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# **Water Supply**

## **July 2000**

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Operations Group  
July 2000

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## Operations Group Review of Operations for the Period Ended 31 July 2000

### 1. Items of Note

- The final commissioning of the system optimiser was delayed until the beginning of June. The system is now operating well and staff members are beginning to realise the benefits of automatic predictions for the operation of Waterloo and Wainuiomata.

### 2. Water Quality

A total of 249 samples from trunk mains were tested for coliform organisms. None of these samples tested positive.

A total of 95 samples of treated water from treatment plants were tested for faecal coliforms. None of these samples tested positive.

Secchi disc water clarity in the Te Marua north lake varied between 3.1 m and 3.8 m, and in the south lake between 3.5 m and 5.2 m. These are considered satisfactory.

The dominant phytoplankton were as follows:

- North Lake: *Oscillatoria*, *Staurastrum*, *Synedra*.
- South Lake: *Staurastrum*, *Synedra* and *Cosmarium*.

*Oscillatoria* is a filter clogging algae when present in high concentrations.

*Synedra* produces a musty smell and slick tongue sensation when abundant

*Staurastrum* produces a grassy smell when abundant.

Dissolved oxygen and pH readings are also satisfactory.

*Giardia* and *Cryptosporidium* results were as follows:

#### Te Marua

Lakes	) No <i>Giardia</i>
	) No <i>Cryptosporidium</i>
Intake	) Low <i>Giardia</i>
	) Low <i>Cryptosporidium</i>

Treated Water                             ) No *Giardia*  
   ) No *Cryptosporidium*

#### Wainuiomata

Treated Water                             ) No *Giardia*  
   ) No *Cryptosporidium*

Lower George Creek and                ) Low *Giardia*  
 George Creek south arm                ) Low *Cryptosporidium*  
 combined                                    )

Orongorongo and Big Huia            ) Low *Giardia*  
 Intake combined                        ) Low *Cryptosporidium*

During July 28 transgressions were notified as follows:

#### Treatment Plants

- 9 low fluoride
- 2 turbidity
- 2 iron
- 1 presumptive coliforms

#### Distribution

- 2 fluoride
- 3 turbidity
- 6 iron
- 3 chlorine

### 3. Supply Situation

The two monthly seasonal forecast for August and September 2000 issued by the Meteorological Service is as follows:

Situation as at August 10

For Wellington:

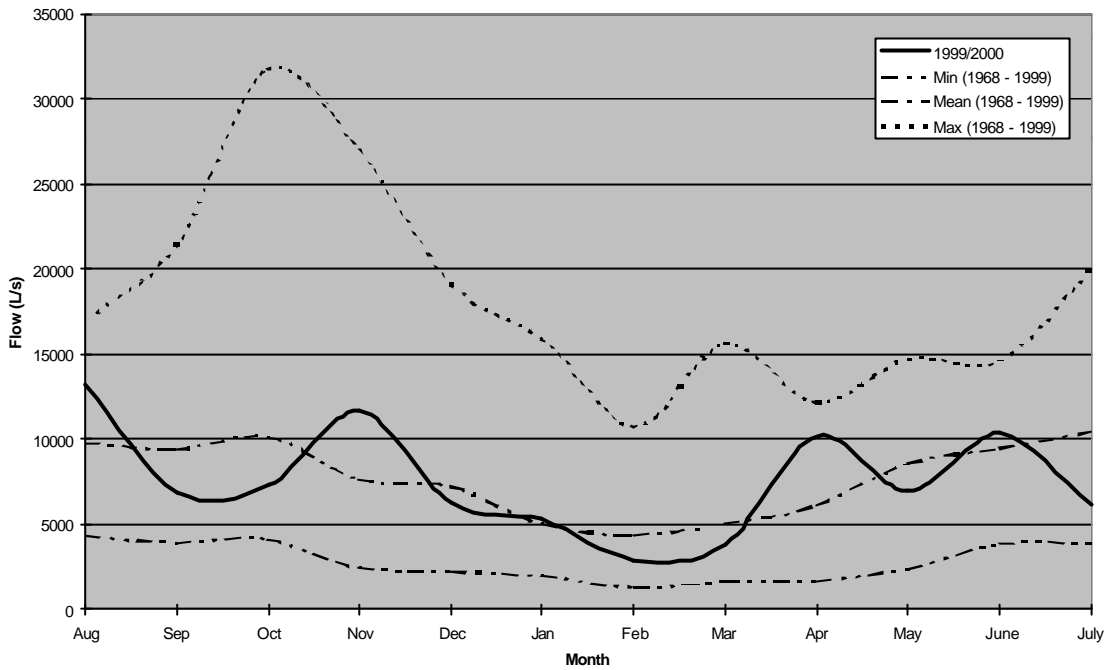
<b>Rain:</b>	About to below normal
<b>Wind:</b>	About normal
<b>Temperature:</b>	Above normal
<b>Sunshine:</b>	Above average
<b>Confidence:</b>	Moderate

This has been a warm winter and conditions are looking favourable for a warm spring as well. Cold fronts are expected to be fewer and less regular than normal.

Keep an eye on the weather map for a large high pressure system intensifying or lingering near Tasmania for this can herald the arrival of a chilling southerly wind change, possibly with hail and sleet.

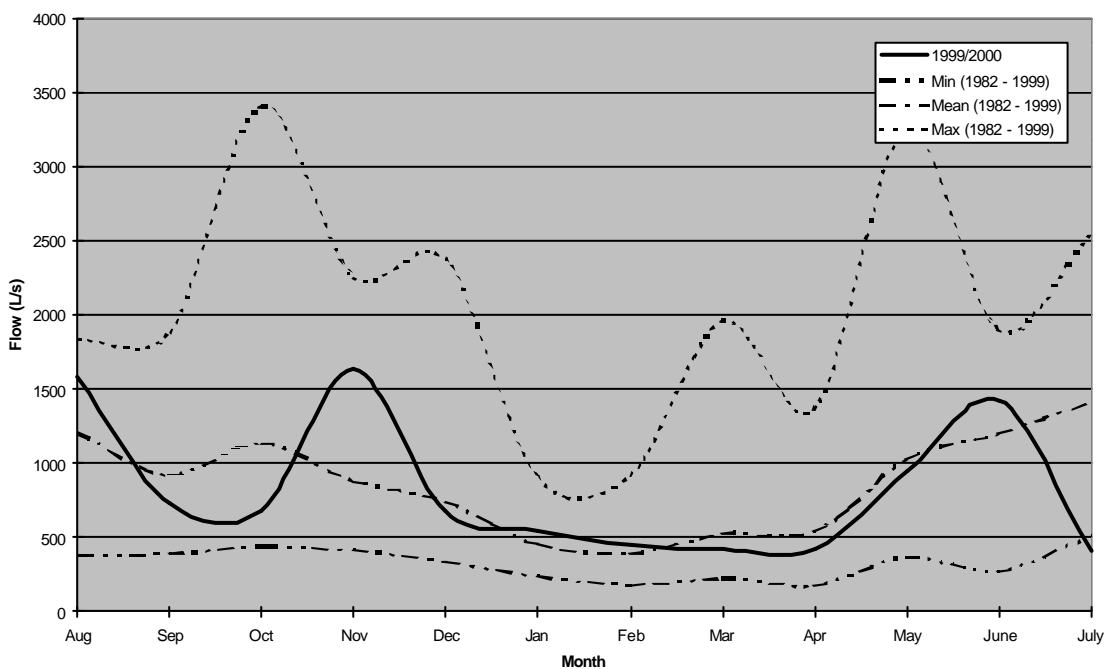
### Hutt River Flows

The mean monthly river flow during July was below average.



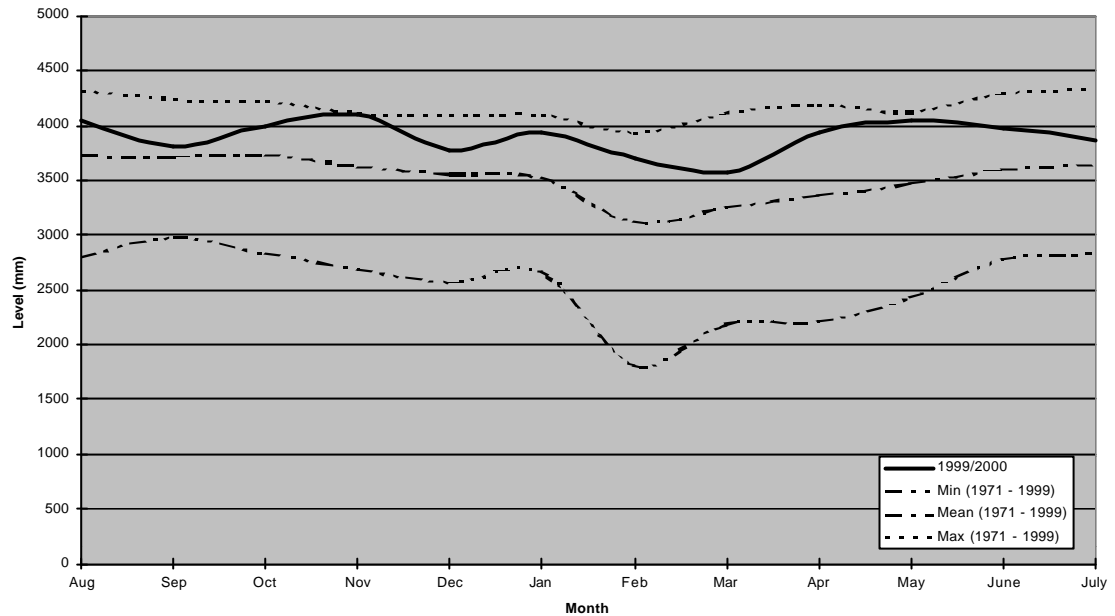
### Wainuiomata River Flows

Flow in the Wainuiomata River during July was below average.



## Aquifer Levels

The Waiwhetu aquifer level for July was above average.



### 4. Production

#### 4.1 Wainuiomata

##### 4.1.1 Quality

There are no quality issues to report

##### 4.1.2 Safety

- There are no accidents or incidents to report.
- All staff members have now had fire warden and confined space training.

##### 4.1.3 Operations

12/13 July: The carbon dioxide bulk tank was replaced.

##### 4.1.4 Projects

- Capital Works
  - ◆ New turbidity meters have been installed.
  - ◆ New alkalinity, aluminium and particle counter instruments are being installed. These should be commissioned on 4 September.

- ◆ Work has begun on the upgrading of the carbon dioxide dosing equipment.

- ◆ The track from the end of the Orongorongo road to the intakes is being upgraded.

- Operational Projects

- ◆ The software modifications are nearing completion.

- ◆ New hydro generators are due to arrive to replace the faulty generators in the Orongorongos

#### 4.1.5 General

- With the optimiser now in operation, this plant spends most of the time running at its minimum flow set point, ramping up to approximately 35 MLD to supply the system while the majority of pumps are off to avoid a high power tariff.

- There have been a few instances where water has frozen in pipes that do not have continuous flow. This only stopped the plant once.

### 4.2 Waterloo Water Treatment Plant

#### 4.2.1 Quality

There are no quality issues to report.

#### 4.2.2 Safety

There are no accidents or incidents to report.

#### 4.2.3 Plant Tours

There were no plant tours during the month.

#### 4.2.4 Projects

- Operational Projects

- ◆ The motor reconditioners are holding up the wellfield refurbishment. We can only have one well pump out of service at a time. The second refurbished well pump is due in a few weeks.

- ◆ Work is soon to start on the fluoride plant modifications following the preliminary investigations.

#### 4.2.5 General

- There have been a number of lime handling problems over the period. We are currently modifying equipment in order that we can trial an alternative lime supplier.

#### 4.3 Gear Island

##### 4.3.1 Quality

There are no quality issues to report.

##### 4.3.2 Safety

There are no accidents or incidents to report.

##### 4.3.3 Projects

- Capital Works
  - ◆ Work is soon to start on the fluoride plant modifications following the preliminary investigations.
- Operational Projects
  - ◆ The gas chlorine plant investigations are nearing completion.

#### 4.4 Te Marua

##### 4.4.1 Quality

There are no quality transgressions to report.

##### 4.4.2 Safety

There are no health and safety issues to report.

##### 4.4.3 Operations

7 July: Filter 1 fault alarm, inlet penstock failed to open in allotted time. No cause found.

21 July: Plant slam-shut caused by power cut.

##### 4.4.4 Plant Tours

4 July: Kiwi Conservation Club : 55 people



10 July: Chinese Delegation : 4 people  
22 July: Upper Hutt Science Fair : 100 people

#### 4.4.5 General

- An electromagnetic flow meter has been installed on the Te Marua Pumping Station rising main. This flow meter will allow accurate measurement of flows both to and from the lakes.
- New on-line instruments for measuring aluminium and alkalinity have been delivered and installation is underway. Commissioning is scheduled for the end of August.

### 5. Distribution

#### 5.1 Pipeline Section

##### 5.1.1 Maintenance

- Ongoing maintenance of the 1050 mm main from the Ngauranga valve chamber to Thorndon Pumping Station was carried out.
- The 1050 mm main at the Ngauranga interchange was shut down and drained so that welding repairs could be carried out to fix a leak. The main was shut down for approximately 16 hours to carry out the repairs.

##### 5.1.2 Haywards Optimisation

- Excavations were made for the installation of pipework for stage 2.
- The Hutt main was shut down and the following work carried out:
  - ◆ Installation of a new main line butterfly valve and bypass valve.
  - ◆ Installation of a new 600 mm branch valve to the Haywards No. 2 Reservoir from the Hutt main.
  - ◆ Connection of a new 600 mm branch valve to the existing main from the No. 2 Reservoir.
  - ◆ Removal of the existing 450 mm branch valve from the Hutt main and plating over it.
- The Haywards No. 2 Reservoir was drained, cleaned and disinfected. A safety grille was installed over the inlet main into the reservoir.

## 5.2 Electrical Section

### 5.2.1 Karori Reservoir

- The rationalisation of the electrical and instrumentation equipment has been completed.

### 5.2.2 Moores Valley Pumping Station

- The soft starter on Pump No. 1 was tripping intermittently. The unit was removed and returned to the manufacturer for repair. It has been reinstalled and is working well.

## 6. Health and Safety : Total Injury/Illness/Incident Record

- Production

There are no accidents or incidents to report.

- Distribution

There are no accidents or incidents to report.

- Network

There are no accidents or incidents to report.

The following table summaries the Operations Group health and safety data for 2000.

# Operations Group Health and Safety Data 2000: Total Injuries

## Production

2000	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Hours worked	2,005	2,364	2,662	1,835	2,612	2,438	2,251						Jan = Bee Sting Mar = Wasp Sting
Employee numbers	12	14	14	11	14	14	14						
Injuries	1	0	1	0	0	0	0						
Days lost	0	0	0	0	0	0	0						
Incidence rate (number of injuries per 100 workers)	8	0	7	0	0	0	0						
Frequency rate (injuries per 1,000,000 hours exposure)	499	0	376	0	0	0	0						
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	0	0						

## Distribution

2000	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Hours worked	1,387	1,873	1,896	1,458	2,089	1,817	1,834						Jan = cutting wheel kicked back and cut into inner thigh Mar = Hit on head by acroprop. Lump on head and bloodshot left eye
Employee numbers	9	11	11	9	12	11	11						
Injuries	1	0	1	0	0	0	0						
Days lost	5	0	0	0	0	0	0						
Incidence rate (number of injuries per 100 workers)	11	0	9	0	0	0	0						
Frequency rate (injuries per 1,000,000 hours exposure)	721	0	527	0	0	0	0						
Severity rate (days lost to injury per 1,000,000 hours worked)	3,605	0	0	0	0	0	0						

## Network

2000	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Hours worked	4,239	4,940	5,437	4,236	5,193	4,418	4,376						Mar = Back sprain while walking Jun = Tripped over, sprained hand
Employee numbers	22	25	26	23	25	25	25						
Injuries	0	0	1	0	0	1	0						
Days lost	0	0	0	0	0	0	0						
Incidence rate (number of injuries per 100 workers)	0	0	4	0	0	4	0						
Frequency rate (injuries per 1,000,000 hours exposure)	0	0	184	0	0	226	0						
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	0	0						

Definition of an Injury/Incident = anything that is work related and entered into the OSH Accident Register (blue book).

## Operations Network Review of Operations for the Period Ended 31 July 2000

### 1. Items of Note

- During the period nine burst mains were reported and all repaired within the allotted time frame. Four of these were of a major nature.
- We are now reporting on the new performance targets, as included within the Third Schedule of the Water Services Agreement, July 2000 - June 2001. It is pleasing to note that the Network Section is meeting the performance targets.
- The introduction of a new incentive scheme involving all Network staff appears to be achieving beneficial results.

### 2. Water Quality

#### 2.1 Routine Testing (A1)

The water quality was monitored and the appropriate laboratory tests were completed for July. There were 136 samples from the reticulation system tested for bacteriological compliance. Compliance for the month is 100 percent. Compliance for the year to date is 100 percent.

#### 2.2 Water Tests Initiated by Customers (A2)

	July	Year to Date	Compliance Year to Date (%)
Number received	7	7	-
Within ability of Operations Network to control	1	1	-
Formal response within five days	7	7	100%

### 3. Customer Services

#### 3.1 Counter and Other Office Services (F)

Information has been provided to customers requesting information by letter, telephone and over the public counter. A breakdown of enquiries received during the reporting period is as follows:

July	
Counter enquiries	53 + 14 encroachments
Proposals from other utilities	18
Plan records : New services recorded	13
Response time requirement compliance	100%

### 3.2 Performance Standards (G)

July				
	Expected Compliance	Number of Activities	Completed to Standard	Compliance Achieved
<b>Miscellaneous</b>				
A Quality complaints (samples)	85-95%	7	7	100%
A System Flushing (M1.4)	85-95%	31 *	30	96%
B Pressure and flow	85-95%	13	13	100%
B Loss of Supply (M1.5)	85-95%	13 *	13	100%
C Planned Shutdowns	95%	24	23	96%
C Unplanned Shutdowns	95%	32	32	100%
D Mark Outs	90-95%	60	60	100%
G Workmanship	90-95%	2		99%
O Meter Reading	100%	Achieved	Achieved	Achieved
<b>Significant Leaks (M1.2 or o/e)</b>				
H Burst Mains	85-95%	9 *	9	100%
H Other	85-95%	(4 recorded as mains under variable base fee) *	N/A	N/A
<b>Non-significant Leaks</b>				
H Mains (M1.2)	85-95%	22 *	22	100%
H Valves (M1.3)	85-95%	42 *	40	95%
H Hydrants (M1.4)	85-95%	49 *	48	97%
H Domestic Services (M1.5)	85-95%	138 *	137	99%
H Stopcocks (M1.6)	85-95%	291 *	291	100%
H Water Meters (M2.1)	85-95%	22 *	22	100%
L Damages (Variation)	85-95%	24	22	91%

\* Total activities under fixed base fee = 613.

#### Locates and Investigations (Wellington Regional Council Internal Target of Three Working Days)

Locate stopcocks	71/80	88%
Leak locations	118/137	99%
Flow tests	1	100%
Seepage/investigations	2	100%
Miscellaneous supply jobs	6	

<b>Total activities</b>	<b>967/1,003</b>	<b>96%</b>
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#### Failures

	Jobs Failed by 1-24 Hours	Jobs Failed by 1-5 Working Days	Jobs Failed >5 Working Days
Burst mains			

	Jobs Failed by 1-24 Hours	Jobs Failed by 1-5 Working Days	Jobs Failed >5 Working Days
Stopcocks			
Hydrants			
Valves		1	
Mains			2
Domestic services		1	
Water meters			
Damages	2		
Quality complaints			
System flushing			
Pressure and flow			
Loss of supply			
Mark-outs			
Workmanship			

#### Additional Work Carried Out

New services	26
Variations (exclusive of burst mains)	13
Service renewals	6

#### Burst Mains

There was a total of nine burst mains during the month of July. These were as follows:

Cnr Arawa and Waipapa Roads	11 July 2000
38 Ranelagh Street, Karori	14 July 2000
179 Westchester Drive, Churton	14 July 2000
23A Glanmire Road, Newlands	14 July 2000
Homebush Road, Khandallah	15 July 2000
187 Pembroke Road, Wilton	17 July 2000
9 Flers Street, Karori	17 July 2000
30 Tanera Crescent, Brooklyn	22 July 2000
Evans Bay Parade, (Greta)	29 July 2000

All burst mains were attended to within 30 minutes and repaired within 8 hours.

#### 4. Health and Safety

There were no incidents to report this month.

#### 5. Meters

A total of 2,594 suburb, voluntary and high use meters were read, and entered into the system by 23 July 2000.

#### 6. Pumping Stations, Reservoirs and System Control

## 6.1 General

Normal routine maintenance has resulted in the Wellington City system operating satisfactorily.

## 6.2 Control System

The control system continues to operate satisfactorily. The Mount Wakefield repeater was off for two hours after vandals damaged the aerial.

## 6.3 Thorndon Pumping Station

One of the two pressure reducing valves at Thorndon Pumping Station has been overhauled and has now been returned to service.

## 6.4 Epuni Street Pumping Station

The No. 3 pump at Epuni Street Pumping Station has been removed and delivered to a contractor for overhaul. The first stage impeller has been severely damaged and the best options for repair/replacement are being assessed. A pressure transmitter has been installed to monitor the suction pressure at this stage, as the pump performances are marginal.

## 6.5 Rajkot Terrace Pumping Station

The overload relay in the starter of Pump No. 2 has burnt out and also damaged the ends of the cable. Repairs have been completed.

## 6.6 Maintenance Checks

Maintenance was carried out in July as follows:

Round E	Round F
Johnsonville Pumping Station Ngauranga Reservoir Pumping Station Kaiwharawhara Pumping Station Thorndon Pumping Station Karori Reservoir/Pumping Station Macalister Park Reservoir Churton Park CV	Randwick Pumping Station Tunnel Grove Chamber Rocky Point Chamber Korokoro Valve Chamber Wainuiomata Pumping Station Moores Valley Pumping Station Mabey Road Generator
Maldiva Reg./Abb. CV Tawa Linden	Naenae Reservoir Gracefield Reservoir Rahui Reservoir

## 7. Development

### 7.1 Development Statistics (F2)

Subdivisions	July	Year to Date
Construction plans approved (lots/units)	24	24
Scheme plans approved	36	36
Subdivisions cleared (lots/units)	53	53

## 7.2 Development Projects

### 7.2.1 Churton North Reservoir

The reservoir was chlorinated for 13 days, dechlorinated, drained, refilled and bacteriologically tested. Results of tests were zero coliforms. The electrical and control system was completed to a stage to allow the reservoir to be put in service.

### 7.2.2 Westchester Drive Pumping Station and Rising Main

The pumping station is complete, except for minor electrical and control items.

### 7.2.3 Conditions of Subdivisions Review

Wellington Regional Council has written to Wellington City Council requesting approval for invoicing the extra time associated with the review.

### 7.2.4 Construction Plans

#### 7.2.4.1 Construction Plans

Construction plans were submitted for approval of the following subdivisions:

- 17 Sim Street, Raroa (8 lots). Approved 17 July.
- 2 Coolidge Street, Brooklyn (3 lots). Approved 13 July.
- Linden Reservoir to Woodman Drive linking main, Tawa. This has not yet been finally approved, as amendments to drawings and a method statement have been requested.
- Bushy Bend, Nicholson Road, Khandallah (8 lots). Approved 28 July.
- Bellevue Stage 4, Newlands. Plans were received on 23 July and are currently under consideration.
- de Bes Subdivision, Beacon Hill (5 lots). Water supply was constructed without approved construction plans. Connection to the public supply was approved on instruction from Logen Logeswaran on 25 July.

#### 7.2.4.2 As-built Plans



As-built plans were submitted for approval of the following subdivisions:

- 355 Middleton Road, Churton Park (2 lots). Approved 28 July.
- Woodridge Stage 7 (28 lots). Plans approved 28 July.
- 17 Punjab Street, Khandallah (3 lots). This has not yet been cleared, as amendments to plans and completion of outstanding work are awaited.
- Downing Street Extension, Chartwell (15 lots). Plan approved 22 July. The subdivision is not yet finally cleared, as network analysis calculations are awaited.
- Kim Street/Burma Road (5 lots). Approved 10 July.
- Neston Grove, Churton North (23 lots). Approved 14 July.

### 7.2.5 Fire Services Recently Connected

There were no fire services installed during July.

### 7.2.6 New Commercial Metered Services

The following new commercial metered services were connected during July:

- 73-75 Webb Street, Te Aro : 25 mm (6 July)
- 96 Hutt Road, Kaiwharawhara : 20 mm (13 July)
- 60-66 Willis Street, Te Aro : 50 mm upgrade (17 July)
- 4 Padnell Crescent, Newlands : 20 mm (21 July)
- 471-477 Adelaide Road, Newtown : 80 mm (31 July)

### 7.3 Building Development Appraisals (F1)

	July	
	Commercial	Domestic
Building consents	17	39
PIMS applications	17	39
Compliance with response time requirement	100%	100%

### 7.4 Land Information Memorandum (F1)

	July
Applications processed	37
Compliance with response time requirement	100%

### 8. Capital Works

## 8.1 Main Laying

### 8.1.1 Contracts in Maintenance Period

The following pipelaying contracts are in the maintenance period:

- Manners Street
- Cuba Street
- Makara Road Rising Main
- Owhiro Bay Parade
- Helston Road
- Rider Main Renewals
- Fox Street
- Bell Road Zone Improvements
- Karori South and Allington Road Zones Amalgamation

The maintenance period for the Tirangi Road, Kingsford Smith Street and George Bolt Street Contract has expired. The Contractor has been asked to rectify some minor issues before the maintenance retentions are released.

### 8.1.2 Taranaki Street

Contract Documents for the replacement of the 150 mm cast iron and 150 mm asbestos cement mains in Taranaki Street have been submitted to Wellington City Council for approval.

## 8.2 Reservoirs

### 8.2.1 Wadestown Reservoir

The consultant has completed the Contract Documents. The pipework and electrical drawings and specifications have been included. The Documents have been forwarded for client approval. The condition of the existing pipeline to be used as a scour/overflow for the reservoir has been investigated and will need to have a liner pipe installed. There has been a prolonged hold-up in giving approval for this project to proceed to the next stage. Wellington City Council is still considering how to arrange the bonds required by the resource consent for landscaping and road reinstatement.

### 8.2.2 Grenada North High Level Reservoir

The Contract Documents have been completed to the stage where they have been forwarded for client approval. These incorporate the electrical and pipework requirements. However, no programme for the construction phase has been received.

### 8.2.3 Eastern Suburbs Reservoir

A response is still awaited from the client to the report on the preliminary assessment of the potential reservoir sites.

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# Strategy and Asset Group

## July 2000

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## Strategy and Asset Group Review of Operations for the Period Ended 31 July 2000

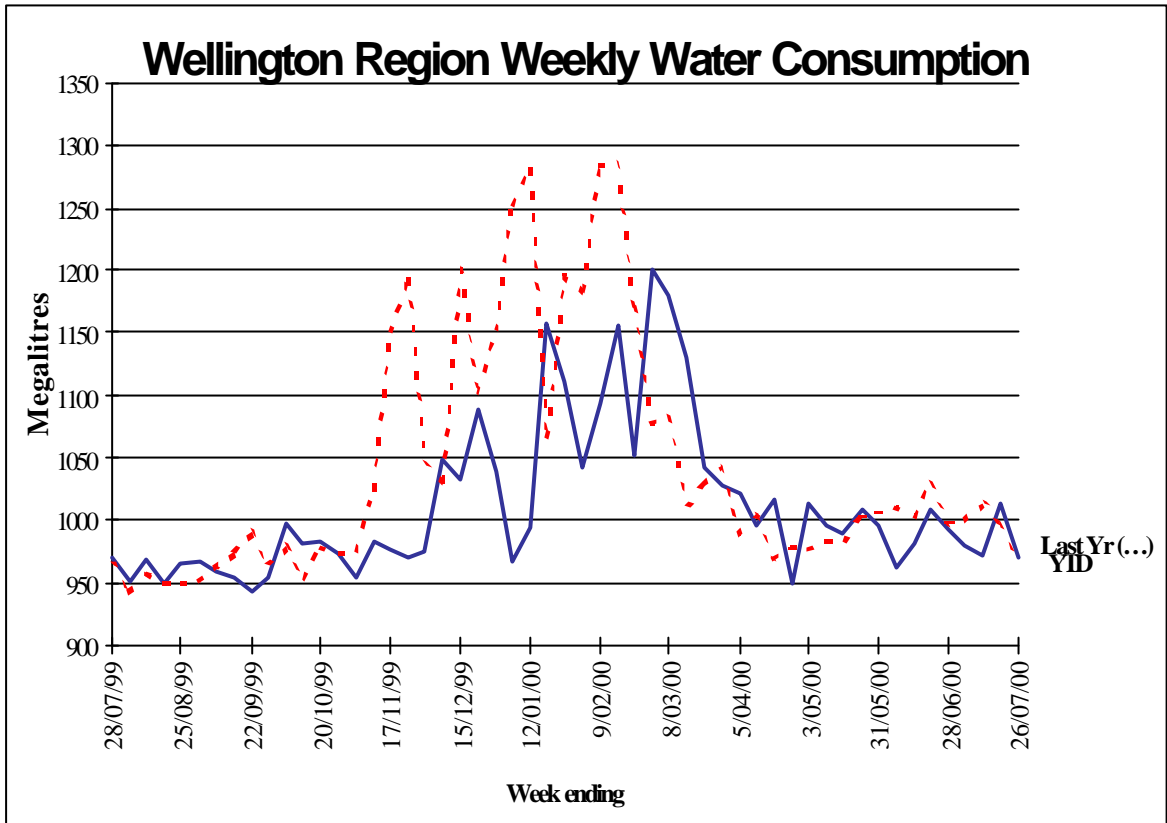
### 1. Items of Note

- A number of initiatives have been announced in regard to water supply. These include:
  - ◆ Draft Drinking-Water Standards for New Zealand 2000 have been prepared and are expected to be published about the end of August. They will come into effect on 1 January 2001.
  - ◆ A proposal is expected to go to Cabinet in September to amend the Health Act in regard to potable water. The changes centre around risk management. Comprehensive risk management plans are to be developed over five years. Twenty-five model plans are to be produced for the Ministry of Health.
  - ◆ A copy of the draft annual report on the microbiological quality of drinking water for the 1999 year has been received. There are no surprises as far as the Wellington Regional Council wholesale water supply system is concerned.
- Depreciating The Water Group's fixed assets for the year ending 30 June 2000 through the MITS Hansen asset management system represents a major milestone.
- A separate Committee report covers managed public access to the Wainuiomata and Orongorongo Water Supply Catchments.
- The agreement with the Hutt City Council to provide unfluoridated water has been concluded and is in the process of being signed.

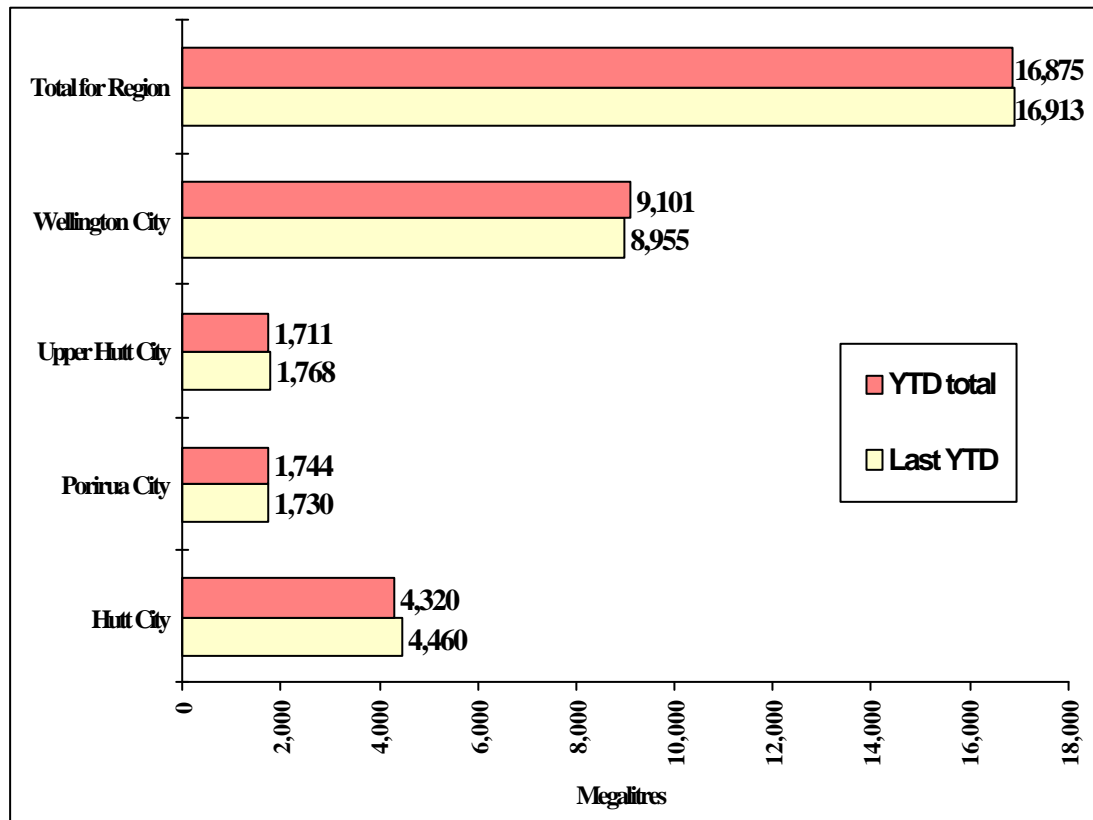
### 2. Sales Volume

Charts outlining sales volumes are shown on pages 22 and 23.

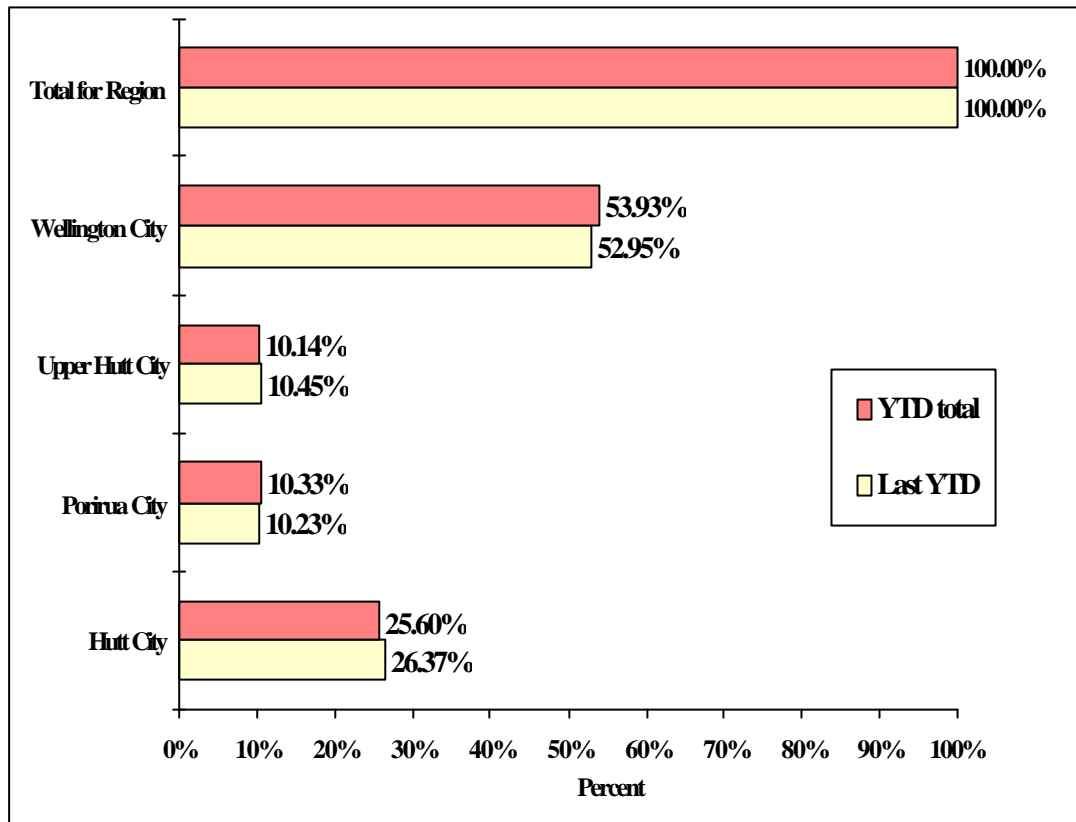
Water Sold Over the Last 12 Months



Water Sold from 1 April to 26 July 2000



### Water Sold from 1 April to 26 July 2000 (contd)



### 3. Asset Management

- Asset depreciation has been calculated on a component basis using the Hansen Valuation Module. The full year depreciation is \$4.667 m, which is close to the estimate used by Finance during the year. Work is continuing on reconciling the end of year capitalisation between Hansen and SAP.
- A review of the June 1998 Asset Management Plan has been commenced but no significant changes will be made until 2001.
- The Capital Works programme for 2000/1 is \$4.047 m. Work has begun or is continuing on the projects in the programme. Significant projects include:
  - ◆ Continuing the upgrade of the Waterloo wells
  - ◆ Investigating the feasibility of off river storage at Wainuiomata
  - ◆ Replacing equipment at Te Marua Water Treatment Plant
  - ◆ Upgrading of the OK main between the Orongorongo Tunnel and the water treatment plant, and between Thorndon and Karori
  - ◆ Construction of a new branch main to the Plateau Reservoir
  - ◆ Modifications to the Gear Island and Waterloo fluoride systems

- ◆ Construction of an hydraulic model of the distribution system
- ◆ A start on work to install a data warehouse
- Stage 1 of the System Optimiser is now working reliably, scheduling the filling of reservoirs and minimising production and pumping costs on the Wainuiomata/Waterloo system.
- Design work on a system to supply unfluoridated water to Petone from Waterloo is progressing. A detailed agreement with the Hutt City Council on funding the work is close to finalisation.
- Decommissioning work at Karori Reservoir has been completed. All the conditions in the Heads of Agreement have been met and this effectively transfers ownership of the land to the Wellington City Council. Survey work, which will form the basis of a subdivision plan, is underway,
- A resource consent application for a new well tapping the Moera aquifer at Gear Island is being prepared. The implications of tests on the IBM well will be discussed with IBM and their advisers.
- A prehearing meeting has been held with the parties that made submissions on our resource consent application to renew surface water take rights for the Hutt, Wainuiomata and Orongorongo Rivers. Further negotiations are planned with Fish and Game New Zealand and Topline Adventures aimed at alleviating their concerns.
- Detailed seismic review and risk assessment work has been carried out for a number of network elements, and some strengthening works is proposed for 2000/1 as a result. A draft report recommending the relocation of the main on the Silverstream Bridge has been prepared.

#### 4. Quality Assurance

- Statistical analyses of turbidity readings to demonstrate compliance with the *Drinking-Water Standards for New Zealand* rule that requires turbidity to be less than 0.5 NTU for 95 percent of the time have been carried out. The results for July are set out in the following table. The percentage of the time turbidity is less than 0.1 NTU has also been calculated.

Percentage Compliance	Turbidity <0.5 NTU	Turbidity <0.1 NTU
Plant	July	July
Te Marua	100.00%	100.00%
Wainuiomata	99.99%	91.12%

The >0.2 NTU change within 10 minutes rule has been tested for both plants. This rule identifies “spikes” in the turbidity results, which have the potential to carry protozoa into the treated water. The results are as



follows:

No. of Exceedances	
Plant	July
Te Marua	0
Wainuiomata	1

These rules are intended to reduce the risk of *Giardia* and *Cryptosporidium* passing through the plant. The plants incorporate “slam-shut” valves so that any water that does not comply with the 0.5 NTU rule is not delivered to the customers. The single exceedance at Wainuiomata was for a very short time only and by a very small margin. Because of this, it was not picked up by the plant slam-shut controls, which poll every 30 seconds.

- Bureau Veritas Quality International have provided their ISO 14001 certificate. A formal presentation function is being planned.

## 5. Marketing

- The first draft of The Water Group’s annual *Report of Business Activity* has been received.
- Customers were shown the system optimiser at the Waterloo Water Treatment Plant. This was included as part of a customer meeting.

## 6. Projects Undertaken by Engineering Consultancy for the Strategy and Asset Group

- Waiwhetu Aquifer Pump Test

Information is being gathered for the preparation of the pump test plan. The pump test has been tentatively programmed for March 2001.

- Leaf Screens for Wainuiomata and Orongorongo Intakes

The performance of the existing leaf screens is being reviewed and the options for improving their performance are being investigated.

- *Te Marua Lakes Surveillance Manual*

The *Te Marua Lakes Surveillance Manual* and *Te Marua Lakes Emergency Action Plan* documents have been placed in *Q-Pulse*. These revised documents are now operable. Some outstanding issues are being investigated and amendments will be made to these documents.

- Orongorongo Catchment Access

The walking track from the end of the Orongorongo road to the Big Huia Pipe Bridge is being upgraded.

➤ Wainuiomata Water Treatment Plant Road Reseal

A programme for resealing the Wainuiomata Water Treatment Plant roads is being prepared.

➤ Waterloo and Gear Island Fluoride Dosing

The design report for the installation of new fluoride dosing systems at Waterloo and Gear Island is being finalised. Hexafluorosilicic acid (a liquid) will be dosed at Gear Island and sodium silicofluoride (a powder) will be dosed at Waterloo.

➤ Silverstream Scour on Kaitoke Main

The drawing of the new scour on the Stokes Valley branch line and a new branch on the Kaitoke main is being finalised. Approval for this work is being obtained from Upper Hutt City Council. Installation by the Distribution Section will be carried out in October/November 2000.

➤ Refurbishment of the OK Main, Thorndon/Karori

The Contract Documents for slip lining with thin walled PE pipe or cement mortar lining the pipeline are nearing completion. Advertising for tender is expected in early September.

➤ OK Main Crossing of Korokoro Stream

The drawings of the new crossing of the Korokoro Stream for the OK main are almost complete.

➤ Cathodic Protection

A report detailing the current status of the existing cathodic protection systems on the wholesale water pipelines is about to be issued.

➤ Pumping Station Noise Survey

Bel Acoustic Consulting has been commissioned to undertake a noise survey of the pumping stations. Their report is expected by the end of September 2000.

➤ Haywards Reservoir Utilisation

The Kaitoke pipeline line valve has been replaced and the new reservoir

outlet branch installed. Work is progressing on the outlet pipework.

➤ Kaitoke Pipeline Either Side of Strainer Building

The design report for refurbishing the concrete pipeline between the Kaitoke Flume Bridge and the No. 2 Tunnel entrance has been distributed. A number of issues arising from this report are being addressed.

➤ Hutt Estuary Bridge Pipelines

The flexible couplings for the Hutt Estuary Bridge pipelines have been delivered. Installation is proposed for late September 2000.

➤ Te Marua Towers Valve Shut-off

A report proposing installation of pneumatic cylinder actuators on the lake inlet and outlet valves has been distributed. The recommendations from this report are being considered.

➤ Flow Meters

As-built drawings of the flow meter installations are being finalised. There will be a review to determine what flow meters are to be installed this financial year.

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Engineering Consultancy Group  
July 2000

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## Engineering Consultancy Group Review of Operations for the Period Ended 31 July 2000

### 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

Current projects underway are detailed in the following sections.

#### 3.2 Pipeline Projects

Contract Documents are almost complete for a replacement main to be laid in Taranaki Street from Courtenay Place to Webb Street. This will be difficult because of the extensive underground services, as well as the constraints arising from the route being on a State Highway. The road controlling authority has agreed to a proposal to extend the allowable working hours, however much of the work will need to be carried out at night.

#### 3.3 Grenada North High Level Reservoir

This permanent reservoir, 160 m<sup>3</sup> capacity, will replace the Grenada North temporary tanks. The site is at a higher level to the east of Nassau Avenue on land that has recently been transferred from TransPower to Wellington City Council. The intention of this reservoir and associated pipework is the second stage in the upgrade of the Grenada North water supply following the contamination incident in early 1998.

The consultants have prepared plans and Contract Documents. These are undergoing final review by Wellington City Council before inviting tenders.

#### 3.4 Wadestown Reservoir

Montgomery Watson Ltd was engaged for the design of a replacement reservoir,

capacity 1,800 m<sup>3</sup>, along with the obtaining of resource consents necessary for the completion of the reservoir on the Town Belt, as well as for access across the Town Belt.

The plans and Contract Documents are complete. These incorporate the pipework and electrical/controls sections prepared in this office. Before the project can proceed various internal Wellington City Council approvals are required.

An assessment of the old rising main that will be used as an overflow has revealed that its condition is worse than expected and will require some rehabilitation work.

### 3.5 Eastern Suburbs Storage

There is a storage deficit in the Low Level Zone of 10 ML. This was identified and reported on at the time of approval of the Macalister Park 20 ML Reservoir. Of this storage, approximately 7 ML is required in the Eastern Suburbs (Miramar) and 3 ML in the Southern Suburbs (Island Bay).

Because these reservoirs will balance on the Low Level Zone, a very careful analysis is required to establish the optimum reservoir levels. Additional pressure monitoring points have been established at the Moa Point Sewage Treatment Plant and Kilbirnie Crescent. Network modelling was undertaken to establish levels for the reservoir at different sites, as well as enhancement required to the pipe network.

A preliminary analysis of the three potential sites has been made, which has indicated that one site has significant advantages. A report has been prepared and submitted to Wellington City Council. A response is still awaited.

### 3.6 Other Wellington City Council Capex Projects

As yet, no new Capex design projects have been commissioned by Wellington City Council. This is becoming a serious concern.

### 3.7 Water Services Agreement

Under the new agreement, which came into effect on 1 July, the group is carrying out similar functions as were required under the Facilities Management Contract. These are as follows:

- Building consents
- Subdivisions
- System records
- Counter service
- New services and fire services

The scope of work relating to the maintenance of the system records may alter

during the year, as Wellington City Council moves away from paper based record keeping.

The new agreement also contains a performance related bonus and penalty system related to response times.

#### 4. Other Projects

##### 4.1 Rallywood Bridge

Work on-site commenced early in July. An amended resource consent granted with a specified methodology to allow work to continue through the fish spawning season. Good progress with construction has been made, however the short winter days will extend the project completion date.

##### 4.2 Karori Wildlife Sanctuary

The overflow pipework from the Kelburn Reservoir has now been modified so that any flows do not impact on the security fence. An assessment was made of the requirements for replacing the Upper Dam main scour valve and orders have been placed. This project is being funded by Wellington City Council.

#### 5. Staff

Sisira Jayanatha has resigned to joint a consultancy firm. He has been replaced by Kate Zwartz who has been appointed as Engineer.

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Laboratory Services  
July 2000

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## Laboratory Services Department Review of Operations for the Period Ended 31 July 2000

### 1. Items of Note

- The Porirua City Council water testing contract was renewed for another year.
- The laboratory participated in the Upper Hutt Science Fair on 22 July.
- The laboratory is due for an IANZ inspection on 21 August and final preparations are underway.
- A laboratory internal audit was undertaken on 31 July.

### 2. Business Summary

#### 2.1 Quality

There were no requests for retesting samples and test reports are being sent out within the agreed time frames.

#### 2.2 Health and Safety

There are no incidents to report.

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Plantation Forestry  
July 2000

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## Plantation Forestry Department Review of Operations for the Period Ended 31 July 2000

### 1. Log Harvest Contract

We are now in a position to confirm the harvest outputs for June. It was a very good month to complete the year with 7,155 tonnes and \$231,946. This gave an unadjusted year end figure of 63,742 tonnes and \$1,835,982 just short of the budget of \$1,857,000.

The final grade outputs for June and July were:

Grade		June		July	
		Tonnes	%	Tonnes	%
Pruned Domestic		0	0	0	0
Pruned Export		0	0	0	0
Partial Pruned		0	0	0	0
S Grade		1,668.75	23.32	433.16	12.79
A Grade		762.42	10.15	268.46	7.93
L Grade		550.50	7.69	155.06	4.58
R Grade	(Renalls)	593.58	8.30	97.17	2.87
K Sawlog		855.94	11.96	750.91	22.17
K Rough		398.05	5.56	297.55	8.79
Pulp		1,834.51	25.64	1,000.80	29.55
O/S Pulp		209.39	2.93	145.04	4.28
Other (Corsican)		318.59	4.45	238.67	7.05
		7,155.73		3,386.82	

Production fell towards the end of the month as the ground based crew was transferred elsewhere, leaving one hauler crew on radiata and a part time hauler crew on corsican. A further hauler crew has been promised but it is dependent on a machine arriving from overseas so it may be that August will be a slow month

There is still pressure on freight rates with the ever increasing fuel costs. To date these have had only minimal impact with the weakening dollar softening the shock but the outlook is said to be poor with falling demand in the United States and Japan, leading to reduced prices elsewhere. This reduction in demand is said to flow on into domestic prices. Experience suggests that whatever happens to prices it will not be what the pundits predicted.

Renalls are back to full production again and it is to be hoped that most of the "bugs" associated with the new plant have now been ironed out and we can look forward to continued demand. While we continue logging at Pakuratahi, the new "Renall" grades combined with low cartage costs represent good value for us.

Mitchpine is still working the corsican stand in Pakuratahi East and this month took out over 318 tonnes.

## 2. Silviculture Contracts

Only 15 hectares of a total 306 hectares remain to be completed out of the 1999/0 programme.

Work has yet to commence on the current year's programme.

## 3. Plantation Forestry Operations

Walter has managed to negotiate the fertiliser programme down to \$30,000. We are now assessing the timing of application and consequences of phasing the application over two or more years.

Thus far, over 120,000 new trees have been planted over the last two months. This excludes those areas agreed to be left to regenerate as future shielding for the incline.

If the current weather continues, it may be possible to plant a further 20 odd hectares that the loggers have completed since planting commenced.

## 4. Forest Access

Maungakotukutuku remains the only access problem.

The new road into Pakuratahi East continues to be satisfactory, with no major problems. Six loads of "millings" were spread over two areas where traction was becoming a problem. These have set hard and overcome the problem. I think they will provide a cheap solution to the dust problem along the river flats at Totara Park.

Work has continued on Rallywood Bridge with reasonable progress. By mid-August most of the work in the river should be completed and the river levels will no longer be a threat to progress. The Rallywood partners are impressed with the volumes of steel and concrete that have gone into the foundations for the structure and visit regularly, at times bearing morning tea for the contractors.

It will not be possible to complete the route through Rallywoods until later in the year, as there is about 200 m of new road to be constructed. This will not commence until summer.

## 5. Market Trends

Apart from some minor price reductions and some grades withdrawn, the only trend is in the number of predictions, which suggest the market will fall. Demand is still not a problem, as all production can be sold.