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# Water Supply and Parks

June 2009

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## Parks

### Review of operations for the period ended 30 June 2009

#### 1. Manager's comments

##### 1.1 General

Visitation across the network this year has been steady. This is the first year that we collected visitor numbers data from East Harbour Regional Park (EHRP), so total visitor numbers are up overall because of this. It appears that EHRP is our second most visited park, experiencing steady visitation all year round. Excluding East Harbour Regional Park, visitation is slightly down on last year. This result was not surprising, as this year's weather has not been as good over the summer period as the previous year. However, visitation is much more than 2007, when weather conditions were similar. This is a great trend.

##### 1.2 Parks Network Strategy

An Ara Tahi workshop was held on 6 July on the Parks Network Strategy where the iwi view of the use of the parks and forests was discussed, and feedback about the future use of the network was sought. Officers have completed the analysis of the network strategy surveys sent to clubs, interest groups, Friends of the parks, territorial authorities and Government Departments. This analysis will be provided to Councillors, along with all the other research and feedback gathered during the course of this review, prior to the workshop on 19 August. Other background material related to the current values of the parks and future trends is also being prepared.

##### 1.3 Hutt 1080 operation

The Medical Officer of Health has at last given approval for the Hutt Water Collection Area 1080 operation. There was a delay in obtaining approval from the Ministry of Health because of resourcing concerning the swine flu epidemic. The non-toxic feed bait will be flown in the first available fine-weather window. This will be followed by the sowing of the toxic bait after a period of at least a week.

#### 2. Policy and Planning

##### 2.1 Policy

The Concessions brochure has been printed and made available through brochure stands at The Regional Council Centre and Greater Wellington Regional Council (GWRC) depots. The concessionaire use of the parks has declined recently, because of the winter weather, but events such as *XTERRA* trail running and *Five Bridges* marathon are coming up in the next couple of months.

##### 2.2 Environment

###### 2.2.1 Monitoring

The first rodent/mustelid monitor in Korokoro Bush was completed in June,

with members of Korokoro Environmental Group taking part. The rat tracking rate was 28 percent and no mustelid tracks were recorded. This result is reasonably low, considering that the extension to the possum control bait station network has only recently been put in place and will not be fully effective as yet. While rats are not the main target of this bait station network, the toxin used also kills them.

### 2.2.2 Pest control

A professional goat control operation in the Akatarawa Forest in May resulted in the culling of 27 goats and 1 deer. Getting goats under control in the 15,000 ha of Akatarawa Forest is a challenge that is being tackled progressively. Over 600 goats have been culled professionally in the forest since 2004. In Pakuratahi Forest contractors removed 41 goats and 1 pig during June.

A contract to control tradescantia in an area below Korokoro Dam was completed in June. Photos on page 8 show the results of that work.

### 2.2.3 Wainuiomata Mainland Island

Officers have made an initial application to the Department of Conservation (DoC) for approval to transfer robins from Wanganui to the Mainland Island from March to August 2010. The approval process may take some time, as two different DoC conservancies are involved and iwi and landowners will need to be consulted.

An intensive pig control operation during June netted 27 pigs, 3 deer and 4 goats. Hunters reported seeing good regeneration of seedlings in the Mainland Island, with palatable species flourishing. While goat and deer numbers are now low, pigs are an ongoing problem, as they are very mobile animals and reinvade an area soon after it has been hunted.

The July bait station fill/trap check is always a difficult one for GWRC officers, as the “weed team” has finished for the year and the conditions are wet, cold and slippery. Well done to the Biosecurity and Parks’ officers who completed the task this year.

## 3. Western sector

At all parks winter has well and truly set in, with low visitor numbers accordingly. However, our parks continued to host a number of events. The Hutt Valley Orienteering Club held an event based at Stratton Street in Belmont Regional Park. A duathlon was also held at Belmont Regional Park run by Capital Multisport.

At Battle Hill, Arbor Day was celebrated with local schools and we hosted an Opus corporate planting event. Land Search and rescue Wellington utilised the Ken Gray Woolshed for first aid training. The largest event held was the Parumoana Schools cross country event, which involved a number of local schools. The weather was great and there was a good turnout of pupils and parents.

At Queen Elizabeth Park (QEP) there have been 12 planting days, involving a mix of community, friends and school groups. Over 5,000 trees have gone in the ground to date and we still are only halfway through the planting season. The volunteer trapping programme has been extended to the length of the park, from Paekakariki to Raumati.

Over the period we continued to work with a number of community groups based in our parks, including Friends of Maara Roa (at Cannons Creek), Friends of Belmont, Korokoro Environmental Group and Nga Uraora. A lot of the work has involved planting projects in various parts of our parks.

Ongoing operational issues we are dealing with include the upgrading of the water supply at QEP, settling the Kapiti Pony Club licence and cleanfill operation at Poplar Avenue, QEP, and working with groups to plan the QEP cycleway. We have continued to work on the Battle Hill Sustainable Land Management Plan, which will be presented to Council later this year.

We welcomed Andrew Nevin, who has been formally appointed Park Ranger, Battle Hill Farm Forest Park. Andrew has already become enthusiastically involved in the park's operations, through helping groups with planting events, coping with large events such as the Parumoana Schools Cross Country and even reporting a population of whiteheads established in the forest to the rear of Battle Hill.

#### **4. Eastern sector**

It has been a particularly busy period for the Mainland Island Restoration Organisation (MIRO). Not only have they been busy with the usual possum trapping operations, there have also been several planting days at the Parangarahu Lakes Block and a flurry of activity at their new plant nursery. The annual winter celebration of their work at East Harbour Regional Park was held in June, with the now well established "fish and chip" supper. Around 60 people turned up for a good feed and a chin wag. In all, 1,400 coastal natives have been planted in the Parangarahu Lakes area during this period.

For people visiting the Parangarahu Lakes Area of East Harbour Regional Park, information is now available at the Korohiwa car park area next to the Wahine memorial south of Eastbourne. The information/map panel is housed in a newly constructed kiosk, which was a joint project between GWRC and Hutt City Council. The panel describes what you can see and do at the Parangarahu Lakes Area and also indicates where you can access further information when you get there.

A contract of agreement for the East Harbour Environmental Association regarding a proposal from this group to carry out some minor weed control within the park has been drawn up. They are taking this to their Annual General Meeting for comment.

The annual Crazyman event in East Harbour Regional Park saw 182 participants on the run section, while Kaitoke Regional Park was the setting for filming of a school water supply documentary.

Trampers from the Kamatua Tramping Club tramped mid-week into the Wainuiomata Mainland Island area. Rangers guided these tramps, with access into the Mainland Island via some of the trapping tracks. This group walked up the west branch of Wainuiomata and came back down Drummond Ridge. Traps are checked during these visits. This group of trampers has volunteered to assist in the main tracking stoat trapping in July.

A corporate planting in the Lower Dam area near the Wainuiomata Water Treatment Plant saw 25 volunteers from Argest/Stephenson Turner put in 400 plants. The weather held off enough to get the areas planted that had previously been prepared. Nine kiwi have been tracked and reside in the head of George Creek, Wainuiomata, and a swan was observed on the Lower Dam during June.

We are pleased to report that a media release announcing a pending motorbike circuit to be developed in Wainuiomata has resulted in reduced incidents in the Wainuiomata Recreation Area. We also only had to replace one bollard this month.

Strong southeasterly winds felled several large trees during this period, along with 466 mm rainfall in the Orongorongos and 390 mm in Wainuiomata Catchment. On one very wet day, a trailer was loaded five times with leaf litter, stones and branches, etc., taken from the roadside culvert from the front gate to the treatment plant. Snow fell during May, which also brought down branches.

Water blasting of the interior surface of the Mangaroa Tunnel, Pakuratahi Forest, has been completed, as recommended by our consultants. This enables us to re-mortar numerous areas throughout the tunnel where, because of water seepage, the old mortar had dropped out from between the bricks. Fortunately this is only at an early stage and the intention is to replace the mortar. Because of the wet conditions within the tunnel, we may well have to postpone the re-mortaring work until summer.

The Tunnel Gully access road, Pakuratahi Forest, has always been high maintenance because of the gradient, the fact that it has a gravel surface, and the unfortunate reality that local vandals enjoy practising their rally skills on this section of road. To try and improve the road surface, we have laid rotor millings, which give a hard packed seal type surface at a fraction of the cost. So far the surface in Tunnel Gully is looking good. As is evident in the photos on page 6, a sealed layer has started to form where vehicles have been using the road.

Preparations are under way in Kaitoke Regional Park for future camping, with a 100 m<sup>2</sup> section of regenerating scrub alongside the river cleared to be mowed for future camp sites and four campers' information signs replaced in the facility buildings. The concreting of the area around the small facility building continues in stages and this improvement is looking good, with clearlight roofing and some vegetation removal allowing a lot more light in.

In our efforts to improve the Rivendell site (*Lord of the Rings* film set) and protect the “Legolas” tree at Kaitoke Regional Park, a new platform and track alignment was completed to try to keep people off the base of the tree.



Before and after photos of the work to control tradescantia below Korokoro Dam



Parumoana School cross country event children



Park Ranger Andrew Nevin assisting at Arbor Day, Battle Hill Farm Forest Park



Opus corporate planting day



Whitehead at Battle Hill Farm Forest Park



A section of Tunnel Gully access road, Pakuratahi Forest, surfaced with rotor millings



New information kiosk at Korohiwa car park



Corporate plantings around the Lower Dam site, Wainuiomata



Participants in the Crazyman event, East Harbour Regional Park



A stunning winter scene in the Hutt Water Collection Area



A large tree that fell following storm damage in Wainuiomata

## Marketing and Design

### Review of operations for the period ended 30 June 2009

#### 1. Manager's comments

##### 1.1 General

We had a productive meeting with our water supply customers in early July. It was a useful opportunity for them to learn more about the necessary seismic enhancement work at the Stuart Macaskill Lakes and to confirm a consistent and transparent approach to calculating gross and estimated water use figures.

The recent water supply research results show that, while the wet summer "dampened" people's interest in the prospect of considering options for water supply and/or demand management, the issue has definitely grown in the public consciousness over the past two years. Our water conservation campaigns in 2009/10 will again be focused on water wise gardening practices in the context of limited summer supply from our main rivers.

While the summer rain eased the pressure somewhat on water supply, we do think it also reduced the number of people venturing to the parks from the high point of last year. The recent research shows that, of those who did visit, more of them are coming more often and they are visiting more parks, hence the visit numbers were only slightly down on last year. However, some of those who may have visited in 2008 stayed closer to home this summer.

##### 1.2 Water supply

###### 1.2.1 Summer water demand management plan

We are expecting formal confirmation from our customers that detailed action plans are being prepared for each city in the event of higher water restrictions being required over summer.

###### 1.2.2 Research

We have received the results of our research into public awareness of the 2009 summer water conservation campaign. Key findings include:

- 54 percent of people recalled advertising about conserving water in the garden
- 62 percent described one or more actions they had taken to conserve water outdoors. There has been significant improvement since May 2008 in the numbers of people timing watering sessions and applying water slowly.
- Awareness of the base "odds and evens" watering restrictions (as featured in our new advertising) increased from 25 percent in May 2008 to 44 percent this year.
- The perception of risk of there being a water shortage locally "over the next 12 months" is slightly lower than a year ago, which is unsurprising given the wet summer. However, the figure increased markedly from 25 percent believing a moderate-to-high risk in November 2007 to 54 percent in May this year.



We commented further on the Ministry for Environment's research project about attitudes and behaviour concerning aspects of household water use, including garden watering, and are awaiting the final report. This work contributed to our understanding of public opinion regarding potable water and water conservation planning.

### 1.2.3 Customer meeting

We met with customer representatives to discuss various matters relating to our activities for the 2009/10 year, including water conservation planning. Slides covering our conservation research findings (above) were presented and a further meeting to discuss co-ordination of advertising and publicity is timed for early August. On a related note, we will be meeting with an officer from Kapiti Coast District Council to investigate opportunities to co-operate directly on water conservation promotions.

### 1.2.4 Domestic water use estimates

We have been making good progress with our customer councils in agreeing a consistent and transparent approach to defining and calculating water supply volumes in the metropolitan area. We expect to reach agreement on this matter very shortly and will be publishing the figures in the 2008/09 Water Supply Annual Report.

### 1.2.5 Annual report planning

Planning for the Water Supply Annual Report has continued. An outline list of content has been determined, background and some year-end data collected and writing will commence by the end of July. The report is due to be completed by the end of September. Because of timing issues, the report is expected to go directly to Council, rather than through the Committee. Of note, total supply of water to city reservoirs for the year to 30 June 2009 was the lowest since the year ending 30 June 2000 and some 2.5 percent lower than the year to 30 June 2008. Relatively poor weather during February 2009 would have contributed to this result; it is unclear whether reduced economic activity also contributed. Our estimated supply population is approximately 42,000 more than it was during the year to 30 June 2000.

### 1.2.6 Education resources

We are currently in negotiations with a new contractor to continue development of the water educational resources, with the expectation that they will be complete in mid-2010.

### 1.2.7 Treatment plant visits

Two visits involving some 35 people occurred in June. From late June all public visits to treatment plants have been cancelled as part of our Pandemic Plan response procedures.

## 1.3 Parks

### Park visitations

It is clear that the wet summer had an impact on visitation.

An estimated 52 percent of the regional population visited at least one park in the previous 12 months, compared to 57 percent in 2008. However, the proportion of frequent users has continued to rise (now 23 percent compared to 14 percent in 2006). Mountain biking has seen rapid growth, with 24 percent of visitors noting this as their main activity, compared to 14 percent in 2006. Walking/ bush walking remains the most popular activity at 54 percent.

## **2. Events**

### **2.1.1 Community and corporate planting days**

Preparations are in place for the first *Green Footprint* planting day as part of our new partnership with Youth Hostel Association New Zealand (YHA). As part of this arrangement, people staying at YHA hostels pay a sum to purchase trees or shrubs that may be planted to offset the impact on the environment of their travels. We expect around 20 YHA guests and employees to plant trees sourced from the park nursery on the banks of the Whareroa Stream near the stables on 11 August.

A successful Honda tree planting was held on 20 June at the Friends of Maara Roa restoration area in Belmont Regional Park. Despite the wet and cold conditions, 18 hardy souls planted around 700 trees.

Following a successful round of publicity via a press release, letters and emails, approximately 45 people turned up to a morning of tree planting followed by a sausage sizzle at the Stratton Street entrance to Belmont Regional Park. This was one of the official Honda plantings and the local dealer was very impressed with the support from the Friends, mountain biking groups, local residents and others. Around 650 trees went in the ground.

### **2.1.2 Buggy walks**

A sunny and calm winter morning saw an excellent turn out for the July buggy walk held at Whitby Lower Lake Reserve. It was great to see around 240 parents, grandparents, caregivers, children, friends and family joining in. The buggy walk took participants around Whitby Lower Lake and along walkways through bush and residential areas.

## **3. Signs**

Work is continuing on the development of an interpretation trail around the Wetland Walk at Queen Elizabeth Park. This is involving extensive consultation with the Friends and local iwi to develop engaging “snippets” of the park’s geological and human history. With plenty of local knowledge and a wide range of perspectives, this is proving a somewhat lengthy process but we are now making good headway with a real sense of ownership developing amongst those involved.

## **4. Community liaison**

### **4.1 General**

Another edition of the community newsletter *Green Shoots* was published and mailed out to community groups and interested individuals during June.

Staff members have participated in discussions regarding the potential merger of the GWRC Environmental Awards with the DoC Conservation Awards. A separate paper is to be presented to the Committee recommending that we accept this idea in principle and discuss it in more detail with DoC's Wellington Conservancy.

#### **4.2 Friends of Belmont Regional Park**

The Friends are preparing for their upcoming Annual General Meeting at which Dr Mary McIntyre will present the results of Masters student Flavia Prospero's research into the health and well-being benefits gained by visitors to Belmont Regional Park. The Friends have also made a submission to the development of the Parks Network Strategy.

#### **4.3 Friends of Queen Elizabeth Park**

The Friends have made an application to the second (and last) round of DoC Community Conservation Fund for the park's bush remnant.

#### **4.4 Friends of Maara Roa**

Staff attended the group's Annual General Meeting on 8 July. GWRC's Philippa Crisp was the guest speaker.

#### **4.5 ARAC**

The draft Memorandum of Understanding is still being worked on, with questions around ownership and insurance to be resolved.

### **5. Wellington Regional Recreational Initiatives Group**

Recent meetings have focused on the preparation of an Expression of Interest to be submitted for the next round of SPARC Active Communities' funding. The project involves removing barriers to participation for marginalised and target groups, and working in geographical and community hubs. While GWRC Parks is more likely to be involved in a supporting capacity, GWRC Transport is very interested in this idea as a way of encouraging more walking and cycling in communities where participation to date has been relatively limited.

### **6. Landscape planning**

The New Zealand Transport Agency is looking at the design of an interchange at the intersection of State Highways 2 and 58 (Haywards Hill Road). Staff members have provided background information regarding access to Belmont Regional Park at Dry Creek and linkages with the Hutt River Trail.

### **6. Water usage**

Charts detailing water sales for the year are on page 12.

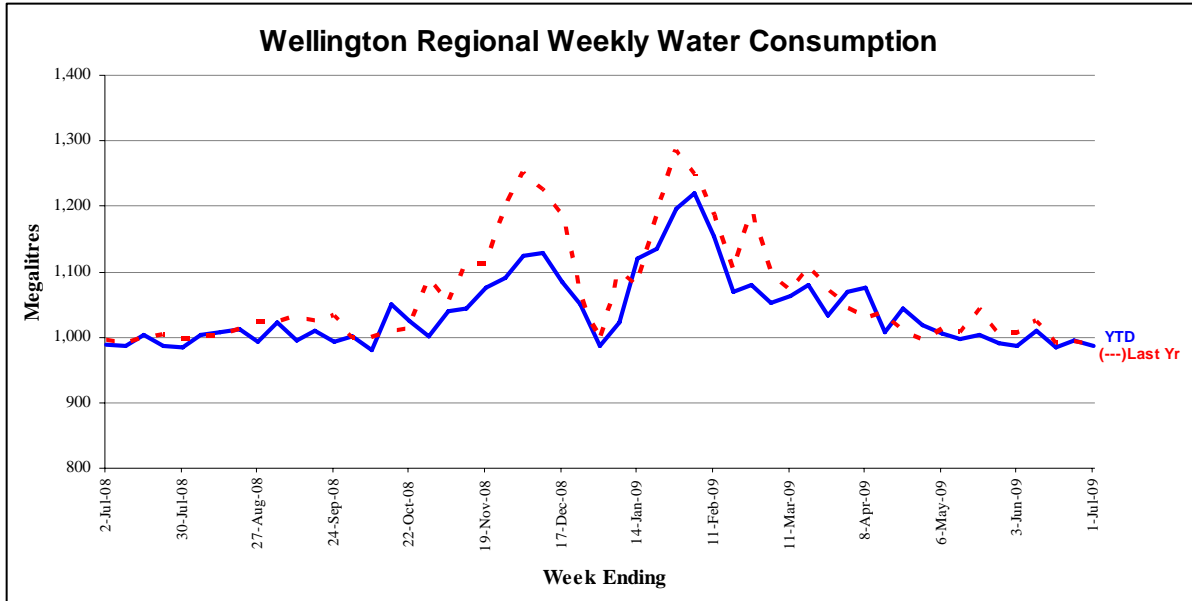


Figure 1 - Water sold over the last 12 months



Figure 2 - Water sold during the metering year to date [April 2009 to June 2009]

# Water Supply

## Review of operations for the period ended 30 June 2009

### 1. General

A new Electrical Treatment Technician commenced work with us on the first of the month. This is a replacement for a staff member who resigned to do academic studies.

The completion of time sheets is now done on-line through SAP. The system, which was rolled out to all staff with very few problems, speeds up resource costing allocation and reduces (paper) workload at both supervisory and administrative levels.

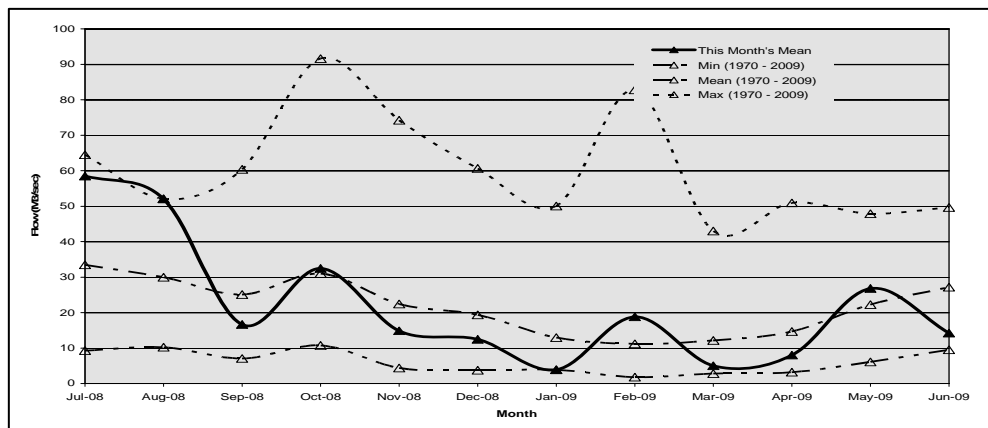
### 2. Supply situation

#### 1.1 General

There were no significant issues with supply for the period.

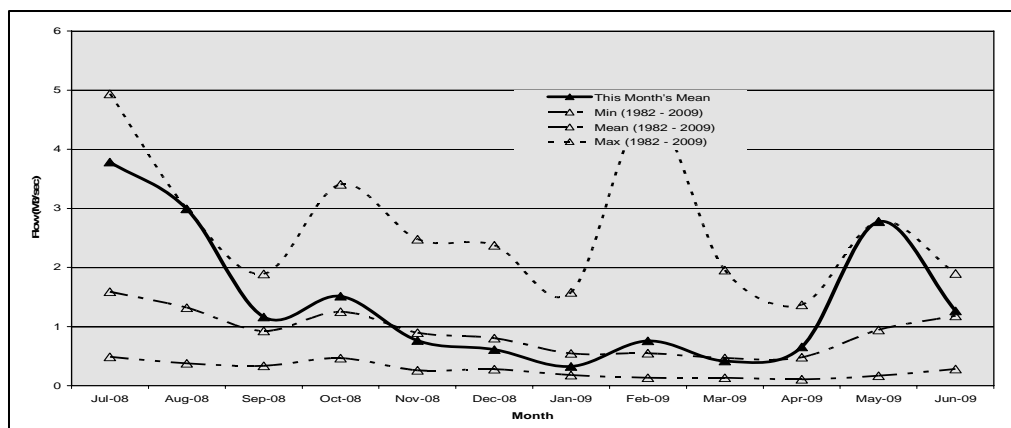
#### 1.2 Hutt River flows

The mean flow for the Hutt River at Birchville was near the minimum during the period.



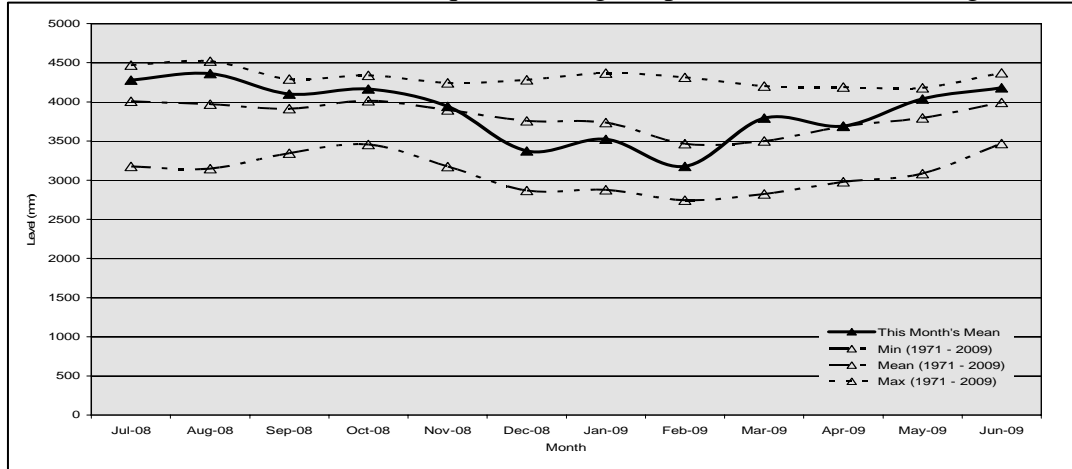
#### 1.3 Wainuiomata River flows

During the period the mean flow in the Wainuiomata River at Manuka Track was about the mean.



## 1.4 Aquifer levels

The water level in the Waiwhetu aquifer during the period was above average.



## 2. SAP asset management system

User acceptance testing was carried out in early July and Steering Group sign off was obtained. We now have a very busy period of transferring asset data from the existing 'Hansen' system and carrying out staff training before the 'go live' date.

## 3. Public health risk management plans

All public health risk management plans have been submitted to the Regional Public Health Drinking Water Assessor. We do not expect a response any time soon, as the Government has delayed requirements for communities to meet new drinking water legislation by three years.

## 5. Electricity Tender

Tenders were called for the supply of electricity for a three year period. The responses we received, backed up by commentary from the industry, indicated that the Tenderers have a high degree of uncertainty about what the Government's stance would be on the Emissions Trading Scheme.

In order to avoid the risk of locking ourselves into unrealistic electricity rates, we have decided to re-tender for a period of one year. This should allow time for the market to adjust to the Emissions Trading Scheme.

## 5. Flu pandemic

Despite 90 percent of our staff having been inoculated against seasonal flu, we have seen a higher than usual level of flu related sick leave for the time of year. Fortunately the staff affected have been spread across the department, so each team has been able to continue at close to normal service levels.

## 5. Delays to 1080 drop

The planned 1080 drop for the Hutt Catchment has been delayed because of a lack of response from the District Health Board.

We had been discussing with the District Health Board a change to the testing regime based on recent research work into the risk to public health from 1080 in raw water supplies. We were given no reason to expect that our revised testing programme would not be approved and so the late reluctance of the District Health Board to sign off the exercise was frustrating. Sign-off has since been achieved. However, the testing regime will revert to what has been used in the past.

**6. Capital projects**

No. of projects completed	Budget \$	Actual \$	Variance %	Third quarter forecast \$	Variance %
90	5,007,000	4,937,648	1.36	4,903,182	0.64

## Development and Strategy

### Review of operations for the period ended 30 June 2009

#### **1. Water supply strategy and development**

##### **2.1 Stuart Macaskill Lakes**

Evaluation of the options available to improve the performance of the lakes in a Wellington Fault earthquake is under way. The dam safety regulations means we will need to undertake some seismic enhancements. The work necessary to achieve this has been identified and estimated at \$6.5 million. However, the extent to which water should be retained in the lakes for strategic reasons, by preventing any leakage following the earthquake, is discretionary.

Funding is included in the 2009/10 financial year for preliminary work. Following completion of the evaluation of options, a report on the options and their associated cost and benefits will be provided to the Committee.

##### **2.2 Reduced low flow at Kaitoke weir**

The final draft document for an application to change the water take resource consent at Kaitoke has been completed and is currently undergoing internal review by GWRC staff. The draft document seeks a change to some conditions of the existing consent for a period of five years.

A reduction in low flow is sought from 600 litres/second to 400 litres/second. No change is sought for the existing instantaneous flow or daily maximum flow. Additional conditions are offered, including monitoring of the river and the use of a low flow management plan.

Should the decision be taken to lodge the consent application, it would be preferable that the application was considered and (if successful) granted prior to next summer. However, given the timing, that may not be possible. It will be difficult to manage the water supply over the 2010/11 and 2011/12 summer periods without a change in the low flow requirement, when a lake is taken out of service each summer to carry out the seismic upgrade and level raising work.

##### **2.3 Economic benefits of Whakatikei dam**

A proposal from BERL is expected in mid-July to carry out the economic assessment of earthquake disruption to the wholesale water supply (with and without the Whakatikei dam). The Wellington Lifelines Group has completed a discussion paper on the disruption to lifeline services from a Wellington Fault earthquake. This, together with the analysis of the time required to reinstate the wholesale water supply after such an event, forms the background information for developing a framework for the economic assessment.

The economic assessment is planned to be completed in October.



### **3. Renewable energy**

#### **3.1 Wainuiomata mini-hydro power generation**

Consultation on the project is continuing, with a site visit (including the Orongorongo water intake) by Fish and Game New Zealand and the DoC in mid-July. An ecological report on the impact of water discharge into George Creek is to be prepared as part of the discharge consent application.

Water Supply engineering staff members will begin detailed work on the project in July. A proposal has been requested from specialist staff at MWH New Zealand Ltd for the procurement of a suitable turbine and the design of the associated electrical equipment. The proposal is expected in mid-July.

The construction and commissioning of the project is programmed to be completed in the 2010/11 financial year.

#### **3.2 Te Marua mini-hydro power generation**

MWH New Zealand Ltd was commissioned to investigate options that would optimise mini hydro electricity generation opportunities at Te Marua by utilising the water head available between the Kaitoke Tunnel outlet, the Stuart Macaskill Lakes and Hutt River. This investigation is to identify opportunities to generate power in addition to the power generated by converting the two lake pumps to operate as turbines; a project which is substantially completed. The investigation includes options to enhance the performance of one or both of the converted pumps.

The final report on mini-hydro generating options was received in June. It identifies 13 enhancement options (or sub-options), delivering up to 1,450 MWh/year electricity generated in addition to the pump as turbine output of 950 MWh/year. This is a total of 2,400 MWh/year renewable energy, or approximately 77 percent of the Te Marua Pumping Station power requirement. At least two options stand out as worthy of more detailed investigation. Further work will be carried out on the technical feasibility and viability of these options.

#### **3.3 Puketiro wind farm**

A revised draft replacement contract for development and operation of the wind farm has been prepared and sent to RES New Zealand Ltd. This draft incorporates all the agreed changes from the existing contract. When comment is received, a final draft will be prepared for legal review before completion of the execution copies.

#### **3.4 Stoney Creek wind farm**

Following erection of the 30 m anemometer mast on the Stoney Creek ridgeline by Meridian Energy in April, it has been necessary to remove a small number of ridgeline *Pinus radiata* trees to improve the transmission of data to Meridian's receiver further north. Data on the wind speed and direction will be collected over a 12 month period to provide the information needed to enable Meridian to evaluate whether the wind energy is suitable for a wind farm development.