
Supply

January/February 2001

Operations Group
January/February 2001

Operations Group Review of Operations for the Period Ended 28 February 2001

1. Items of Note

- The extended period of dry weather has produced continued demand on the supply system. No real difficulties have been experienced in meeting these demands. The treatment plants are operating well and the optimiser is providing excellent flow predictions.
- An interesting problem occurred when a customer living in Churton Park complained about white particles in their water supply. A sample was analysed and it was identified that titanium and carbon were the prime constituents. The laboratory undertaking the analysis suggested that the material could be as a result of PVC degradation. At this point discussions with the consumer identified that the problem most likely occurred in their hot water system. However, we felt that it was necessary to eliminate the extremely unlikely possibility of the PVC mains supplying the area being the cause of the problem. A section of the mains was cut out, examined and, even though eight years old, was found to be in pristine condition. This information was then given to the consumer who in turn informed us that he had cut out a section of PVC pipe in his hot water system. Again it was in pristine condition. We were then contacted by a second person living in Island Bay who complained of a similar problem. Again the analysis of the deposited material identified that it contained titanium and carbon again indicating a degradation of PVC.

At this point the first consumer contacted us stating that he had identified that the problem was associated with his hot water system. He had determined by Internet search that there had been similar problems in the United States, where the manufacturer of Rheem water heaters, A O Smith Corporation, had accepted responsibility for fitting a defective piece of polypropylene pipe in their heaters between 1993 and 1996. This defective fitting was fitted to heaters with serial numbers MH93 or GM93 through to NC97 or GC97 and is still covered by the results of the class action up to December 2000. The first consumer in Churton Park had one of these heaters fitted. Subsequent investigation has identified that the second complainant also has a Rheem water heater manufactured by A O Smith Corporation.

A good result to a difficult problem.

2. Water Quality

A total of 491 samples from trunk mains were tested for coliform organisms. None of these samples tested positive.

A total of 189 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 5.4 m and 7.1 m, and in the south lake between 4.3 m and 6.7 m. These are considered satisfactory. The dominant phytoplankton were as follows:

- North Lake: *Oscillatoria*, *Asterionella*, *Staurastrum*
- South Lake: *Oscillatoria*, *Staurastrum*, and *Cosmarium*

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

Asterionella and *Peridium* produce fishy odours.

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

Cosmarium and *Staurastrum* produces a grassy smell when abundant.

Dissolved oxygen (4.5 mg/L-10.10 mg/L) is satisfactory. pH values are satisfactory (6.9-7.8).

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 <i>Giardia</i> |
| |) | No <i>Cryptosporidium</i> |

Wainuiomata

- | | | |
|--|---|----------------------------|
| Treated Water |) | No <i>Giardia</i> |
| |) | No <i>Cryptosporidium</i> |
| Lower George Creek and
George Creek south arm
combined |) | Low <i>Giardia</i> |
| |) | Low <i>Cryptosporidium</i> |
| |) | |
| Orongorongo and Big Huia
Intake combined |) | Low <i>Giardia</i> |
| |) | Low <i>Cryptosporidium</i> |
| Wainuiomata intake |) | Low <i>Giardia</i> |
| |) | Low <i>Cryptosporidium</i> |

Guidelines Criteria

0-10 oocysts = low
10-50 oocysts = medium
>50 oocysts = high

3. Supply Situation

The two monthly seasonal forecast for January and February 2001 issued by the Meteorological Service is as follows:

Situation as at 10 February

For Wellington:

Rain:	About to below normal
Wind:	About normal
Temperature:	Around normal
Sunshine:	About to above average
Confidence:	Low to moderate

After a very dry January, these areas could now do with some rain. However, the passing anticyclones are likely to bring a couple more dry months to finish the summer. Fronts arriving from the Tasman Sea are expected to be weak in their rainfall, but they may bring a few days of strong winds. The best chance for rain is from a low coming towards the North Island from the northwest Tasman Sea, and, using previously similar summers as a guide, the changes of this are less than 30%.

The two monthly seasonal forecast and March and April 2001 issued by the Meteorological Service is as follows:

Situation as at 10 March

For Wellington:

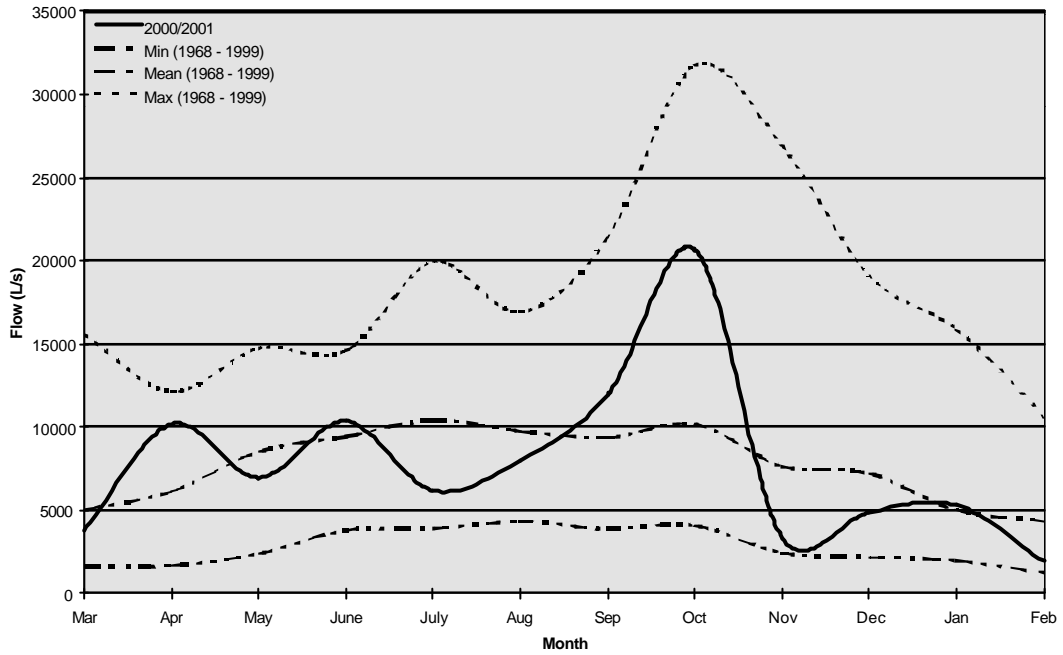
Rain:	About to below normal
Wind:	About normal
Temperature:	Above normal
Sunshine:	About to above average
Confidence:	Low to moderate

The last few months have seen temperatures rise above, fall below, rise above and then fall below the norm. This yoyo seems to have settled down now, and several warmer than normal days and nights are expected. Otherwise it looks like you are in for an average autumn, but maybe with less rain than normal since the cold fronts are expected to be weak in their rainfall, even though they may bring a few days with strong winds. The best chance for rain is from a low coming towards

the North Island from the northwest Tasman Sea, and, using previous, summers as a guide, the chances of this are less than 20 percent.

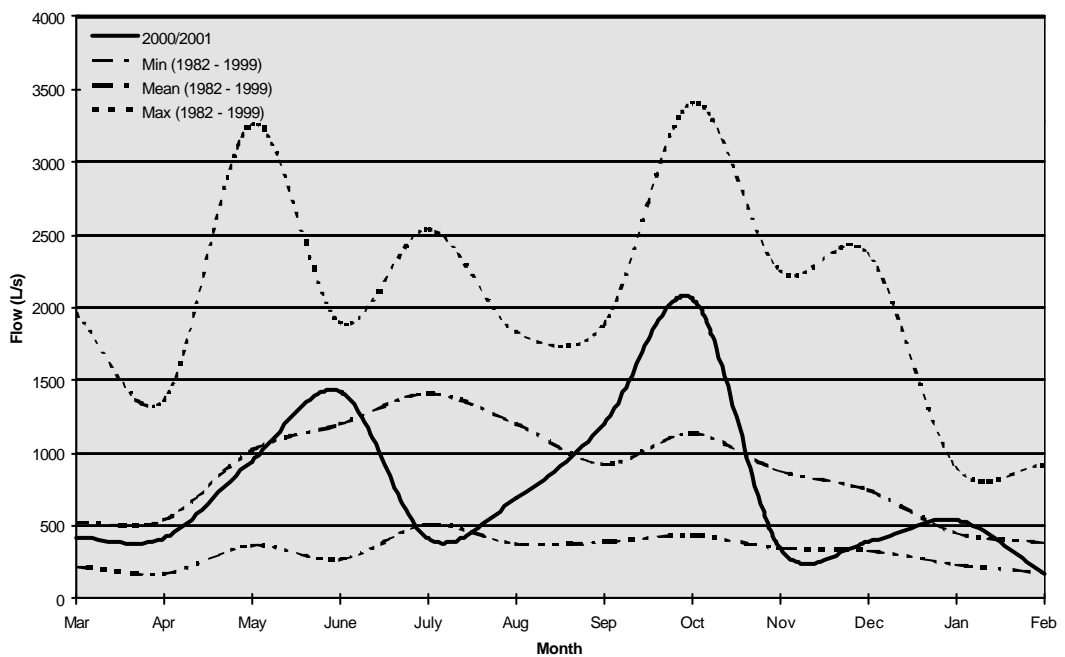
Hutt River Flows

The mean monthly river flow in the Hutt River during January was about average and during February was well below average.



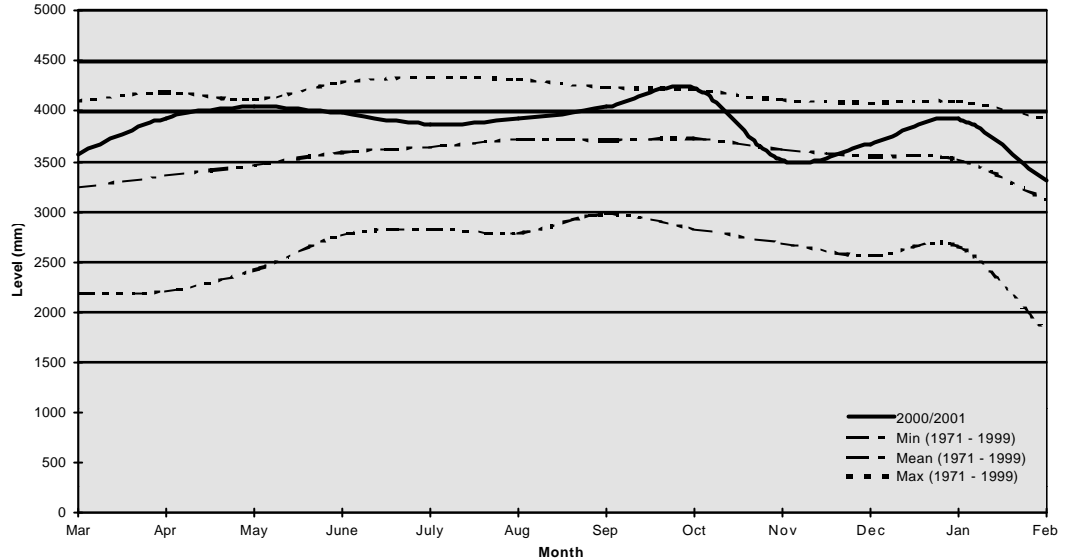
Wainuiomata River Flows

Flow in the Wainuiomata River about average in January and below average in February.



Aquifer Levels

The water aquifer level in the Waiwhetu aquifer was about average during both January and February.



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

January: Part of the access road to the treatment plant collapsed revealing an old tunnel 6 m below the road surface. This was dug up and filled in.

February: The poly dose pumps have been hard piped to avoid flexible hoses blowing off the dose pumps. One coagulant dose pump is currently being modified to have a chemical resistant dose pump head and associated fittings.

4.1.4 Projects

➤ Capital Works

◆ The centrifuge has been fitted with Tungsten Carbides tiles to

improve its efficiency and service life.

4.1.5 Plant Tours

22 February: Tour organised by Hutt City Council : 32 people
28 February: Tour organised by Hutt City Council : 32 people

4.1.6 General

➤ Need rain.

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 items to report on.

4.2.4 Plant Tours

There were no tours during this two month period.

4.2.5 Projects

➤ Capital Works

◆ Commissioning of the fluoride plant modifications should begin on 12 March.

➤ Operational Projects

◆ Awaiting tender prices for the DOL pump switchboard replacement.

4.2.5 General

➤ There have been no problems. The plant often runs at its maximum of 115 MLD for a number of hours a day. CMD avoidance has not been possible because of demand.

- The annual rolling daily average aquifer abstraction total has risen to 63.99 MLD. The current consent allows for 80.5 MLD.

4.3 Gear Island

4.3.1 Quality

Gear Island has been used a number of times during the last month, three times as a source of supply for Wellington during a planned main shutdown and twice because of high demand.

4.3.2 Safety

There are no accidents or incidents to report.

4.3.3 Operations

There are no items to report on.

4.3.4 Plant Tours

There were no tours during this two month period.

4.3.5 Projects

- Capital Works

- ◆ The gas chlorine plant building design has now been given to Beca Carter Hollings and Ferner Ltd.
- ◆ The new fluoride plant should be ready for commissioning on 19 March.

- Operational Projects

- ◆ Orders have been placed for the gas chlorination equipment.

4.4 Te Marua

4.4.1 Quality

A hardware fault in the control system's power supply caused the intermittent operation of Filter No. 1's outlet valve resulting in two, short duration, turbidity transgressions.

4.4.2 Safety

There are no accidents or incidents to report.

4.4.3 Operations

Date	Problem	Cause
4 January 2001	Filter No. 4 sequence fault	North air flow valve failed to close within allotted time
9 January 2001	High treated water pH alarm	Process modulation in caustic control system
13 January 2001	Power cut causing plant slam-shut	Unknown
18 January 2001	High treated water pH alarm	Process modulation in caustic control system
30 January 2001	High treated water pH alarm	Sudden flow change through plant
6 February 2001	Power cut causing plant slam-shut	United Networks' line fault
10 February 2001	Faulty intruder alarm in treatment plant	Telecom line fault
14 February 2001	Power supply fault in PCU 3 causing plant slam-shut	Hardware failure
21 February 2001	Treated pH meter alarm	One of the three triple validation pH meters drifted outside normal operating range
22 February 2001	Low chlorine alarm causing plant slam-shut	Momentary bad quality signal between instrument and control system

4.4.4 Plant Tours

16 February : Wellington Regional Council Induction : 10 people
 22 February : Hutt City Summer Programme : 30 people
 26 February : Opus Training Course : 4 people
 28 February : Hutt City Summer Programme : 30 people

4.4.5 General

➤ Drinking-Water Standards 2001

Software to reduce the risk of turbidity transgressions under the new 2001 Drinking-Water Standards has been completed. Thorough off-line testing and simulation will occur during March, with final installation and commissioning scheduled for early April.

➤ Lake Water Quality

During February a potentially toxic algal bloom was detected in both lakes. Increased monitoring was implemented, with results showing algae counts peaking at moderate levels before declining. As at 7 March, levels had declined but remained elevated.

➤ Lake Storage

Maximum lake storage has been achieved. With system demand very high, it is likely that lake water will soon be required to supplement river abstraction.

5. Distribution

5.1 Health and Safety

There was one accident during February (a worker received burns by arc splatter whilst welding up a pipe).

5.2 Pipeline Section

5.2.1 Earthquake Couplings

Two earthquake couplings were installed into the 1,050 mm pipeline on the Hutt Estuary Bridge.

5.2.2 Maintenance

- Maintenance was carried out on the Thorndon to Macalister pipeline - location of all pipeline items.
- Work was carried out on the Rahui branch line scours (ex-OK main section).
- A scour valve exercise schedule was carried out for the Hutt main.
- The orifice plates, meters and dall tubes, etc., on the Porirua branch in Judgeford and on the Porirua low level branch line were removed (as a result of the electromagnetic flow meter installations in 1999/2000).
- All pipeline easement tracks to the reservoirs were cleared.
- The Wainuiomata Tunnel valve chamber was cleaned out, sandblasted and spray painted.
- Maintenance was carried out on the 1,050 mm main in the State Highway 2 section from Ngauranga valve chamber to the ski club valve chamber. This work was carried out at night with road closures.

5.2.2 Plateau Road Branch

- The Te Marua to Karori pipe was shut and drained, and a new branch valve installed to the Plateau Road Reservoir.

5.2.3 Silverstream Scour

- The Hutt main and Kingsley branch line was excavated and two spigots were welded on (50 percent complete).

5.2.4 Locations/Supervision

Locations and supervision for contractors were provided for the following:

- State Highway 1 deviation at Pukerua Bay
- Onslow Road to Thorndon cable laying
- OK main - Thorndon to Karori relining contract
- Timberlea branch line - new subdivision

5.2.5 Waterloo Water Treatment Plant

Sample lines were installed on the 525 mm main to Gracefield and 750 mm main to Naenae.

5.3 Electrical Section

5.3.1 Ascot Park Inlet Main

- A new pressure transmitter was installed on this main.

5.3.2 Johnsonville Pump No. 3

- The Johnsonville Pump No. 3 motor was removed for a rewind after the motor burnt out.

5.3.3 Reservoir Level Control Probes

- Installation of reservoir level control probes on seven reservoirs is 90 percent complete.

5.3.4 Grenada Low Level Reservoir TD Hut

- This hut has been decommissioned and removed.

5.3.5 Johnsonville and Karori Pumping Stations

Maintenance on the old switch/control gear was carried out at the above pumping stations.

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

- Production

There are no accidents or injuries to report.

➤ Distribution

There was one accident during February (a worker received burns by arc splatter whilst welding up a pipe).

➤ Network

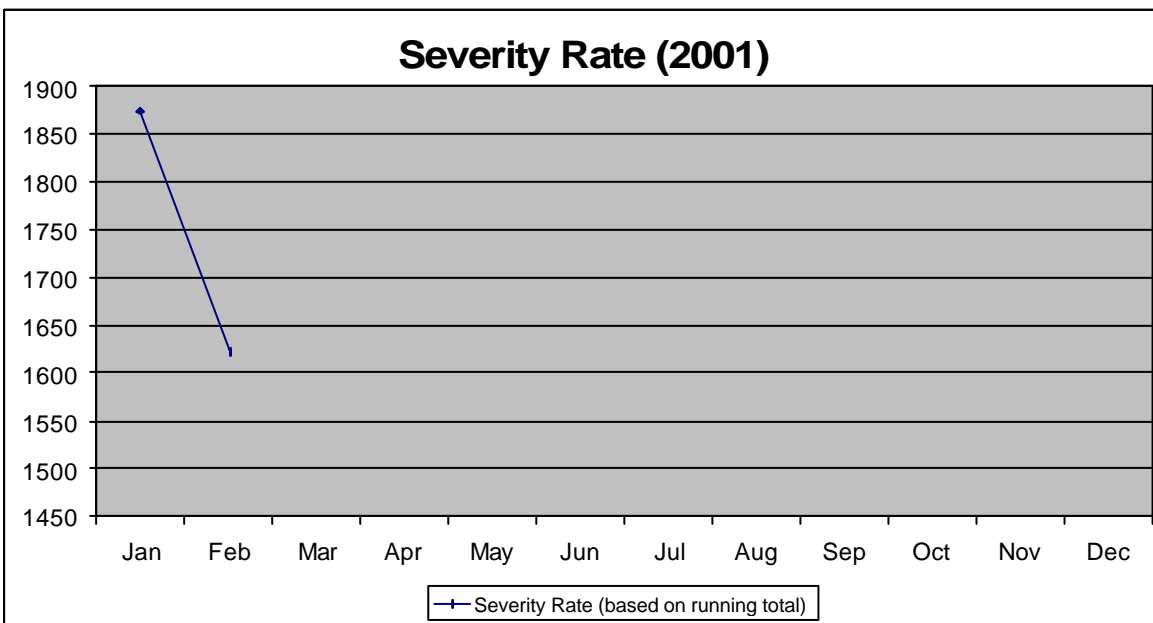
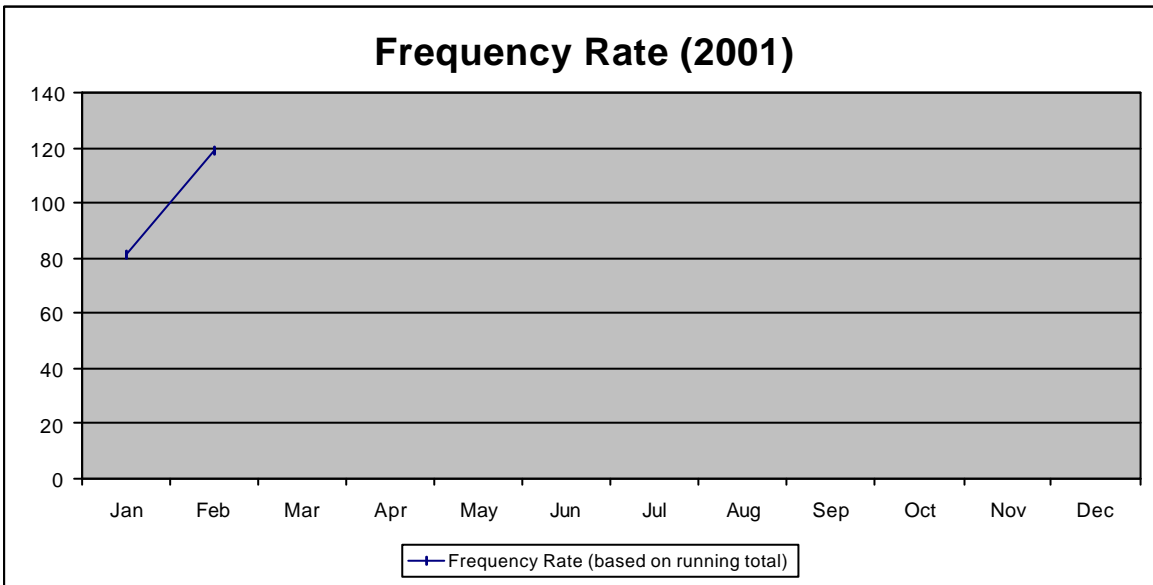
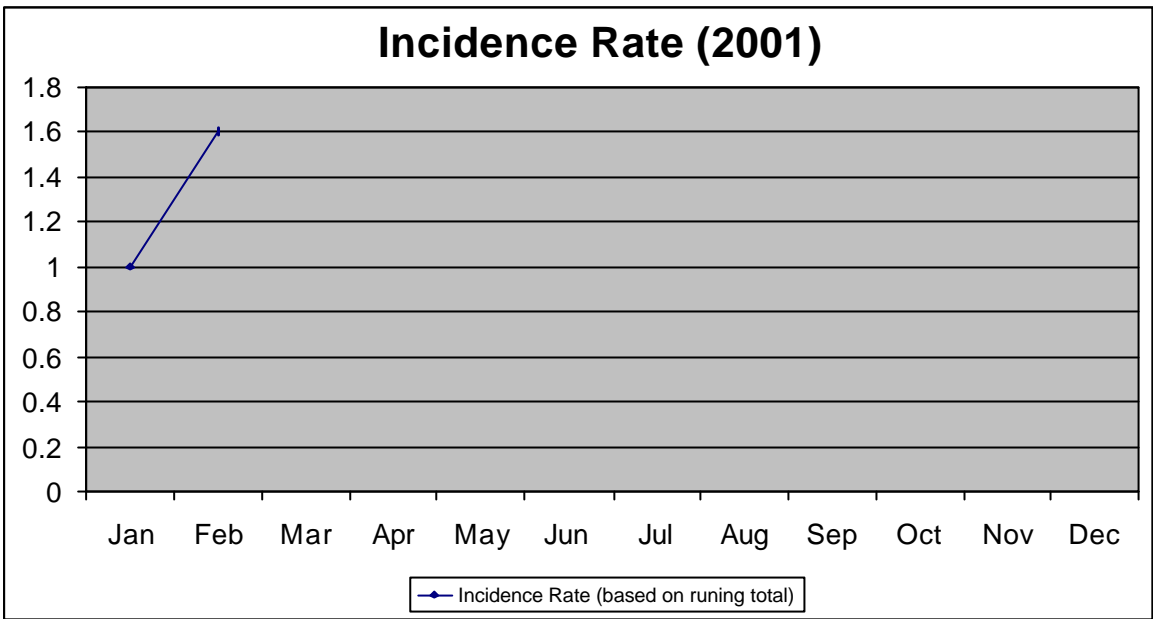
There were no minor incidents reported during January. One staff member was still on accident compensation as a result of an injury incurred in December 2000.

There were no minor incidents reported during February.

STRATEGY AND ASSET	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Hours worked	504	544										
Employee numbers	4	4										
Injuries	0	0										
Days lost	0	0										
Incidence rate (number of injuries per 100 workers)	0	0										
Frequency rate (injuries per 1,000,000 hours exposure)	0	0										
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0										
FORESTRY	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Hours worked	271	390										
Employee numbers	3	3										
Injuries	0	0										
Days lost	0	0										
Incidence rate (number of injuries per 100 workers)	0	0										
Frequency rate (injuries per 1,000,000 hours exposure)	0	0										
Severity rate (days lost to injury per 1,000,000 hours worked)	0	0										

Utility Services Division Combined	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Running Total from 1/1/01	Running Total from 1/1/01	Running Total from 1/1/01	Running Total from 1/1/01	Running Total from 1/1/01	Running Total from 1/1/01	Running Total from 1/1/01	Running Total from 1/1/01	Running Total from 1/1/01	Running 12 month Total		
Hours worked	12,274	13,700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25,282	
Employee numbers	42	42	42	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25,282
Injuries	1	2	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Days lost	23	16	41	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Incidence rate (number of injuries per 100 workers)	1	2	1.6	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41
Frequency rate (injuries per 1,000,000 hours exposure)	81	154	114	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41
Severity rate (days lost to injury per 1,000,000 hours worked)	1.8/4	1.384	1.622	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41

Incidence rate = (number of injuries/number of employees) x 100
 Frequency rate = (number of injuries/person hours worked) x 1,000,000
 Severity rate = (days lost/person hours worked) x 1,000,000



Operations Network Review of Operations for the Period Ended 28 February 2001

1. Items of Note

- Because of staff sickness and holidays during January, difficulties were experienced in meeting the performance requirements of the Agreement. This was reassuring, as it is indicative of the fact that we normally have the correct amount of labour involved in the maintenance activities.
- Seven mains bursts were attended to during January and five during February. All were repaired within the requisite timeframe.

2. Water Quality

2.1 Routine Testing (A1)

The water quality was monitored and the appropriate laboratory tests were completed for January and February. There were 161 samples from the reticulation system tested for bacteriological compliance during January and 144 samples in February. Compliance for both months is 100 percent. Compliance for the year to date is 99.9 percent.

2.2 Water Tests Initiated by Customers (A2)

	January	February	Year to Date	Compliance Year to Date (%)
Number received	4	5	49	-
Within ability of Operations Network to control	0	3	20	-
Formal response within five days	4	5	48	97.9%

3. Customer Services

3.1 Counter and Other Office Services (E)

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:

	January	February
Counter enquiries	73 + 12 encroachments	73 + 9 encroachments
Proposals from other utilities	7	9
Plan records : New services recorded	22	19
Response time requirement compliance	100%	100%

3.2 Performance Standards (G)

January 2001				
	Expected Compliance	Number of Activities	Completed to Standard	Compliance Achieved
Miscellaneous				
A Quality complaints (samples)	85-95%	4	4	100%
A System Flushing (M1.4)	85-95%	49	49	100%
B Pressure and flow	85-95%	15	14	93%
B Loss of Supply (M1.5)	85-95%	9	9	100%
C Planned Shutdowns	95%	32	32	94%
C Unplanned Shutdowns	95%	19	19	100%
D Mark-outs	90-95%	39	39	100%
G Workmanship (joint audit results for December 2000)	90-95%	57	54	95%
O Meter Reading	100%	<i>Achieved</i>	<i>Achieved</i>	<i>Achieved</i>
Significant Leaks (M1.2 or o/e)				
H Burst Mains (includes 5 O&E)	85-95%	7	7	100%
H Other	85-95%	-	-	-
Non-significant Leaks				
H Mains (M1.2) (85-95%	13	13	100%
H Valves (M1.3)	85-95%	54	42	77%
H Hydrants (M1.4)	85-95%	52	50	96%
H Domestic Services (M1.5) :	85-95%	166	149	89%
H Stopcocks (M1.6)	85-95%	355	318	89%
H Water Meters (M2.1)	85-95%	15	15	100%
L Damages (Variation)	85-95%	21	19	90%

February 2001				
	Expected Compliance	Number of Activities	Completed to Standard	Compliance Achieved
Miscellaneous				
A Quality complaints (samples)	85-95%	5	5	100%
A System Flushing (M1.4)	85-95%	77	77	100%
B Pressure and flow	85-95%	14	14	100%
B Loss of Supply (M1.5)	85-95%	12	12	100%
C Planned Shutdowns	95%	19	19	100%
C Unplanned Shutdowns	95%	57	57	100%
D Mark-outs	90-95%	38	33	84%
G Workmanship (joint audit results for December 2000)	90-95%	62	61	99%
O Meter Reading	100%	<i>Achieved</i>	<i>Achieved</i>	<i>Achieved</i>
Significant Leaks (M1.2 or o/e)				
H Burst Mains (All 5 were O&E)	85-95%	5	5	100%
H Other	85-95%	-	-	-
Non-significant Leaks				
H Mains (M1.2) (85-95%	15	12	80%
H Valves (M1.3) (Includes 1 O&E)	85-95%	37	31	84%
H Hydrants (M1.4)	85-95%	74	62	83%

February 2001				
	Expected Compliance	Number of Activities	Completed to Standard	Compliance Achieved
H Domestic Services (M1.5) :	85-95%	208	181	87%
H Stopcocks (M1.6)	85-95%	411	388	94%
H Water Meters (M2.1)	85-95%	14	14	100%
L Damages (Variation)	85-95%	46	31	67%

The expected compliance figure of 85 percent for damage repairs has been difficult to achieve this month. The number of damage repairs attended to this month has been a record since 1 July 2000. They have increased by 100 percent.

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

	January		February	
Locate stopcocks	63/66	95%	59/73	80%
Leak locations	89/97	92%	122/143	85%
Flow tests	4/4	100%	1/1	100%
Seepage/investigations	0	100%	2/2	100%

Failures

	Jobs Failed by 1-24 Hours		Jobs Failed by 1-5 Working Days		Jobs Failed >5 Working Days	
	January	February	January	February	January	February
Burst mains						
Stopcocks	11	2	19	11	7	10
Hydrants		2		7		3
Valves		1	6	1	6	4
Mains				2		1
Domestic services		1	13	13	4	13
Water meters						
Damages	2	15				
Quality complaints						
System flushing						
Pressure and flow			1			
Loss of supply						
Mark-outs				5		
Workmanship						

Additional Work Carried Out

	January	February
New services	20	-
Variations (exclusive of burst mains)	7	2
Service renewals	2	3

Burst Mains

There was a total of seven burst mains during January and five during February. These were as follows:

12 Stephen Street	2 January 2001
11 Westview Street	4 January 2001
102 Sutherland Road	11 January 2001
15 Pembroke Road	11 January 2001
1 Kenmore Street	29 January 2001
Cnr Black Rock Road and Glanmire Road	27 January 2001
37 Wadestown Road	26 January 2001
190 Newlands Road	2 February 2001
15 Glanmire Road	3 February 2001
Frankmoore Avenue Bowling Club	10 February 2001
Cnr Franklyn Road and Gear Terrace	13 February 2001
8 Bedford Street	23 February 2001

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

Overs and Extras

11 Westview Street	4 January 2001
102 Sutherland Road	11 January 2001
15 Pembroke Road	11 January 2001
1 Kenmore Street	29 January 2001
Cnr Black Rock Road and Glanmire Road	27 January 2001
190 Newlands Road : burst main	2 February 2001
15 Glanmire Road : burst main	3 February 2001
Frankmoore Avenue Bowling Club : burst main	10 February 2001
Cnr Franklyn Road and Gear Terrace : burst main	13 February 2001
8 Bedford Street : burst main	23 February 2001
Cnr Abel Smith and Wigan Streets : valve replacement	25 February 2001

4. Health and Safety

There were no minor incidents reported during January. One staff member was off on accident compensation as a result of an injury incurred in December 2000. There were no minor incidents reported during February.

5. Meters

A total of 2,499 suburb, voluntary and high use meters read and entered into the system by 23 January 2001. A total of 1,437 city and high use meters were read and entered into the system by 23 February 2001.

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 power supply unit for the Linden repeater was replaced.

6.3 Woodridge Reservoir

The UPS for the emergency shut-off has failed. A new unit is being installed.

6.4 Epuni Street Pumping Station

The No. 3 pump at Epuni Street Pumping Station has been overhauled, reinstalled and returned to service. Subsequently the mechanical seal failed and is being repaired by Pump and Machinery. The mechanical seal has failed again and is being repaired under warranty.

6.5 Montgomery Avenue Reservoir

It was found that the hatches had been vandalised and rubbish had been thrown into the reservoir. The reservoir was drained and cleaned, the hatches repaired and the reservoir returned to service. The supply pump was run continuously to maintain pressure while the reservoir was empty.

6.6 Sidlaw Street Pressure Sustaining Tank

An investigation into the operation of the tank is continuing. The control valve has been overhauled and returned to service.

6.7 Johnsonville West Reservoir

The electromagnetic flow meter at Johnsonville West Reservoir failed when rats chewed through the cable between the transmitter and the head. The cable was shortened and reterminated, and the electromagnetic flow meter returned to service.

6.8 Pressure Reducing Valve, Amesbury Drive

The new pressure reducing valve in Amesbury Drive, Churton North failed when a control pipe split. The pipe was replaced and the valve recommissioned.

6.9 Maintenance Checks

Maintenance was carried out in January and February as follows:

January	
Round C	Round D
Allington Road Messines Road Pumping Station Karori Park Montgomery Avenue Makara Road Verviers Street The Zoo Russell Terrace Lyndhurst/Chester Roads Mills Road Woodridge CV	Karepa Street Highbury Landfill Reservoir Landfill CV Rhine Street Beacon/Signal Hill Townsend Road Miramar North Dargle Way Grenada CV Rangoon Heights Ngaio CV
February	
Round A	Round B
Rajkot Terrace Nassau Avenue Mark Avenue Chapman Street Burnside Road Ruskin Road Broderick Road Broadmeadows High Pump Station Satara Street Kitchener Terrace Davies Road CV Birch Street CV Ohariu CV Glover Street CV Ironsides CV	Huntington Street Warwick Street Hay Street Epuni Street Mapuia Street/Mt Crawford Sar Street Alexander Road Redwood Greyfriars Road Bell Road CV Webb Street CV Prince of Wales CV Vasanta CV

7. Development

7.1 Development Statistics (F2)

Subdivisions	January	February	Year to Date
Construction plans approved (lots/units)	3	115	222
Scheme plans approved	38	20	278
Subdivisions cleared (lots/units)	58	54	513
Total subdivisions processed	59	44	868
Subdivisions processed on time	59	41	856
Response time compliance	100%	93%	98.6

7.2 Development Projects

7.2.1 Churton North Reservoir

The reservoir is operating satisfactorily. Completion of minor items is outstanding.

7.2.2 Westchester Drive Pumping Station and Rising Main

Some minor maintenance items are outstanding.

7.2.3 Subdivisions General Items

- Avoka Trust Subdivision, Rangiora Avenue. The 150 mm connection

from the 525 mm cast iron main in Hutt Road was successfully completed as an underpressure tapping by an Auckland contractor on 5 January).

- Rossaveel Heights, Takapu Road, Grenada North. The Wellington City Council Hearing issued a decision that the minimum pressure at the point of supply at all points in the network shall be 25 m head.

7.2.4 Construction and As-built Plans

7.2.4.1 Construction Plans

Construction plans were considered for approval of the following subdivisions:

- CAS Subdivision, Greta Point (91 units). Amendments to the drawings were requested. Plans were finally approved on 28 February.
- 18 Buccaneer Place, Grenada (5 lots). Amendments to the drawings were requested. Plans were finally approved on 5 February.
- 487 Ohiro Road, Brooklyn (3 lots). Approved 24 January.
- 83-87 Hill Street, Thorndon (Hill Street Mews, 11 lots). Amendments to the drawings were requested. Plans were finally approved on 7 February.
- 14 Glenmore Street, Kelburn (4 lots and 4 units). Plans were finally approved on 20 February.
- Rossaveel Heights, stage 3 (21 lots). These plans have not yet been approved, as amendments to the drawings have been requested. Seven of the lots cannot be supplied with minimum pressures. These lots will not be given clearance until the proposed Linden High Level Reservoir is commissioned and stage 3 is switched over to that zone.

7.2.4.2 As-built Plans

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

- Woodman Drive, Tawa (14 lots), As-built Plan TCB 97-412-505D). The construction of the water reticulation to these lots was inspected and the subdivision cleared on 15 January.
- 7-9 Hindmarsh Street (7 lots). These plans have not yet been finally approved, as amendments to construction have been requested.
- Tamworth Crescent, Newlands (23 lots). These plans have not yet been finally approved, as extra information and copies of plans have been requested.

7.2.5 Fire Services Recently Connected

There were no new fire services installed during January. The following fire service connection was installed during February:

- 58-62 Tory Street (100 mm) : 21 February

7.2.6 New Commercial Metered Services

The following new metered services were connected during January and February:

- Karori Pool, Donald Street, Karori (100 mm)
- 171-177 Willis Street (50 mm)
- 571 Adelaide Road, Newtown (20 mm)
- 40 Main Road, Tawa (20 mm)
- 40 Disley Street, Karori (50 mm)
- 115 Taranaki Street, Te Aro (20 mm)

7.3 Building Development Appraisals (F1)

	January		February	
	Commercial	Domestic	Commercial	Domestic
Building consents	6	33	9	36
PIMS applications	6	38	8	38
Compliance with response time requirement	100%	100%	100%	100%

7.4 Land Information Memorandum (F1)

	January	February
Applications processed	36	51
Compliance with response time requirement	100%	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
- Bell Road Zone Improvements
- Karori South and Allington Road Zones Amalgamation

➤ Percival Street

The maintenance period for the Rider Main Renewals Contract has expired. The Contractor has been instructed to rectify some road surface defects before the maintenance retentions are released. The maintenance retentions for Helston Road have been released.

8.1.2 Taranaki Street

The Contract for the replacement of the 150 mm cast iron and 150 mm asbestos cement mains in Taranaki Street is continuing to progress satisfactorily. The Contractor has installed all the new pipe. They are now making the connections and reinstating the Site.

8.1.3 Percival Street

The Contractor completed the connections and reinstatement of the site and attained Practical Completion on 16 February 2001. This Contract is now in the defects liability period.

8.1.4 Oriental Terrace

The Contract to replace the existing 200 mm asbestos cement pipe in Oriental Terrace was awarded to N Forsyth Ltd. Work is expected to start on-site on 5 March 2001.

8.1.5 Tirangi Road and Lyall Parade

The Contract to replace the existing 200 mm and 150 mm asbestos cement pipes in Tirangi Road and Lyall Parade was awarded to Excell Corporation Ltd. Work is expected to start on-site on 19 March 2001.

8.1.6 Tanera Crescent, Brooklyn

Design has begun to replace the 150 mm asbestos cement main in Tanera Crescent.

8.1.7 Rex Street, Miramar

Design has begun to replace the 75 mm cast iron main in Rex Street.

8.2 Reservoirs

8.2.1 Wadestown Reservoir Replacement

The construction of the reservoir is progressing satisfactorily. The Contractor, McKee Fehl Ltd, has poured approximately 60 percent of the floor and over half of the wall sections. The valve chamber floor has also been poured.

Contract Documents have been prepared for the scour/overflow pipeline for the reservoir.

8.2.2 Grenada North High Level Reservoir

The Contractor, Juno Civil Ltd, is completing the access road and pipelines. The reservoir has been poured and the walls are being formed.

8.2.3 Kelburn Reservoir Replacement

Design is under way to replace the two Kelburn Reservoirs. The existing reservoirs have insufficient capacity and do not comply with current building standards. Sinclair Knight Merz Ltd has been commissioned to carry out the detailed design, obtain consents and supervise the construction.

8.2.4 Eastern Suburbs Reservoir

The preferred site for this reservoir is being investigated in more detail. A consultant that specialises in planning and resource consent issues has been approached to assess the issues surrounding the preferred site.

8.2.5 Southern Suburbs Reservoir

Investigations into the site of this proposed reservoir are about to get under way.

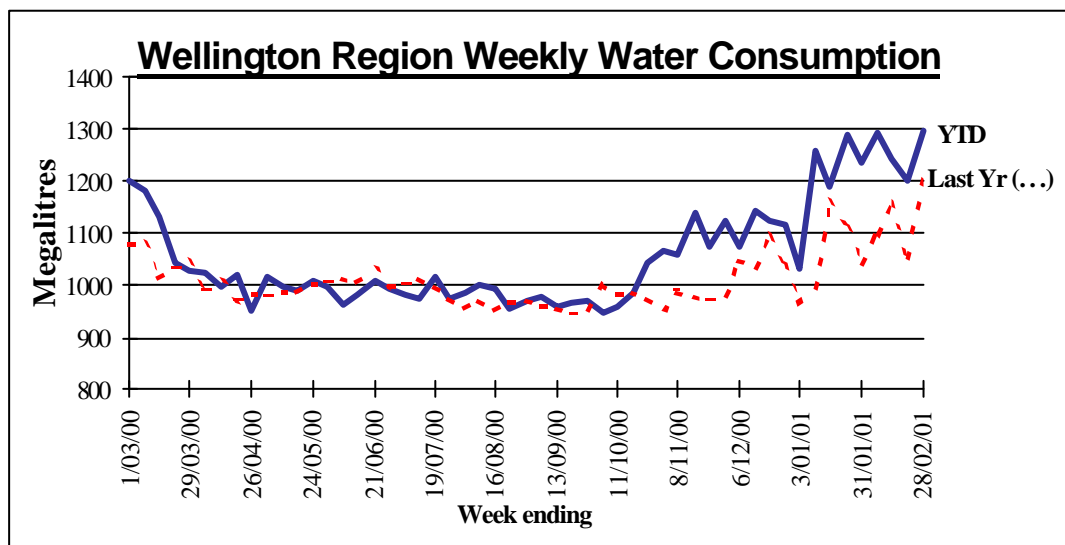
Strategy and Asset Group
January/February 2001

Strategy and Asset Group Review of Operations for the Period Ended 28 February 2001

1. Items of Note

- The benchmarking report that compares The Water Group's activities with Watercare Services Ltd's in Auckland for 1999/2000 has been received. A presentation will be made to the Committee.
- Mention was made in the last report to the Committee of the Ministry of Health's proposal for public health risk management plans. These will be expanded on in a Committee presentation.
- The first goat culling operation in the Wainuiomata/Orongorongo Catchment resulted in over 100 being killed. The Landcare Division was asked to prepare a second operation to complete coverage of the area. This is to take place in March.
- Work has started on the development of a hydraulic model of the system. This will assist with future developments. It will also allow "what if" scenarios to be tested for day-to-day operations.
- An inspection of the Wainuiomata Tunnel has been completed. Some minor remedial work will be undertaken prior to Hutt City Council laying their waste water pipeline.

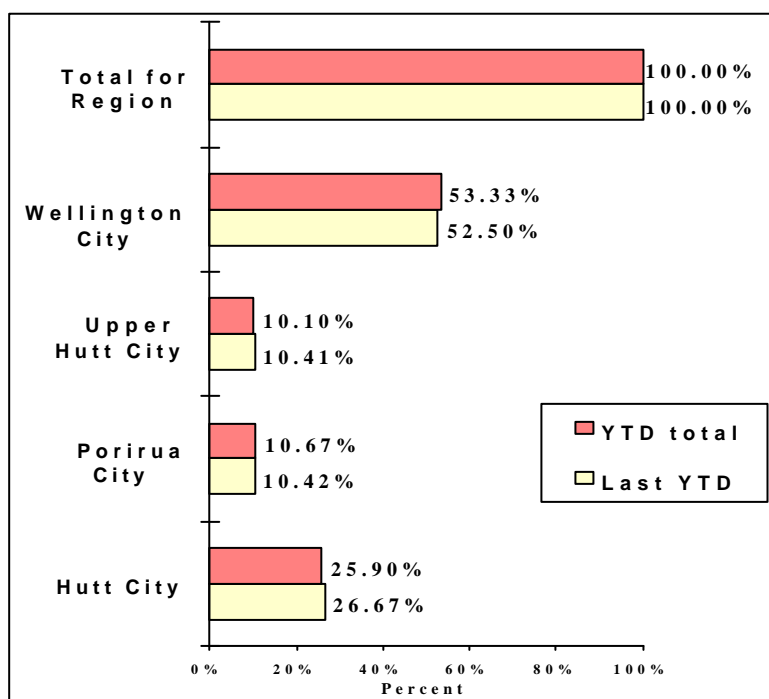
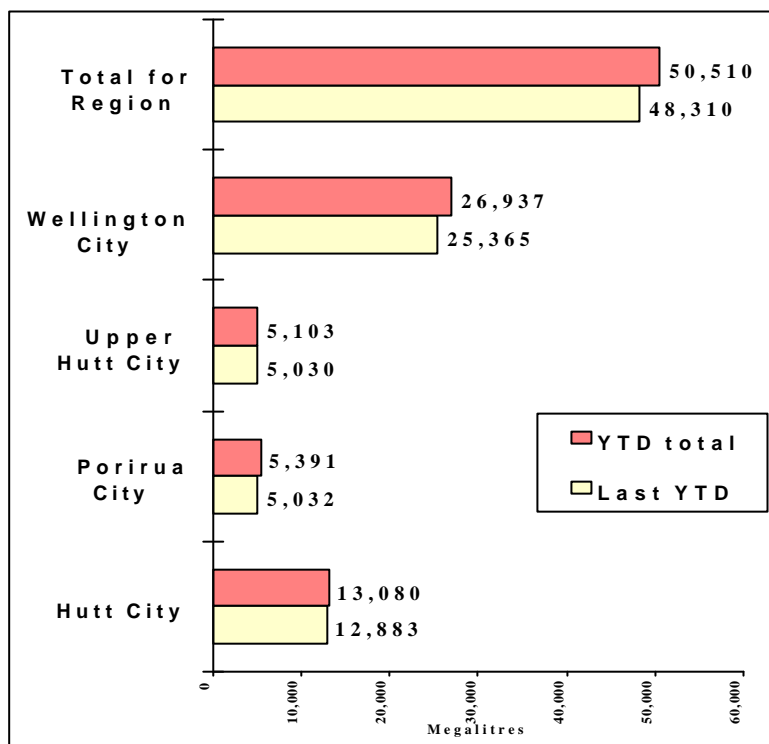
2. Sales Volume



Water Sold Over the Last 12 Months

Sales volumes to the beginning of November 2000 were similar to the previous year. Consumption in the period November 2000 to the end of February 2001 is reflective of the very low rainfall in this period.

Water Sold from 1 April to 28 February 2001



3. Asset Management

- Production of financial report templates that will extract financial information from the Hansen asset management system has been delayed by restructuring of the programme support company in Melbourne. In the meantime, Finance is using estimates of depreciation for the monthly balance sheets.
- A review of the June 1998 Asset Management Plan has been commenced but no significant changes will be made until the 2001/2 year.
- At 31 January the forecast expenditure on capital works is \$3.765, including two proposed new projects at Waterloo Water Treatment Plant reported elsewhere. The approved budget is \$4.047 million.
- Refurbishment of the Orongorongo/Karori main between Thorndon and Karori is well advanced, installation of the new fluoridation equipment at Gear Island is close to completion and work on developing a computer model of the distribution network is well underway. Progress on the new branch main to the Plateau Reservoir has resumed after technical problems caused a hold-up.
- Survey work and subdivision plans for Karori Reservoir land have been completed and submitted to the Wellington City Council for subdivision approval. Wholesale water mains under land to be transferred to Wellington City Council will be protected by easements.
- IBM has objected to our application for a resource consent to take water from the Moera aquifer during peak demand times. Their objection raises complex technical and legal issues, which are being worked through with Environment Division staff and IBM.
- Draft conditions for the new consents to abstract water from surface sources are close to being finalised. A peripheral agreement covering fishery issues has been set up with Fish and Game New Zealand and another facilitating winter weekend rafting agreed with Top Adventures. Since these two parties are the only objectors, these agreements will enable the consent to be granted without a formal hearing.
- Agreement has been reached that the requirement in the Hutt aquifer resource consent to conduct a large-scale pump test will be withdrawn. This does not preclude any future application to take more water. However, any future consent application from us or any other party would have to be preceded by a similar test.
- Further professional hunting is underway in the Wainuiomata and Orongorongo Catchments, and is being very successful.

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 January and February are set out below. The percentage of the time turbidity is less than 0.1 NTU has also been calculated, as this standard will apply in the future.

Percentage Compliance	Turbidity < 0.5 NTU		Turbidity < 0.1 NTU	
	January	February	January	February
Plant				
Te Marua	99.95 %	100%	99.35%	99.92%
Wainuiomata	99.99 %	100%	97.49%	98.99%

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	January	February
Te Marua	0	0
Wainuiomata	0	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 *Drinking-Water Standards for New Zealand* is not normally delivered to the customers.

- The Ministry of Health has published a new Drinking-Water Standard. The new standard contains a number of significant changes and came into effect on 1 January 2001. There are a number of issues with this new standard that are being worked through with the health authorities.

5. Marketing

5.1 Report of Business Activity

- Screening of our Summer Water Conservation Campaign advertisement commenced on 14 January and is due to finish in early March.
- A press release, *Water saving tips look timely*, was written and distributed to coincide with the start of the television campaign. It received widespread coverage in the Region’s newspapers, including *The Evening*

Post.

- There has been a steady trickle of public enquires relating to water conservation issues since mid-January. This indicates an increased level of public awareness about the need for water conservation compared with either of the last two years.
- *Water Watch*, the weekly update of the water supply situation, has been produced for our customers, councillors and Wellington Regional Council water supply staff. Our Environment Division has supplied water catchment rainfall and river flow data.

5.2 Other Activities

- Preparation of a brief for research to measure the effectiveness of the Summer Water Conservation Campaign.
- A press release, *Hunters' chance to cull deer and improve water quality, says WRC*, was written and supplied to Communications for review and release.
- A brief water supply history of the Wainuiomata/Orongorongo area was written for Regional Parks and historic photos found for use at the official opening of controlled catchment access on 25 February.
- Further work on a review of external signage at main Wellington Regional Council water treatment plants and pumping stations.
- Ongoing involvement with the Environment Division to ensure that Environment's *Learnwell* programme, being developed for water conservation, will address Utility Services' objectives for educational material as well as Environment's.
- Wellington Regional Council internet site. New content covering water quality, environmental issues and the development history of Wellington's water supply has been reviewed and edited.

6. Economics

- At present the method of calculating the water levy for each customer is complex. This is because the levy contains an end of year adjustment from the previous year. Discussions with our customers are well advanced about simplifying the calculation procedure. It is expected a report will be available for the May Utility Services Committee Meeting.
- Two new points of supply are being arranged at present. One of these is off the refurbished OK main in Tinakori Road. This will strengthen supply to the northern end of Wellington City's Aro Street zone.

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

- The second point is on the Petone Foreshore. This will provide an emergency supply to the Petone area and by passes Hutt Rahui reservoir.

- Big Huia Pipeline Joints

Arrangements are being made to clean and wrap all the joints on the Big Huia intake pipeline.

- Kaitoke and Te Marua Roads Reseal

A Contract has been awarded to reseal the roads at Kaitoke and Te Marua.

- *Te Marua Lakes Emergency Action Plan*

Proposed amendments to the *Te Marua Lakes Emergency Action Plan* are being reviewed.

- Orongorongo Catchment Access

Safety barriers on the walking track from the end of the Orongorongo road to the Big Huia Pipe Bridge are complete.

- Wainuiomata Water Treatment Plant Slam-shut Scour

Quotations have been received for the supply of a scour valve to be installed immediately upstream of the slam-shut valve.

- Waterloo and Gear Island Fluoride Dosing

Installation of new fluoride dosing systems at Waterloo and Gear Island is well advanced.

Commissioning of the dosing system at Waterloo is programmed for mid-March and at Gear Island in the last week of March.

- Waterloo Water Treatment Plant Vibration and Noise

The report on the cause of vibration and noise within Waterloo Water Treatment Plant has been reviewed. An assessment is being made on whether to proceed with the detailed design of the proposed mitigation methods.

- Silverstream Scour on Kaitoke Main

The Distribution Section is installing the new scour on the Stokes Valley

branch line and a new branch on the Kaitoke main.

➤ Refurbishment of the OK Main, Thorndon/Karori

The OK main has been cement mortar lined from Karori Pumping Station in Waiapu Road to Thorndon Pumping Station on Thorndon Quay. The Contractor is completing the connections and reinstating the site.

➤ Orongorongo Pipeline Replacement at George Creek

Drawings are being prepared to replace approximately 140 m of the OK main in the Wainuiomata Water Collection Area.

➤ Plateau Reservoir Inlet Main

Approximately 90 percent of the new inlet main to Upper Hutt City Council's Plateau Reservoir has been installed. The Contractor initially had difficulty with producing satisfactory butt fusion welded joints.

➤ Pumping Stations Power Factor Investigation

An order has been placed to install power factor correction equipment in Moores Valley, Wainuiomata and Randwick Pumping Stations.

➤ Johnsonville Pumping Station Switchboard

Investigations are under way for the replacement of the switchboard at Johnsonville Pumping Station.

➤ Kaitoke Pipeline Either Side of Strainer Building

The start date for refurbishing the concrete pipeline between the Kaitoke Flume Bridge and the No. 2 Tunnel entrance was postponed because of the continuing high demand for water and the low river flows in the Wainuiomata and Orongorongo Rivers.

➤ Kaitoke Pipeline on Haywards Hill

Opus International Consultants Ltd has been approached to provide a proposal reporting on the effect of the proposed State Highway 58 realignment on the ground stability along the route of the Kaitoke pipeline.

➤ Hutt Estuary Bridge Pipelines

Flexible couplings have been installed on the two pipelines crossing the Hutt Estuary Bridge. This allows the pipelines to move with the bridge in a seismic event.

➤ Wainuiomata Main Valve Chambers

Proposals are being prepared to rationalise the pipework within the valve chambers on the Wainuiomata main. This will remove unused pipe, reducing the risk of contamination.

➤ Te Marua Towers Valve Shut-off

Brackets are being fabricated to mount pneumatic cylinder actuators on the lake inlet and outlet valves.

➤ Flow Meters

A draft report has been prepared reviewing the flow meter replacement programme.

➤ Sealing Hutt Aquifer Wells

Wells at Gear Island and Naenae have been sealed.

Engineering Consultancy Group
January/February 2001

Engineering Consultancy Group Review of Operations for the Period Ended 28 February 2001

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 Taranaki Street Pipeline

Work is nearing completion on the Contract for the laying of a replacement main in Taranaki Street from Courtenay Place to Webb Street. The main on the east side has now been connected into the existing pipelines and has been commissioned. On the west side a polyethylene pipe has been laid by pipe bursting between Abel Smith and Webb Streets. This completes the pipelaying.

3.3 Percival Street Pipeline

The Contract for the replacement of the 100 mm cast iron main and 40 mm galvanised iron main in Percival Street, Upper Dixon Street and Allenby Terrace is now complete and commissioned. This Contract presented some difficulties because of the narrow access paths and flights of steps.

3.4 Grenada North High Level Reservoir

This permanent reservoir, 160 m³ 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 Contractor has completed the construction of a long access road from Caribbean Avenue and for the reservoir site. The pipelines from Nassau Avenue have been laid to the reservoir site, and work is well advanced on the construction of the reservoir.

3.5 Oriental Parade and Oriental Terrace

A Contract has been awarded for the installation of these replacement pipelines. The existing pipeline has a very poor service record.

3.6 Tirangi Road and Lyall Parade

A Contract has been awarded for the replacement of the asbestos cement mains. This completes the work in this area.

3.7 Other Wellington City Council Capex Projects

Design work has commenced on replacement mains in Rex Street, Miramar, and Tanera Crescent, Brooklyn.

3.8 Wadestown Reservoir

Montgomery Watson Ltd was engaged for the design of a replacement reservoir, capacity 1,800 m³, 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 Contractor has made substantial progress with the construction of the reservoir works. The access across the Town Belt from Northland has minimised impacts on Wadestown residents.

The assessment of the old rising main that will be used as an overflow revealed that its condition is worse than expected and will require rehabilitation. Design of an in insertion pipeline is now under way.

3.9 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). 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. Further investigations are now under way.

3.10 Kelburn Reservoir

A commission has been awarded to consultants for the investigation and design of a new reservoir, which will replace two existing reservoirs that are adjacent to the Karori Wildlife Sanctuary.

3.11 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 Puketiro Bridge

This small bridge replaces an existing ford on a forestry access road. Tenders have been received and analysed. A recommendation has been made of a preferred contractor. Some additional approvals are necessary before the Contract can be awarded.

4.2 Karori Wildlife Sanctuary

The replacement of the scour valve on the Upper Dam has been delayed because of an extended manufacturing time. The valve has arrived and has now been modified. Wellington City Council is funding this project.

Laboratory Services
January/February 2001

Laboratory Services Department Review of Operations for the Period Ended 28 February 2001

1. Items of Note

- External revenue improved on that for the previous period with work volumes continuing to build across the summer.
- A price has been submitted to undertake work in connection with the Masterton District Council sewage oxidation pond consent. This would be a one-off job involving macroinvertebrate analysis. We await the decision of the consultant.
- Internal work was a bit sluggish in January but gained momentum in the second half of the period.
- The potential threat posed by the impact of an algal bloom on the water quality of the Te Marua Lakes created additional work. Phytoplankton numbers, predominantly *oscillatoria*, peaked earlier than usual but, fortunately, at levels the *New Zealand Drinking-Water Standards* consider to be “of no concern”.
- In the interest of laboratory health and safety traditional labware cleaning practices were reviewed and revamped. Significant measures were taken to address any potential risk, imagined or otherwise, arising from the use of existing chemicals. The introduction of disposal sample bottles was a step toward minimising chemical exposure by eliminating in this case the need for acid washing. Upgrading the air conditioning system has improved the working environment in the chemistry laboratory.
- Laboratory staff organised and facilitated a sample collection training course for officers in the Consents Management Department of the Council. This also involved putting together portable sampling kits, a guided tour of the laboratory and a field trip to Silverstream Landfill to boot.

2. Business Summary

2.1 Quality

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

2.2 Health and Safety

There were no accidents during this two month period.

However, an incident arose with a staff member suggesting a linkage between recent ill health to long-term exposure to certain laboratory chemicals. A review of the on-site operations has been carried out by OSH, which has stated that it is unlikely that the procedures followed are linked to the health problems experienced.

Plantation Forestry
January/February 2001

Plantation Forestry Department Review of Operations for the Period Ended 28 February 2001

1. Log Harvest Contract

Harvesting has finally increased to the rate required to:

- Firstly, improve the budget outputs; and
- Secondly, achieve the harvest of the area adjacent to the Incline Walkway from Ladle Bend to Pig Gully Road.

The crossing of the Incline was constructed as planned on 7 February and there are now three harvest crews working to the west of the rail alignment. Progress is good and it is anticipated that there will be no problem completing the stands across the river prior to the onset of the spawning season in May.

One ground based crew is to be withdrawn from this area to road line the Gorse Knob stand in preparation for the Madill Swing Yarder. This size hauler requires a continuous supply of trees to ensure it maintains the economies available from its high level of mechanism. Loggers attach up to four trees to the haul lines, which are hauled up to the skid. Each log is then mechanically delimbed and scanned in one movement. The cutting head on the machine, which has been preloaded with the log grades and priorities, then cuts the log to optimum size. This is then moved to quality control area where it is manually scanned to ensure compliance with the buyer's specifications before being stacked for later transport. This set-up is able to maintain output of around 240 tonnes per day compared with an estimated 150 per day with the type of hauler we have used in the past.

So far all the road construction and harvesting in this area have been carried out without the need to close the walkway. The numbers of the public travelling that far up the walkway have been low enough to enable them to be escorted through any working areas. When the Swing Yarder moves to the Gorse Knob block it will be necessary to anchor the mast on the west side of the river.

On the presumption that public visits will remain at about the current levels it has been decided to "protect" the Swing Yarder tail rope, which will pass over the walkway and escort any visitors past rather than close the walkway.

Depending on the felling of the trees on the east side of the walkway, we may get away without any closures. Signage warning of possible delays is in place at either end of the track.

The grade outputs for the January were:

Grade		Tonnes	%
Pruned Domestic		0	0
Pruned Export		0	0
Partial Pruned		0	0
S/A Grade		711.18	27.07
L Grade		301.48	11.48
R Grade (Renalls)		620.9	23.64
Roundwood		0	
K Sawlog		151.59	5.77
K Rough		84.19	3.21
Pulp		604.91	23.03
O/S Pulp		152.51	5.81
Other (Corsican)			
		2,626.76	
Total Income	\$73,500		

The February outputs were:

Grade		Tonnes	%
Pruned Domestic		218.72	3.16
Pruned Export		0	0
Partial Pruned		151.18	2.18
S/A Grade		895.58	12.94
L Grade		366.97	5.30
R Grade (Renalls)		692.85	10.01
Roundwood		728.81	10.53
K Sawlog		1,035.68	14.96
K Rough		901.79	13.03
Pulp		1,707.91	24.67
O/S Pulp		223.96	3.03
Other (Corsican)			
		6,923.44	
Total Income	\$161,734		

2. Silviculture Contracts

Of the 515.8 hectares put out to contract for the current financial year, 201.6 hectares have been completed to the end of January

3. Plantation Forestry Operations

With the tight timelines associated with crossing the Incline and the harvest of that area, considerable time has been taken up with arranging culverts and the like and generally supervising the logging and roading. These pressures are likely to continue until the area over the Pakuratahi River has been completed.

In the meantime the silvicultural work continues at about 10 hectares a fortnight.

A decision has been made on the design of the bridge to cross the Wainui Stream at Puketiro. Tenders have been received and as soon as a building permit is issued by Upper Hutt City Council the contract will be awarded. The construction has to

be completed by May this year.

4. Forest Access

The final payment has been made to the contractor for the construction of the Rallywood Bridge. Unfortunately we have already suffered vandalism, with the barriers on the bridge approach being pushed into the river. These were the old abutments of the original bridge, which were Australian hardwood about 450 mm square, so it would have taken some determination to push them over.

Tenders have been invited for the upgrade of the final section of road between the bridge and Valley View Road. One of the contractors invited to tender has suggested an alternative route through our land and this is being explored. There was an earlier suggestion of a route on a similar alignment but this proved to be too fragile for consistent use.

5. Market Trends

The Korean market has remained “soft” and Rayonier is not presently exporting on their own account. As a consequence and as a result of the domestic markets closing for a week because of an oversupply of logs, we have exported through both Carter Holt Harvey and Fletchers. During the closure some sawlog was diverted to Crightons at Levin.

The return to easy country has improved the quality of the logs, with pruned and partial pruned logs being sold to JNL and 11.1 m K57 export logs fetching \$70 per tonne. Unfortunately we have had to accept a reduction in the pulp price, as for two months we had been overpaid because of a misunderstanding between Rayonier and the miller.

The booming pastoral economy has increased the demand for roundwood to the point where Mitchpine have been taking up to 10 loads per week. In the past Mitchpine would only purchase corsican, as this is the preferred species but there is insufficient to meet demand.