
Water Supply

September/October 2002

Operations Group

September/October 2002

Operations Group Review of Operations for the Period Ended 31 October 2002

1. Items of Note

- A process engineer from Beca Consultants Ltd has been engaged to report on the operation of Wainuiomata Water Treatment Plant, in particular the effect that use of polymers is having on the performance of the filters.

2. Water Quality

A total of 281 samples from trunk mains were tested for coliform organisms. None of these samples tested positive.

A total of 65 samples of treated water from treatment plants were tested for faecal coliforms. None of these samples tested positive.

Secchi disc water clarity in the north lake at Te Marua varied between 2.4 m and 3.7 m, and in the south lake between 3.1 m and 3.5 m. These are considered satisfactory.

The dominant phytoplankton were as follows:

- North lake: *Mougeotia*, *Staurastrum*, *Ankistrodesmum*
- South lake: *Ankistrodesmum*, *Staurastrum*, *Tetraedron*

Staurastrum produces a grassy smell when abundant. *Mougeotia* is also a filter clogging algae. *Ankistrodesmum* produces a grassy musty smell when abundant.

Dissolved oxygen (10.5-12.5 mg/L) was satisfactory. pH values were satisfactory (7.2-8.6).

Giardia and *Cryptosporidium* results were as follows:

Te Marua Water Treatment Plant Intake (BW02)

- Low *Giardia*
- Low *Cryptosporidium*

Wainuiomata Water Treatment Plant Intake (BW21)

- Medium *Giardia*
- Medium *Cryptosporidium*

Guidelines Criteria

0-10 oocysts per 100 litres = low
10-50 oocysts per 100 litres = medium
>50 oocysts per 100 litres = high

3. Supply Situation

The bi-monthly seasonal forecast for August/September 2002 issued by the Meteorological Service is as follows:

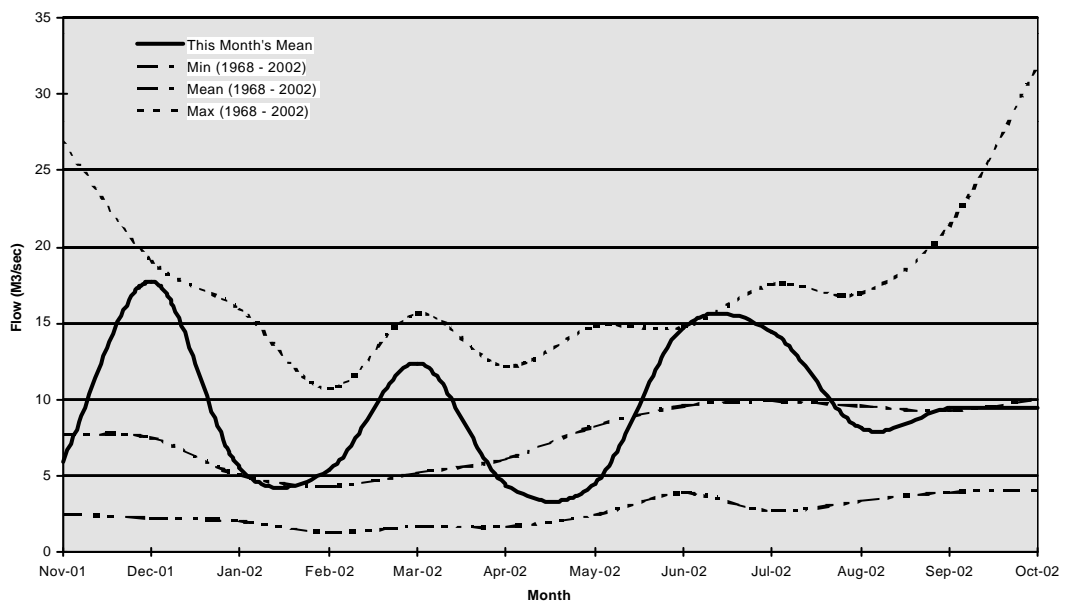
For Wellington

Rain: About or less than normal
Wind: More northwesterlies than normal
Temperature: Continuing above normal
Sunshine: About normal
Specials: Sharp southerlies
Confidence: Moderate

Expect cold fronts to roll in from the Tasman Sea at the rate of about one every 3 or 4 days. These fronts will all be preceded by northwest winds, and this will mean more northerly winds through Cook Strait than normal. Places with good direct exposure to the Tasman Sea are expected to get the highest rainfall. A few of these fronts are likely to be followed by sharp southerly changes, however the speed of movement of the weather patterns should generally keep any cold snaps short-lived.

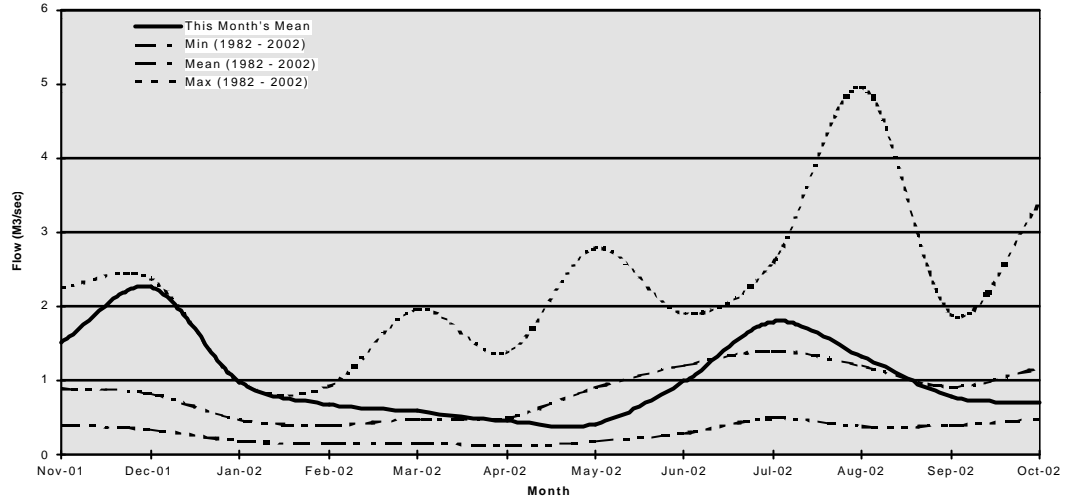
Hutt River Flows

The mean monthly flows in the Hutt River during September and October were about average.



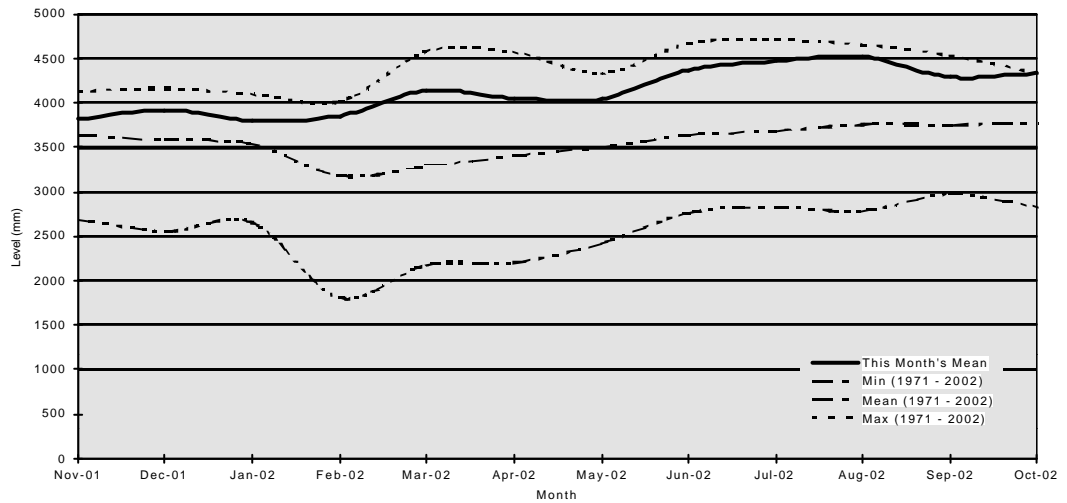
Wainuiomata River Flows

Flows in the Wainuiomata River were just below average during both September and October.



Aquifer Levels

The water level in the Waiwhetu aquifer during August and September was just below the maximum.



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.

4.1.3 Operations

There are no significant items to report.

4.1.4 Plant Tours

There were no tours during the period.

4.1.5 Projects

➤ Operational Projects

- ◆ The FAC/pH compliance slam-shut alarm was commissioned.

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 Operations

There are no significant items to report.

4.2.4 Plant Tours

There were no tours during the period.

4.3 Gear Island

4.3.1 Quality

A fluoride overdosing incident occurred on 25 September 2002, when for a period of approximately two hours the fluoride dosing system added HFA in proportion to a flow signal that was much higher than the actual flow. The dosage system assumed that all of the flow from the Waterloo/Wellington pumps was being directed to the 1,050 mm main at Randwick, when in fact a large proportion of the flow was being scoured upstream of the Randwick Pumping Station.

A full investigation was carried out and an incident report prepared. As a result, an additional flow meter is to be installed near Gear Island to upgrade the quality control system.

4.3.2 Safety

There are no accidents or incidents to report.

4.3.3 Operations

There are no significant items to report.

4.3.4 Plant Tours

There were no tours during the period.

4.3.5 Projects

➤ Capital Works

- ◆ Seismic strengthening of the reservoir is complete. The main building work is ongoing.

4.4 Te Marua

4.4.1 Quality

4.4.1.1 Drinking-Water Standards for New Zealand

There are no transgressions to report.

4.4.1.2 ISO 9002 Quality System

Date	Transgression	Cause
25 September 2002	Te Marua Pumping Station pH >8.5 (8.71)	Changes to caustic dosing system
26 September 2002	Low Fluoride <0.7 (0.62)	Daily sample taken immediately after plant slam-shut (value temporarily low)
27 September 2002	Te Marua Pumping Station pH >8.5 (8.68)	Changes to caustic dosing system
2 October 2002	Te Marua Pumping Station pH <7.4 (7.38)	Changes to caustic dosing system
11 October 2002	Fluoride off for 14 hours	Annual calibration

4.4.2 Safety

There are no accidents or incidents to report.

4.4.3 Operations

There are no significant issues to report.

4.4.4 Plant Tours

2 September	Tawa Probus Club	46
12 September	Johnsonville Senior Citizens	46

17 September	Shongqing Urban Environment Project	18
18 September	Wellington Regional Council induction tour	17
20 September	Wellington City Council Water Engineers	5
26 September	Shanghai Local Government Group	10
4 October	Wellington City Council Water Engineers	6

4.4.5 General

➤ New Filter Outlet Control Valves

These valves have now been fully commissioned. Filter flow control has been noticeably improved.

➤ Finished Water pH Control

Modifications to the caustic dosing point have been completed. Repairs to the treated water reservoir curtain are still required to improve pH control.

➤ Security Shutdown

Work on this system is continuing and should be completed during November.

5. Distribution

5.1 Health and Safety

There were two minor incidents during October.

5.2 Repairs/Maintenance

➤ Welding repairs were carried out on a leak on the Linden branch line.

➤ Repairs were carried out on the 400 mm branch valve on the OK main in Richard Prouse Park.

5.3 Paremata Bridge Project

➤ Welding repairs were carried out on the 200 mm main (damage caused by the Contractor).

➤ Mark-outs were done for the bridge contractor.

5.4 OK Main Refurbishment

➤ The main was brought back into service following completion of the lining contract.

5.5 New Wainuiomata Depot for Distribution Section

- A new compound for all the pipe stock was built.
- All pipes were transported from Mabey Road Depot to Wainuiomata.
- All coupling stock was transported to Wainuiomata.
- The Wainuiomata fluoride building was renovated for all the couplings and rubbers.
- A fenced compound was built behind the Nissen hut.

5.6 Corrosion Rigs

- Sample taps were installed at Karori and Thorndon Pumping Stations, and Rahui Reservoir.

5.7 Kelburn Reservoir

- Tie-ins to the inlet and outlet mains were completed.

5.8 Haywards Pumping Station

- The pumping station was renovated for workshop facilities, into which all the plant and gear, etc., was moved.

5.9 Trentham Reservoir

- The Trentham No. 1 Reservoir inlet valve was automated and connected for remote control via the telemetry system.

6. Health and Safety - Total Injury/Illness/Incident Record

- Production

There are no accidents or incidents to report.

- Distribution

There were two minor incidents during October.

Water Group Health and Safety Data 2002 - Total Injuries

PRODUCTION (+ 1 OPS ADMIN)

	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				Jun = fractured chemical line
Employee numbers	15	16	16	16	17	16	16	16	16	16				Jul = scratched hand on metal support
Injuries	0	0	0	0	0	1	1	1	0	0				Aug = back injury after falling off chair
Days lost	0	0	0	0	0	0	0	2	15	11				
Incidence rate (number of incidents per 100 workers)	0	0	0	0	0	6.25	6.25	6.25	0	0				
Frequency rate (incidents per 1,000,000 hours exposure)	0	0	0	0	0	380.8	260.55	396.35	0	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				

DISTRIBUTION

	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				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				Oct = twisted back from entering/existing cramped chamber
Injuries	0	0	0	1	0	0	0	0	0	2				Oct = hurt fingers while freeing pipe from plaster in valve manhole
Days lost	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				
Frequency rate (incidents per 1,000,000 hours exposure)	0	0	0	739	0	0	0	0	0	1,618				
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	0	0	0	0	0				

ENGINEERING CONSULTANCY

	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				March = barked shin on protruding pipe
Employee numbers	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				Sep = ankle and knee injury following knock from high pressure hose
Days lost	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				
Frequency rate (incidents per 1,000,000 hours exposure)	0	0	573.3	0	0	0	412.71	0	632.51	0				
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	0	0	0	0	0				

UTILITY SERVICES SUPPORT

	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			
Employee numbers	9	9	8	8	8	8	8	7	7	7			
Injuries	0	0	0	0	0	0	0	0	0	0			
Days lost	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			
Frequency rate (incidents per 1,000,000 hours exposure)	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			

LABORATORY

	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				Jan = twisted knee joint whilst collecting samples
Employee numbers	10	10	10	10	8	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				Jul = burn to right hand
Days lost	0	3	0	0	0	6	1	1	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				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				
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	5,471.9	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			
Employee numbers	5	5	5	5	5	5	5	5	5	5			
Injuries	0	0	0	0	0	0	0	0	0	0			
Days lost	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			
Frequency rate (incidents per 1,000,000 hours exposure)	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			

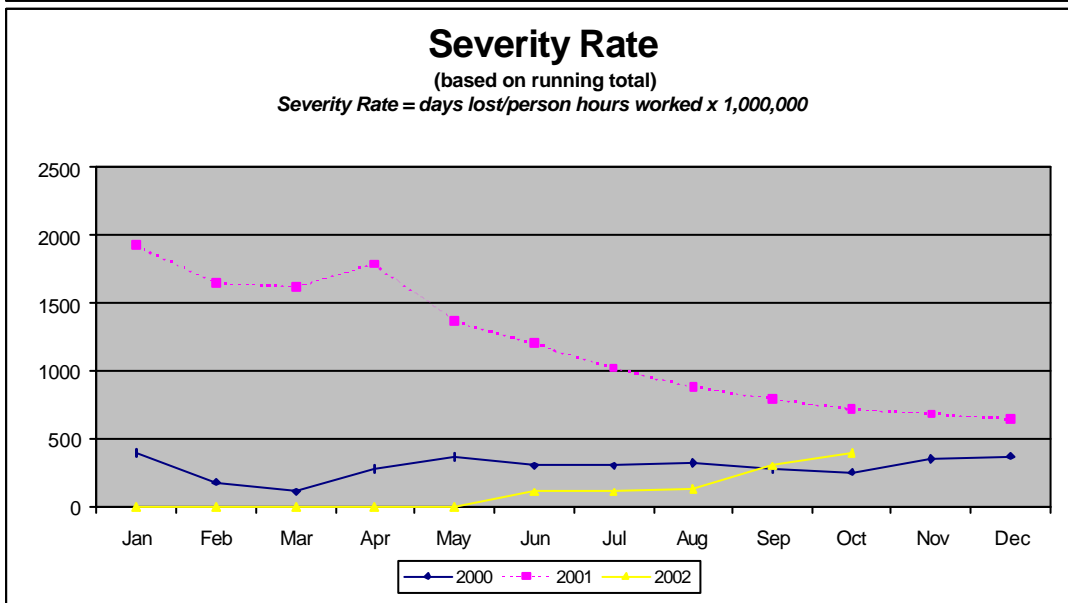
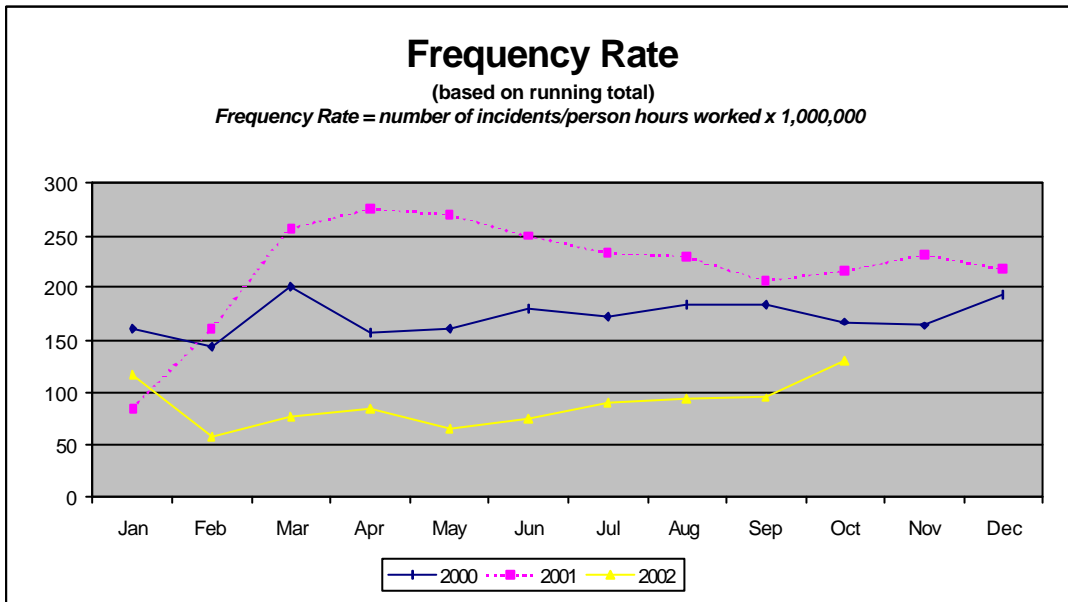
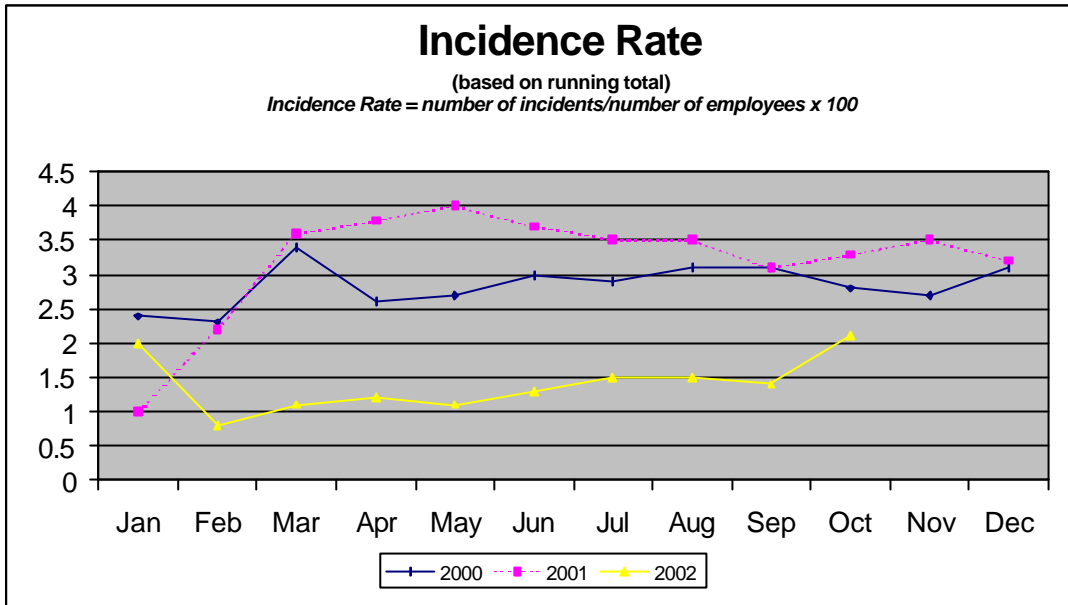
FORESTRY

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

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	8,669	17,230	9,074	26,304	9,458	35,762	10,122	45,884	8,567	54,451	12,704	67,155	8,620	75,775	8,198	83,973	8,239	92,212				
Employee numbers	03	04	03	02	03	02	03	01	02	05	02	05	05	08	05	08	05	08	05	08			
Injuries	1	0	1	1	2	1	3	0	3	1	4	2	6	1	7	1	8	4	12				

Days lost	0	0	0	0	0	0	0	0	0	0	0	1	7	3	10	15	27	11	30
Incidence rate (number of incidents per 100 workers)	2	0	0.0	1.0	1.1	2	1.2	0	1.0	2	1.1	3	1.3	2	1.3	2	1.4	7	2.1
Frequency rate (incidents per 1,000,000 hours exposure)	117	0	00	110	70	100	04	0	00	117	74	107	70	110	73	77	73	400	130
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0	0	0	0	0	0	0	0	17	111	77	100	340	701	1,030	077	1,330	771

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 Group

September/October 2002

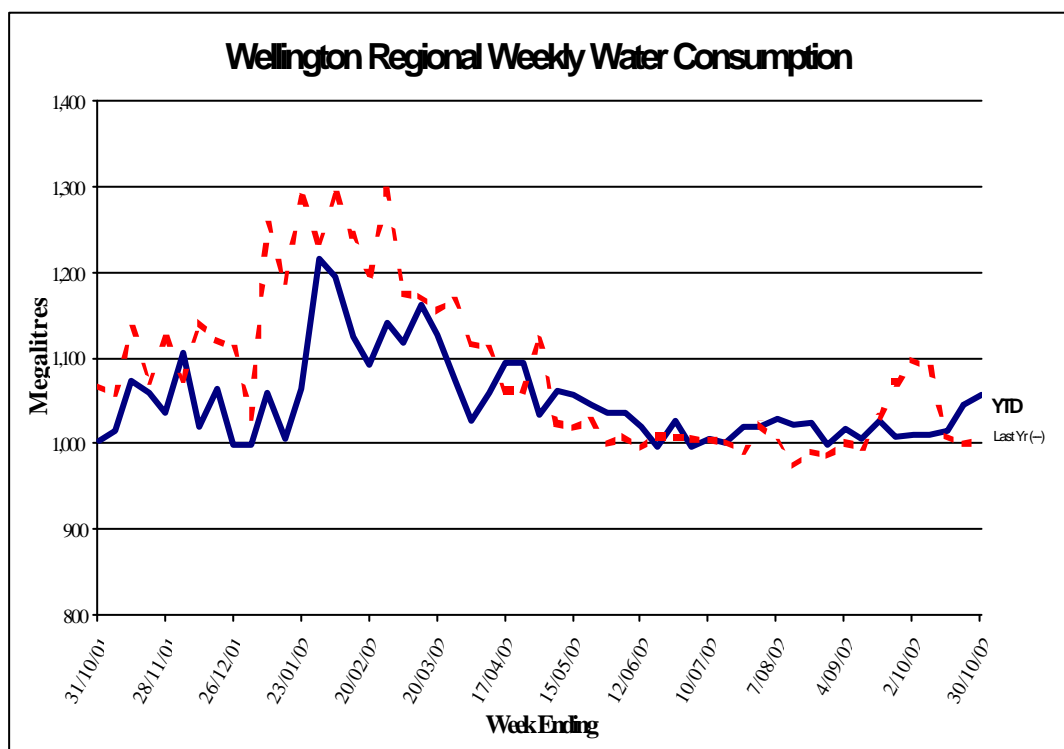
Strategy and Asset Group Review of Operations for the Period Ended 31 October 2002

1. Items of Note

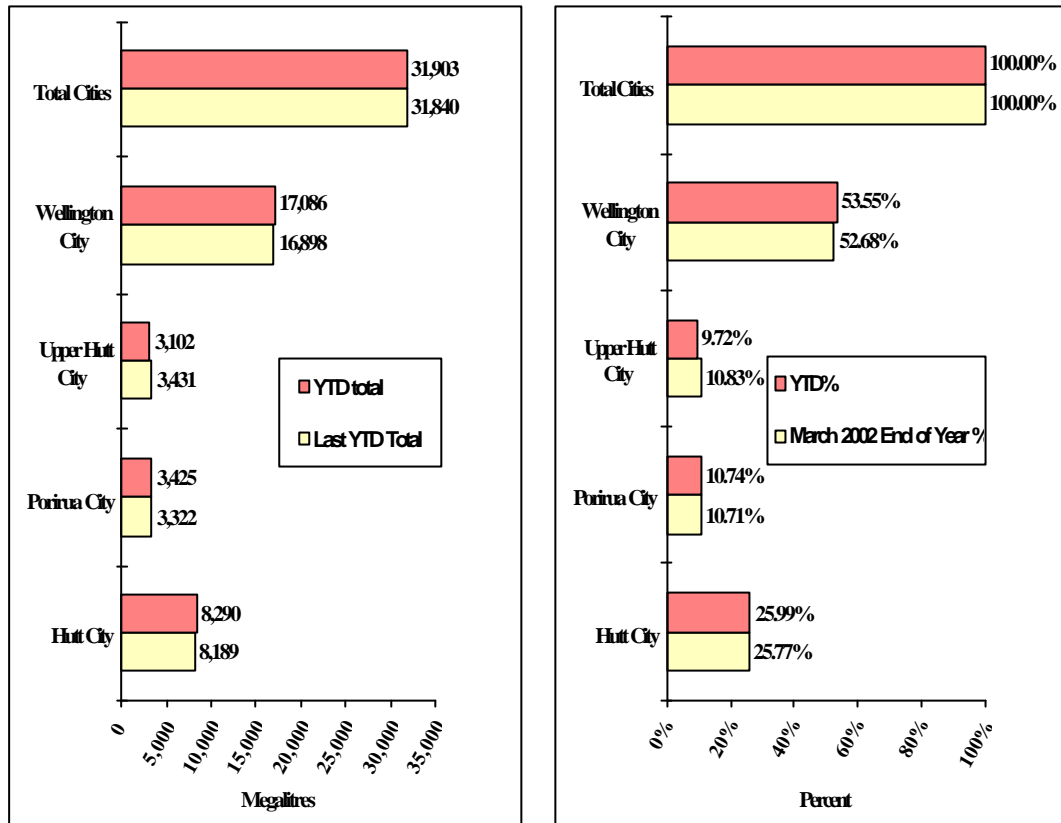
- Work has started on a new television advertisement as part of the summer water conservation campaign.
- Three consultants' reports evaluating seismic damage as the result of a major earthquake have been completed. The information will be included in a separate insurance report.
- The Regional Public Health Service has approved a new water sampling regime that complies with the latest Drinking-Water Standards for New Zealand.
- Investigation work has started on finding a new site for the Karori Pumping Station. The present facility is virtually on the Wellington Faultline.
- A separate report considers one of the strategies to supply water during an emergency when the reticulation system is not available.

2. Sales Volume

Water Sold Over the Last 12 Months



Water Sold from 1 April 2002 to 30 October 2002



A drier October has seen consumption of water rise compared to the previous year.

3. Asset Management

- A review of the June 1998 Asset Management Plan has been commenced, with a target date for completing a new draft of 30 June 2003.
- The Capital Works budget for 2002/3 is \$2.752 million. The largest item is \$420,000 for reequipping the Karori Pumping Station. However, because of the seismic vulnerability of the site, relocation of the pumping station to a more secure site is being investigated. A start has been made on other projects, including upgrading the Orongorongo intake, the Wainuiomata/Orongorongo Catchment boundary fence, installing a larger standby generator at Waterloo, replacing the control system at Wainuiomata and replacing equipment at the Warwick Street Pumping Station. In addition, \$300,000 is budgeted for further seismic improvements and investigations.
- The lining of the Rahui Reservoir supply main (part of the old Orongorongo/Karori pipeline) is complete and the main has been recommissioned, supplying unchlorinated and unfluoridated water to Petone.
- The new pumps and switchboard at Johnsonville Pumping Station are partially commissioned.

- Final plans for the transfer of Karori Reservoir land to Wellington City Council have been received and approved. Following final administrative clearance the land will be formally transferred to Wellington City Council.
- Tenders for the relocation of the branch main to the Plimmerton Reservoir, which will be affected by new State Highway 1 roading work at Plimmerton, have been received and the Contract let. The pipe is to be moved in preparation for the highway improvements. Transit New Zealand has agreed to pay 100 percent of the cost of this work.
- Duplication of the Paremata Bridge, which has recently started, affects both our mains across the bridge. Close liaison has been maintained with the design consultants for some months in an endeavour to minimise and manage this impact. On completion of the new bridge, the main will be transferred to it, providing enhanced seismic security for the Paremata Harbour crossing. The normal 50/50 cost sharing arrangement will apply to this work.
- A major development of the area of land above Porirua City known as the Aotea Block is in the planning stages. The development will require relocation of a significant length of the branch main to the Porirua Reservoir. Wellington Regional Council solicitors have drafted a formal agreement covering all aspects of the arrangements. The developer will meet all costs of relocation or protection work.
- Transit New Zealand has let a contract for the upgrading of State Highway 2 near Te Marua. This work will require relocation of some drainage works adjacent to the Stuart Macaskill Lakes, at Transit New Zealand's cost.
- Consultants have been commissioned to carry out a damage assessment of all water supply assets during a Wellington Fault earthquake, as an input to the review of insurance policies and strategies. The report on currently insured assets (treatment plants and pumping stations) has been completed and draft reports on the Stuart Macaskill Lakes, pipelines and tunnels have been received.

4. Catchment Management

- During 10 days of hunting by professional hunters in the Wainuiomata/Orongorongo Catchment 9 pigs, 20 goats and 3 deer were shot. There are now 11 tracked "Judas" goats in the area and it is felt that the goat infestation is currently under control.
- During September and October flowering and fruiting counts have been carried out in both the Wainuiomata/Orongorongo Catchment and Hutt Catchment. Bird monitoring has also been carried out in the Hutt Catchment. An unexpected find was a pair of kaka, rarely seen in the Wellington Region.

5. Quality Assurance

- Detailed plant performance data regarding compliance with the Drinking-Water Standard is being assembled and collated for the first three-quarters of 2002. The performance of the Wainuiomata Water Treatment Plant has been improved by changes to the control system and the use of dry polymer flocculant to reduce turbidity “spikes”. However, compliance reporting is required at one minute intervals and compiling a complete and entirely unblemished record has been a big challenge. Both surface water treatment plants are now programmed to shut down completely if a “spike” is detected on any one of the filters. Twelve months of fully compliant record at Wainuiomata Water Treatment Plant is required to support the regrading application made to the Hutt Valley District Health Board.
- Work has begun on drafting Public Health Risk Management Plans 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 significant changes to the way the plants and system are operated are not expected.
- Further amendments to the new grading rules have been received from the Ministry of Health. Significant changes are that wholesale distribution systems such as ours will now be formally graded and non-compliance with the *Drinking-Water Standards for New Zealand* microbiological standards will mean a D grading rather than a C as at present. It is proposed to target achievement of an “A1” grading for treatment plants and the wholesale distribution network. This requires compliance with aesthetic guidelines (taste, odour and colour) and ISO 9001 accreditation.
- Further review of the sampling regime in the distribution network has been undertaken following receipt of comments from the Hutt Valley District Health Board. A much more detailed proposal has now been submitted and approval from the Hutt Valley District Health Board is expected about mid-November.
- Following the submission of modelling and testing results to the Hutt Valley District Health Board, it has given a formal acknowledgement that the Hutt Valley aquifer meets the requirements of the Drinking-Water Standard for a secure aquifer. This means that the Waterloo and Gear Island Water Treatment Plants automatically achieve compliance with the protozoa rule.

6. Environmental

- A wheel wash at the entrance to the Wainuiomata/Orongorongo Catchment is to be constructed at a cost of \$28,000. The purpose of the wheel wash is to minimise infestation of the catchment by exotic weeds.

- Massey University Institute of Natural Resources staff have completed a study of native fish above the Orongorongo intake. Their report concludes that there are opportunities to attract other migratory species above the intake, or to introduce non-migratory species. Construction of a fish ladder will be investigated but it is likely to be a substantial and expensive structure.
- Massey University Institute of Natural Resources staff are also working on a desktop study of factors affecting fish numbers in the Hutt River. Their report is expected in December.

7. Marketing

- Development of the summer water conservation campaign is well advanced. Focus group research conducted earlier in the year identified a number of reasons why gardeners do not generally practise water conservation techniques when watering gardens, despite being aware of a range of appropriate actions. The water conservation advertising campaign for the coming summer is being developed to address three of these barriers to change:

- ◆ Wellington has plenty of water
- ◆ Gardening does not use much water
- ◆ Water used on the garden is never wasted

Three areas of water waste in gardens will be identified, with practical solutions given to cut each. Television will be used as in previous years, with a combination of newspaper and radio advertising also planned, to provide more detail and extend repetition of the main messages respectively. The Wellington Regional Council newspaper *Elements* and the Council's Internet site will form part of the communications programme. Corporate Communications has been consulted about the planned activity.

- The Water Group's Report of Business Activity 2001/2 (Water for Life), with the theme of sustainability, was published on 31 October, together with a companion report of financial and water supply statistics. A substantial amount of work went in over the previous two months to write and edit content, finalise the design and layout, and compile the annual statistics. The report will be provided to major stakeholders in printed form and made available on the Internet or in print on request for the general public.
- A variety of tasks were undertaken, in consultation with Corporate Communications, relating to implementing the Council's new branding.
- Further work was undertaken regarding the private initiative to paint a

smiley face image on the top of our Ngauranga water reservoir. This included developing a draft consultation document, investigating the mechanics of conducting a consultation, liaison with media and the mural's proposer, and writing a paper to the Utility Services Committee meeting of 15 October. The paper outlined developments and asked for a decision regarding consultation in light of Wellington City Council's opposition to the proposal.

- Following our commissioning of an education consultant to review our water treatment plant tour content and handouts for a primary and intermediate school audience, a first draft for a new resource was received. Our aim is to attract more school groups to visit a water treatment plant by making it easier for teachers to recognise how the visits contribute to meeting the learning targets set out in the school curriculum. The tour content and handouts will promote learning regarding water quality, water use and conservation. Better understanding of these issues in the community will contribute to meeting regional sustainability goals. The Environment Division's environmental education team has been consulted with a view to branding the resource as part of the Take Action programme, and making plant visits a field trip option within Take Action. This work is continuing.
- The design of a mimic board for the reception area at Wainuiomata Water Treatment Plant is at a final review stage.
- September and October were quiet months regarding enquiries about water treatment plant visits. One new visit was arranged, although four visits were hosted, involving around 75 people.
- Formal feedback received during the report period from visitors to our treatment plants shows almost universal high approval ratings (scores of 4 or 5 out of 5) for a range of aspects, including visit content and the presentation skills of our water treatment staff. This underlines anecdotal evidence that the visits are greatly appreciated and valued. The review of visit content outlined above is intended to increase the focus on water quality and conservation - two areas that support the Council's new "Quality for Life" branding.
- Two media releases were made during the period - *Walking remains in-step with water quality says WRC* (6 September) and *Petone returns to aquifer-only water* (17 October). Both stories received coverage in local newspapers. Photographs of the naming ceremony for the Stuart Macaskill Lakes were provided to the *Hutt News* and *Upper Hutt Leader*, to accompany their coverage of that story.
- A three minute piece on how tap water is made clean and safe to drink, which was filmed at Wainuiomata Water Treatment Plant for the children's programme WNTV (TV2) during August, went to air in late October.

7. Projects Undertaken by Engineering Consultancy for Strategy and Asset

➤ Orongorongo River Intake

The extent of the proposed remedial works on Orongorongo River intake has been confirmed. Detailed design work has commenced.

➤ Wainuiomata/Orongorongo Catchment Wheel Wash

The resource consent application for construction of a vehicle wheel wash at the entrance to the catchment area was submitted and information provided on the operation of the proposed grit and oil separator.

➤ Fire Protection at Wainuiomata Water Treatment Plant

A report has been prepared on alternative fire protection systems to avoid having to regularly gain access to the sensors located on the ceiling in the filter gallery.

➤ Waterloo Water Treatment Plant Vibration and Noise

An assessment is being made to determine whether further work is required to ensure that a fatigue failure of the motor hall floor does not occur.

➤ Refurbishment of the OK Main, Petone

The refurbished OK main was recommissioned and is again supplying unchlorinated and unfluoridated water to Petone. Negotiations are being held with the Contractor to finalise the cost of the work.

➤ Paremata Bridge, State Highway 1

The construction of the new bridge at Paremata is proceeding. The 300 mm pipeline supplying water to Plimmerton and Pukerua Bay will be relocated onto this new bridge. Arrangements have been made to retain the existing water supply pipelines while the bridge is being built.

➤ Stream Crossing and Fault Crossings

The seismic performance of the distribution pipelines at stream crossings and fault crossings is being assessed.

➤ Non-return Function at Reservoir Inlets

A report was prepared reviewing installation of backflow restriction devices at the inlet to all the service reservoirs. The devices prevent the reservoir draining out the inlet pipe if the pipeline fails.

➤ Plimmerton No. 2 Reservoir Branch

A Contract has been awarded for relocating the 200 mm ductile iron branch pipeline at Plimmerton Drive. This relocation is required to facilitate the realignment of State Highway 1. Transit New Zealand will be funding this work.

➤ Johnsonville Pumping Station Switchboard and Pumpsets

Replacement of the Johnsonville Pumping Station pumpsets is progressing. The second of the two new pumpsets is being installed.

➤ Warwick Street Pumping Station

A report on the condition of the Warwick Street Pumping Station switchboard and pumpsets is being finalised. Replacement of the switchboard is proposed.

➤ Karori Pumping Station

A report on the condition of the Karori Pumping Station switchboard and pumpsets is being finalised. Replacement of the switchboard and the pumpsets is proposed.

As assessment has been made of the performance of the pumping station structure in a major seismic event. Location of the Wellington Fault relative to the pumping station is being confirmed.

Options for the replacement of this pumping station are being considered.

➤ Pipe Holding Down Straps in Tunnels and Tunnel Access

Installation of pipe securing straps in Kaitoke No. 3 and 4 Tunnels is complete.

➤ Randwick Pump and Valve Chamber

An assessment has been made of a proposed realignment of the Hutt Park roundabout and construction of a new access road into Hutt Park Raceway. A short length of the OK main may need to be deviated. Relocating the Point Howard pumps is also being considered.

Engineering Consultancy Group
October 2002

Engineering Consultancy Group Review of Operations for the Period Ended 31 October 2002

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 Wakefield Street

The challenging project to replace a water main in Wakefield Street from Courtenay Place to Cuba Street is now complete. The Contractor made excellent progress and carried out the work with minimum inconvenience to the public or motorists.

3.3 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 Consultant has completed the design report for siting the reservoir in Carter Park and has lodged the resource consent application.

3.4 Southern Suburbs Reservoir

Wellington City Council has confirmed a preference for the site in Mount Albert Park. This site would have a lower overall cost than the Southgate Park site. Investigations have continued into siting and operational matters. Submissions from consultants for the design of the reservoir have been received and analysed.

3.5 Kelburn Reservoir

This reservoir will replace two existing reservoirs that are adjacent to the Karori

Wildlife Sanctuary. The south chamber of the reservoir is complete and has been filled, tested, disinfected and commissioned. The north reservoir has been demolished and good progress is being made with the north chamber construction. The floor is complete and the walls well under way.

3.6 Onslow Reservoir

There are two reservoirs on the Onslow site. The proposal is that the rectangular western reservoir be demolished and replaced with a larger reservoir, so that the water storage deficiency in the zone can be rectified. The resource consent has been granted. The design and detailing of the structure is proceeding well. Contract Documents are being prepared for the modifications to the external pipework and the details of the pipework in the valve chamber have been finalised.

4. Miscellaneous Projects

Emergency Water Supply

Following detailed discussions with water supply and emergency management staff of the five councils, the consultant prepared a draft report. Wellington Regional Council staff members provided technical input to the project. The report is now being reviewed by the project team members.

Laboratory Services

August 2002

Laboratory Services Department Review of Operations for the Period Ended 31 August 2002

1. Items of Note

- Financially a mixed bag this period, with a pleasing upturn in revenue, unfortunately overshadowed by increased expenditure. Stocking up with material supplies and subcontracted work largely contributed to this situation.
- Our new total organic carbon analyser has arrived from Japan. It is being set up by the supplier and following successful trials will be available for delivery in November. The total nitrogen analyser module looks to arrive in mid-January. We currently subcontract work this instrument was purchased for.
- Ground floor refurbishment for the new laboratory at the Oxford Street premises has been chugging along, with progress made with behind the scenes action. Most of the detailed planning and fine tuning has been negotiated, and things are beginning to gather momentum.

2. Business Summary

2.1 Quality

There were no requests for retesting samples. Good results were recorded with all interlaboratory proficiency tests.

2.2 Health and Safety

There were two minor incidents during October, with no time lost to injury.

Plantation Forestry

August 2002

Plantation Forestry Department Review of Operations for the Period Ended 31 October 2002

1. Log Harvest Contract

Volumes for September showed only a marginal increase over August, rising to 3,571 tonnes. However, the loggers really hit their straps in October, with a total of 6,134 tonnes harvested. This result was assisted by a five week accounting month for Rayonier but was a good effort despite that. Revenues reflected the production with \$98,095 for September and \$232,486 for October. Average returns per tonne were \$27.47 in September and \$37.90 in October. The good October result arises from both crews working in pruned sections of the stands.

The ground based crew has continued to work in Harris North and will now complete the block before leaving the forest to work in the Wairarapa. As harvesting has moved off the ridgelines to the lower slopes, the quality of the timber has improved markedly.

The hauler crew is now sited on Road 9, which is about 20 minutes closer to the gate. This will ease the pressure on the trucks, which had been struggling to maintain their three trips per day to the furthest reaches of the block. Alas, this reprieve will be short-lived, as there is one more setting on the southern boundary of the block that is planned for completion before Christmas. While this setting is worked, a new skid will be constructed on Road 9 from which the balance of the harvest will take place. Current "guesstimates" would have the block completed in April/May.

An acceptable route onto Paekakariki Hill Road is still a necessity, as it will allow the harvesting of the two MOT blocks. This will be a management priority after Christmas. Work on road lining and road construction in the next blocks has been deferred until the New Year, to enable the budget to recover after the excessive roading expenditure that was required through winter.

There has still been no progress on the matter of permanent communications in the area.

The bygrade outputs for September and October were:

Grade	September 2002		October 2002	
	Tonnes	%	Tonnes	%
Pruned Domestic	752.02	20.31	1,552.52	25.31
Pruned Export	0	0	0	0
Partial Pruned	44.78	1.25	0	0
S/A Grade	88.69	2.48	263.45	4.29
L Grade	325.60	9.12	823.62	13.43
R Grade	65.89	1.85	266.78	4.35
K Sawlog	123.07	3.45	272.02	4.43
K Rough	866.39	24.26	1,593.66	25.98

Grade	September 2002		October 2002	
	Tonnes	%	Tonnes	%
Pulp	547.51	15.33	692.34	11.29
O/S Pulp	783.64	21.95	669.97	10.92
Xport Pulp	0	0	0	0
Total	3,570.59		6,134.36	

2. Silviculture Contracts

Currently the silvicultural contractors have completed 58 hectares out of a total of 153. This is despite the staff of the contractor being used for road lining and stream clearing .

3. Plantation Forestry Operations

Planting continued at Puketiro until mid-September when the ground became too dry. Approximately 60 hectares of mainly the Harris South block has been replanted.

Planning continues for the harvest of the Blow Fly, Kaika Mako and Reservoir Ridge blocks.

With the relatively wet spring, all trees have shown good growth.

The planned fertiliser application at Pakuratahi will take place this month.

4. Forest Access

There is still no acceptable access to Maungakotukutuku Forest.

The traction problems outlined in the last report have all disappeared with the fine weather and longer days. It was necessary to complete some outstanding maintenance work through October but only emergency maintenance will be carried out for the balance of the year, which will hopefully bring roading expenditure back in line with budget. The only exception will be the reapplication of millings in four places, to mitigate dust nuisance near neighbouring houses.

All road construction associated with the “new “ blocks has been deferred until the New Year.

5. Market Trends

The markets are still relatively stable and the effects of the strengthening dollar are either being absorbed by reductions in shipping costs or are yet to take effect. The domestic markets are becoming more fickle as, with the increase in overall harvesting in the Region, there is no shortage of product. The local markets (JNL and Eurocell) seem happy to take pruned logs for one or two weeks of the month but then stop. We are fortunate to have access to mills at Feilding, Dannevirke

and Waipawa. The Waipawa market is especially good, as it will take short pruned logs that are out of specification for the other mills. A minor mill in the Wairarapa has commenced purchasing a rough sawlog that had previously been sold at a loss as pulp.

There have been instances where lack of transport has prevented all available timber being shipped and on two occasions access to the wharf was closed because of the volume of logs being stored. Capacity at the wharf is being strained as new entrants enter the market and require their logs to be stored separately. Generally their overall volumes are lower, so it takes longer to accumulate sufficient volumes to justify a ship.