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# **Greater Wellington Water**

**March to May 2003**

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# **Operations Group**

**March to May 2003**

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## **Operations Group Review of Operations for the Period Ended 31 May 2003**

### **1. Items of Note**

- The reorganisation of the Operation Department staff structure is now complete. Three new positions have been filled internally and two vacant positions filled by external engagements.
- In light of the amendments to the Health and Safety in Employment Act and changes in responsibilities brought about by the departure of Dan Roberts, a review of the divisional Health and Safety Management Plan has begun.

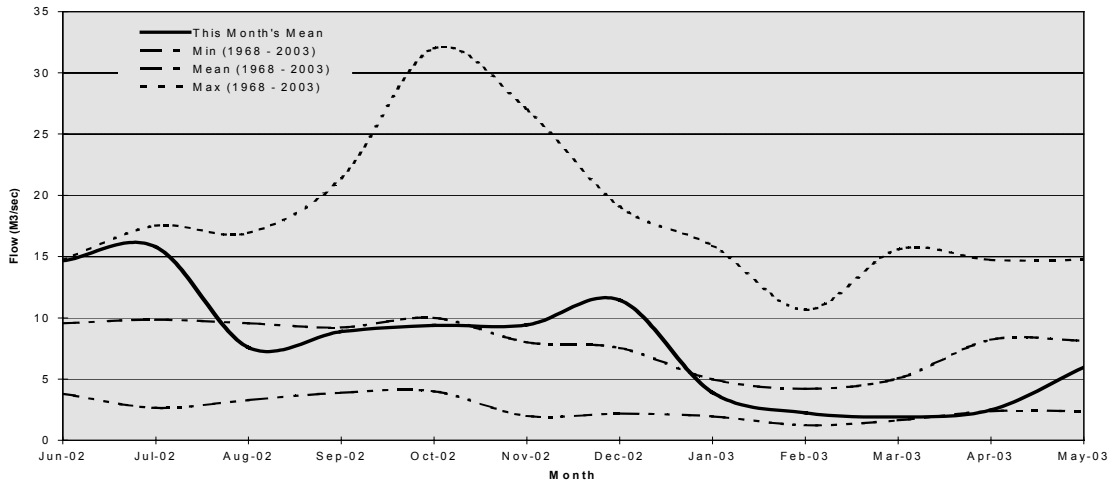
### **2. Supply Situation**

- Whilst no problems have been experienced in meeting the demand requirements of the territorial authorities, it should be noted that the extended period of dry weather resulted in lower than average river flows in all catchments.
- Record low levels were measured in the Wainuiomata river during March.
- These low river flows resulted in larger volumes of water being extracted from the aquifer. Although consent limits were not breached the first low alarm level was reached. It is reassuring to note that the aquifer recovered well when abstraction was reduced. The situation is under constant review.
- The off river storage in Stuart Macaskill Lakes is at about 80% of maximum capacity.

## Hutt River Flows at Kaitoke

The mean monthly flows in the Hutt River during the period were:

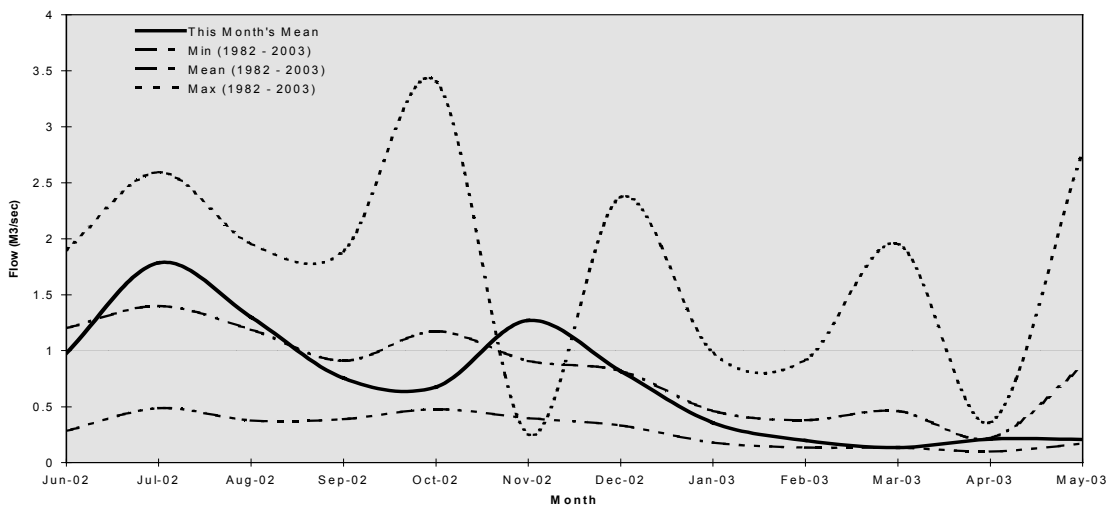
March	Below average
April	Below average
May	Just below average



## Wainuiomata River Flows

The mean monthly flows in the Wainuiomata River during the period were:

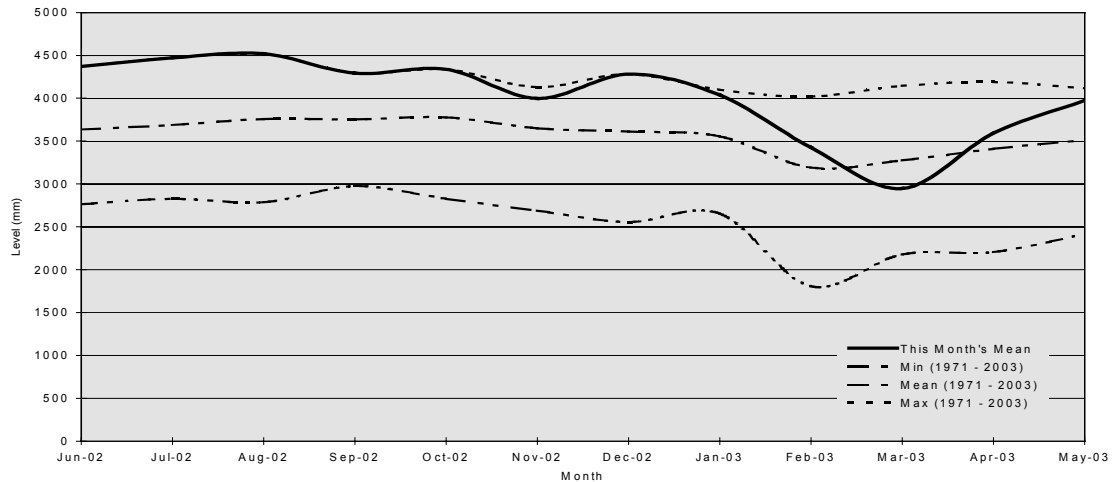
March	Record low level
April	Below average
May	Below average



## Aquifer Levels

The mean daily levels at McEwan Park during the period were:

March Below average, aquifer at first alarm level for a few days  
April Just below average – good recovery from low March levels  
May Above average



## 4. Treatment Plants

### 4.1 Wainuiomata

#### 4.1.1 Quality

There are no quality issues to report.

#### 4.1.2 Health and Safety

There are no accidents or incidents to report.

#### 4.1.3 Operations

- Due to low river levels the plant was turned off on a number of occasions in March. Preventive maintenance was carried out during these periods.
- A replacement blower was installed in March.
- Fire protection system has been upgraded.

#### 4.1.4 Plant Tours

There was one plant tour from Massey university on 6<sup>th</sup> March

#### 4.1.5 **Capital Works Projects**

- PLC Replacement – Initial investigations complete, now preparing tender documents.
- Centrifuge speed control – Installation in progress.
- Jigger replacement – New jigger will be delivered by mid June.

### 4.2 **Waterloo Water Treatment Plant**

#### 4.2.1 **Quality**

There are no quality issues to report.

#### 4.2.2 **Health and Safety**

There are no accidents or incidents to report.

#### 4.2.3 **Operations**

- Four old exploratory wells have been located between Waterloo and Lower Hutt CBD. We are now in the process of making them secure.
- Work has started on preparing the treatment plant office area to become the new emergency response centre.
- Work on re-establishing aeration has been delayed due to failure of a cross connection valve in the reservoirs.

#### 4.2.4 **Plant Tours**

There were no tours during the period.

#### 4.2.5 **Capital Works Projects**

- Security upgrade work is complete.
- The installation of the new standby generator will commence in June.
- Power factor correction has been installed on the well pumps.

### 4.3 **Gear Island**

#### 4.3.1 **Quality**

There are no quality issues to report.

#### 4.3.2 **Health and Safety**

There are no accidents or incidents to report.

#### 4.3.3 Operations

- Unightly, redundant, pipework which was protruding from the Hutt dead arm bank has been removed.
- The installation of raw water quality monitoring instrumentation and refurbishment of the site lab has been delayed due to lack of water at Wainui and being in power saving mode.

#### 4.3.4 Plant Tours

There were no tours during the period.

#### 4.3.5 Capital Works Projects

- Replacement of the control panel has been delayed due to lack of water at Wainui and being in power saving mode.
- Ventilation upgrade is complete.

### 4.4 Te Marua

#### 4.4.1 Quality

There are no quality issues to report.

#### 4.4.2 Health and Safety

There was one minor accident for the period.

#### 4.4.3 Operations

- Caustic Leak (May) – A leak occurred during a caustic delivery due to the delivery driver not following the correct delivery procedures. An investigation has been carried out and a non-conformance report has been issued to the supplier. A report on the incident has been prepared and we are considering changing the procedure so that a treatment plant operator is required to be present for future deliveries.
- Blending trials are on hold until algae levels in the lakes increase.

#### 4.4.4 Plant Tours

4/3/03	Hataitai School	60
13/3/03	Maidstone Intermediate	32
26/3/03	WRC Induction	18
27/3/03	Maidstone Intermediate	32
10/4/03	Maidstone Intermediate	32
9/5/03	Maidstone Intermediate	12
14/5/03	Plateau School	60
15/5/03	Burma High School	12
29/5/03	Tawa Senior Citizens	50

#### 4.4.5 **Capital Works Projects**

- Chlorination modifications complete
- Plant security upgrade complete

### 5. **Distribution**

#### 5.1 **Quality**

There are no quality issues to report.

#### 5.2 **Health and Safety**

There are no accidents or incidents to report.

#### 5.3 **Operations**

- All scheduled maintenance activities carried out as planned
- The failure of two valve branches caused unplanned shutdowns of the 1050 main between Korokoro and Thorndon. It appears that these branches were not properly lined when installed. Pipeline staff are progressively inspecting all other similar branches.

#### 5.4 **Projects**

- Gear Island Valve Chamber – completed refurbishment including walkways and painting.
- Gear Island Flowmeter - Excavated and installed new 600 flowmeter, pipework and 1800 valve chamber in the 1050.
- **Hutt Park Deviation**
  - Flushed 1050 connection to the Rahui branchline.
  - Excavated the OK in the Hutt Park Roundabout, cut out the pipe and welded on 2 dead end plates.
  - Excavated the “T” Connection from the 1050 and 750 and installed new 90 degree bend.
- SAV Replacement on the 1050 - Shut down the 1050 eleven [11] times in this period for SAV Removals and for new installations [2 being night shuts]
- Gear Island Wellfield Scour - Excavated, fabricated and installed all pipework, valves, chamber and headwall from No 2 well to the Hutt River Dead Arm [except the tie-in to the well head]
- Plimmerton No 2 Deviation - Completed the tie in to the branchline from SH 1 at Taupo Stream/Plimmerton Domain.



## Utility Services Division Health and Safety Data 2002 - Total Injuries

<b>PRODUCTION (+ 1 OPS ADMIN)</b>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Hours worked	2,042	2,481	2,600	2,689	3,380	2,626	3,838	2,523	2,419	2,377	2,272	2,232.5	Jun = fractured chemical line
Employee numbers	15	16	16	16	17	16	16	16	16	16	16	16	16 Jul = scratched hand on metal support
Injuries	0	0	0	0	0	1	1	1	0	0	1	0	Aug = back injury after falling off chair
Days lost	0	0	0	0	0	0	0	2	15	11	17	0	Nov = wrenched shoulder
Incidence rate (number of incidents per 100 workers)	0	0	0	0	0	6.25	6.25	6.25	0	0	6.25	0	
Frequency rate (incidents per 1,000,000 hours exposure)	0	0	0	0	0	380.8	260.55	396.35	0	0	440.14	0	
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	0	0	793	6,200.9	4,627.68	7,482	0	
<b>DISTRIBUTION</b>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Hours worked	1,565	1,342	1,322	1,353	1,421	1,211	1,753	1,355	1,328	1,236	1,108	1,347	April = strained back
Employee numbers	9.5	9.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	Oct = twisted back from entering/existing cramped chamber
Injuries	0	0	0	1	0	0	0	0	0	2	0	0	Oct = hurt fingers while freeing pipe from plaster in valve manhole
Days lost	0	0	0	0	0	0	0	0	0	0	0	0	
Incidence rate (number of incidents per 100 workers)	0	0	0	11.8	0	0	0	0	0	23.52	0	0	
Frequency rate (incidents per 1,000,000 hours exposure)	0	0	0	739	0	0	0	0	0	1,618	0	0	
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	0	0	0	0	0	0	0	
<b>ENGINEERING CONSULTANCY</b>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Hours worked	1,576	1,632	1,744	1,772	1,908	1,568	2,423	1,652	1,581	1,685	1,472	1,400	March = barked shin on protruding pipe
Employee numbers	11	11	11	11	11	11	11	11	11	11	11	11	Jul = black eye (hit check on corner of car door)
Injuries	0	0	1	0	0	0	1	0	1	0	0	0	Sep = ankle and knee injury following knock from high pressure hose
Days lost	0	0	0	0	0	0	0	0	0	0	0	0	
Incidence rate (number of incidents per 100 workers)	0	0	7.1	0	0	0	7.1	0	7.1	0	0	0	
Frequency rate (incidents per 1,000,000 hours exposure)	0	0	573.3	0	0	0	412.71	0	632.51	0	0	0	
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	0	0	0	0	0	0	0	
<b>UTILITY SERVICES SUPPORT</b>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Hours worked	1,136	1,020	1,024	1,064	1,040	876	1,396	920	776	840	840	878.75	
Employee numbers	9	9	8	8	8	8	8	7	7	7	7	7	
Injuries	0	0	0	0	0	0	0	0	0	0	0	0	
Days lost	0	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	0	
Frequency rate (incidents per 1,000,000 hours exposure)	0	0	0	0	0	0	0	0	0	0	0	0	
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	0	0	0	0	0	0	0	
<b>LABORATORY</b>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Hours worked	1,207	1,242	1,335	1,364	1,124	1,097	1,641	1,102	956	1,085	1,053	1,104.5	Jan = twisted knee joint whilst collecting samples
Employee numbers	10	10	10	10	8	7	7	7	7	7	7	7	Jun = days lost due to incident occurred in January
Injuries	1	1	0	0	0	0	0	0	0	2	2	1	Jul = burn to right hand
Days lost	0	3	0	0	0	6	1	1	0	0	0	0	Oct = jammed finger in sliding cupboard doors
Incidence rate (number of incidents per 100 workers)	10	10	0	0	0	0	14.28	14.28	0	28.56	28.56	14.28	Oct = bruised ankle - slipped on rocks in riverbed
Frequency rate (incidents per 1,000,000 hours exposure)	828.5	797	0	0	0	0	609.38	907.44	0	921.65	1,899.33	905.38	
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	5,471.9	0	0	0	0	0	0	

**STRATEGY AND ASSET**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Hours worked	632	646	552	680	774	614	982	572	674	598	638	602
Employee numbers	5	5	5	5	5	5	5	5	5	5	5	5
Injuries	0	0	0	0	0	0	0	0	0	0	0	0
Days lost	0	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	0
Frequency rate (incidents per 1,000,000 hours exposure)	0	0	0	0	0	0	0	0	0	0	0	0
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	0	0	0	0	0	0	0

**FORESTRY**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Hours worked	404	328	497	516	476	396	673	496	465	418	409.3	372.6
Employee numbers	3	3	3	3	3	3	3	3	3	3	3	3
Injuries	0	0	0	0	0	0	0	0	0	0	0	0
Days lost	0	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	0
Frequency rate (incidents per 1,000,000 hours exposure)	0	0	0	0	0	0	0	0	0	0	0	0
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	0	0	0	0	0	0	0

Utility Services Division Combined	Jan	Feb	Running Total from 1/1/02	Mar	Running Total from 1/1/02	Apr	Running Total from 1/1/02	May	Running Total from 1/1/02	Jun	Running Total from 1/1/02	Jul	Running Total from 1/1/02	Aug	Running Total from 1/1/02	Sep	Running Total from 1/1/02	Oct	Running Total from 1/1/02	Nov	Running Total from 1/1/02	Dec	Running 12 month Total
Hours worked	8,561	8,689	17,250	9,074	26,324	9,438	35,762	10,122	45,884	8,387	54,271	12,704	66,975	8,620	75,595	8,198	83,793	8,239	92,031	7,791	99,822	7,937	107,760
Employee numbers	63	64	63	62	63	62	63	61	62	59	62	59	65	58	65	58	65	58	65	58	65	58	65
Injuries	1	0	1	1	2	1	3	0	3	1	4	2	6	1	7	1	8	4	12	3	15	1	16
Days lost	0	0	0	0	0	0	0	0	0	6	6	1	7	3	10	15	25	11	36	17	53	0	53
Incidence rate (number of incidents per 100 workers)	2	0	0.8	1.6	1.1	2	1.2	0	1.0	2	1.1	3	1.3	2	1.5	2	1.4	7	2.1	5	2.1	2	2.1
Frequency rate (incidents per 1,000,000 hours exposure)	117	0	58	110	76	106	84	0	65	119	74	157	90	116	93	122	95	486	130	385	150	126	148
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	0	0	0	0	715	111	79	105	348	132	1,830	298	1,335	391	2,182	531	0	492

Incidence rate = (number of incidents/number of employees) x 100

Frequency rate = (number of incidents/person hours worked) x 1,000,000

Severity rate = (days lost/person hours worked) x 1,000,000



**STRATEGY AND ASSET**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Hours worked	518	602	709	632	584	0	0	0	0	0	0	0
Employee numbers	5	5	5	5	5	0	0	0	0	0	0	0
Injuries	0	0	0	0	0	0	0	0	0	0	0	0
Days lost	0	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	0
Frequency rate (incidents per 1,000,000 hours exposure)	0	0	0	0	0	0	0	0	0	0	0	0
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	0	0	0	0	0	0	0

**FORESTRY**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Hours worked	409	455	394	644	581	0	0	0	0	0	0	0
Employee numbers	3	3	3	3	3	0	0	0	0	0	0	0
Injuries	0	0	0	0	0	0	0	0	0	0	0	0
Days lost	0	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	0
Frequency rate (incidents per 1,000,000 hours exposure)	0	0	0	0	0	0	0	0	0	0	0	0
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	0	0	0	0	0	0	0

Utility Services Division Combined	Jan	Feb	Running Total from 1/1/02	Mar	Running Total from 1/1/02	Apr	Running Total from 1/1/02	May	Running Total from 1/1/02	Jun	Running Total from 1/1/02	Jul	Running Total from 1/1/02	Aug	Running Total from 1/1/02	Sep	Running Total from 1/1/02	Oct	Running Total from 1/1/02	Nov	Running Total from 1/1/02	Dec	Running 12 month Total
Hours worked	8,448	81,34	16,581	8,774	25,358	8,072	33,430	7,334	40,763														
Employee numbers	58	59	63	59	63	58	63	58	62														
Injuries	3	0	3	2	5	2	7	1	8														
Days lost	0	0	0	2	2	2	4	0	4														
Incidence rate (number of incidents per 100 workers)	5	0	2.4	3.4	2.6	3	2.8	2	2.6														
Frequency rate (incidents per 1,000,000 hours exposure)	355	0	181	228	197	248	209	136	196														
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	171	59	248	105	0	86														

Incidence rate = (number of incidents/number of employees) x 100

Frequency rate = (number of incidents/person hours worked) x 1,000,000

Severity rate = (days lost/person hours worked) x 1,000,000



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# **Strategy and Asset Group**

**March to May 2003**

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## Strategy and Asset Group Review of Operations for the Period Ended 31 May 2003

### 1. Items of Note

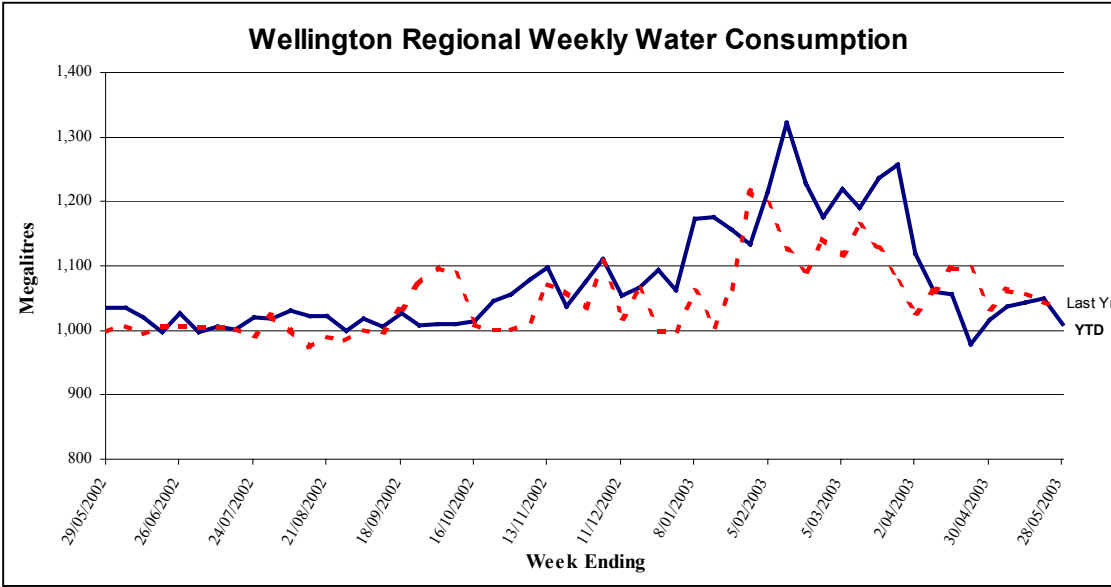
- Since the last Utility Services committee meeting, the Policy, Finance and Strategy committee approved a change of operating mode for the water treatment plants from cost minimisation to power minimisation. Negotiations were also proceeding with our energy supplier for supplier to reimburse Greater Wellington for operating its standby generators when called upon. The first step was to install kilowatt hour meters on generators that did not have this type of meter. A quotation has been received but by the time this was arranged, rainfall in the South Island had led to a reduction in spot electricity prices. Following discussions with the power supplier, it has been decided to defer the installation of the meters.

If the improvement in the lake levels in the South Island continues, relative to the average level for the time of year, then it is expected it may be practical to revert back to normal operating methods towards the middle of June. This issue will be discussed further at the committee meeting.

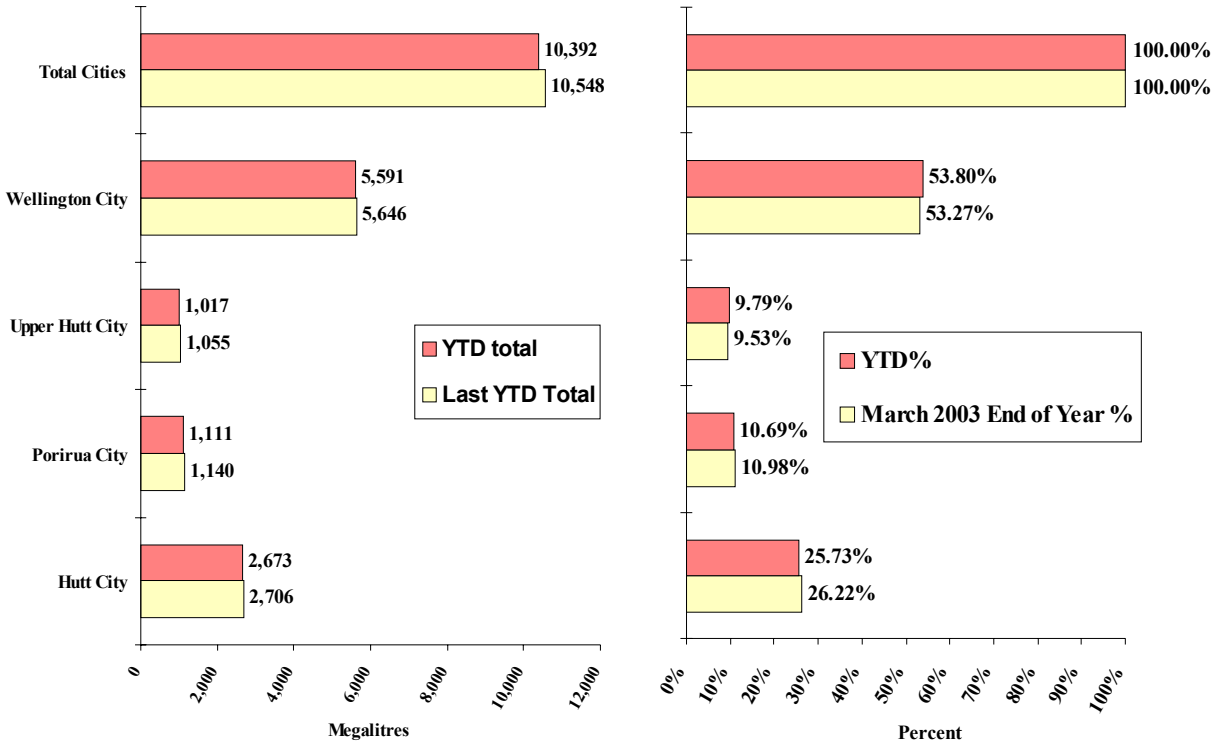
- Even though it has been reasonably dry during April and May, sales volumes have been about average for the time of year and slightly below the quantity for the same two months last year.
- In preparation for next year's capital expenditure, two separate reports have been prepared for consideration by the committee. These relate to re-location of pumping stations at Karori and Randwick. The justification for the expenditure is partly based on the seismic vulnerability of the existing sites.
- In 1996, the wholesale water supply operation obtained certification to ISO 9002. This international standard lapses in December this year and has been replaced by ISO 9001: 2000. Good progress is being made on the certification requirements to the new standard and a separate report outlines this in more detail.
- Work is continuing on potential sites for wind farm developments on land that is currently utilised for exotic forestry. A quotation has been obtained for a basic wind mast and wind recording equipment to be installed at Puketiro, which backs on to the Battle Hill Regional Park. Erection of the mast and equipment is dependent on finance being approved for the 2003/4 financial year.

## 2. Sales Volume

### Water Sold Over the Last 12 Months



### Water Sold from 1 March to 31 May 2003





### 3. **Asset Management**

- A review of the June 1998 Asset Management Plan (AMP) is underway, a detailed outline produced, and staff briefed to produce contributions. Meritec Ltd, a consultant with extensive asset management experience have been commissioned to undertake a peer review of the new plan, and have to date provided comments on the proposed detailed outline of the new plan. A separate more detailed report is included in the order paper.
- The Capital Works budget for 2002/2003 is \$2.752m. Expenditure to 31 May is \$1.99m. As at 30 April 2003 the full year forecast expenditure is \$2.465m, with \$269,000 to be re-budgeted into 2003-2004 for programmed work not completed. Deferring the construction of a new pumping station at Ascot Park, and the upgrading of the Karori pumping station has generated savings. Significant additional costs have been created by difficulties experienced slip lining the OK main through Petone. The need to replace dangerous air valves along the Hutt Road, and the replacement of the Orongorongo rail jigger for safety reasons have also generated unbudgeted funding requirements.
- Preliminary investigations into the feasibility and cost of relocating the Karori pumping station to a less vulnerable location have been completed, and are reported separately.
- Preliminary investigations into the feasibility and cost of relocating the Point Howard pumps away from the Randwick Rd vale chamber/pumping station to a less vulnerable location have been completed, and are reported separately.
- Repairs to scour under the downstream edge of the Orongorongo Intake weir by relocating large boulders already in the river bed has been completed at significantly less than the budgeted cost. Upgrading of the intake structure itself is also to be undertaken, but has been deferred for operational reasons until early next summer.
- Other projects underway include the Wainuiomata/Orongorongo catchment boundary fence, installing a larger standby generator at Waterloo, replacing the control system at Wainuiomata WTP and replacing equipment at the Warwick Street Pump Station. In addition \$300,000 is budgeted for further seismic improvements and investigations.
- The new Pumps and Switchboard at Johnsonville Pump Station have been fully commissioned.
- Final plans for the transfer of Karori Reservoir land to the Wellington City Council have been received and approved. Following final administrative clearance, the land will be formally transferred to the Wellington City Council.

- The branch main to the Plimmerton Reservoir, which will be affected by new SH 1 roading work at Plimmerton, has been relocated clear of highway reconstruction activities. Transit NZ has agreed to meet the full cost of this work.
- Construction work on the development of the area of land above Porirua City known as the Aotea Block has commenced, but the branch main supplying the Porirua Reservoir is not affected at this stage. A comprehensive formal agreement covering all aspects of the arrangements to relocate the main, including a performance bond, has been executed by GW, the developer and Porirua City Council. All costs of relocating the pipeline will be met by the developer.
- Transit NZ has let a contract for the upgrading of SH2 near Te Marua. This work includes relocation of some GWW drainage works adjacent to the Stuart Macaskill Lakes, at Transit's cost, and this work is currently underway. Staff are liaising closely with Transit and the Contractor to ensure our requirements are met.
- A damage assessment of all water supply assets during a Wellington Fault Earthquake has been completed as an input to the review of insurance policies and strategies. Revised premium estimates are awaited and will be considered before a final decision on our insurance strategy is taken.

#### 4. **Catchment Management**

- Prohunt have completed their contract to hunt goats in two blocks near the Kaitoke weir. During May they culled 42 goats, 5 deer and 7 pigs. They also caught and tagged 5 goats with tracking collars to act as "Judas" goats. These goats were released throughout the catchment to enable ongoing assessment of goat numbers.
- The collar off a dead Judas goat was recovered from the Wainuiomata/Orongorongo catchment. While carrying out this task and additional 13 goats were shot.
- Landcare staff have carried out an assessment of rodent and mustelid populations in the Wainuiomata catchment. 45% of 200 tracking tunnels baited with peanut butter showed rodent tracks and 1 showed stoat tracks. Of 104 tunnels baited with rabbit, 70% showed rodent tracking and two with stoat tracks. Further monitoring will be carried out on a regular basis to provide an ongoing time series of population changes.

#### 5. **Quality Assurance**

- Certification was received from the Hutt Valley DHB on 24 April that the Te Marua and Waterloo plants fully complied with the Drinking Water Standards (DWSNZ:2000) during 2002. Wainui WTP was granted full compliance for the last three quarters of 2002; and a minor

fluoride non-compliance at Gear Island prevented it from gaining a full compliance certificate. Compliance data from Wainui has been supplied to the HVDHB for the first quarter of 2003, and this information is currently being reviewed. Twelve months of fully complying data is required in order for this plant to gain an "A" Grading.

- Work has begun on drafting Public Health Risk Management Plans (PHRMPs) required by the Ministry of Health. It is expected that new health legislation, to come into force in mid 2004, will make the provision and implementation of such plans mandatory. Good risk management procedures are already in place, so that significant changes to the way the plants and system are operated are not expected.

## 6. Environmental

- Tenders will be called soon for a wheel wash at the entrance to the Wainuiomata/Orongorongo catchment. The purpose of the wheel wash is to reduce the risk of infestation of these catchments by exotic weeds.
- The draft Annual Plan includes funding to begin investigations aimed at creating a wetland behind the lower dam at Wainuiomata. The long term stability of the dam will be of prime importance in undertaking this study.

## 7. Marketing

- Research about the summer conservation campaign on Television One has now been completed. This was the first year for a series of three 15 second animated advertisements. The results were disappointing in that the unprompted recall was substantially less than that for the very successful advertisement fronted by Maggie Barry and used in the previous three years. Of those that did recall seeing the advertisement, then there was very high recognition of the message in the ad. A recommendation will be made to the committee later in the year about water conservation advertising for the 2003/4 summer.
- Work is progressing on a new signs for the water treatment plants, pumping stations and other facilities. It is expected most of these will be installed in June, the exception being some signs that have joint messages with other Greater Wellington departments.
- Design of the mimic board display for the Wainuiomata Water Treatment Plant has been completed. This board will show the flow process from raw water collection in the catchment to the time the water leaves the water treatment plant. The board is more detailed than the equivalent board at Te Marua, it will include a number of pictures.

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

- Orongorongo River Intake

The Contract to construct a rock mattress below the Orongorongo weir has been successfully completed within budget.

- Wainuiomata/Orongorongo Catchment Wheel Wash

The contract for the construction of a vehicle wheel wash at the entrance of the catchment area has been awarded. Work is about to start on site.

- Wainuiomata/Orongorongo Catchment Fence

The contract for erection of a deer fence along the northern boundary of the water collection area was awarded and work is progressing on site. This fence will prevent the reinfestation of deer, pigs and goats from the adjacent farmland.

- Wainuiomata Water Treatment Plant Outlet Control Valve

Replacement and relocation of this control valve is being investigated.

- Waterloo Water Treat Plant Vibration and Noise

The vibration analysis of the motor hall floor concluded that a fatigue failure of the floor is highly unlikely.

- Garaging for Waterloo Wellfield Generators

Design of an extension to the treatment plant to house the mobile generators has been completed and tenders for the construction invited.

- Gear Island Collector Main Scour

A metered scour has been installed on the Wellfield collector main. Some minor work is required to complete the installation.

- Wainuiomata to Wellington Pipeline

A new flow meter has been installed on the Wainuiomata to Wellington pipeline at Gear Island. An underground concrete chamber is being constructed around the flow meter.

- Refurbishment of the OK Main, Petone

Negotiations are continuing with the Contractor to finalise the cost of the work.

- Te Marua to Karori Pipeline Stream Crossing

A contract has been awarded to rebuild a headwall on the Te Marua to Karori Pipeline adjacent to Takapu Road.

- SH1 Bridge at Paremata

A pipeline is being designed for erection on the new bridge being constructed at Paremata.

- Plimmerton No. 2 Reservoir Branch

The diversion of the Plimmerton No. 2 Reservoir branch pipeline at Plimmerton Drive has been completed and commissioned. The contract is in the defects liability period.

- Hutt Park Deviation

The construction of a new access road into Hutt Park is proceeding. This requires deviation of the Randwick to Rahui pipeline. The pipeline has been shut down and Petone residents are being supplied with chlorinated and fluoridated water.

New branch valves have been installed at Hutt Park.

- Johnsonville Pumping Station Switchboard and Pumpsets

A positive pressure ventilation system has been installed in the building.

- Warwick Street Pumping Station

A Contract was awarded for the replacement of the switchboard. This work is being carried out in association with the replacement of the Wellington City Council pumpsets and switchboard.

- Karori Pumping Station

The Wellington Fault is within 12 m of the pumping station and passes through the lower dam. Options for the relocation of this pumping station to a more secure site have been evaluated.

- Point Howard Pumping Station

Relocating the Point Howard pumps from the underground pumping station at Hutt Park is being investigated. A site alongside Seaview Road is being considered.

- Minor Seismic Projects

A number of minor seismic protection projects are being attended to. These include:

- Bracing for the rear wall of the Johnsonville Pumping Station is being installed.
- Assessment of the performance of the Mangaroa and Black Creek Bridges is being arranged.
- The non-return function of service reservoir inlet control valves is being checked.

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# **Engineering Consultancy Group**

**March to May 2003**

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## **Engineering Consultancy Group Review of Operations for the Period Ended 31 May 2003**

### **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 to 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**

Current projects under way are detailed in the following sections.

#### **3.2 Wakefield Street, Stage 2**

This project is to replace a water main in Wakefield and Victoria Streets from Cuba Street to Hunter Street. The design is virtually complete, and construction will be included with the Webb Street Contract with this phase to commence in the new year.

#### **3.3 Webb Street**

The design report for the replacement of a water main in Webb Street from Taranaki to Willis Street has been completed. The detailed design and contract document preparation is well underway.

#### **3.4 Franklyn Road, Wakefield Terrace and Kereru Bend, Tawa**

Good progress has been made on this contract which is nearing completion.

#### **3.5 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 resource consent for siting the reservoir in Carter Park has been received. The contract dimensions prepared



by the consultants are being reviewed. Engineering Consultancy Group staff have completed the pipework and electrical design works.

### **3.6 Southern Suburbs Reservoir**

This 3.5 ML reservoir will be sited in Mount Albert Park. A preliminary scheme has been prepared and information for public consultation is under preparation.

### **3.7 Kelburn Reservoir**

The replacement reservoir was commissioned on Wednesday, 19 February. The backfilling, landscaping and construction of the access road are now complete and the certificate of practical completion is about to be issued.

### **3.8 Onslow Reservoir**

There are two reservoirs on the Onslow site. The rectangular western reservoir has been demolished and excavation completed for the new reservoir. A large part of the floor has been prepared for concreting.

### **3.9 Warwick Street Pumping Station**

This pumping station includes pumpsets for both Wellington City Council and Greater Wellington Water, supplied by a common electrical and controls panel. The Engineering Consultancy Group has been commissioned by Wellington City Council to arrange for the replacement of the two Wellington City Council pumps that deliver to Wadestown Reservoir and the installation of a combined electrical control panel.

Pump quotations were invited and analysed and an order has been placed. Quotations have been invited for the supply and installation of the two separate electrical panels as the Greater Wellington Water panel also requires replacing. these two projects are being run together, to gain efficiencies of scale.

## **4. Miscellaneous Projects**

### **Emergency Water Supply**

The project team includes water supply and emergency management staff at the five councils, and representatives at the tenth sector. Contracts have been awarded for the fabrication and installation of the electrical panel and for the pump and pipework installation. Arrangements have been made for the installation of a flow meter and the upgrade of the cross rail.

A report was prepared and was presented at the initial CDEMG meeting on 15 May. The report outlined progress to date on the Emergency Water Supply Strategy.

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# **Laboratory Services**

**March to May 2003**

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## Laboratory Services Department Review of Operations for the Period Ended 31 May 2003

### 1. Items of Note

- A small, but significant, operating surplus recorded for the latest period maintained the year-to-date numbers ahead of budget. Pleasing internal and external revenue streams have kept the accounts above water this period in spite of the usual autumnal influx of subcontracting invoices that we traditionally experience.
- Welcome additions to the work front were made recently with several short-term contracts gained from private sector companies. Exide Technologies has retained us for their annual Deposition Monitoring (atmospheric dustfall gauges) consent monitoring project with testing extending across three months. Opus International, on behalf of KCDC, has engaged us in connection with the Waikanae Water Treatment Plant consent renewal, Water Quality with testing extending into the 2003/4 period.
- Greater Wellington Environment made a public call for tenders on 10 May with their Regional Freshwater and Groundwater Monitoring Programmes for a three-year term commencing 1 July 2003. The scope of work offered was divided into seven district and optional components. These covered the collection and analysis of samples, throughout the Wellington Region as part of Council's state of the environment monitoring programme. Our tender was for the components advertised. Tenders closed with Resource Investigations on 30 May and we await their response with interest.
- We are anticipating an invitation in early June to tender for the Porirua City Water Testing Programme and the contract to be extended from an annual event to a three-year term commencing 1 July 2003.
- The Ion Chromatograph purchased and installed earlier this year is now onstream and delivering on expectation. However, the Total Organic Carbon (TOC) Analyser has had an annoying glitch preventing the instrument from being fully operational. This is taking some time to resolve but the supplier is involved and committed to resolving the problem.
- Four months on and the Laboratory is working well from the new premises at Oxford Terrace. Workflow and accommodation appears to be functional and satisfactory. Integration into the security, fire safety, communication systems and other services has been ongoing. It has certainly been a change from the comparatively rustic environment of Mabey Road to the up-tempo pace that is downtown Waterloo.

## 2. **Business Summary**

### 2.1 **Quality**

There were no requests for re-testing samples. Generally good results were recorded with inter-laboratory proficiency tests.

### 2.2 **Health and Safety**

No incidents to report for the period.

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# **Plantation Forestry**

**March to May 2003**

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# Plantation Forestry Department

## Review of Operations for the Period Ended 31 May 2003

### 1. Log Harvest Contract

Although volumes have remained high with up to three crews operating there has been a continual erosion of price as the New Zealand dollar strengthened against the US dollar. This was a not too serious a problem while the pruned market remained buoyant. Unfortunately in mid April the demand for pruned logs diminished and at the time we withdrew the logging crews from our pruned stands there was only one mill actively purchasing pruned logs. It was deemed too risky to continue cutting pruned while the risk of not finding a buyer loomed. Even now Eurocell at Upper Hutt are the only market purchasing pruned logs with JNL using their own stocks and the mills in the Central North Island severely discounting the price. (\$25 less than locally and \$40 less than the “norm”). In order to assess the full effect of the stronger dollar, the May production has recalculated at September 2002 prices – the result was that had September prices been maintained an additional \$44,600 income would have been achieved.

The decision we took earlier in the year to prepare a “winter” block paid off when we were able to switch our main crew from Blow Fly in the back of Puketiro to Reservoir Ridge in Valley View at short notice. This move was made about 6 weeks earlier than hoped and consequently we may struggle to make Reservoir Ridge and Clark’s Creek last for 4 years as winter blocks. Although we withdrew earlier than planned we did manage to clear the first skid in Blow Fly so, come spring there is about 9.6 hectares of Harris South and 1 setting in Blow Fly immediately available for the loggers.

The ground based crew which logged Harris North has been utilised to clear some remnant stands within Maymorn. Access to these trees only became available when the neighbour logged an adjoining stand and was happy to allow access from his land. Knowing that the volumes were small and could be subsumed by roading costs if normal practices were followed, Consolidated Forest Harvesting, the contract supervisors, developed a scheme in conjunction with Council, a specific transport operator and Rayonier whereby a “truck only” road was constructed at minimal cost and all available wood was sold to Eurocell. When it was necessary for a load to go elsewhere the logger was paid a premium to assist the truck and trailer up the hill. This plan has worked well and to date the site has produced 1820 tonnes for a stumpage of \$52,000. The initial roading cost was \$14,000.

Production has been as follows:

March	5,687t	\$95,617
April	5,973t	\$155,501
May	4,684t	\$92,563

Output by grade was:-

March – Puketiro

<b>Grade</b>	<b>Tonnes</b>	<b>%</b>
Pruned Domestic	740.83	26.07
Pruned Export	0	0
Partial Pruned	0	0
S/A Grade	98.95	3.48
L Grade	329.14	11.58
R Grade	191.87	6.75
K Sawlog	103.66	3.65
K Rough	701.61	24.69
Pulp	428.2	15.07
O/S Pulp	192.46	6.77
Xport Pulp	71.0	2.50
Adjust	-15.49	
	2,842.23	

March Reservoir Ridge:

<b>Grade</b>	<b>Tonnes</b>	<b>%</b>
Pruned Domestic	0	0
Pruned Export	0	0
Partial Pruned	0	0
S/A Grade	948.95	33.35
L Grade	256.3	9.01
R Grade	327.41	11.51
K Sawlog	301.67	10.60
K Rough	556.28	19.55
Pulp	411.71	14.47
O/S Pulp	13.74	0.48
Xport Pulp	29.12	1.02
	2,845.18	

April Puketiro

<b>Grade</b>	<b>Tonnes</b>	<b>%</b>
Pruned Domestic	902.59	27.74
Pruned Export	0	0
Partial Pruned	0	0
S/A Grade	157.99	4.86
L Grade	30.0	0.92
R Grade	163.42	5.02
K Sawlog	269.82	8.29
K Rough	1083.88	33.32

Pulp	347.9	10.69
O/S Pulp	128.68	3.96
Xport Pulp	169.0	5.19
	3,253.28	

April Reservoir Ridge

<b>Grade</b>	<b>Tonnes</b>	<b>%</b>
Pruned Domestic	0	0
Pruned Export	0	0
Partial Pruned	0	0
S/A Grade	594.54	24.7
L Grade	135.34	5.62
R Grade	164.81	6.85
K Sawlog	223.2	9.27
K Rough	658.34	27.35
Pulp	367.74	15.28
O/S Pulp	70.63	2.93
Xport Pulp	192.46	8.00
	2,407.06	

April Maymorn

<b>Grade</b>	<b>Tonnes</b>	<b>%</b>
Pruned Domestic	0	0
Pruned Export	0	0
Partial Pruned	0	0
S/A Grade	173.1	55.4
L Grade	0	0
R Grade	0	0
K Sawlog	82.0	26.24
K Rough	29.38	9.40
Pulp	0	0
O/S Pulp	0	0
Xport Pulp	28.02	8.97
	2,850.21	

May Puketiro (Harris South)

<b>Grade</b>	<b>Tonnes</b>	<b>%</b>
Pruned Domestic	142.97	19.15
Pruned Export	0	0
Partial Pruned	0	0
S/A Grade	68.83	9.22
L Grade	0	0
R Grade	0	0
K Sawlog	60.06	8.05



Roundwood	0	0
K Rough	235.86	31.6
Pulp	61.62	8.26
O/S Pulp	86.97	11.65
Xport Pulp	90.12	12.07
	746.43	

May Puketiro (Blow Fly)

<b>Grade</b>	<b>Tonnes</b>	<b>%</b>
Pruned Domestic	29.52	10.81
Pruned Export	0	0
Partial Pruned	0	0
S/A Grade	0	0
L Grade	0	0
R Grade	0	0
K Sawlog	0	0
Roundwood	0	0
K Rough	114.65	41.97
Pulp	0	0
O/S Pulp	60.84	22.27
Xport Pulp	68.15	24.95
	273.16	

May Reservoir Ridge

<b>Grade</b>	<b>Tonnes</b>	<b>%</b>
Pruned Domestic	0	0
Pruned Export	0	0
Partial Pruned	0	0
S/A Grade	485.11	22.49
L Grade	132.22	6.13
R Grade	194.47	9.02
K Sawlog	323.64	15.01
Roundwood	0	0
K Rough	671.03	31.11
Pulp	0	0
O/S Pulp	38.07	1.77
Xport Pulp	312.25	14.48
	2,156.79	

May Maymorn

<b>Grade</b>	<b>Tonnes</b>	<b>%</b>
Pruned Domestic	0	0
Pruned Export	0	0
Partial Pruned	0	0
S/A Grade	623.68	41.36
L Grade	0	0
R Grade	266.92	17.7
K Sawlog	90.93	6.03
Roundwood	321.39	21.31
K Rough	108.54	7.2
Pulp	96.47	6.4
O/S Pulp	0	0
Xport Pulp	0	0
	1,507.93	

## 2. **Silviculture Contracts**

Currently the silvicultural Contractors have completed 116 hectares out of a total of 153. The 40 hectare block which includes the safety template for the Deerstalkers Rifle Range at Kaitoke is currently being pruned while the range is temporarily closed. Sections of the stands to the west of the rail trail have had to have their silviculture deferred until they are taller.

## 3. **Plantation Forestry Operations**

The initial skid in the Blow Fly block has been completed and logging in this area suspended until spring. There is at least one remaining skid site to be constructed in Harris South but unfortunately the approach road is showing signs of slumping and this will have to be repaired before logging trucks will be able to use the route.

Good progress has been made burning out the “birdnests” left by the hauler. This task needs to be completed before planting can occur. At present more rain is required before planting can commence. Tenders have been invited for the supply of seedlings and planting.

## 4. **Forest Access**

There is still no acceptable access to Maungakotukutuku forest.

With the completion of logging in Puketiro the whole route was graded to ensure water would not pond on the running surface and initial rains have shown this to have been successful. We now only have to maintain the 4.5km of road from the Reservoir Ridge logging site to Totara Park – a far cry from the 24km plus we tried to maintain last winter.

The roading within the Reservoir Ridge block has encroached on the walkway down to the Birchville dam. Over time parts of the original track had fallen into disuse as walkers had “adopted “ an easier route through the trees. In order to segregate the logging activities from the walkers a number of the original sections the popularity of the area has a downside. Signs have an average life of 1 weekend before being either pushed over or removed entirely.

## 5. **Market Trends**

The markets are dominated by the strength of our dollar and the collapse in demand from the US for products manufactured from pruned logs. Rayonier assure us that in real terms sale prices are improving and shipping costs are reducing but unfortunately the dollar movement more than absorbs these benefits.

Domestic sawlog prices apart from pruned have remained relatively stable. Pulp has been a problem as a consequence of the power shortage. Panpac at Napier who buy our pulp through Renals at Masterton are manipulating production to minimise the effects of the electricity spot market. While prices are reasonable they produce as normal but when prices increase they reduce production as low as they can without actually shutting down production. As a consequence Renals are not accepting pulp from this side of the Rimutakas. The export price for pulp when started on par with Renals (\$30/t) has now reduced to around \$23.