# Greater Wellington Water

## January/February 2006

# Operations Group

## January/February 2006

# Operations Group
# Review of Operations for the period ended 28 February 2006

## 1. Items of Note

- Toxic algae remains a problem for users of the Hutt River. However, increased testing of water from the Kaitoke intake continues to show only very low numbers of cyanobacteria.

- During the first week of January we received calls from three of our customers, Porirua, Upper Hutt and Wellington City Councils (PCC, UHCC, WCC), informing us that they were receiving a number of taste complaints from consumers. Unusually, the source of the taste problems was found to be the river and not the lakes. Fortunately we had some reasonable rain and as the river levels increased, so the complaints dried up. We are presently working on the design of a carbon dosing plant, which will be used to alleviate any future taste and odour problems.

- On 26 January the laboratory reported a positive *E. coli* result from a water sample collected from Point Howard. The site was immediately sampled again and additional samples were taken from other parts of the Lower Hutt distribution system. None of the subsequent samples tested positive and the testing carried out by Hutt City Council (HCC) was also negative. There have been no positive test results since.

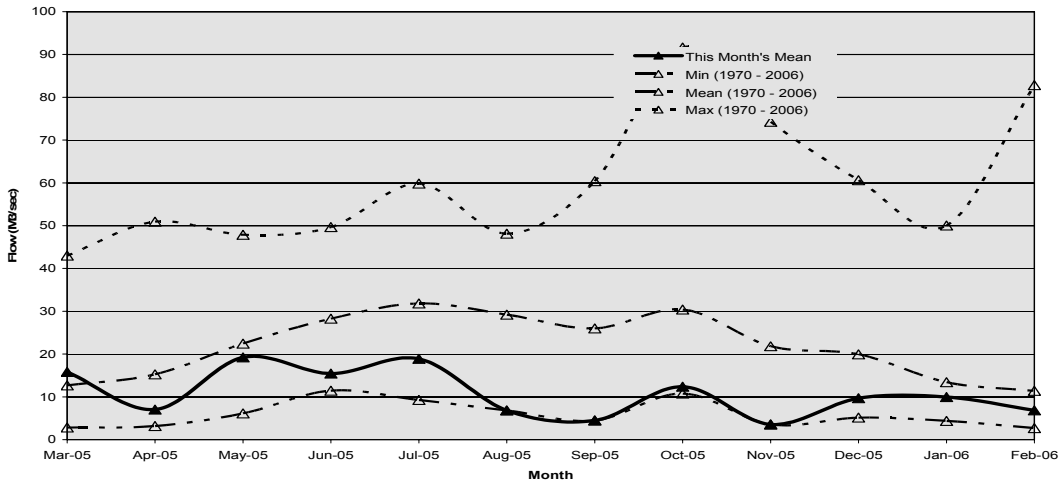
- At a meeting with Masterton District Council we were advised that it is planning to carry out a strategic review of its water and waste businesses and therefore would like to roll over our present management contract for a further two years rather than enter into a long-term contract. We have agreed to proceed on this basis but the arrangement is not yet formalised.

## 2. Supply Situation

There were no supply issues for the period.

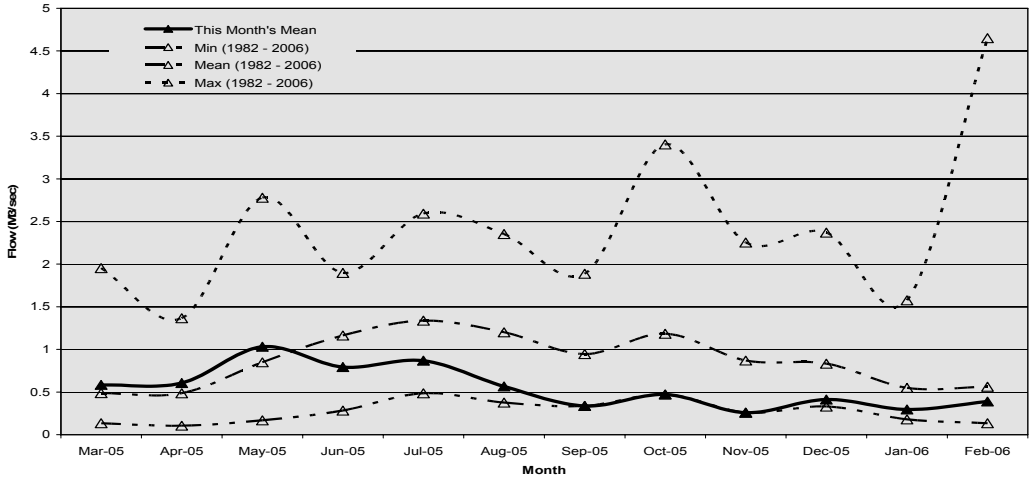
### Hutt River Flows

The monthly flow in the Hutt River for January was just under the mean. For February, the monthly flow was below the mean.



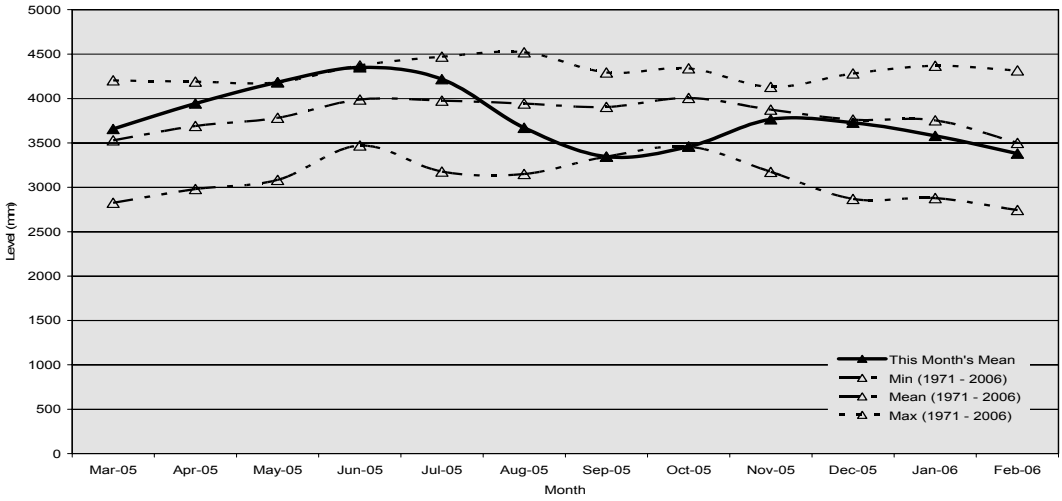
### Wainuiomata River Flows

The monthly flow in the Wainuiomata River during January was just above minimum. For February, the flow was below the mean.




### Aquifer Levels

The water level in the Waiwhetu aquifer in January was just under average. For February, the water level was below the mean.




# 3. Treatment Plants

## 3.1 Wainuiomata

### 3.1.1 Quality

- There were no improvement opportunity forms or transgressions for the period.

### 3.1.2 Health and Safety

- There was one incident during the period where a staff member slipped in the chemical dosing room and damaged their Achilles tendon.

#### 3.1.3 Environmental

- There were no environmental issues during the period.

#### 3.1.4 Operations and Maintenance

- There were no significant issues for the period.

### 3.2 Waterloo and Gear Island Water Treatment Plants

#### 3.2.1 Quality

- There was an improvement opportunity form for low fluoride because of component failure and subsequent removal/repair.

#### 3.2.2 Health and Safety

- There were no accidents or incidents during the period.

#### 3.2.3 Environmental

- There were no environmental issues for the period.

#### 3.2.4 Operations and Maintenance

- The Naenae Pump No. 1 discharge valve actuator was removed for maintenance.

- The Naenae fluoride dosing control valve actuator was removed for maintenance.

### 3.3 Te Marua

#### 3.3.1 Quality

- There were no improvement opportunity forms or transgressions for the period.

#### 3.3.2 Health and Safety

- There were no accidents or incidents for the period.

#### 3.3.3 Environmental

- There were no environmental issues during the period.

#### 3.3.4 Operations and Maintenance

- The Kaitoke intake was shut down from 21 February to 2 March 2006 to allow essential maintenance work to be carried out. During this period the Te Marua Water Treatment Plant was operating on lake water.

# 4. Distribution

## 4.1 Health and Safety

- There was on non-work related incident that had a staff member on light duties for a week.

## 4.2 Environmental

- There were no environmental issues for the period.

## 4.3 Operations and Maintenance

- Fabrication for the Haywards culvert crossing at State Highway 2 is 90 percent complete. We have excavated between the 1,050 mm and 900 mm pipelines at State Highway 58 and measured up for the closing pipe special.

- The Te Marua split stream cross connection work has been completed.

- The 200 mm cast iron pipeline from Ascot Park through to Paremata No. 2 was shut down to be fully decommissioned at a later date for the Staithes Drive subdivision.

- New valve chambers were installed over the valves at Penrose and Willoughby wells.

- The easement clearing at Porirua Low Level, Paremata, Pukerua Bay and Wainuiomata was completed.

## 4.4 Pipeline Leaks

- There were no leaks during the period.

# Utility Services Division Health and Safety Data from July 2005 - Total Injuries

| **PRODUCTION (+ 4 OPS ADMIN)** | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hours worked | 24147 | 2316 | 2262 | 2313 | 3475 | 2429 | 1492 | 2105 | | | | |
| Employee numbers | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | | | | |
| Incidents | 2 | 1 | 2 | 0 | 2 | 2 | 1 | 0 | | | | |
| Days lost | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Incidence rate (number of incidents per 100 workers) | 13 | 6 | 13 | 0 | 13 | 13 | 6 | 0 | | | | |
| Frequency rate (incidents per 10,000 hours exposure) | 8 | 4 | 9 | 0 | 6 | 8 | 7 | 0 | | | | |
| Severity rate (days lost to injury per 10,000 hours worked) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |

| **DISTRIBUTION** | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hours worked | 1227 | 1246 | 1332 | 1290 | 1977 | 1357 | 659 | 1229 | | | | |
| Employee numbers | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | | | | |
| Incidents | 2 | 3 | 2 | 1 | 1 | 0 | 0 | 0 | | | | |
| Days lost | 11 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Incidence rate (number of incidents per 100 workers) | 22 | 33 | 22 | 11 | 11 | 0 | 0 | 0 | | | | |
| Frequency rate (incidents per 10,000 hours exposure) | 16 | 24 | 15 | 8 | 5 | 0 | 0 | 0 | | | | |
| Severity rate (days lost to injury per 10,000 hours worked) | 90 | 112 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |

| **ENGINEERING CONSULTANCY** | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hours worked | 1840 | 1716 | 1732 | 1808 | 2628 | 1816 | 576 | 1300 | | | | |
| Employee numbers | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 10 | | | | |
| Incidents | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Days lost | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Incidence rate (number of incidents per 100 workers) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Frequency rate (incidents per 10,000 hours exposure) | 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 | | | | |

| **UTILITY SERVICES SUPPORT** | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hours worked | 951 | 1076 | 1008 | 961 | 1295 | 882 | 587 | 933 | | | | |
| Employee numbers | 7 | 7 | 6 | 6 | 6 | 6 | 6 | 7 | | | | |
| Incidents | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Days lost | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Incidence rate (number of incidents per 100 workers) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Frequency rate (incidents per 10,000 hours exposure) | 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 | | | | |

Jul 2005 -Cut finger

Jul 2005 - Injured back

Aug 2005 - Cut finger

Sep 2005 - Bruised hand / Blistered hand on nylon rope

Nov 2005 - Hit head on tank / Twisted knee from slipping on stairs

Dec 2005 - Lime in eye / Head in contact with live wires

Jan 2006 - Slipped and hurt Achilles tendon

Jul 2005 - Vehicle accident [2 employees]) / Bruised finger

Aug 2005 - Minor burns to hand / Bruised finger / Cut and small burn to wrist

Sep 2005 - Cut hand on pipe / Cut hand and knee on pipe

Oct 2005 - Cut finger on flange

Nov 2005 - Burnt arm on cut pipe

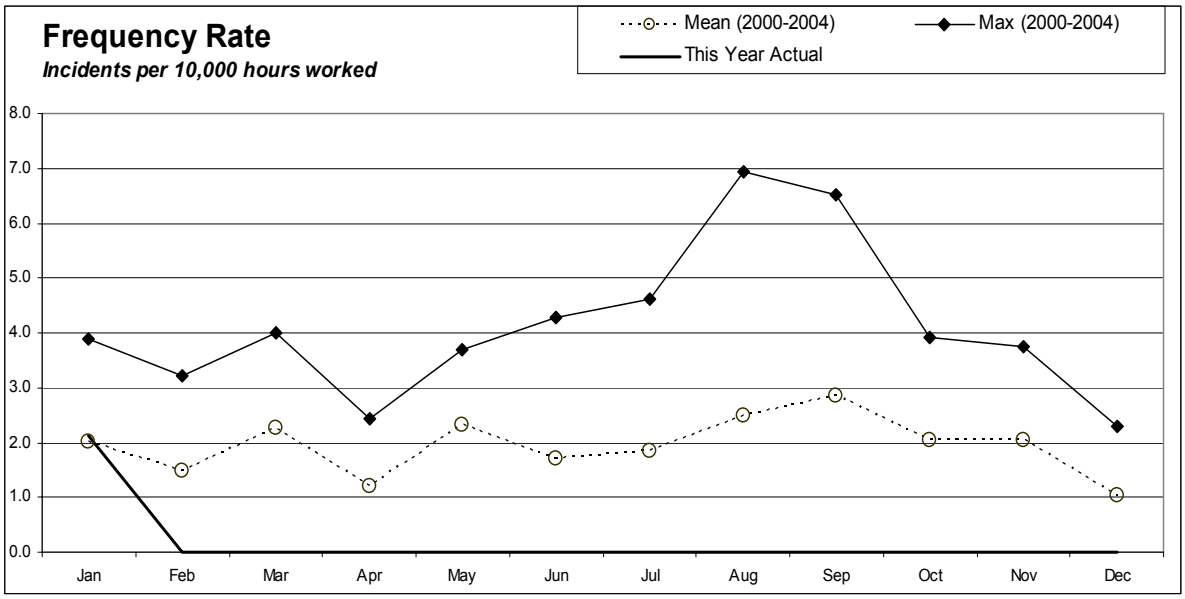
| **LABORATORY** | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Aug 2005 - Bruised foot |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hours worked | 1078 | 1142 | 1219 | 1156 | 1681 | 1343 | 845 | 1243 | | | | | Aug 2005 - Sprained neck |
| Employee numbers | 7 | 7 | 6 | 6 | 6 | 6 | 6 | 6 | | | | | Nov 2005 - Bee sting on head |
| Incidents | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | | | | | |
| Days lost | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Incidence rate (number of incidents per 100 workers) | 0 | 29 | 0 | 0 | 17 | 0 | 0 | 0 | | | | | |
| Frequency rate (incidents per 10,000 hours exposure) | 0 | 18 | 0 | 0 | 6 | 0 | 0 | 0 | | | | | |
| Severity rate (days lost to injury per 10,000 hours worked) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |

| **STRATEGY AND ASSET** | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Nov 2005 - Strained back while lifting boxes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hours worked | 712 | 644 | 688 | 676 | 1152 | 700 | 408 | 664 | | | | | |
| Employee numbers | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | | |
| Incidents | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | | | | | |
| Days lost | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Incidence rate (number of incidents per 100 workers) | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | | | | | |
| Frequency rate (incidents per 10,000 hours exposure) | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | | | | | |
| Severity rate (days lost to injury per 10,000 hours worked) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |

| **FORESTRY** | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Sep 2005 - Sprained and cut hand |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hours worked | 433 | 466 | 455 | 470 | 627 | 453 | 142 | 245 | | | | | Nov 2005 - Stung by stinging nettle on hand |
| Employee numbers | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | | | |
| Incidents | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | | | | | |
| Days lost | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Incidence rate (number of incidents per 100 workers) | 0 | 0 | 33 | 0 | 33 | 0 | 0 | 0 | | | | | |
| Frequency rate (incidents per 10,000 hours exposure) | 0 | 0 | 22 | 0 | 16 | 0 | 0 | 0 | | | | | |
| Severity rate (days lost to injury per 10,000 hours worked) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |

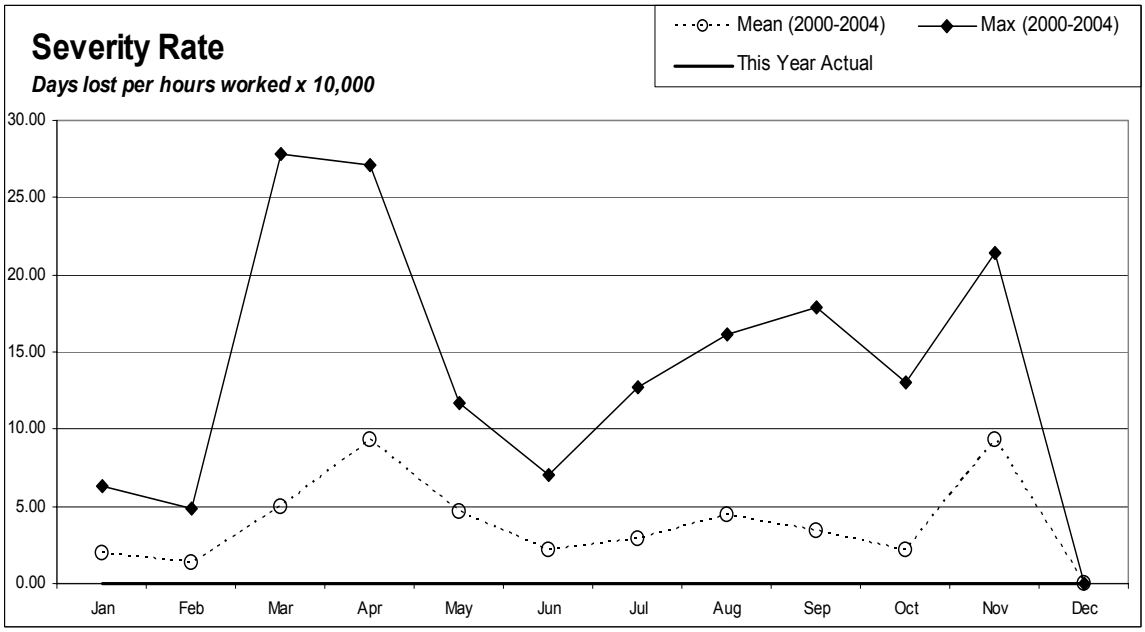
| **Utility Services Division Combined** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hours worked | 8653 | 8651 | 8696 | 8673 | 12834 | 8980 | 4709 | 7718 | | | | |
| Employee numbers | 59 | 59 | 58 | 58 | 57 | 57 | 57 | 56 | | | | |
| Injuries | 4 | 6 | 5 | 1 | 6 | 2 | 0 | 0 | | | | |
| Days lost | 11 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Frequency rate (incidents per 10,000 hours exposure) | 5 | 7 | 6 | 1 | 5 | 2 | 0 | 0 | | | | |
| Severity rate (days lost to injury per 10,000 hours worked) | 13 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |

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**

One incident in January 2006




**Lost Days**

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# Strategy and Asset Group

## January/February 2006

# Strategy and Asset Group
# Review of Operations for the period ended 28 February 2006

## 1. Items of Note

- Water use during January/February 2006 was about 5 percent higher than for the same period last year, in spite of a relatively damp February. The highest daily demand was 204 ML on 11 January 2006.

- A public notice regarding plumbosolvency has been inserted in *The Dominion Post*. We have had no public enquiries about this issue as a result of this notice.

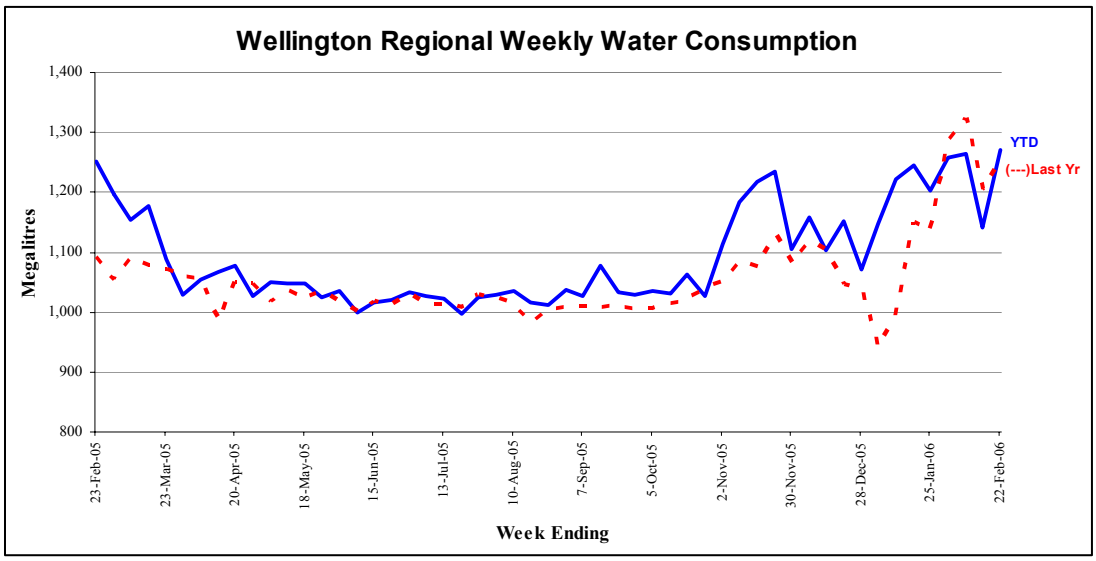
- Building work at the new Karori Pumping Station has been completed and pumps and pipework are being installed.

- Draft reports on hydrological issues, planning, environmental and engineering issues associated with new major storage sources have been received from the Consultant.

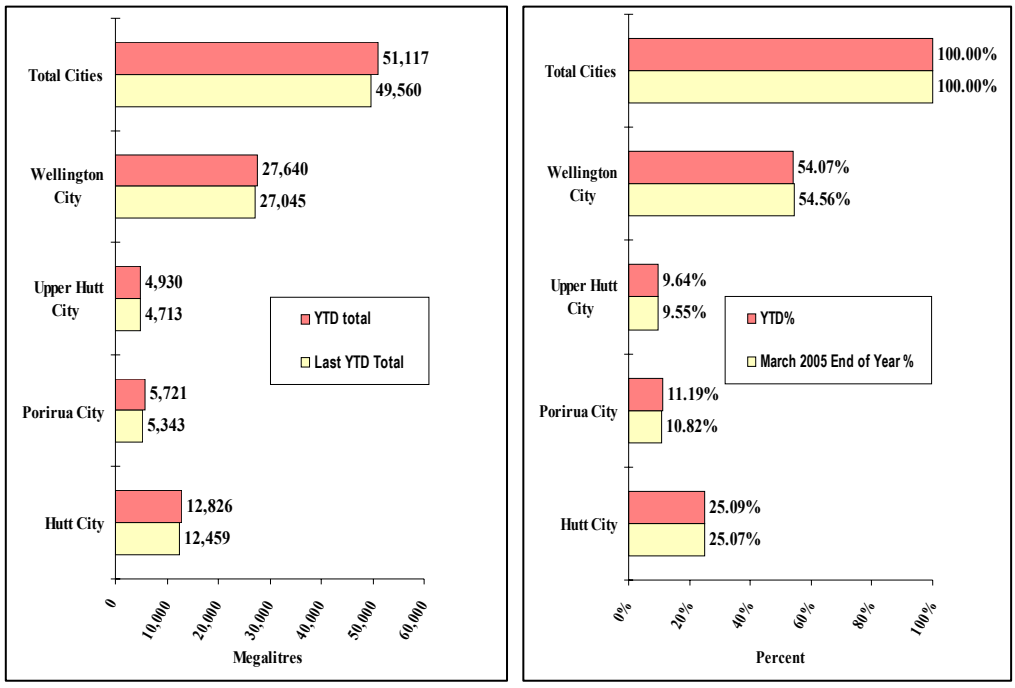
## 2. Water Usage

Consumption volumes are approximately 3 percent up on last year but the distribution between territorial authorities is very similar.

### Water Sold Over the Last 12 Months



**Water Sold from 30 March 2005 to 28 February 2006**




## 3. Asset Management

- The Capital Works budget for 2005/06 is $5.937 million. Progress on the more significant projects included in the Capital Works Programme is as follows:

  - Work has begun on construction of the fourth (and final) stage of the Wainuiomata Catchment boundary fence. Budget $100,000.
  - Modifications to the Te Marua Water Treatment Plant to enable lake and river water to be treated separately are well advanced. Budget $300,000. Forecast final cost $565,000.
  - Replacement and refurbishment of water treatment plant equipment. Budget $620,000. Forecast expenditure $310,000.
  - Relocation of the Kaitoke main on the Silverstream Bridge, including a $60,000 contribution to the strengthening of the bridge. Budget $140,000. UHCC has submitted a resource consent application for the strengthening works. Forecast expenditure $70,000.
  - Duplication of the Kaitoke main between State Highways 2 and 58 to improve the seismic resistance of this section of main is close to completion, although a number of difficulties have been encountered. Budget $1,200,000. Forecast final cost $1,920,000.
  - Construction of the new Karori Pumping Station building has been completed, and pumps and pipework are being installed. Budget $1,820,000. Forecast final cost $1,989,000.
  - Construction of the new Point Howard Pumping Station has begun. Budget $312,000. Forecast final cost $430,000.

- Minor work. Budget $300,000. Forecast final cost $523,000.
- Seismic protection. Work is proceeding on strengthening reservoir inlets, providing emergency connection points and other minor seismic protection works. Budget $100,000. Final forecast cost $159,000.

Additional funding required to complete the capital works programme this year was approved at the February Utility Services Committee meeting.

- WCC has begun construction of a new pumping station located near the Grenada Landfill as part of their Northern Suburbs Development Plan. The work is being managed by a consultant employed by WCC. Construction of the building is well advanced and a contract to install pumps and pipework has been let. The work is being funded by the WCC but GWRC will take over ownership of the assets on completion. Therefore, officers are working very closely with the consultant to ensure the completed project meets GWW requirements.

- Studies of the potential to take water from the Upper Hutt aquifer are progressing including planning for the installation of two investigation wells to confirm the availability of water, a computer model to study the potential impact on flows in the Hutt River and studies of streams fed from the aquifer.

- Environmental, planning, geological, hydrological and engineering studies are proceeding on possible water storage sites at Pakuratahi, Skull Gully and Whakatikei, and draft reports have been received. These are preliminary studies aimed at identifying matters that will require more detailed study in order to confirm the feasibility, productivity, cost and environmental impacts of dams if they were built at these sites. Additional sites at Kaitoke and in the Pakuratahi Valley upstream of the Rimutaka Rail Trail are also being considered.

- Consultants have been engaged to undertake studies of the Hutt River to determine the environmental impact of reducing the minimum low flow downstream of the Kaitoke weir. A methodology for habitat studies has been developed, following a workshop with stakeholders, including officers from GWRC Environment Division. The methodology has been circulated to stakeholders for comment.

## 4. Quality Assurance

- The new *Drinking-Water Standards for New Zealand 2005* came into force on 31 December 2005. New reporting mechanisms complying with the new Standards have been in place at Te Marua since 30 November 2005 and at Wainuiomata since 19 December 2005. Raw water sampling of the plant inlets is also in place. However, the

Standards also require sampling and testing of raw water sources, together with the collection of other catchment data, essentially for research purposes. The New Zealand Water and Wastes Association is questioning the appropriateness of this requirement, so no action has yet been taken to address it. Monitoring in the wholesale distribution network, except the Lower Hutt/Petone unchlorinated zone, is to be changed to chlorine testing. However, the installation of some new monitoring equipment is required before this can happen. This equipment will be purchased early in the 2006/07 financial year. In the meantime, direct testing for *E. coli* will continue. A public notice regarding plumbosolvency (the tendency of soft water to dissolve lead from tap fittings) has been published. To date no enquiries from the members of the public have been received.

- A revised proposal by the Ministry of the Environment to establish a National Environmental Standard for drinking water sources has been notified for submissions. A submission on behalf of the Council as a whole has been made by Environment Division staff. The Ministry of the Environment has published a summary of submissions but their response to these submissions is not yet clear. From the water supply point of view the National Environmental Standard will provide enhanced opportunity for water suppliers to have input into resource consent applications and permitted use rules that could potentially affect the quality of source water taken for public water supply.

- The A1 grading for the Wainuiomata Water Treatment Plant has been reconfirmed. Te Marua achieved compliance with all aspects of the *Drinking-Water Standards for New Zealand 2000* in 2004, including aesthetic requirements and is expected to also receive an A1 grading. However, staff changes at Hutt Valley District Health Board have delayed consideration of gradings of the other plants and the wholesale distribution zones. Te Marua, Waterloo and Gear Island Water Treatment Plants are currently listed as ungraded.

## 5. Environmental

- The ISO 14000 Environment Management System is being updated to bring it into line with the new Standard ISO 14001:2004. The changes required are minor but must be in place before 15 May 2006.

- Rehabilitation and lowering of the Wainuiomata 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 has been re-evaluated and altered to reduce the cost. Construction in 2006/7 is envisaged.

- Design work has begun on a larger culvert for Sinclair Creek, just upstream of the Wainuiomata intake. The existing culvert is regularly overtopped, making the road impassable, and acts as a barrier to fish. It

is to be replaced with a much larger culvert which will allow fish to move up Sinclair Creek. Construction is planned in 20006/7.

- Power factor correction equipment is being installed at the Gear Island and Wainuiomata Water Treatment Plants, and at the Ngauranga Pumping Station. This equipment will improve electrical efficiency and reduce energy use.

- Three sentinel wells are to be drilled along the Petone Foreshore and equipped with instruments that will provide early warning of saline intrusion into the Waiwhetu aquifer. This work is being undertaken jointly with the Resource Investigations Department. Investigation and design work is about to begin.

## 6. Catchment Management

- The alignment for stage 4 of the Wainuiomata Catchment boundary fence has been cleared and the Contract was awarded in February.

- There were three Wainuiomata Catchment tours, with 108 participants for the short tours and 23 for the long tours. The numbers would have been higher but for 40 "no shows" on 12 February (bad weather).

- All the 1080 warning signs that had been erected along the Wainuiomata/Orongorongo Catchment boundaries for the mid-winter 1080 operation were removed.

- A total of 81 entries were received for the 40 places in the annual "roar" hunt in the Wainuiomata Catchment.

- Wasps have proved to be a nuisance this summer and a number of nests have had to be destroyed by the Wainuiomata/Orongorongo Ranger.

- The usual instances of accidental and deliberate trespass and vandalism in the vicinity of the Wainuiomata Water Treatment Plant continue and are dealt with by the Ranger as they arise.

## 7. Marketing

- Draft Wellington Water Management Plan. With the assistance of NIWA we have identified a methodology for modelling water demand reduction targets that, if adopted, could practicably be measured in a timely manner. As a result, modifications will be needed to our Sustainable Yield Model (SYM). NIWA will deliver their SYM upgrade for demand modification in late May. Our model runs will follow.

- Water Supply History Update. Review of the first draft text was progressed. Design and publication of the updated history is scheduled for the first half of 2006.

- Summer Water Supply. The dry conditions leading into summer coupled with low rainfall during January - particularly in the Hutt Catchment - made it a summer to watch closely. Water use was higher than average compared to recent years, particularly during January. Despite that, we supplied 200 ML/day or more on only three occasions, with a maximum day of 204 ML.

- Summer Water Conservation. The full water conservation advertising schedule was used as planned, in consideration of three month forecasts which continued to pick dry conditions as summer progressed. A media release timed to coincide with the start of the campaign in mid-January received wide coverage in local media. A *Be the Difference* member newsletter extended the campaign's reach during January, as did conservation campaign reminder pieces carried for us by PCC and WCC publications in February.

- Water Supply Service Level Agreement. Review of a revised draft of the agreement, received from Capacity in late December, identified several substantial concerns of ours that had still to be addressed. A marked copy of the December draft was returned to Capacity in February with a proposed way forward for their consideration.

- Drinking-Water Standards Compliance. A public notice was arranged on behalf of GWRC and its water supply customers with regard to plumbosolvent water. This is a compliance requirement of the new Drinking-Water Standards, effective from 1 January.

- Live Water Supply Data on the Internet. A project to display live data from our treatment plants and supply system on the GWRC internet site was progressed. The project is largely complete but waiting on the developer to replace a key member of staff before final changes can be made.

- One news release was made, publicising the launch of the Summer Water Conservation Campaign. Media statements were also given in relation to the potential risk from blue-green algae in the Hutt River to public water supply, and the risk of the Region running out of water.

## 8. Projects Undertaken by Engineering Consultancy for Strategy and Asset

- Kaitoke Intake Repair

  The concrete nib surrounding the rail iron inlet screen has been repaired and the rail irons repositioned and secured.

- Wainuiomata/Orongorongo Catchment Fence

  The access track and route of the fence line has been cleared in preparation for erection of the final stage of the fence.

The Contract for erection of the fence has been awarded.

- Wainuiomata Lower Dam

  A review of the design for lowering the spillway is proceeding.

- Future Water Source Pipelines

  The route of a pipeline from the Pakuratahi Dam site to Te Marua Water Treatment Plant is being investigated and a report prepared. The route of a pipeline from the Whakatikei water treatment plant site to the Te Marua to Karori pipeline is being investigated.

- Wainuiomata Water Treatment Plant Outlet Control Valve

  Installation drawings have been prepared to relocate this control valve to Tunnel Grove valve chamber. Delivery of the new control valve has been delayed to March 2006 because of a manufacturing fault. Replacement of air valves on the Wainuiomata pipeline is being investigated to reduce the effects of air slam.

- Power Factor Correction Equipment

  An order has been placed for the supply of power factor correction equipment to be installed at three facilities - Wainuiomata Water Treatment Plant, Gear Island Water Treatment and Ngauranga Pumping Station.

- Wainuiomata Pumping Stations Variable Speed Drives

  Variable speed drivers have been installed and commissioned at the Moores Valley Pumping Station. Arrangements are being made to install variable speed drives at Wainuiomata No. 1 Pumping Station.

  The variable speed drives will even flows and improve efficiency of the pumps.

- Duplicating Te Marua to Karori Pipeline at Haywards

  The Contractor is completing the last section of pipeline on the revised route through Transpower land. Arrangements are being made to install valves and pipework at the connection point alongside State Highway 2.

- Emergency Water Supply Points for Upper Hutt City Council

  A pressure reducing valve has been ordered for a proposed cross connection at the Fergusson Drive/Camp Street intersection.

- Judgeford Golf Course Underpass

  The Judgeford Golf Club is proposing to proceed with construction of an underpass beneath State Highway 58. Arrangements are being made to lift the Te Marua to Karori pipeline.

- Pukerua Bay Bypass Pipeline

  Drawings have been prepared for the installation of a bypass pipeline around the Pukerua Bay Reservoir.

- Karori Pumping Station Replacement

  Construction of the pumping station building is complete. Installation of the pumpsets and pipework inside the building is proceeding. The switchboard is being fabricated.

- Karori Pumping Station Replacement - External Pipelines

  The Contactor installing the pipelines between the pumping station and existing mains re-established on-site and is proceeding to lay pipes up to the pumping station.

- Point Howard Pumping Station

  The site of the new pumping station alongside Seaview Road has been excavated and construction of the building commenced.

- Hutt Road Balancing Tank

  A fence has been constructed, the tank roof removed and a hole cut in the tank wall to remove and manage the hazards on this site.

# Engineering Consultancy Group

## January/February 2006

# Engineering Consultancy Group
# Review of Operations for the period ended 28 February 2006

## 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. Other projects are as follows:

- Proposed GWRC/WCC/Capital and Coast District Health Board Reservoir

  WCC's Project Manager has advised he would like input to a functional assessment to figure out how the reservoir should be connected into the reticulation system and how to maintain turnover.

- Stuart Macaskill Lakes Tower Strengthening

  A draft peer review of the proposal to strengthen the lake towers has been received from the Consultants. The Consultant has been asked to carry out some further work.

- Wainuiomata Mainland Island

  The pest control operation is proceeding. A strategic plan is being developed to clearly identify the aims, goals and management of the area.

## 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. Current projects under way are:

## 3. Work Carried Out for Wellington City Council

On behalf of WCC, Capacity requested quotations for design and Contract administration of two water reticulation pipeline replacement projects. One of these projects has been awarded to the Engineering Consultancy Group. Current projects under way are:

- Northern Water Main Renewals

  Detailed design of the pipeline installation in Churton Drive is being finalised.

- Alexandra Road Zone

  Design of the pipework to connect the new pumps at the Roseneath Reservoir to the Alexandra Road tanks has been provided to WCC.

- Ngaio and Wadestown Water Main Renewals

  Work has commenced on preparation of the base plans for the replacement of the water mains in seven roads in Ngaio and Wadestown.

## 4. Work Carried Out for Flood Protection

Current projects under way are:

- Norfolk Street Floodgate

  This hinged gate will close a vehicle access through the stopbank, to prevent the Norfolk Street area flooding if the Hutt River is very high.

  The installation of gates is complete.

- General Draughting Work

  The Engineering Consultancy Group provides most of the draughting services for Flood Protection.

## 5. Corporate Projects

- Pandemic Preparation

  Various emergency supplies have been purchased and stockpiled for use as required. Investigations are under way to provide a web site accessible to staff from home, so that information can be disseminated.

  Human resources procedures are being developed, e.g., when to send people home. A corporate plan is also being developed with each department identifying key actions that will occur at various stages of a pandemic.

# Laboratory Services

## January/February 2006

# Laboratory Services Department
# Review of Operations for the period ended 28 February 2006

## 1. Items of Note

- A bright start to the New Year - Laboratory finances look encouraging, with an upturn in external revenue bolstering the accounts.

- Despite early optimism, we failed to make an appointment in connection with our advertised position for a Laboratory Microbiologist. There seems to be a real dearth of technical people out there looking for employment in this particular field.

- Very much business as usual this summer but the laboratory kept busy with staff leave taking. A few ideas and projects are being kicked around that may come to fruition next period.

## 2. Business Summary

### 2.1 Quality

There were no requests for retesting samples and test reports were generally timely.

### 2.2 Health and Safety

There were no accidents or incidents recorded, resulting in time lost to injury this period.

# Plantation Forestry

## January/February 2006

# Plantation Forestry Department
# Review of Operations for the period ended 28 February 2006

## 1. Log Harvest Contract

These two months have been variable because of both a "late" start following Christmas and difficult terrain, which slowed production. In the Hukinga harvesting switched to the Signis block, as access to this is through a ford on the Akatarawa River West and we wished to take advantage of the lower river flows associated with summer. This was a mixed block with easy ground based logging followed by steep "blind" hill faces. As this report is written, this block has been completed and the crew has returned to block 9/02 to complete this harvest.

One issue that has been an ongoing problem has been the propensity for Mitsubishi trucks to stall on the hill between the 9 km and 8 km. It appears that it is only the one brand of vehicle that causes the problem. These incidences have been minimised by ensuring the surface on the road is kept as smooth as possible. This has required regular treatment by a local contractor with a spreader bar, which knocks the top of corrugations on the road without disturbing the consolidated base underneath. The contractors have also been requested to minimise the use of this brand of truck on this route. When this phase of logging has been completed it is proposed to reconstruct the hill to provide an even grade and to eliminate the camber on the curves. This can only be done while the route is not required for logging, to allow the road to settle. There is a good case to specify only centralised tyre inflation (CTI) vehicles in any future contract.

The second crew completed the Upper Longspur block in early February and returned to the Martins block in Pakuratahi West, which had been left uncompleted because of wet conditions earlier in 2005. Block 4/05 was completed without difficulty but of recent times wet underfoot conditions have again become an issue and it is to be hoped that there is to be a further spell of settled fine weather before winter sets in.

Production for January and February is shown in tables 1 to 3 on pages 28 and 29.

## 2. Silviculture Contracts

The rate of completion of the Silviculture Contract has improved following the successful employment of three further staff by the Contractor. The second Contractor has a number of blocks programmed to be low pruned. However, despite holding these back to the latter stages of the year, growth is still less than desirable. These blocks will be reassessed in the coming month and may be rolled into the 2006/7 silviculture programme.

At this stage the Contractors have completed 155.7 ha out of 257.7 ha.

**Table 1 - Valley View - Output by Grade - Longspur**

| Grade | | January 2006 | | February 2006 | |
|---|---|---|---|---|---|
| | | **Tonnes** | **%** | **Tonnes** | **%** |
| Pruned | | 0 | 0 | 0 | 0 |
| Short Pruned | | 0 | 0 | 0 | 0 |
| S/A Grade | | 259.69 | 19.48 | 84.97 | 28.77 |
| L Grade | | 0 | 0 | 0 | 0 |
| R Grade | | 134.81 | 10.11 | 118.40 | 40.09 |
| K Sawlog | | 282.32 | 21.17 | 48.52 | 16.43 |
| Roundwood | | 0 | 0 | 0 | 0 |
| K Rough | | 304.32 | 22.82 | 0 | 0 |
| Dom Rough | | 39.77 | 2.98 | 12.13 | 4.11 |
| Pulp | | 43.98 | 3.30 | 18.45 | 6.25 |
| O/S Pulp | | 0 | 0 | 0 | 0 |
| Export Pulp | | 240.72 | 18.05 | 12.90 | 4.37 |
| Firewood | | | | 0 | 0 |
| Total | | **1,333.43** | | **295.37** | |

Revenue for January was $24,932.39 at an average of $18.70 per tonne
Revenue for February was $7,490.10 at an average of $26.24 per tonne

**Table 2 - Output by Grade - Hukinga]**

| Grade | | January 2006 | | February 2006 | |
|---|---|---|---|---|---|
| | | **Tonnes** | % | **Tonnes** | **%** |
| Pruned | | 33.26 | 3.43 | 0 | 0 |
| Short pruned | | 0 | 0 | 29.24 | 1.00 |
| S/A Grade | | 327.31 | 33.79 | 882.66 | 30.07 |
| L Grade | | 24.62 | 2.54 | 0 | 0 |
| R Grade | | 135.98 | 14.04 | 429.46 | 14.63 |
| K Sawlog | | 225.69 | 23.30 | 680.18 | 23.17 |
| Roundwood | | 0 | 0 | 0 | 0 |
| K Rough | | 112.37 | 11.60 | 448.04 | 15.26 |
| Dom Rough | | 0 | 0 | 0 | 0 |
| Pulp | | 79.73 | 8.23 | 381.01 | 12.98 |
| O/S Pulp | | 29.80 | 3.08 | 84.52 | 2.88 |
| Firewood | | 0 | 0 | 0 | 0 |
| Total | | **968.76** | | **2,935.11** | |

Revenue for January totalled $18,869.82 at an average of $23.17 per tonne
Revenue for February totalled $61,904.42 at an average of $20.41 per tonne

**Table 3 - Output by Grade - Martins**

| Grade | | February 2006 | |
|---|---|---|---|
| | | Tonnes | % |
| Pruned | | 0 | 0 |
| Short pruned | | 0 | 0 |
| S/A Grade | | 392.84 | 24.50 |
| L Grade | | 0 | 0 |
| R Grade | | 368.59 | 22.99 |
| K Sawlog | | 289.38 | 18.05 |
| Roundwood | | 0 | 0 |
| K Rough | | 146.38 | 9.13 |
| Dom Rough | | 72.97 | 4.55 |
| Xport Pulp | | 333.24 | 20.788 |
| O/S Pulp | | 0 | 0 |
| Firewood | | 0 | 0 |
| Total | | **1,603.40** | |

Revenue for February totalled $34,445.18 at an average of $21.48 per tonne

Total revenue for January was $143,802.21 at an average of $ 21.45 per tonne
Total revenue for February was $103,839.70 at an average of $21.12 per tonne

## 3. Plantation Forestry Operations

With logging in full swing, most of the staff time has been related to ensuring the operations continue to run smoothly. This has particularly related to the difficulties on the access road from the Hukinga mentioned earlier

The forest maps for Pakuratahi East, Valley View, Puketiro and Whakatikei have been updated to reflect recent plantings and new roads. Block structures within Pakuratahi East have also been reconfigured to better reflect the terrain and the likely future silvicultural strategies.

` Road inspections over the route to Puketiro have been carried out following initial downward moves by the New Zealand dollar prompted by the likelihood (hope) that a lower dollar will reignite interest in pruned logs. The intention is to carry out some routine maintenance in early April following the rally sprint planned for 8 and 9 April. The harvest plan for Dick's Yard in Puketiro has been revised to enable a short notice start in the block.

Its is planned to gather further foliage samples from the replanted blocks in Pakuratahi West which were not fertilised last spring and have these analysed in time to arrange a further fertiliser spread next spring should it be required.

## 4. Forest Access

Maungakotukutuku access remains the only significant problem, with the only access requiring two crossings of the Maungakotukutuku Stream.

Generally the roads other than Maungakotukutuku have remained open, with the only problems being wear on those roads used for logging and becoming overgrown with either gorse or Himalayan honeysuckle. A limited spraying operation has been undertaken on the most affected tracks.

Millings have been applied to very hard "bony" sections of the road into the Hukinga above McGhies Bridge and at the 8 km. These areas had been identified as being the cause of excessive tyre wear on trucks operating under load with diff locks engaged.

Unfortunately it is becoming more and more difficult to access millings as they become more popular for use in patching materials on off-road tracks and roads.

## 5. Market Trends

As this report is written, the exchange rate between the New Zealand and United States' dollars has fallen a full 10 cents from its peak in the low 70s. The end of the Contract period is 31 March and all domestic prices are renegotiated with effect from 1 April.

The hope is that the movement in the dollar will enable some upward movement in prices as those mills, which traditionally deal in pruned logs, move back to that product and lower the supply of sawlog. Export prices are reset fortnightly and, although they have been drifting upwards, a more marked increase is anticipated. This is driven by the dollar and the onset of the Korean spring.

The downside is that the cost elements related to diesel prices are also recalculated from 1 April and a significant rise is anticipated. While this is mainly trucking and harvesting, shipping costs will probably climb as well.

Domestic demand remains firm and at this stage there is no difficulty disposing of logs.