreation opportunities that don't compromise environmental values.**

Wellington has more than 35 square kilometres of Town Belt and reserve land, as well as botanical gardens, parks, reserves, beaches and coast.

Many Wellingtonians are regular users of these outdoor areas. Over the last three years, there has been a modest increase in the proportion of residents using these open space areas.

### **MORE COMPETITIVE – Wellington's high quality natural environment will attract visitors, residents and businesses.**

In the year to 30 June, 312,000 people visited conservation-based visitor attractions Wellington Zoo, Karori Sanctuary and Otari-Wilton's Bush, compared with 288,000 three years earlier.

The Zoo opened its African Savannah attraction and refurbished its Twilight kiwi exhibit. The Wellington Marine Conservation Trust selected a new south coast site for its proposed Marine Education Centre and the Council voted funding, with some conditions, to support a feasibility study.

The Sanctuary was rebranded and started work on a major new visitor centre (see 'highlights' page 34).

### **BETTER CONNECTED – A network of green spaces and corridors will link the coast and bush areas.**

We provide over 300km of tracks and walkways throughout the city linking open space and bush areas. During the year, a major upgrade was undertaken on Mount Victoria tracks (see 'town belts' page 37).

### **MORE ACTIVELY ENGAGED – The community will feel a sense of kaitiakitanga/guardianship over the natural environment.**

The vast majority of Wellingtonians recycle, and almost half compost. There was, however, a small decline in 2009 in the number of residents who recycle.

Volunteers worked more than 12,000 hours on community environment programmes throughout the city during the year. The number of hours contributed by volunteers has grown rapidly from 7,500 just two years earlier.

### **MORE SUSTAINABLE – The city will reduce its impact on the environment through more efficient use of energy, water, land and other resources, and by minimising waste.**

Per person, Wellingtonians are using less water than they were two years ago, but more solid waste is being dumped and more energy is being used.

- In 2006/07, the city used a total of 173,792 litres of water per person. By 2008/09, this had fallen to 152,219 litres per person – a reduction of 12 percent. These figures cover all water use including residential, business, industrial, and the public sector. Total water used by the city was 29.9 million cubic metres.
- In 2006/07, a total of 0.39 tonnes per person of solid waste was dumped in Wellington's landfills. In 2008/09, that had risen to 0.42 tonnes per person. Meanwhile, the amount of recyclable material diverted from the landfill declined. The increase in solid waste was the first in several years, and reflected a decision to stop composting sewage sludge (see 'waste and energy conservation' page 40). Five years ago, 0.58 tonnes was dumped in the city's landfills.
- During the year, energy use per capita was 6.6MWh per person. Electricity outages for 2008/09 was 35.3 minutes.

### **SAFER – Wellington's water will be safe to drink, its air safe to breathe, and waste will be disposed of in ways that minimise harm.**

- Wellington's air quality met national standards throughout the year, as did the city's drinking water. Solid waste is disposed of through recycling and in the Southern Landfill.
- Stormwater is discharged untreated into waterways, while sewage is treated before disposal. Sewage contamination occasionally exceeds acceptable levels in the harbour and other coastal sites, while testing of stormwater at more than 80 sites around the city during the year found contaminants present on 2% of occasions.
- In recent years, the Council has carried out several significant upgrades to the city's stormwater and sewage networks.

### **HEALTHIER – natural ecosystems will be restored so there are healthy habitats for indigenous and non-indigenous plants and animals.**

The number and range of native birds in the city has increased in recent years. Since 2001 the number of tui recorded in Council surveys has grown almost tenfold, while the number of kereru, silver eye and fantails has also grown. The range of native forest bird species is also increasing, with bellbirds, kaka, North Island tomtit and whitehead being seen in city reserves.

This reflects the efforts of Council staff in managing pests on reserve land, as well as the impact of the Karori Sanctuary.

In recent years, the Council has stepped up its weed and pest management work to protect key ecosystems.

### **STRONGER SENSE OF PLACE – Wellington will value and protect the city's natural heritage.**

82% of residents believe the city's natural environment is appropriately managed and protected – an improvement of 7 points on 2008's result.

## Wellington was also an official partner city for Earth Hour 2009

A Worldwide Fund For Nature initiative encouraging people to turn off lights and non-essential appliances for one hour to show support for global action on climate change.

In all, 58% of Wellington residents turned off lights and non-essential appliances during the event on 28 March.

Te Papa, the Beehive and other iconic Wellington buildings also plunged into darkness, Wellington musicians held an unplugged concert in Civic Square, and thousands of eco light bulbs were handed out from the city's libraries in the week before the event.

## Zealandia – the Karori Sanctuary visitor experience – was launched as a major visitor attraction.

Zealandia™, launched in December as the new brand for the Karori Sanctuary Trust, shares its name with a lost landmass that broke away from New Zealand 80 million years ago.

Construction got under way for the Zealandia visitor centre, the city's largest new visitor experience since Te Papa.

Zealandia was named one of Australasia's top 25 ecological restoration projects, won the Tourism Industry Association of NZ's 2008 Conservation in Action award, and continued its progress towards becoming a 'living ark' of native wildlife with the birth of its first baby tuatara.

## ACHIEVEMENT OF STRATEGIC PRIORITIES

The Council's 2006–09 strategic priorities:

- **The Council has stepped up its promotion of water and energy efficiency.**  
Initiatives have included upgrades of insulation in Council homes, planning approval for wind farm projects, provision of information and grants to support energy efficient housing, changes to planning rules to encourage sustainable building, and efforts by the Council to reduce its own greenhouse gas emissions (see page 40).  
The Council has imposed summer water restrictions and run water conservation campaigns.
- **The Council has worked with community groups and the Wellington Regional Council to improve protection of streams.**  
This has included continued support for restoration of the Kaiwharawhara, Owhiro and Porirua Streams, and campaigns and other efforts to reduce contamination of stormwater from rubbish and other wastes. For more, see 'green open spaces' page 37 and 'wastewater and stormwater' page 44.
- **The Council in 2007 completed a Biodiversity Management Plan.**  
In the two years since, we have started implementation of the plan, through increased pest and weed control, and removal of hazardous trees and restoration planting on reserve land. Another key priority was to identify significant ecosystems such as coastal areas, wetlands and shrublands. During the summer of 2008/09, coastal areas between Evans Bay and Tongue Point were surveyed and 30 significant sites identified by Council staff, including a tiny wetland. Growth in numbers of native birds throughout the city (see highlights) is one example of the results of more coordinated protection of biodiversity.
- **The Council has strengthened its partnerships with stakeholders to increase environmental awareness, community participation and the achievement of environmental goals.**  
The Council has increased funding for grants to community groups engaged in environment and conservation projects, and supported the EnviroSchools programme. The contribution of volunteers to the city's environment activities has increased dramatically in recent years.



## IN FOCUS BRAILLE TRAIL

Royal New Zealand Foundation of the Blind Braille awareness consultant Lisette Wesseling approached the Council's Parks and Gardens staff in September 2008 with ideas for commemorating the 200th anniversary of Louis Braille's birth.

Eight months later, Sensation Walk – Braille Trail was opened in the Botanic Gardens, commemorating Braille's life in ways that engage a range of senses: plants to touch and smell, birds to listen to, and a range of surfaces underfoot.

The plants along the trail commemorate milestones in Braille's life. Paperbark, for example, marks the invention of the Braille system, while Braille's death is marked with 19th century embalming herbs.

Features are marked with braille posts and tactile footpath markers, while brochures in print and Braille (available from the Botanic Garden Shop and Treehouse visitor centre) provide information about the trail and Braille's life.

"It's really bringing Louis Braille's story to life in an interactive experience for the general public and for blind people," says Lisette.

"It is a stunning setting for a really inspiring story."

Foundation of the Blind Braille awareness consultant  
Lisette Wesseling.

## ACTIVITY

# GARDENS AND BEACHES

This activity includes:

- **Local parks and open spaces** – we manage and maintain the city's parks and open spaces, along with buildings and other assets.
- **Botanic gardens** – we manage and maintain the city's four botanic gardens: Wellington Botanic Garden, Otari Wilton's Bush, Bolton Street Memorial Park and Truby King Park.
- **Beaches and coastal operations** – we manage and maintain the city's beaches and coastal areas.

Our aim for the city's gardens and beaches is to care for these areas in ways that balance nature with opportunities for enjoyment.

### WHAT WE DID

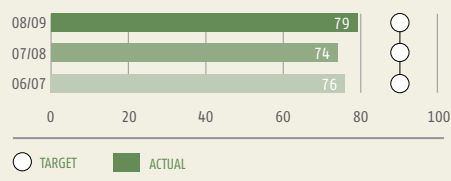
- The botanic gardens hosted many popular events including the annual Spring Festival, including Tulip Sunday. Other events included Rose Pruning Day, Festival of the Roses, the Summer City Gardens Magic Series, the annual Teddy Bear's Picnic, and the annual Otari-Wilton's Bush Open Day.

- We launched the Sensation Walk – Braille Trail to mark the 200th anniversary of Louis Braille's birth in France in January 1809. The walk is designed with plants and landscape features that are multi-sensory; engaging smell, sound and touch (see case study).
- New interpretation panels were installed in the Wellington Botanic Garden, and the Joy Fountain was re-commissioned. Progress was made on conservation plan upgrades for the Overseers Cottage. Refurbishments got under way at Otari-Wilton's Bush for the east South Island vegetation and the 38° garden.
- Restorations began on the wooden grave headboards at Bolton Street Memorial Park. The Friends of Bolton Street Memorial Park and the Friends of Turnbull Library funded new signs for the Sextons Cottage and the Alexander Turnbull headstone.
- The upgraded entrance to Owhiro Bay was completed and received three awards (see highlights).
- Consultation began on proposals to upgrade Te Raekaihau Point.

## HOW WE PERFORMED

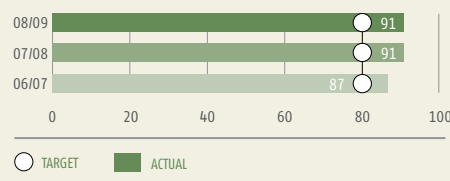
### RESIDENTS (%) WHO HAVE USED A WCC PARK IN THE LAST 12 MONTHS

Source: WCC Residents' Survey 2009



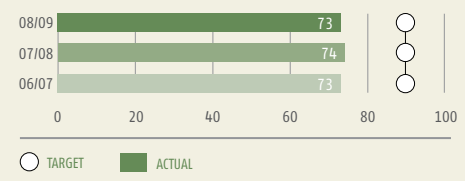
### USERS (%) WHO RATE THE QUALITY AND MAINTENANCE OF WCC PARKS AS GOOD OR VERY GOOD

Source: WCC Residents' Survey 2009



### RESIDENTS (%) WHO HAVE VISITED THE BOTANIC GARDENS IN THE LAST 12 MONTHS

Source: WCC Residents' Survey 2009



## WHAT IT COST

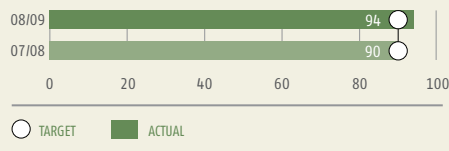
	ACTUAL 2009	BUDGET 2009	VARIANCE 2009	ACTUAL 2008
<b>OPERATING EXPENDITURE (\$000)</b>				
<b>4.1.1 Local Parks and Open Spaces</b>				
Expenditure	7,037	7,331	294	7,015
Revenue	(430)	(397)	33	(594)
Net Expenditure	6,607	6,934	327	6,421
<b>4.2.1 Botanical Gardens</b>				
Expenditure	4,091	4,138	47	4,053
Revenue	(491)	(370)	121	(541)
Net revenue	3,600	3,768	168	3,512
<b>4.2.2 Beaches and Coast Operations</b>				
Expenditure	947	888	(59)	990
Revenue	(69)	(54)	15	(132)
Net revenue	878	834	(44)	858
<b>CAPITAL EXPENDITURE (\$000)</b>				
<b>4.1.1 Local Parks and Open Spaces<sup>1</sup></b>				
Expenditure	539	561	22	1,828
Unspent portion of budget to be carried forward	N/A	521	-	N/A
<b>4.2.1 Botanical Gardens</b>				
Expenditure	447	544	97	420
<b>4.2.2 Beaches and Coast Operations<sup>2</sup></b>				
Expenditure	206	207	1	1,865
Unspent portion of budget to be carried forward	N/A	354	-	N/A

<sup>1</sup> Development work at Hataitai Park has been delayed while consultation and project re-scoping is completed. The Berhampore Nursery upgrade is behind schedule due to delays in the design process.

<sup>2</sup> Renewal works on the Evans Bay seawall have been delayed to minimise disruption to recreational boat users. Further delays have occurred during the tender process and work has been rescheduled to be completed in 2009/10.

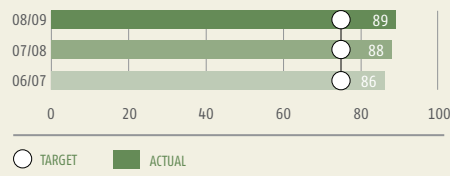
### BOTANIC GARDENS PLANT COLLECTION (%) THAT MEETS PLANT 'QUALITY STANDARDS'

Source: WCC Parks and Gardens



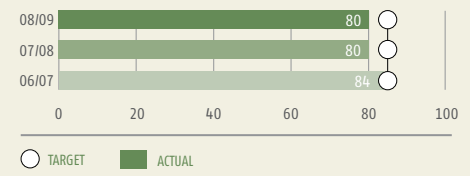
### RESIDENTS (%) WHO HAVE USED THE CITY'S WHARVES, JETTIES, BOAT RAMPS OR BEACHES IN THE LAST 12 MONTHS

Source: WCC Residents' Survey 2009



### USERS (%) WHO RATE THE CLEANLINESS AND MAINTENANCE OF THE CITY'S COASTLINE AND BEACHES AS GOOD OR VERY GOOD

Source: WCC Residents' Survey 2009



## ACTIVITY

# GREEN OPEN SPACES

Our activities under this area include:

- **Town belts** – we manage and maintain the Wellington Town Belt, Outer Green Belt and other reserve land.
- **Community environmental initiatives** – we support volunteers from community groups, schools and other organisations who work to maintain and improve the city's parks and open spaces.
- **Walkways** – we manage and maintain more than 300km of tracks and walkways throughout the city.
- **Stream protection** – we work with community groups to restore and protect the city's streams and surrounding areas.
- **Pest plant and animal management** – we protect native ecosystems by controlling weeds and pest animals.
- **Roads open spaces** – we plant and maintain the roadside reserve (the strip of land between a private property boundary and a road).

We aim to care for the city's green open spaces in ways that balance nature with opportunities for enjoyment.

Key challenges include improving the ecosystems of streams and other waterways, and getting on top of pests and weeds which can strangle native plants and cause harm to human health and safety.

## WHAT WE DID

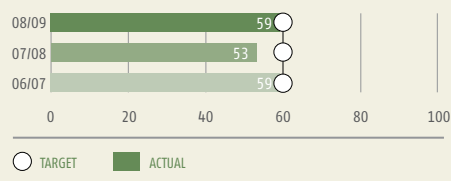
### TOWN BELTS

- Mount Victoria's track network was extensively upgraded, with improvements to tracks leading to the summit from Hataitai, Newtown and Oriental Bay, better signage, and a mountain bike skills area. The improvements create a safer and more pleasant environment for people using the tracks for walking, running or mountain biking. The track upgrade follows redevelopment of the Mt Victoria lookout last year.
- A major restoration of Central Park in Brooklyn got under way with upgrade of park entrances, a new walkway up the Moturoa Stream, installation of a BMX track, removal of hazardous trees, and installation of new toilets. The restoration aims to maintain the park's 'wilderness' character while also improving access and encouraging use.
- Upgrades were carried out on Tinakori Hill including improved connections between Stellin Memorial Park and St Mary Street, creation of a new entrance at Wadestown Road/Grant Road, and improved entrance signage.
- More than 60 hazardous, over-mature pine trees were removed from Town Belt and reserve sites as part of the hazardous tree removal programme. The tree removal sites on Tinakori Hill, Polehill Reserve and Truby King Reserve will be re-planted with native plants.
- Other initiatives for mountain bikers included construction of a new bridge at Makara Peak Mountain Bike Park, and work with others on development of a mountain bike track suitable for children above Karori Park, re-establishment of a track network in Centennial Reserve in Maupuia, formation of a new track in Orleans Reserve, and track work around Albemarle Stream and the Cemetery to Skyline link.

## HOW WE PERFORMED

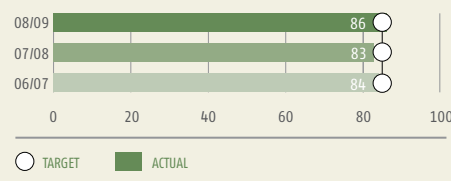
### RESIDENTS (%) WHO HAVE VISITED THE TOWN BELT OR OUTER GREEN BELT IN THE LAST 12 MONTHS

Source: WCC Residents' Survey 2009



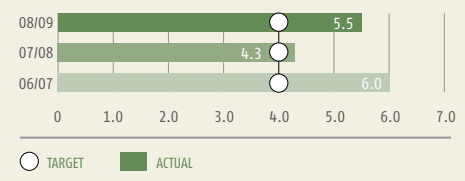
### USERS (%) WHO RATE THE CLEANLINESS OF THE TOWN BELT AND OUTER GREEN BELT AS GOOD OR VERY GOOD

Source: WCC Residents' Survey 2009



### RESTORATIVE PLANTING COMPLETED (HECTARES)

Source: WCC Parks and Gardens



## COMMUNITY ENVIRONMENTAL INITIATIVES

- We supported volunteers from community groups, schools and other organisations who work to maintain and improve the city's parks and open spaces. This included help to establish three new community volunteer groups. These groups planted 16,000 eco-sourced native plants in parks and reserves.
- 9,000 eco-sourced plants were provided to home owners to plant in reserves and road reserves neighbouring their properties.
- Grants totaling \$56,000 were made to 13 groups carrying out environmental initiatives. Projects supported included Wellington e-day (for disposal of electronic waste), a survey of business environmental practices, research on the Wellington marine environment, and planting and pest management projects. The total pool available for environmental grants was \$80,000. Environmental groups sought more than \$300,000.

For stream protection and pest and weed management, see 'how we performed'.

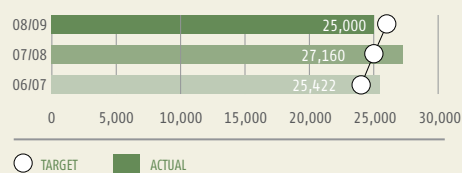
## WHAT IT COST

OPERATING EXPENDITURE (\$000)	ACTUAL 2009	BUDGET 2009	VARIANCE 2009	ACTUAL 2008
<b>2.3.2 Roads Open Spaces</b>				
Expenditure	8,393	8,011	(382)	8,025
Revenue	(597)	(546)	51	(833)
Net Expenditure	7,796	7,465	(331)	7,192
<b>4.2.3 Town Belts<sup>1</sup></b>				
Expenditure	4,047	4,555	508	4,187
Revenue	(1,233)	(236)	997	(937)
Net Expenditure	2,814	4,319	1,505	3,250
<b>4.3.1 Community Environmental Initiatives</b>				
Expenditure	334	346	12	340
Revenue	-	-	-	(6)
Net Expenditure	334	346	12	334

<sup>1</sup> The revenue variance is due to the recognition of unbudgeted vested asset income.

### WCC-SUPPLIED NATIVE PLANTS THAT ARE PLANTED BY COMMUNITY GROUPS AND RESIDENTS

Source: WCC Parks and Gardens



WCC supplied native plants: This is down from target as it is determined by (a) demand for plants from groups, and (b) availability of plants from WCC Nursery.

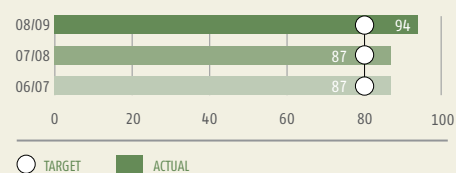
### ENVIRONMENTAL GRANTS

Source: WCC Grants

	2006/07	2007/08	2008/09
Total number of grant applicants	22	33	26
Total number of applicants receiving grants	11	9	13
Total budget available to applicants	\$80,000	\$80,000	\$80,000
Total budget distributed to applicants	\$67,750	\$67,750	\$56,052

### USERS (%) WHO RATE THE MAINTENANCE AND QUALITY OF OPEN SPACE WALKWAYS AS GOOD OR VERY GOOD

Source: WCC Residents' Survey 2009



### WCC OPEN SPACE WALKWAYS AND TRACK NETWORK (%) THAT MEET REQUIRED 'QUALITY SERVICE STANDARDS'

Source: WCC Parks and Gardens

An audit of track quality is under way and will be completed during 2009/10.

## HOW WE PERFORMED

### DEVELOPMENT AND IMPLEMENTATION OF 'STREAM PROTECTION PROGRAMME' – ACHIEVEMENT OF KEY MILESTONES

Source: WCC Parks and Gardens

We continued to support community groups working on streamside restoration projects. This included facilitating regular networking and information sharing sessions amongst the seven community groups restoring Kaiwharawhara Catchment, as well as the Greater Wellington Regional Council and the Karori Sanctuary. We held initial meetings with environmental community groups working within the Porirua Stream Catchment, and in partnership with Greater Wellington and Porirua City Councils, have identified ecological restoration priorities for the catchment.

We continued to work with the Friends of Owhiro Stream community group on extending restoration work to consider the broader catchment. We are also contributing to the Porirua City Council Harbour Strategy as participating members of the science advisory and interagency groups.

We carried out stream bank protection works at Willowbank Park and contributed to the design of a fish friendly passage in the Waitangi catchment.

### KEY NATIVE ECO-SYSTEMS WITH ACTIVE 'PEST MANAGEMENT PLANS' (ANIMAL AND PLANT)

Source: WCC Parks and Gardens

We began active pest plant control in five new Key Native Ecosystems, making a total of 18 important ecological sites under active control.

We worked in partnership with Greater Wellington Regional Council to begin controlling possums in a large area of regenerating bush around the Southern Landfill, and carried out feral goat and pig control in nine reserves.

Working with the community, we facilitated and supported new mustelid control work by volunteers in Trelissick Park and the South Coast.

Our routine pest plant work included: controlling climbing asparagus; starting a Darwin's barberry removal to protect native shrub land; completing the first stage of a significant programme of pest plant control in Central Park; and continuing the old man's beard control programme.

OPERATING EXPENDITURE (\$000)	ACTUAL 2009	BUDGET 2009	VARIANCE 2009	ACTUAL 2008
<b>4.4.1 Walkways</b>				
Expenditure	366	418	52	370
Revenue	-	-	-	(8)
Net Expenditure	366	418	52	362
<b>4.7.1 Stream Protection</b>				
Expenditure	19	15	(4)	15
Revenue	(4)	-	4	-
Net Expenditure	15	15	-	15
<b>4.7.2 Pest Plant and Animal Management</b>				
Expenditure	855	871	16	821
Revenue	(2)	-	2	(16)
Net Expenditure	853	871	18	805

CAPITAL EXPENDITURE (\$000)	ACTUAL 2009	BUDGET 2009	VARIANCE 2009	ACTUAL 2008
<b>4.2.3 Town Belts<sup>2</sup></b>				
Expenditure	904	904	-	987
Unspent portion of budget to be carried forward	N/A	181	-	N/A
<b>4.4.1 Walkways</b>				
Expenditure	422	422	-	377
<b>4.7.1 Stream Protection</b>				
Expenditure	21	21	-	-

<sup>2</sup> Parts of the Central Park upgrade have been delayed due to adverse weather conditions and is now expected to be completed in the early part of 2009/10.

## ACTIVITY

# WASTE AND ENERGY CONSERVATION

Our waste and energy conservation activities include:

- **Energy efficiency and conservation** – we are promoting energy efficiency and conservation in our own operations and in the city.
- **Recycling** – we provide recycling collection throughout the city.
- **Waste minimisation and disposal management** – we collect waste, promote waste reduction, operate the Southern Landfill, and manage closed landfills.

We want Wellington to be a sustainable city, which means meeting today's needs in ways that don't cause future harm.

Making Wellington a sustainable city is a massive challenge. A truly sustainable city meets its energy needs from renewable supplies. It uses resources efficiently, and it finds ways to re-use or recycle instead of sending rubbish to landfills. Wellington can't claim to be a truly sustainable city – but we are heading in the right direction. The city's recycling volumes, for example, have been steadily increasing in recent years.

## WHAT WE DID

### ENERGY EFFICIENCY AND CONSERVATION

- We updated our greenhouse gas inventory information for the city's emissions to cover the period up to 2007 (see Our Corporate Environmental Impact section).
- In partnership with Worldwide Fund for Nature, we coordinated and promoted Wellington activities for Earth Hour on 28 March 2009 (see highlights page 33).
- In partnership with the National Institute of Water and Atmospheric Research and Victoria University, we supported projects to assess the impact of climate change on Wellington.
- We initiated investigation of the impacts of sea level rise as part of the Kilbirnie Town Centre Plan.
- Commenced a review of our Climate Change Action Plan for inclusion in the 2010/11 Annual Plan.
- We supported the E-Mission programme, which aims to reduce the resource consumption of businesses in the Wellington region in partnership with Greater Wellington Regional Council, Porirua City and Hutt City Councils, the Energy Efficiency and Conservation Authority and the Ministry of Economic Development.
- Options were developed for council involvement in home insulation and heating retrofits to reduce energy use and improve social outcomes.
- Approval in principle was received for an Energy Efficiency and Conservation Authority grant (\$500,000 over four years) to assist with the cost of insulation for the council housing upgrade programme.
- The Council's urban development and transport strategies encourage energy efficiency by promoting more sustainable travel options and supporting sustainable building practices. See the chapters on transport and urban development for more.

## HOW WE PERFORMED

### ENERGY EFFICIENCY AND CONSERVATION

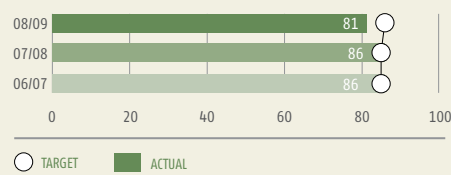
Source: Climate Change Office

We have set a long-term target of stabilising our corporate greenhouse gas emissions at 2003 levels (22,959 tonnes) and reducing them by 40% in 2020. We continue to be on target, reducing emissions this year by 25%, an increase from 21% in 2006.

*Note:* The years are reported on a calendar year basis. To allow for comparison the data is consistent over the years, and therefore does not cover all emissions sources. Specifically it excludes emissions from Council Controlled Organisations and joint ventures, Northern Landfill, compost, small electricity accounts, water treatment and bulk water delivery and taxi use.

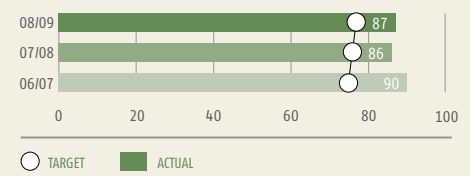
### RESIDENTS (%) WHO USE KERBSIDE RECYCLING WEEKLY

Source: WCC Residents' Survey 2009



### RESIDENTS (%) WHO RATE WCC KERBSIDE RECYCLING AS GOOD OR VERY GOOD

Source: WCC Residents' Survey 2009



## WASTE MANAGEMENT AND RECYCLING

- We conducted a review of recycling options, considering the environmental impacts of recycling, as well as the health and safety effects on staff from using plastic bins. The Council agreed to retain the collection of recyclables through plastic bins and will seek to improve operations in 2009/10.
- A one mega watt Nova Gas electricity generation plant at the Southern Landfill completed its first full year of operating, generating enough electricity from the landfill's methane gas to power about 1,000 Wellington households.
- We undertook some initial analysis into the feasibility of wind generation in the vicinity of Carey's Gully. We are monitoring other developments in this space before advancing this analysis.
- We reviewed the way we dispose of sewage sludge and changed our method from composting to landfilling. This resulted in a significant reduction in odour emissions.
- We continued to compost green waste and kitchen waste collected through the Kai to Compost scheme.
- We reviewed our services and resources in light of the Waste Minimisation Act 2008. Many aspects of the Act took effect on 1 July 2009 and we are currently giving effect to the processes and frameworks to enable this legislation.

## WHAT IT COST

	ACTUAL 2009	BUDGET 2009	VARIANCE 2009	ACTUAL 2008
<b>OPERATING EXPENDITURE (\$000)</b>				
<b>4.5.1 Energy Efficiency and Conservation</b>				
Expenditure	111	109	(2)	11
Revenue	(2)	-	2	-
Net Expenditure	109	109	-	11
<b>4.5.4 Waste Minimisation and Disposal Management<sup>1</sup></b>				
Expenditure	7,896	9,231	1,335	9,280
Revenue	(7,917)	(8,218)	(301)	(7,853)
Net Expenditure	(21)	1,013	1,034	1,427
<b>CAPITAL EXPENDITURE (\$000)</b>				
<b>4.5.1 Energy Efficiency and Conservation</b>				
Expenditure	195	196	1	48
Unspent portion of budget to be carried forward	N/A	26	-	N/A
<b>4.5.4 Waste Minimisation and Disposal Management<sup>2</sup></b>				
Expenditure	803	905	102	1,346
Unspent portion of budget to be carried forward	N/A	418	-	N/A

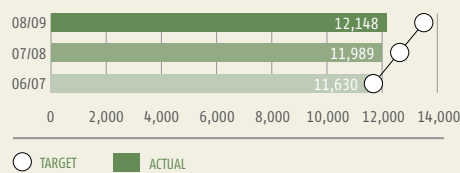
<sup>1</sup> The variance in revenue is due to falling rubbish bag sales driven by increased recycling of rubbish. The variance in expenditure is due to a re-assessment of the Closed Landfill provision and additional recoveries for landfilling of sludge.

<sup>2</sup> The favourable variance is due to the capital works on the Southern Landfill project being delayed pending the outcome of an on site accident investigation.

## HOW WE PERFORMED

### KERBSIDE RECYCLING COLLECTED (TONNES)

Source: WCC CitiOperations



Kerbside recycling volumes continue to increase, but do not currently meet target. The volume of kerbside recycling does not include recycling that is delivered to the Southern Landfill, and is then passed on in bulk to the recycler. This averages about 530 tonnes per annum.

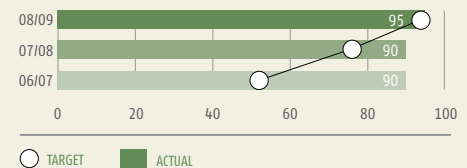
### WASTE MINIMISATION, DISPOSAL AND MANAGEMENT: SOUTHERN LANDFILL

Source: WCC CitiOperations

1. Domestic waste collection is maintained at once a week, 52 weeks a year and inner-city waste collection is maintained at six days a week, 52 weeks a year. We met our targets to maintain domestic and inner-city waste collection services (note: collections exclude Christmas, New Year and Easter).
2. WCC landfill and the household hazardous waste facility are open 9.5 hours a day, 7 days a week, 52 weeks a year. We met our target to maintain services at the landfill and household hazardous waste facility (note: opening hours exclude Christmas, New Year and Easter).

### CLOSED LANDFILLS (KNOWN) THAT HAVE MONITORING SYSTEMS IN PLACE (MEASURED AS A % OF ALL CLOSED LANDFILLS REQUIRING MONITORING SYSTEMS)

Source: WCC CitiOperations

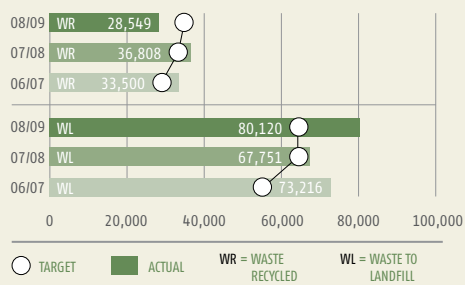


The data source for this information is Greater Wellington Regional Council. The information was unavailable at the time of printing.

“We conducted a review of recycling options, considering the environmental impacts of recycling, as well as the health and safety effects on staff of using plastic bins. The Council agreed to retain the collection of recyclables through plastic bins and will seek to improve operations in 2009/10.”

### RECYCLABLE MATERIAL DIVERTED FROM THE SOUTHERN LANDFILL VS. WASTE DEPOSITED IN THE LANDFILL (TONNES)

Source: WCC CitiOperations



We started to landfill sewage sludge in September 2008 after a Council resolution to do so. This accounts for approximately 15,781 tonnes of the total waste to the landfill.

### SOUTHERN LANDFILL: CONSENTS

Source: Greater Wellington Regional Council

	2006/07	2007/08	2008/09
Resource consent compliance - number of days that consent conditions are met	Target 365	365	365
	Actual 364	365	-

Note: Information not available at time of publication.

## ACTIVITY

# WATER NETWORK

Water is a basic need. It's crucial to people's health and living standards. A city cannot survive without a constant supply of clean, safe, drinkable water.

We undertake the following activities to ensure this need is met:

- **Water network** – we own the city's water network and contract Capacity (a company we jointly own with Hutt City Council) to manage, maintain and operate the network.
- **Water collection and treatment** – we purchase water in bulk from the Greater Wellington Regional Council and supply it to Wellington properties.

A major challenge is managing our use of a resource that's in limited supply. Water conservation and more efficient use of water are of increasing importance in light of potential climatic changes and Wellington's growing population.

The water network includes more than 1,000km of pipes, along with treatment and pumping stations, and more than 65,000 domestic connections. Each year, the city uses more than 30 million cubic metres of water.

### WHAT WE DID

- A new 1.3 million litre water reservoir opened in Granada in November 2008, supplying water to the 1,100 new homes and business park planned for Lincolnshire Farm. Just over a year in the making, the 30 metre diameter and 6 metre deep reservoir is fully buried, which provides structural strength and protects it from the elements and also from vandalism.
- Design work was undertaken for the Messines Road reservoir in Karori and a resource consent application was lodged. The new reservoir will provide water to the entire Karori area and will replace two aged and undersized reservoirs. Construction is scheduled to begin in the 2009/10 year.
- A Water Supply Public Health Risk Management Plan was developed for the city. This plan meets the requirements of the Health (Drinking Water) Amendment Act 2007 and sets out how drinking water health risks will be managed.

- Water optimisation investigations were carried out in the Karori, Ngaio West, Johnsonville and Grenada North supply zones. The results of these investigations will lead to better management of the water supply in these zones.
- We renewed over 10,000 metres of water pipes and installed 1,300 metres of completely new pipes. In addition we completed the installation of five new district water meters creating three new water supply zones to assist better monitoring of water supply and early detection of potential water leakage.

### WHAT IT COST

	ACTUAL 2009	BUDGET 2009	VARIANCE 2009	ACTUAL 2008
<b>OPERATING EXPENDITURE (\$000)</b>				
<b>4.5.5 Water Network<sup>1</sup></b>				
Expenditure	20,071	16,511	(3,560)	15,047
Revenue	(866)	(30)	836	(2,107)
Net Expenditure	19,205	16,481	(2,724)	12,940
<b>4.6.1 Water Collection and Treatment</b>				
Expenditure	12,726	13,187	461	12,934
Revenue	(19)	-	19	(272)
Net Expenditure	12,707	13,187	480	12,662
<b>CAPITAL EXPENDITURE (\$000)</b>				
<b>4.5.5 Water Network<sup>2</sup></b>				
Expenditure	10,254	10,072	(182)	10,639
Unspent portion of budget to be carried forward	N/A	3,068	-	N/A

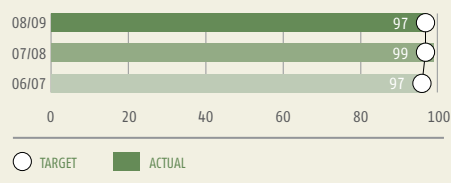
<sup>1</sup> The revenue variance is due to the recognition of unbudgeted vested asset income. The unfavourable expenditure variance is due to increased depreciation resulting from the revaluation of water assets.

<sup>2</sup> Capital works to the Messines Road Reservoir have been delayed due to the delayed granting of the Resource Consent.

## HOW WE PERFORMED

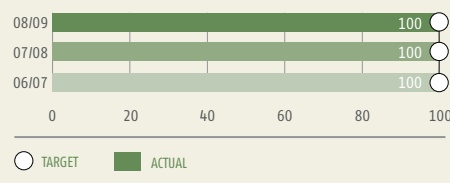
### WATER NETWORK SERVICE REQUESTS (%) RESPONDED TO WITHIN 1 HOUR OF NOTIFICATION

Source: Capacity



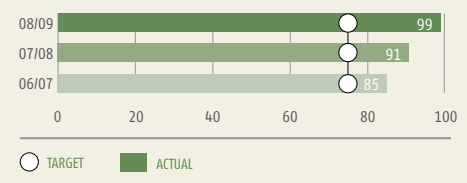
### WATER COLLECTION AND TREATMENT: COMPLIANCE WITH NEW ZEALAND DRINKING WATER STANDARDS (%)

Source: Capacity



### CUSTOMERS' SATISFACTION (%) WITH WATER NETWORK SERVICES

Source: Capacity



## ACTIVITY

# WASTEWATER AND STORMWATER

Our activities under this area include:

- **Stormwater management** – we own the city’s stormwater network and contract Capacity (a company we jointly own with Hutt City Council) to manage, maintain and operate the network.
- **Sewage collection and disposal network** – we own the city’s sewage collection and disposal network and contract Capacity (a company we jointly own with Hutt City Council) to manage, maintain and operate the network.
- **Sewage treatment** – we own Karori and Moa Point treatment plants, and co-own the Porirua treatment plant with Porirua City Council; the Karori and Moa Point plants are managed by United Water.

Our key aims for this area are safety and sustainability: wastewater and stormwater should be disposed of in ways that protect public health and don't compromise the environment.

A key challenge for this area is ensuring the stormwater and sewage networks have sufficient capacity to cope with demand. Insufficient capacity in the stormwater network results in flooding.

Another key challenge is managing environmental effects from both sewage and stormwater. Wellington’s stormwater is not treated, so it’s important that members of the public are aware of their responsibilities to keep contaminants out of stormwater drains.

The city’s stormwater network includes more than 650km of pipes with an average age of over 50 years. These pipes carry almost 80 million cubic metres of water each year into the city’s waterways. Stormwater is discharged untreated into streams and the sea.

The sewage network includes the treatment plants and more than 1,000km of pipes with an average age of over 50 years. The network carries about 24 million metres of sewage each year. Treated sewage is discharged into the sea.

## WHAT WE DID

### STORMWATER

- We undertook stormwater catchment management planning in Wellington City in the Newtown, Taranaki, Te Aro, Tory and Harris Streets area which identified the need for a \$34 million upgrade of the stormwater system. This work will be considered in future Council planning rounds and against other city priorities.
- We created new plaques for stormwater drains, featuring fish and crab logos and the words 'drains to the sea' to help educate residents about the importance of keeping drains free of contaminants.
- We lodged a resource consent application for stormwater operations around the city. The application included more frequent monitoring and a greater focus on the environmental impacts of stormwater.

- We renewed 1,500 metres of stormwater pipes.

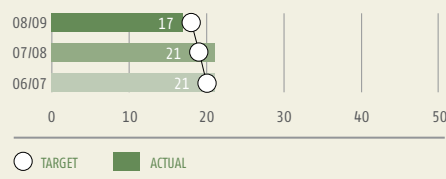
### SEWAGE

- The Council conducted a study on ways to reduce overflow from the city’s 50,000 private drainage networks into the sewage system. During period of heavy rainfall, overflows can run into the harbour and Cook Strait, causing contamination.
- A 25-year operating resource consent was received for the Moa Point Treatment Plant.
- We continued to inspect grease traps in the city and have identified issues associated with the grease converters and ongoing fats, oils and greases arriving at the Moa Point Treatment Plant.
- We renewed 4,000 km of wastewater pipes.

## HOW WE PERFORMED

### WATER LOSS FROM THE NETWORK % (ESTIMATED UNACCOUNTED FOR WATER)

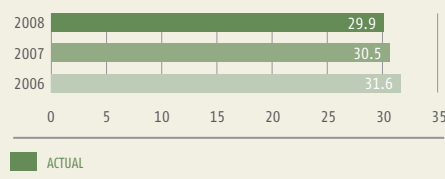
Source: Capacity



Water loss from network: The improved result reflects the effectiveness of our leak detection and repair programmes. A new methodology has been adopted this year.

### TOTAL WATER USAGE BY THE CITY 2006-2008 (MILLION CUBIC METRES)

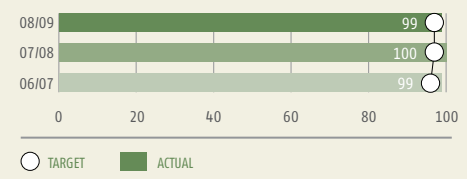
Source: WCC Infrastructure



Note: the reporting period is 1 April – 31 March.

### STORMWATER NETWORK SERVICE REQUESTS (%) RESPONDED TO WITHIN 1 HOUR OF NOTIFICATION

Source: Capacity



## WHAT IT COST

OPERATING EXPENDITURE (\$000)	ACTUAL 2009	BUDGET 2009	VARIANCE 2009	ACTUAL 2008
<b>4.6.2 Stormwater Management<sup>1</sup></b>				
Expenditure	13,854	12,442	(1,412)	11,647
Revenue	(3,258)	(8)	3,250	(4,297)
Net Expenditure	10,596	12,434	1,838	7,350
<b>4.6.3 Sewage Collection and Disposal Network<sup>2</sup></b>				
Expenditure	14,510	15,554	1,044	14,416
Revenue	(2,729)	(650)	2,079	(127)
Net Expenditure	11,781	14,904	3,123	14,289
<b>4.6.4 Sewage Treatment</b>				
Expenditure	21,061	20,229	(832)	19,502
Revenue	(1,283)	(736)	547	(1,396)
Net Expenditure	19,778	19,493	(285)	18,106

CAPITAL EXPENDITURE (\$000)	ACTUAL 2009	BUDGET 2009	VARIANCE 2009	ACTUAL 2008
<b>4.6.2 Stormwater Management</b>				
Expenditure	3,807	3,674	(133)	3,571
<b>4.6.3 Sewage Collection and Disposal Network<sup>3</sup></b>				
Expenditure	8,078	7,904	(174)	8,066
Unspent portion of budget to be carried forward	N/A	1,148	-	N/A

<sup>1</sup> The revenue variance is due to the recognition of unbudgeted vested asset income. The unfavourable expenditure variance is due to increased depreciation resulting from the revaluation of water assets.

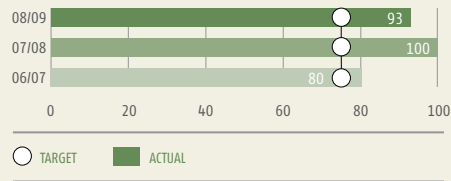
<sup>2</sup> The revenue variance is due to the recognition of unbudgeted vested asset income. The favourable expenditure variance is due to lower than budgeted depreciation resulting from the revaluation of sewerage assets and reduced operating costs.

<sup>3</sup> The favourable variance is due to the Moa Treatment Plant pump station upgrade and ultraviolet plant delayed due to resource consent appeal. Works are scheduled to commence in 2009/10.

## HOW WE PERFORMED

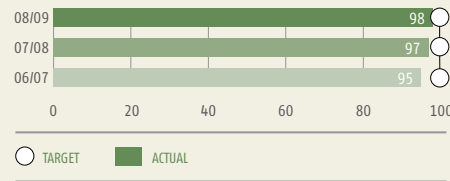
### CUSTOMERS' SATISFACTION (%) WITH STORMWATER SERVICES

Source: Capacity



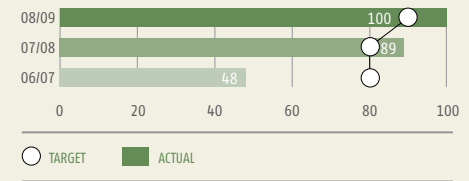
### STORMWATER SAMPLING DAYS THAT ARE FREE OF CONTAMINANTS (%)

Source: Capacity



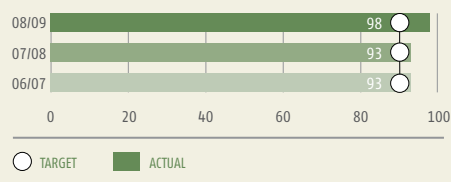
### STORMWATER MANAGEMENT: MONITORED FRESHWATER SITES (%) WHERE ANNUAL MEDIAN FAECAL COLIFORM BACTERIA COUNTS ARE WITHIN ACCEPTABLE LEVELS

Source: Capacity



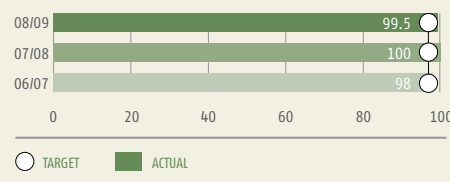
### STORMWATER MANAGEMENT: MONITORED BATHING BEACHES (% OF SAMPLING DAYS) THAT COMPLY WITH MINISTRY OF ENVIRONMENT WATER QUALITY GUIDELINES (GREEN STATUS)

Source: Capacity



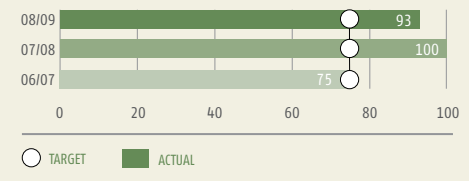
### (SEWAGE COLLECTION AND DISPOSAL) WASTEWATER SERVICE REQUESTS (%) RESPONDED TO WITHIN 1 HOUR OF NOTIFICATION

Source: Capacity



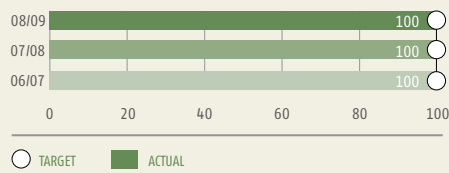
### CUSTOMERS' SATISFACTION (%) WITH WASTEWATER NETWORK SERVICES

Source: Capacity



**BUSINESSES PRODUCING (%) TRADE WASTE THAT ARE INSPECTED**

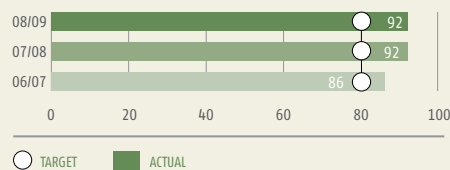
Source: WCC Building Consents and Licensing Services



Note: Three business premises were visited an extra time.

**MONITORED CONSENTED HABOUR/COASTAL SITES (%) WHERE ANNUAL MEDIAN FAECAL COLIFORM BACTERIA COUNTS ARE WITHIN ACCEPTABLE LEVELS**

Source: Capacity



\*Acceptable' bacteria counts are less than 2000 per 100mL.

**SEWAGE TREATMENT: RESOURCE CONSENT COMPLIANCE**

Source: Capacity

		2006/07	2007/08	2008/09
Resource consent compliance	Target	0	0	0
	Infringement notices received.	Actual	0	0

UWI (who manage the Moa Point Treatment Plant) received an infringement notice from the Wellington City Council in May for an odour breaching the District Plan.

“Our key aims for this area are safety and sustainability: wastewater and stormwater should be disposed of in ways that protect public health and don’t compromise the environment.”

## ACTIVITY

# ENVIRONMENTAL AND CONSERVATION ATTRACTIONS

Nature is one of Wellington's biggest attractions. In the Karori Sanctuary, and Wellington Zoo, the city has two facilities that play a crucial role in educating people about wildlife conservation and educating people about nature. Under this activity, the Council provides funding to these facilities.

Along with Te Papa and the redeveloped Carter Observatory (see the economic development chapter, page 23) and the proposed Marine Education Centre, they form a cluster of science and nature-based attractions for residents and visitors to the city.

### WHAT WE DID

The Karori Sanctuary/Zealandia won the Conservation in Action Award at the 2008 Tourism Industry Awards. The sanctuary was also named by the Global Restoration Network as one of the top 25 ecological restoration projects in Australasia, while the 2008 Lonely Planet Guide to New Zealand singled out Zealandia as an "un-missable green experience".

Work got under way for a new visitor centre at the sanctuary and the sanctuary was rebranded as Zealandia. A new 43m-long suspension bridge, fifteen metres over the bush floor, was opened in November 2008 and has proved a popular part of the sanctuary's visitor experience.

In conservation highlights: in March 2009, sanctuary staff found a baby tuatara, the first to hatch in the wild on mainland in New Zealand in over 200 years; the sanctuary's Maud Island frogs successfully bred for the second year running; and 77 giant weta were brought to the sanctuary from Mana Island.

The sanctuary, Wellington City Council and schools took part in Greater Wellington Regional Council's 'Take Action for Water' project, involving water quality testing in the clean streams within the sanctuary and restoration of the Karori stream at Karori Park.

In December 2008, comedian Stephen Fry came to the sanctuary to film tuatara as part of the BBC's "Last Chance to See" TV series about threatened species.

### WELLINGTON ZOO

Wellington Bush Builders, a Zoo-based project that saw more than 700 children explore their local ecosystems, won a Department of Conservation Wellington Conservation award for education and advocacy.

In conservation highlights: two kaka chicks hatched at Wellington Zoo were released at the Maungatautari Ecological Island Trust in the Waikato region; the Zoo signed an agreement with the Department of Conservation to hold a small population of rare Otago and grand skinks, which are among New Zealand's rarest reptiles; the Zoo's two African male lions were loaned to Orana Wildlife Park in Christchurch to re-start the park's lion breeding programme.

Progress was made the Zoo's 10-year capital programme with construction getting under way on The Nest animal hospital. The Zoo launched its first community fundraising programme to support construction of the hospital.

### WHAT IT COST

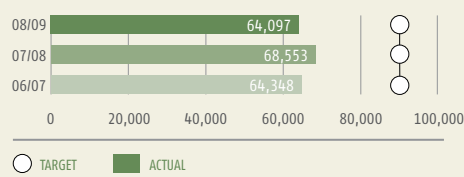
OPERATING EXPENDITURE (\$000)	ACTUAL 2009	BUDGET 2009	VARIANCE 2009	ACTUAL 2008
<b>4.8.1 Environmental and Conservation Attractions</b>				
Expenditure	4,260	4,421	161	5,118
Revenue	-	-	-	1
Net Expenditure	4,260	4,421	161	5,119
CAPITAL EXPENDITURE (\$000)	ACTUAL 2009	BUDGET 2009	VARIANCE 2009	ACTUAL 2008
<b>4.8.1 Environmental and Conservation Attractions<sup>1</sup></b>				
Expenditure	4,491	2,719	(1,772)	1,890

<sup>1</sup> Additional externally funded upgrades were completed this year at the Wellington Zoo.

## HOW WE PERFORMED

### ZEALANDIA - KARORI SANCTUARY VISITORS

Source: Zealandia - Karori Sanctuary



### BIRD SPECIES RECORDED AT THE KARORI WILDLIFE SANCTUARY

Source: Zealandia - Karori Sanctuary

We monitor the number of bird species recorded at the Sanctuary. In 2006 there were 30 endemic and native bird species recorded. This has dropped to 28 in 2008, as we have not confirmed tomtits and kakariki in the sanctuary for the past couple of years.

# ACTIVITY QUARRY

We own the Kiwi Point Quarry in Ngauranga Gorge and manage a contract for the operation of the quarry, which provides aggregate to the local construction market

In our management of this resource, we aim to minimise environmental impacts by restoring and developing the area while contributing to the city's development needs.

## WHAT WE DID

We extracted about 307,000 tonnes of rock for use on roads and other infrastructure. The District Plan was changed to rezone some areas of land within the quarry boundary, extending the quarry's life.

## WHAT IT COST

OPERATING EXPENDITURE (\$000)	ACTUAL 2009	BUDGET 2009	VARIANCE 2009	ACTUAL 2008
<b>4.5.2 Quarry</b>				
Expenditure	148	195	47	273
Revenue	(449)	(497)	(48)	(397)
Net Expenditure	(301)	(302)	(1)	(124)

## HOW WE PERFORMED

### KIWI POINT QUARRY

Source: WCC Infrastructure

*1. Compliance with all District Plan, resource consent and quarry licence requirements*

Our target was to comply with all District Plan, resource consent and quarry licence requirements. This was achieved.

*2. To meet all commercial objectives*

Our target was to meet all commercial objectives. This was achieved with the contracted royalty being paid to Wellington City Council.