Greater Wellington Water

Operations Group

Operations Group Review of Operations for the Period Ended 31 May 2005

1. Items of Note

Orongorongo Flood Damage

The flood damage repair work has progressed well albeit a little more slowly than expected and a little more expensive than expected. There are still some costs to come in but the total bill is likely to exceed \$125,000.

• Waterloo Drive and Motor Failures

After comparing the cost of drive replacement with the cost of refurbishment it was decided to proceed with refurbishment.

An air filtering system has been installed to prevent contamination of internal components from cooling air.

• Manual Control Exercise

As part of our emergency response readiness an exercise was carried out at Wainuiomata T.P. whereby the control system was disabled and the plant was run in 'manual' mode.

• HVDHB – Wainui Grading Ceremony

A selection of glitterati was in attendance at the Wainuiomata Treatment Plant for a ceremony to mark the introduction of fully qualified Drinking Water Assessors, and also to present GWW with a new A1 grading for the Wainui source.

The new plant grading was almost immediately compromised, however, as, following a brief but vigorous partaking of refreshments, one of the fore mentioned luminaries proceeded to deposit contaminants, from about his person, into a critical stage of the treatment process. The subsequent alarm that this action generated in the operating staff did not, contrary to the obvious intent, accrue any benefit to the individual as the press had already left the building.

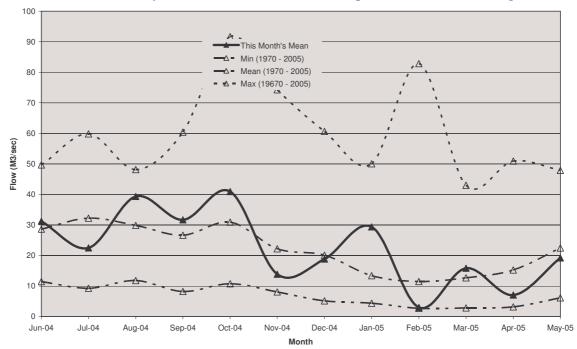
The threat to water quality was contained by the quick response of the plant technicians, although the exhaustive recovery exercise has taken its toll and we now have two staff on stress leave.

2. Supply Situation

There were no supply issues for the period.

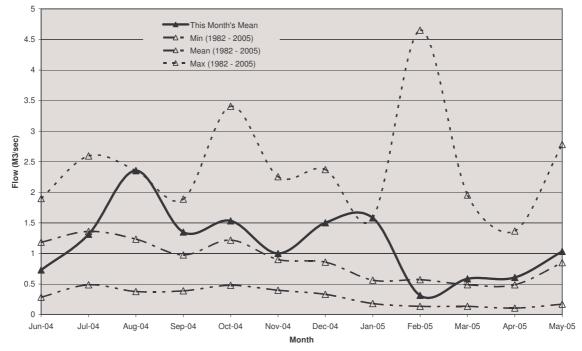
Hutt River Flows

The mean monthly flow in the Hutt River for the period was below average.



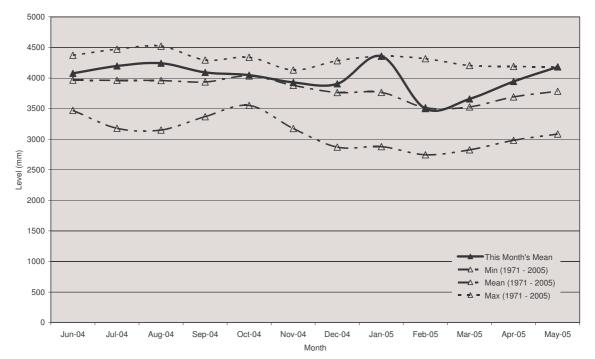
Wainuiomata River Flows

The mean monthly flow in the Wainuiomata River for the period was above average.



Aquifer Levels

The water level in the Waiwhetu aquifer during the period was at the maximum.



3. Treatment Plants

3.1 Wainuiomata

3.1.1 Quality

There was a fluoride 'Low Residual' notification due to routine maintenance on the feed hopper load cells.

3.1.2 Health and Safety

There were no accidents or injuries for the period.

- 3.1.3 Environmental
 - There were no chemical spills or accidental discharges for the period.
- 3.1.4 Operations and Maintenance
 - Structural and equipment repairs continue following major flood damage in the Orongorongo catchment
 - Chlorinator failed and is being repaired

- Filter 4 backwash valve removed for repair
- Lightning strike damaged George's Creek turbidity meter
- W/W Staff carry out manual running exercise of plant
- Three staff sat and passed the test for their 'jigger' license
- There were no plant tours for the period

3.2 Waterloo and Gear Island Water Treatment Plants

- 3.2.1 Quality
 - There were no IOF's or transgressions for the period.
- 3.2.2 Health and Safety
 - There was one accident being a minor cut.

3.2.3 Environmental

- There were no environmental issues for the period.
- 3.2.4 Operations and Maintenance
 - The Wellington No.2 motor was returned after having the stator windings cleaned, re-varnished and baked.
 - The Wellington VSD No.1 was reinstated after refurbishment
 - The Wellington VSD No.2 is being refurbished
 - Lightening strikes caused some problems.

3.3 Te Marua

- 3.3.1 Quality
 - There were no quality issues for the period.
- 3.3.2 Health and Safety
 - There are no accidents or incidents to report.
- 3.3.3 Environmental
 - There were two occasions during the period where abstraction at the Kaitoke weir was recorded as being over the maximum allowable instantaneous value. The details are being investigated.

3.3.4 Operations and Maintenance

 On Friday 20/05/05 between 5:30pm – 6:00pm, a Te Marua staff member leaving work noticed a vehicle parked near the Treatment Plant, with some damage to it, and an individual behaving in a very suspicious manner. Soon after, two other vehicles appeared out of the dark and proceeded to leave the site. The actions of all three vehicles seemed connected.

No approach was made to the vehicles and when the original damaged vehicle did not leave after some time, Police were called. The Police arrived 90 minutes later but were not able to locate the vehicle. The vehicle would have only been able to leave the site unnoticed with its lights off, otherwise it would have been seen and its registration taken.

- Issues with the reliability of the main gate and its automatic operation are being discussed with Parks Department.
- There was one plant tour for the period GWRC Wairarapa Induction, 11 people.

4. Distribution

- 4.1 Health and Safety
 - There are no accidents or incidents to report.
- 4.2 Environmental
 - There were no environmental issues for the period.
- 4.3 Operations and Maintenance
 - Porirua Scours Continued with refurbishment and renewals, 2 out of 48 left to complete.
 - Porirua Air Valves carried on with renewals and valve chamber installations. All of the 30 valve chamber installations are complete. 2 Double Air Valves yet to be installed coming from Australia.
 - Paremata/Plimmerton SH.1 Upgrade Still providing ongoing supervision and markouts.
 - Kaitoke Magflo meter removed the existing 600 Magflo meter and installed a new one.
 - Carried out annual testing of the back flow preventors by an I.Q.P.
 - Waterloo Pump Station removed faulty valve on the Naenae Pump 1 discharge to be renewed.

- Shutdown the 1050 on SH.2 [at night] and renewed 2 faulty air valves.
- Cathodic Protection work with NGC Ltd installed new anode at the Petone Wharf plus traced the main from St Pats Silverstream to Twiglands.
- Markouts:
 - Hutt Park for the Waiwhetu Stream Realignment [1050]
 - Pohutukawa Street for Siemens [750]
 - Fergusson Drive for M&M [900].

4.4 Pipeline leaks

- Paremata High Level repaired the 100 AC main to the reservoir.
- Pinehaven Branchline repaired the 150 AC Main D/S of the Pump Station.
- Paremata 300 @ Thimblelane, Whitby repaired the 300 [rebuilt the pipe special at DAV 62B
- Te Marua Pump Station repaired the discharge pipe on Lake Pump 4.
- Kaiwharawhara Pump Station repaired the 90° bend on the discharge from Pump 1 plus repaired the "T" section from both pumps.

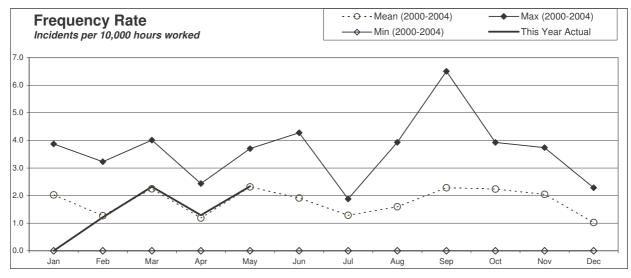
Utility Services Division Health and Safety Data from July 2004 - Total Injuries

Hours worked 2.517 2516 3306 2005 2289 2410 1574 17 <t< th=""><th>PRODUCTION (+ 4 OPS ADMIN)</th><th>Jul</th><th>Aug</th><th>Sep</th><th>Oct</th><th>Nov</th><th>Dec</th><th>Jan</th><th>Feb</th><th>Mar</th><th>Apr</th><th>Мау</th><th>Jun</th><th>March 2005 - Chemical splash in eye</th></t<>	PRODUCTION (+ 4 OPS ADMIN)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Мау	Jun	March 2005 - Chemical splash in eye
Incidentis 0	Hours worked	2,517	2316	3306	2005	2298	2410	1534	2368	2431	1980	2408		Mar 05: Chemical splash in eye
Days lost 0	Employee numbers	15	15	16	16	16	16	17	17	17	17	17		May 05: Cut finger
Indidence rate (number of incidents per 100 workers) 0 <	Incidents	0	0	0	0	0	0	0	0	1	0	1		
Frequency rate (incidents per 10,000 hours worked) 0 </td <td>Days lost</td> <td>0</td> <td></td> <td></td>	Days lost	0	0	0	0	0	0	0	0	0	0	0		
Severity rate (days lost to injury per 10.000 hours worked) 0	Incidence rate (number of incidents per 100 workers)	0	0	0	0	0	0	0	0	6	0	6		
DISTRIBUTION Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun October 2004 = Back strain Hours worked 1,195 1233 1861 1307 1407 1325 1079 1314 October 2004 = Back strain October 2004 = Back strain Incidents 0 0 0 0 1 0 1 0	Frequency rate (incidents per 10,000 hours exposure)	0	0	0	0	0	0	0	0	4	0	4		
Hours worked 1,195 1233 1861 1307 1407 1325 747 1213 1320 1079 1314 October 2004 Cut linger Employee numbers 8 8 9	Severity rate (days lost to injury per 10,000 hours worked)	0	0	0	0	0	0	0	0	0	0	0		
Hours worked 1,195 1233 1861 1307 1407 1225 747 1213 1200 1079 1314 October 2004 Cut linger Employee numbers 8 8 9	DISTRIBUTION	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	October 2004 - Back strain
Incidents 0 0 0 0 0 0 1 0 1 0 0 0 0 Days lott 0	Hours worked	1,195			1307	1407	1325	747	1213	1320	1079	1314		October 2004 =- Cut finger
Days lost 0	Employee numbers	8	8	9	8	9	9	9	9	9	9	9		December 2004 = Sprain/strain to trunk
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Frequency rate (incidents per 10,000 hours exposure) 0 0 0 15 0 8 0 8 0	Days lost	0	0	0	0	0	0	0	4	0	0	0		
Severity rate (days lost to injury per 10,000 hours worked) 0	Incidence rate (number of incidents per 100 workers)	0	0	0	25	0	11	0	11	0	0	0		
Severity rate (days lost to injury per 10,000 hours worked) 0	Frequency rate (incidents per 10,000 hours exposure)	0	0	0	15	0	8	0	8	0	0	0		
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Employee numbers 12<	Hours worked	1,709			1388	1567	1605	800	1547	1728				September - Sprain/strain hand
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Incidence rate (number of incidents per 100 workers) 8 0	Davs lost	0	0	0	0	0	0	0	0	0	0	0		
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Severity rate (days lost to injury per 10,000 hours worked) 0		6	0	0	0	0	0	0	0	0	0	0		
UTILITY SERVICES SUPPORT Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Hours worked 755 784 916 964 1091 1027 529 986 968 859 968 Employee numbers 7		0	0	0	0	0	0		0	0	0	0		
Hours worked75578491696410911027529986968859968Employee numbers77777777777Incidents00000000000Days lost00000000000Incidence rate (number of incidents per 100 workers)0000000000Severity rate (days lost to injury per 10,000 hours worked)000000000000LABORATORYJulAugSepOctNovDecJanFebMarAprMayJunDecember 2004 = Hit fingerHours worked1,0611125146698810021092515100296811301070March 2005 - StressEmployee numbers777777777777Incidents000000011May 05: StressIncidents00000000210May 05: StressIncidents000000000210May 05: StressDays lost000000		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Incidents 0	Hours worked	755		-	964	1091	1027	529	986	968	859	968		
Incidents 0	Employee numbers	7	7	7	7	7	7	7	7	7	7	7		
Incidence rate (number of incidents per 100 workers) 0		0	0	0	0	0	0	0	0	0	0	0		
Incidence rate (number of incidents per 100 workers) 0	Days lost	0	0	0	0	0	0	0	0	0	0	0		
Severity rate (days lost to injury per 10,000 hours worked) 0	Incidence rate (number of incidents per 100 workers)	0	0	0	0	0	0	0	0	0	0	0		
LABORATORY Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun December 2004 = Hit finger Hours worked 1,061 1125 1466 988 1002 1092 515 1002 968 1130 1070 March 2005 - Stress Employee numbers 7 7 7 7 7 7 7 7 April 2005 - Stress Incidents 0 0 0 0 0 0 0 1 1 May 05: Stress Days lost 0 0 0 0 0 0 21 10	Frequency rate (incidents per 10,000 hours exposure)	0	0	0	0	0	0	0	0	0	0	0		
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Days lost 0 0 0 0 0 0 0 0 0 21 10	Employee numbers	7	7	7	7	7	7	7	7	7	7	7		April 2005 - Stress
•	Incidents	0	0	0	0	0	1	0	0	0	1	1		May 05: Stress
•	Days lost	0	0	0	0	0	0	0	0	0	21	10		
	Incidence rate (number of incidents per 100 workers)	0	0	0	0	0	14	0	0	0	14	14		
Frequency rate (incidents per 10,000 hours exposure) 0 0 0 0 0 0 9 0 0 0 9 9		0	0	0	0	0	9	0	0	0	9	9		
	Severity rate (days lost to injury per 10,000 hours worked)	0	0	0	0	0	0		0	0	186	94		

STRATEGY AND ASSET	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Ju
Hours worked	560	612	1096	736	784	748	344	696	708	640	720	
Employee numbers	5	5	5	5	5	5	5	5	5	5	5	
Incidents	0	0	0	0	0	0	0	0	0	0	0	
Days lost	0	0	0	0	0	0	0	0	0	0	0	
Incidence rate (number of incidents per 100 workers)	0	0	0	0	0	0	0	0	0	0	0	
Frequency rate (incidents per 10,000 hours exposure)	0	0	0	0	0	0	0	0	0	0	0	
Severity rate (days lost to injury per 10,000 hours worked)	0	0	0	0	0	0	0	0	0	0	0	
FORESTRY	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Hours worked	423	450	572	422	492	542	115	423	489	445	444	
Employee numbers	3	3	3	3	3	3	3	3	3	3	3	
Incidents	0	0	0	0	0	0	0	0	0	0	0	
Days lost	0	0	0	0	0	0	0	0	0	0	0	
Incidence rate (number of incidents per 100 workers)	0	0	0	0	0	0	0	0	0	0	0	
Frequency rate (incidents per 10,000 hours exposure)	0	0	0	0	0	0	0	0	0	0	0	
Severity rate (days lost to injury per 10,000 hours worked)												

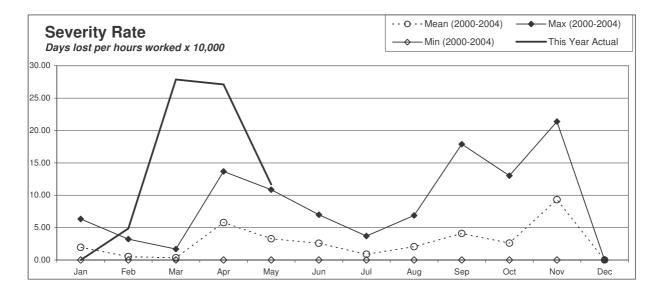
Utility Services Division Combined	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Hours worked	8,219	8229	11516	7809	8641	8749	4582	8234	8612	7745	8563	
Employee numbers	57	57	59	59	59	59	60	60	60	60	60	
Injuries	1	0	2	2	0	2	0	1	1	1	2	
Days lost	0	0	0.5	0	0	0	0	4	4	21	10	
Frequency rate (incidents per 10,000 hours exposure)	1	0	2	3	0	2	0	1	1	1	2	
Severity rate (days lost to injury per 10,000 hours worked)	0	0	0	0	0	0	0	5	5	27	12	

Incidence rate = (number of incidents/number of employees) x 100 Frequency rate = (number of incidents/person hours worked) x 10,000 Severity rate = (days lost/person hours worked) x 10,000



Incidents

Lab: Stress Related Ops: Cut finger



Lost Days

Lab: 10 days

Strategy and Asset Group

Strategy and Asset Group Review of Operations for the Period Ended 31 May 2005

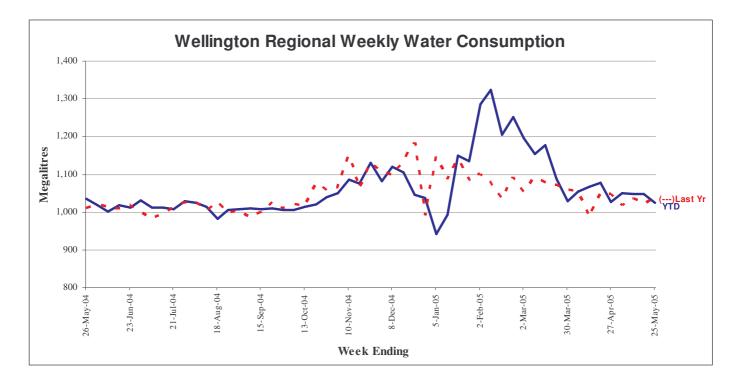
1. Items of Note

- The contribution to the Wellington Regional Strategy has been completed and forwarded to Councillors under separate cover.
- As noted in the Regional Strategy contribution, we are now at the stage where it is appropriate to review what may be the next water source to be developed. Details will be given to Councillors at a Council workshop and this information will be shared with our customers at a meeting in July.
- Tenders for the electricity supply close in June and it is expected that a tender recommendation will be sent to the Policy, Finance and Strategy meeting at the end of June.
- Water consumption for the period is normal for winter conditions and there are adequate flows in all the rivers.
- Work is progressing on the Wellington Water Management Strategy with our customers and a further meeting is planned for early July.

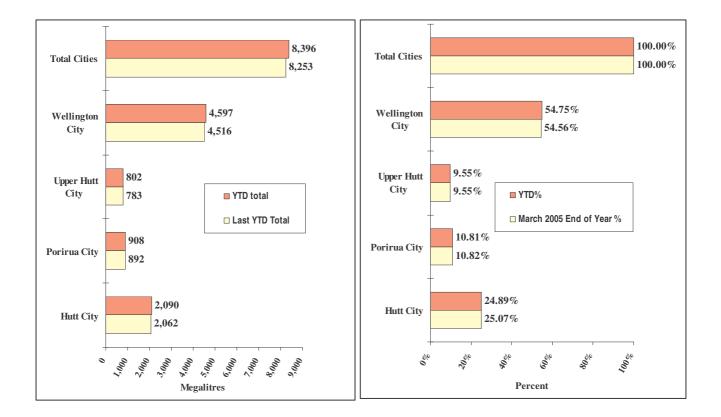
2. Sales Volume

Graphs detailing the sales volume information are on page 14.

Water Sold Over the Last 12 Months



Water Sold from 30 April to 31 May 2005



3. Asset Management

- The Capital Works budget for 2004/5 is \$5.312 million. The forecast expenditure to 30/6/2005 is \$3.7 million, with \$1.3 million to be carried forward into 2005/6 to fund projects that have been delayed. The status of the more significant projects included in the Capital Works Programme is as follows:
 - Construction of the Wainuiomata catchment western boundary fence. Budget \$100,000. Construction is close to completion. Forecast cost \$135,000.
 - Design of seismic strengthening of the Stuart Macaskill Lakes intake towers. Budget \$30,000. The new seismic loading code, which is relevant to this work, was published in December, and this project is now underway.
 - Rehabilitation of the Wainuiomata Lower Dam, and creation of a wetland. Budget \$300,000. Tenders for this work have been received but declined because they significantly exceeded the budget. The project is to be reviewed and re-budgeted in 2006/07.
 - Purchase of a spare pump for the Waterloo wellfield (two pumps failed in 2003-2004). Budget \$60,000. The pump has been delivered and special storage arrangements are under construction.
 - Further investigation of off-river storage at Wainuiomata. Budget \$100,000. A preliminary feasibility report indicates that the storage of a significant volume of water is not practicable. However studies associated with the Wellington Regional Growth Strategy indicate a larger combined on/off river storage option in Skull Gully is an economically attractive long term source option.
 - Modifications to Te Marua WTP to facilitate independent treatment of lake and river water. Budget \$200,000. A report and detailed estimate is in preparation by a specialist consultant. Forecast expenditure \$100,000.
 - Installation of aeration equipment at Waterloo WTP to reduce lime use. Budget \$100,000. New blades to convert the existing mixers into aerators have been installed. Depending on the results of trials with the new blades, a second set will be ordered.
 - Relocation of the Kaitoke main on the Silverstream Bridge, including a contribution of \$60,000 to bridge strengthening. Budget \$150,000. Design work has commenced and sub-soil investigations planned. Arrangements have been made to access the results of these investigations and to extend them if necessary in order to establish if possible, the location of the Wellington Fault in the vicinity of the bridge. However the project has been delayed and expenditure this year will be minimal. Forecast expenditure \$10,000 (not including any additional sub-soil investigations).
 - Relocation of the Kaitoke main between SH2 and SH58 at Haywards. Budget \$800,000. The contract has been advertised and tenders close on 13 June. Forecast expenditure \$605,000.
 - New pumping station at Karori. Budget \$870,000. Tenders for this

work closed in April and a contract has been let. Work is to begin on 13 June. Forecast expenditure in 2004/05 \$460,000.

- New pumping station at Point Howard. Budget \$367,000. Pumps delivered. Design complete. Tenders will be called early in July Forecast expenditure in 2004/05 \$105,000
- Replacement of 20 yr old electronic control equipment at Te Marua Pumping Station. Budget \$145,000. Detailed investigations have shown that there are benefits in replacing the motor starters at the same time, at an additional cost of \$117,000. The work is proceeding.
- Renewal/upgrade of the telemetry system. Budget \$160,000. Most of this work is on hold pending the outcome of integration discussions with *Capacity Water Management*. Forecast expenditure \$42,000.
- Significant delays have occurred on several large projects generally because of delays in obtaining consents and land entry agreements, and because of a lack of resources in the engineering consulting industry.
- Design of the proposed new Lincolnshire Pumping Station to be located near the Grenada Landfill is proceeding, and pumps have been ordered. The work is being funded by the WCC but GWRC will take over ownership of the assets on completion. Officers are therefore working closely with the consultant to ensure the work meets GWW requirements.
- The cathodic protection system along Petone foreshore has been reinstated, including the installation of a new sacrificial anode on Petone wharf.
- Studies of potential new sources have been completed. Although this work was initiated as an input to the Wellington Regional Growth Strategy, it has shown that with the lead times involved, and recent significant lifts in population numbers, decisions about future sources need to be seriously considered in the near future.

4. Quality Assurance

- Publication of revised Drinking Water Standard is expected in July. Greater Wellington Water has a staff member on the Experts Committee considering the changes. The implications for GWRC are expected to be limited to rebuilding data acquisition and compliance reporting mechanisms, and working with the customer TAs on how to most effectively publicise the "soft water" issue.
- Work on a new proposal by MfE to establish a National Environmental Standard for drinking water sources has been delayed and the approach re-assessed following the outcome of consultation meetings. The main thrust now appears to be to require regional councils to take account of public water supply when preparing plans and issuing consents. The scope of the new Drinking Water Standard has been widened to include

classification of raw water quality using cryptosporidium numbers.

• A presentation ceremony was held at the Wainuiomata WTP on 11 May at which the HVDHB Drinking Water Assessment Unit received its accreditation and the new A1 grading for the plant was presented to GWRC. The gradings of the other treatment plants will also be reviewed this calendar year.

5. Environmental

- Rehabilitation and lowering of the Wainui Lower Dam spillway to provide an opportunity for the development of a wetland upstream has been delayed because of the high cost of the work proposed. The engineering of the project is to re-evaluated. Public consultation on the form of this development is being undertaken by the Landcare Division.
- A series of small "refuges" has been built on the face of the Orongorongo Weir to facilitate the passage of climbing species such as the Red Finned Bully and the Short Jawed Kokopu. A large flood on 30/31 March may have damaged some of these refuges.

6. Catchment Management

Cloud 9 who makes the children's TV programme "Tribe" has requested permission to film in the Wainuiomata Waterworks recreation area and in the vicinity of the Morton Dam. After some tooing and froing we managed to cover all the issues surrounding up to 40 people on the film set and to devise a break in filming should the 1080 drop occur. Current plans are to carryout the drop in the first weather "window" after 1 July.

The public "Roar Hunt" went without problems with a final tally of 13 deer, 3 goats, and 9 pigs.

Infrastructure repairs are still ongoing in the Orongorongo's following the March storms. The access road which only suffered minor damage and the walking track which was more seriously damaged have both been restored.

Progress continues with the boundary fence.

The Department of Conservation is to undertake a 1080 drop within their land adjacent to the Hutt Catchment. They will maintain a buffer zone of 100 metres from our boundary and we have asked for a copy of the helicopter flight log after the drop to ensure the buffer zone is maintained. This drop will complement the drop we carried out in 2004.

7. Marketing

• Greater Wellington's web site. A proposal to add some live water supply data onto the web site was agreed with Utility Services' managers and has been discussed with the IT manager. Data management and

presentation details are now being worked through.

- Treatment plant tours for schools. The education consultant we are working with has been asked to price a number of the tour improvement options presented to us in April. The teaching resource draft has also been returned to the consultant for minor editorial changes. The consultant is due to report back in mid June.
- Regional Public Health ceremony at Wainuiomata Water Treatment Plant. Much time was spent planning this event and associated media coverage with Regional Public Health and Ministry of Health staff. The event, on 11 May, was attended by Associate Minister of Health Pete Hodgson and senior officials from the Ministry of Health, Regional Public Health and Greater Wellington. Some media coverage resulted.
- Water conservation. A proposal was developed and approaches made to two mulch suppliers about the possibility of a joint promotion of mulch during spring, to be funded from the existing water conservation budget. Securing a commercial partnership is central to the proposal and work to secure a suitable partner is continuing.
- Text for a new water supply interpretation sign for the Wainuiomata Recreation Area was written. The sign is due to be completed by the end of June.
- There was one treatment plant visit involving 40 visitors.
- One news release was made (30 May), in relation to the impending start of construction work on the new Karori water pumping station and closure of Northland Tunnel Road. Four newspapers and a radio station covered the story. Media briefing notes were prepared and provided to Hutt Valley District Health Board in regard to publicity for the Drinking Water Assessment Unit launch and A1 grading ceremony at Wainuiomata treatment plant; three newspapers covered that story.

8. Projects Undertaken by Engineering Consultancy for Strategy and Asset

• Wainuiomata/Orongorongo Catchment Fence

Construction of the third stage of the deer and stock fence along the western boundary of the water collection area is progressing satisfactorily. All posts have been installed and the wire is being fitted.

• Wainuiomata Lower Dam

Two tenders were received to lower the spillway. The tender prices were significantly higher than the Engineer's estimate and the allocated budget. The tenders have been rejected and this work reprogrammed to the 2006/7 financial year.

• Kaitoke No. 2 Tunnel Sealing

The Contract to seal the Te Marua end of the No. 2 Tunnel was completed. A hydrostatic test of the grout seal is proposed.

• Wainuiomata and Gear Island Road Reseals

The road reseal contract at Wainuiomata and Gear Island has been completed.

• Wainuiomata Water Treatment Plant Outlet Control Valve

Replacing and relocating this control valve to Tunnel Grove valve chamber is proposed. This will reduce the potential for pressure surges in the pipeline. It will prevent air being drawn into the pipe and reduce pumping costs at the Wainuiomata pumping stations. The valve and actuator have been ordered.

• Wainuiomata Pumping Stations Variable Speed Drivers

Installation of variable speed drivers at the Moores Valley and Wainuiomata Pumping Stations is proposed. This work is being arranged in association with the relocation of the Wainuiomata Water Treatment Plant outlet control valve. The VSDs will improve efficiency of the pumps. The VSDs have been ordered.

• Waterloo Wellfield Standby Well Pump

A standby well pump has been purchased to allow rapid replacement of a failed pump. Arrangements are being made for the long-term storage of this standby pump.

• Rerouting Te Marua to Karori Pipeline at Haywards

The existing pipeline route from State Highway 2 to the Haywards Pumping Station is susceptible to earthquake induced landslide damage. The proposed route for a duplicate pipeline is through Transpower land. Tenders have been invited for the installation of this new pipeline. The pipe has been received and is stored at Manor Park.

• Emergency Water Supply Points for Upper Hutt City Council

Installation of emergency water supply points to supply water to Upper Hutt City without going through a service reservoir is being investigated. A cross connection at Ferguson Drive/Camp Street intersection is proposed.

• Karori Pumping Station

The contract for construction of the replacement pumping station on Northland Tunnel Road was awarded to Brian Perry Civil. Work is expected to start on site on 13 June 2005. One set of pumps have been received. • Point Howard Pumping Station

The underground pumping station at Hutt Park is being replaced. The resource consent for the construction of the pumping station alongside Seaview Road has been received from Hutt City Council. The subdivision consent is being finalised. Tender Documents for the construction of the building are being finalised.

• Warwick Street Pumping Station

Noise emissions from the Warwick Street Pumping Station exceed the levels specified in the Wellington City District Plan. Soundproofing for the pumping station is being designed.

• Minor Seismic Projects

Installation of a new line valve on the 525 mm pipeline at Moores Valley Pumping Station has been completed.

Installation of a flexible joint on the Wainuiomata to Wellington pipeline, Korokoro Stream crossing is proposed. The coupling has been ordered.

Engineering Consultancy Group

Engineering Consultancy Group Review of Operations for the Period Ended 31 May 2005

1. Work Carried Out for the Strategy and Asset Group

The main capital projects for which the Engineering Consultancy Group has responsibility are itemised in the Strategy and Asset Group report. Support is also provided for other projects being undertaken by this group.

2. Work Carried Out for the Operations Group

The Engineering Consultancy Group has continued to provide support for smaller projects arising from the operation and maintenance of the wholesale water supply system.

3. Work Carried Out for Wellington City Council

3.1 General

No new commissions for WCC work have been received. Current projects underway are detailed in the following sections.

3.2 Aramoana Reservoir, Miramar

There is a storage deficit of 10 ML in the Low Level Zone of Wellington City. Of this storage, approximately 6.5 ML is required in the Eastern Suburbs (Miramar) and 3.5 ML in the Southern Suburbs (Island Bay).

The structure has been backfilled to partially bury the reservoir. The reservoir has been commissioned. The extensive planting programme is almost complete along with the finalisation of minor items.

3.3 Mt Albert Reservoir

This 3.5 ML reservoir will be sited in Mount Albert Park within Berhampore Golf Course.

The Contract Documents were completed, and tenders have been invited.

3.4 Automatic Shut-off Valves 2004/5

A Tender was accepted and work is under way on a Contract for the installation of automatic shut-of valves at various reservoirs.

3.5 Northern Water Main Renewals

A commission was awarded to carry out the design of water main replacements in the northern suburbs. The design drawings are now complete, and with Capacity for comment.

3.6 Fox Street Water Main Renewal

Construction work to renew this water main is proceeding very satisfactorily.

4. Miscellaneous Projects

Kapiti Water Supply- Otaihanga Connection

The Engineering Consultancy Group has been engaged to design a connection to the Kapiti trunk main at Otaihanga Road. This new connection will give greater security of the water supply to Paraparaumu and Raumati. Stage 1 has now been installed, prior to roading changes at the intersection.

Laboratory Services

Laboratory Services Department Review of Operations for the Period Ended 31 May 2005

1. Items of Note

- Profit is down this period but remaining in the black for year to date.
- The Laboratory Microbiologist resigned on 13 May after 12 years with the Council. This has had quite some impact on the laboratory operations and is obviously reflected in recent finances. Specialist work has had to be subcontracted out in the interim until a suitably qualified replacement is engaged.

2. Business Summary

2.1 Quality

Quality reports were generally timely despite work being subcontracted.

2.2 Health and Safety

Continuation from previous month for one staff member on stress related sick leave. No new incidents this period.

Plantation Forestry

Plantation Forestry Department Review of Operations for the Period Ended 31 May 2005

1. Log Harvest Contract

Production continued at a good level despite the hauler crew ceasing harvesting for a week while a new skid was prepared. During this period the crew assisted Log 6 in Martins so overall production was maintained.

The shortages of sawlog which became evident in the previous month continued with some mills opting to take lower grade logs to make up volumes and in some cases creating new log grades as a stopgap measure. At the same time the Korean export market slowly but consistently softened over the month to the point where it has become a "market of last resort" RNZ have negotiated the sale of pulp logs to a local mill (new customer) and a local firewood merchant. While the prices are not higher than previous outlets the shorter cart means an improved net price to GW.

Log 4 completed both the pruned order we had with ATS at Levin and the roadling for 3 new skids in the Blowfly block in Puketiro. This means we have the infrastructure in place for at least 3 months work in this block when the markets suit. The crew has now withdrawn to Valley View to complete some remnant blocks. This move will avoid trying to maintain a 22km route through winter.

Log 36 has been based at Grattons and our agreement with the landowner required us to withdraw from his property for the period he was carrying out his own annual harvest. We are now within 3 - 4 week of completing the block and we very pleased when we were permitted to continue logging to complete the block.

Production out of the Martins block has continued to produce high levels of sawlog and good net results. In this last month with the onset of winter we have had an unpleasant reminder of how much wetter Pakuratahi is compared with Valley View despite the block being only about 3km apart. While we have been wrestling with mud in Martins the dust has been still rising off the roads at Grattons.

Production for May follows:

	Мау					
Grade	Tonnes	%				
S/A Grade	615.51	26.27				
L Grade	74.24	3.17				
R Grade	399.81	17.06				
K Sawlog	508.24	21.69				
Roundwood	0	0				
K Rough	427.94	18.27				
Pulp	240.63	10.27				
Xport Pulp	76.56	3.27				
Adjust						
Total	2,342.93					

Output by Grade - Clarkes Creek/Reservoir Ridge [Crew 36 - Hauler]

Revenue was \$47,938.76 at an average of \$20.46 per tonne.

Output by Grade - Martins [Crew 6 - Ground Based]

	May [4/01]						
Grade	Tonnes	%					
S/A Grade	726.97	31.35					
L Grade	210.78	9.09					
R Grade	359.55	15.51					
K Sawlog	502.63	21.68					
Roundwood	0	0					
K Rough	234.49	10.11					
Pulp	71.65	3.090					
O/S Pulp	0	0					
Xport Pulp	212.84	9.18					
Total	2,318.91						

Revenue totalled \$53,666.29 at an average of \$23.14.

Output by Grade - Puketiro [Crew 4 - Ground Based]

	May [4/01]							
Grade	Tonnes	%						
Pruned	226.77	25.52						
Part Pruned	52.22	5.88						
S/A Grade	57.05	6.42						
L Grade	0	0						
R Grade	29.21	3.29						
K Sawlog	301.27	33.9						
Roundwood	0	0						
K Rough	222.06	24.99						
Pulp	0	0						
O/S Pulp	0	0						
Xport Pulp								
Total	888.58							

Revenue totalled \$24,319.39 at an average of \$27.37

For the month of May the total harvest was 5,550.42t for \$125,979.16 at an average of \$22.69.

2. Silviculture Contracts

Only a further 2.5 hectares out of a total of 257 hectares were completed in this period at a cost of \$1,023.75. To date 77.6 hectares have been completed. The reason for slow progress can be attributed to difficulties recruiting staff and mechanical breakdowns. One contractor now has a staff of 10 working on the pruning and it is anticipated that this portion of the silvicultural work will be completed by mid July. The contractor carrying out the thinning cannot commence work until the pruning is completed and is also suffering from a shortage of staff. He will not complete thinning until August/September.

As a consequence of these difficulties we have reviewed our silviculture programme for the 2005/06 year and will defer all but 2 small blocks into the 2006/07 year. This delay will not adversely effect the trees as we were scheduling our silviculture at the younger end of the recommended age window.

3. Plantation Forestry Operations

We are still awaiting advice on the best source for fertilizer required following the foliage analysis carried out in February. Current proposals are to apply the fertilizer in late September/early October.

There has been considerable activity related to road maintenance and skid construction.

Transpower have approached Council seeking to selectively remove soil from under their high voltage transmission line to ensure clearances are maintained when they increase voltages. This increase will result in greater heat being generated and greater sag between pylons. The proposed works will not affect normal forestry activities.

Upper Hutt City has requested assistance with repairs to a bridge in Bulls Run Road. The cost of carrying out the repairs without closing the road are significantly higher than with a road closure. Both residents beyond the proposed road closure are employed by Council and we have agreed to allow access through Valley View for the period of the closure.

4. Forest Access

Maungakotukutuku access remains the only significant problem. The repairs have yet to be carried out on the road into the Hukinga forest. There are numerous slumps into the Akatarawa River West and bad scouring on the new culvert installed prior to Christmas. The most economic method of reinstating the road is by using 1M3 concrete blocks similar to those use by Rivers. It has taken some time to locate a source for these blocks as most of the local production is "spoken for". We have now located a source and are awaiting delivery of 35 blocks to enable these repairs to be completed.

We continue to monitor Station Drive while it is being used by logging trucks.

The most significant problem area has been on the access road to block 4 at Martins. As mentioned above Martins receives much more rain than Valley View and we have had difficulties with mud being tracked onto the road running surface causing the trucks to loose traction. Additional metal has been laid on two occasions and we are hopeful that we now have this problem solved. Only one day of carting was lost when the cartage contractor refused to supply any more trucks until a remedy was found.

There are two sections of road at Blowfly which have been formed and water tabled but not metalled. Metalling can be carried out when logging returns to the block in spring.

5. Market Trends

The domestic market remains short of quality sawlog – but not short enough to generate any increase in price. The mills are taking lower grade logs to make up the volumes they require. Despite this there are regular instances of mills working short hours or short weeks due to the lack of raw product. The reverse is the case for pruned logs. Prices remain depressed and we were fortunate to \$155 per tonne for a niche market in Levin. The "local" price is around \$130 and there is no guaranteed continuity of sale. This market is unlikely to recover until the present imbalance between the NZ and US dollar rights itself.

As predicted in the last report the Korean market has softened significantly on the back of increased supplies out of Russia as the spring thaw allows shipping out of Vladisvostok. While India is holding it is anticipated that it will also soften as volumes are redirected away from Korea.

5. Harvest Contract No. 1240 - 2005-2009

These tender have been analysed and a "short list" created for each contract, (Metro and Wairarapa). The short lists and initial conclusion have been referred to a registered Forestry consultant for a peer review.

It is anticipated that after receipt of the consultant's conclusions a decision can be made later in June. As the decision to peer review the short listed bids will extend the period required to arrive at a decision, the incumbent contractor in the Wairarapa has been offered an extension of his current contract from 30 June to 31 July. The Metro contractor is not affected as his contract runs until 31 August.