

WATER SUPPLY

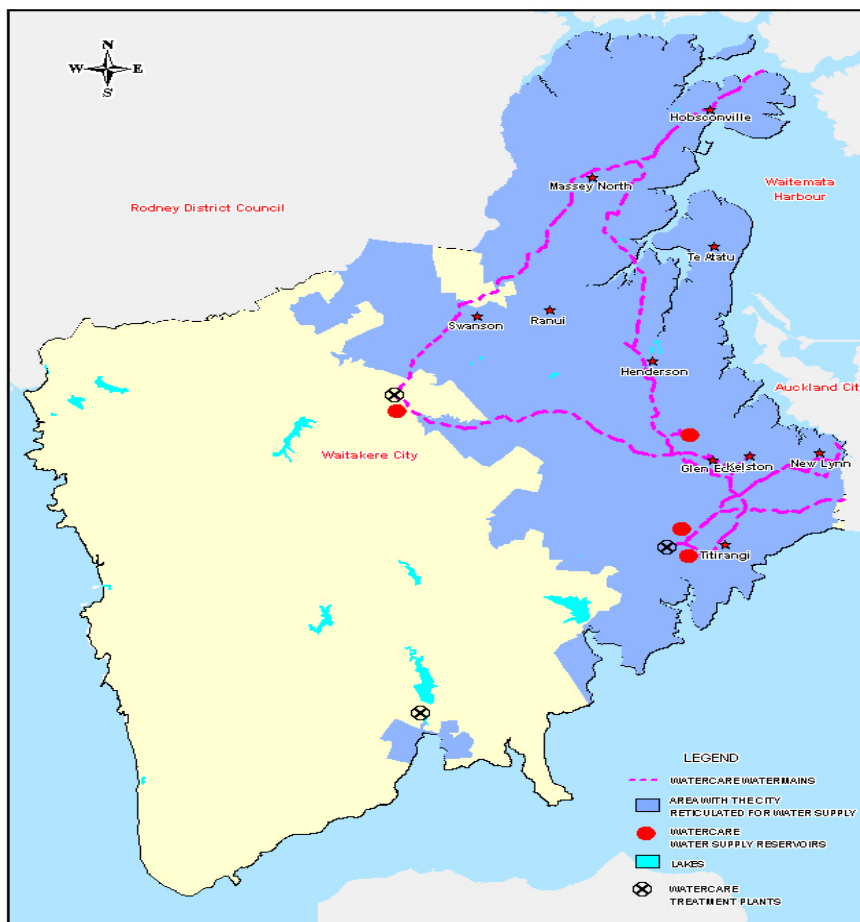
Description of Services Provided

Treated drinking water is purchased from Watercare Services Limited and supplied to 182,052 residents within the water reticulated area and the Huia township.

Under an agreement with Watercare Services Limited, Waitakere City Council is supplied with water sourced from the Waitakere dams, with the exception that in extraordinary circumstances water will be supplied from the southern catchments.

The location of the areas provided with water supply services is shown on the map in figure 8 below:

Figure 8: Water Supply System Coverage



In recent years Council has been lowering the pressure in many of the zones and this has shown a decrease in the number of main breaks and this will result in longer expected lives of pipes.

Water consumption and wastewater demand is directly influenced by population. Council seeks to reduce per capita usage so that the potential impact of growth on water supply and wastewater networks is minimised.

Infill development to house increased population also increases demand on stormwater systems due to faster concentration of run-off. Stormwater management and abatement technologies (such as rain gardens) are researched and promoted to manage and contain this demand.

Water Supply Volumes at a Glance:

- Asset value \$223 million
- Annual expenditure \$15.5 million
- 1,290Km of pipes
- 125,000 water accounts sent out per annum
- 62,400 household and business connections to the network
- 13,500 customer service calls per annum
- 8,600 water billing service calls per annum
- 650 major watermain faults per annum
- 15 million cubic metres of water purchased per annum

The services provided are supported by the following programmes:

- Water demand management and conservation programmes
- Maintenance and Operations
- Preventative Maintenance
- Drinking water standards
- Renewals and new connections
- Upgrading programme

The community pays \$1.48 per 1000 litres for water supply and this funds the entire services withy no subsidy from rates. Customers are invoiced every 6 months at present, with an average 6-monthly cost of \$150.

For the rest of the city, residents are responsible for their own supply, which may come from rainwater (roof) tanks, rivers, ground bores or springs. Generally this water is not treated with the exception of the North Piha Water Supply Society.

Assessment of Risks to the Community

Council has carried out an assessment of the risks to the community and these are detailed in the “Drinking Water Risk Assessments” report prepared by Maunsell Ltd based on the Ministry of Health criteria.

Council has also sought comments from the Medical Officer of Health.

The conclusions from the work are summarised below.

Group 1 - Sub-communities supplied by Council’s reticulated public water supply

The risk assessment conducted by Maunsell Ltd concluded that risks associated with the Waitakere City water supply - of which the bulk water supply from Watercare Services represents a substantial component - are being managed to ensure that Waitakere City will continue to receive high quality water, which meets the needs of a growing city into the future. Recommendations in the Maunsell report relate to opportunities for improvement rather than a need for a change of approach or major new initiatives in the management of the Waitakere City water supply.

Category Two - Sub-communities supplied by a privately owned and operated reticulated water supply

The 4 sub-communities in this group are the Whenuapai and Hobsonville Airbases, the Piha North Water Supply and the Piha Camping Ground private (bore) supply. The two airbases are supplied with bulk water from the Watercare Services network but the local distribution systems are owned and operated by NZ Defence. The risks associated with these networks are generally the same as for the public water supply system.

Category Three - Sub-communities with individual on-site water supplies

Although there is no history of serious health incidents associated with on site water supplies in Waitakere City the assessments have found that the potential risks associated with many on site supplies are higher than may be realised by most users of these supplies. The risk assessments indicate that greater public awareness of potential risks associated with on site water supplies and of ways these risks can be reduced would be desirable.

Assessment of Quality and Adequacy of Services Provided

The Ministry of Health grading provides an assessment of its confidence in the public health safety of each drinking-water supply serving a community of over 500 people. The grading has two letters. The first letter (in upper case) represents the source and treatment grading, while the second letter (in lower case) grades the water in the distribution zone itself. Gradings containing C or c indicate marginal quality, while lower gradings show that quality or risk management is unsatisfactory. The gradings are shown in the following table:

Table 3: MOH Drinking Water Gradings

Assessment gradings based on source and treatment factors:	
A1	Completely satisfactory, negligible level of risk, demonstrably high quality
A	Completely satisfactory, very low level of risk
B	Satisfactory, low level of risk
C	Marginal, moderate level of risk, may be acceptable in some small communities
D	Unsatisfactory, high level of risk
E	Completely unsatisfactory, very high level of risk.
Assessment gradings based on reticulation condition, management, and actual water quality:	
a	Completely satisfactory, negligible level of risk, demonstrably high quality
b	Satisfactory, low level of risk
c	Marginal, moderate level of risk, may be acceptable in some small communities
d	Unsatisfactory, high level of risk
e	Completely unsatisfactory, very high level of risk.

Waitakere City owns and administers the following water supplies, which are all consistently graded Aa under the above Ministry of Health system:

Table 4: Waitakere City Council Water Supplies

Water Supply	Population Served	MOH Grading
Waitakere City Water Quality Zones	170,720	
Glen Eden / New Lynn	51,300	Aa
Henderson	110,200	Aa
Huia Village	460	Aa
Laingholm	2,460	Aa
Montana	4,100	Aa
Oratia	1,330	Aa
Te Henga	870	Aa

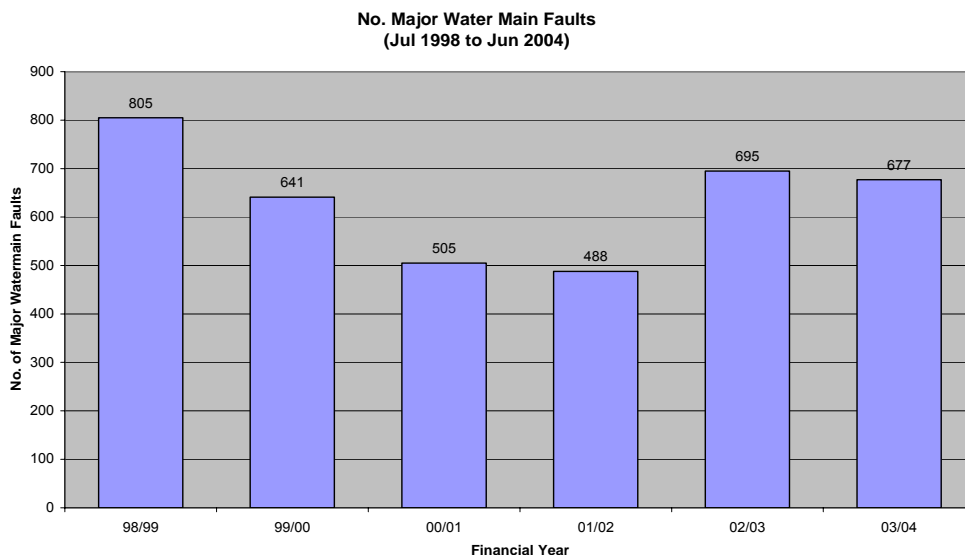
The total amount of water purchased from Watercare Services Limited, for the period from 1 July 2003 to 30th June 2004, was 15,724,032 cubic metres (1 cubic metre is 1,000 litres). For the same period the amount of water sold to the community was 11,142,158 cubic metres.

This represents an average domestic water use per person of 167 litres per day. Every property in the reticulated area is provided with a water service.

93% of the water supply assets are considered to be in excellent to average condition. Council has adopted a just-in-time replacement strategy, which ensures there is no significant backlog of renewals.

The overall performance of water assets is illustrated in the graph below showing the number of watermain breaks.

Figure 9: Major Watermain Faults

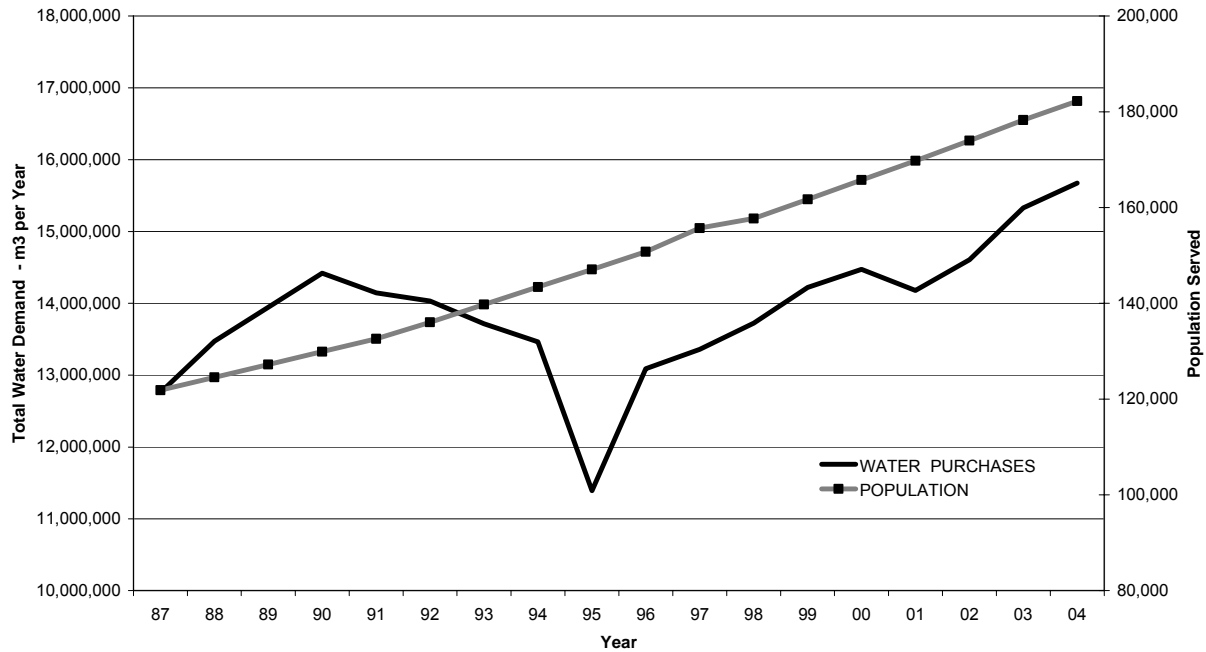


Statement of Current and Estimated Future Demands for Services

Due to population growth water demand will increase if we take no action to manage the demand. However the Council considers that a 25% reduction in water use per person can be achieved by implementing a wide range of measures and a fundamental shift from the old thinking of providing more pipes and dams to meet future supply.

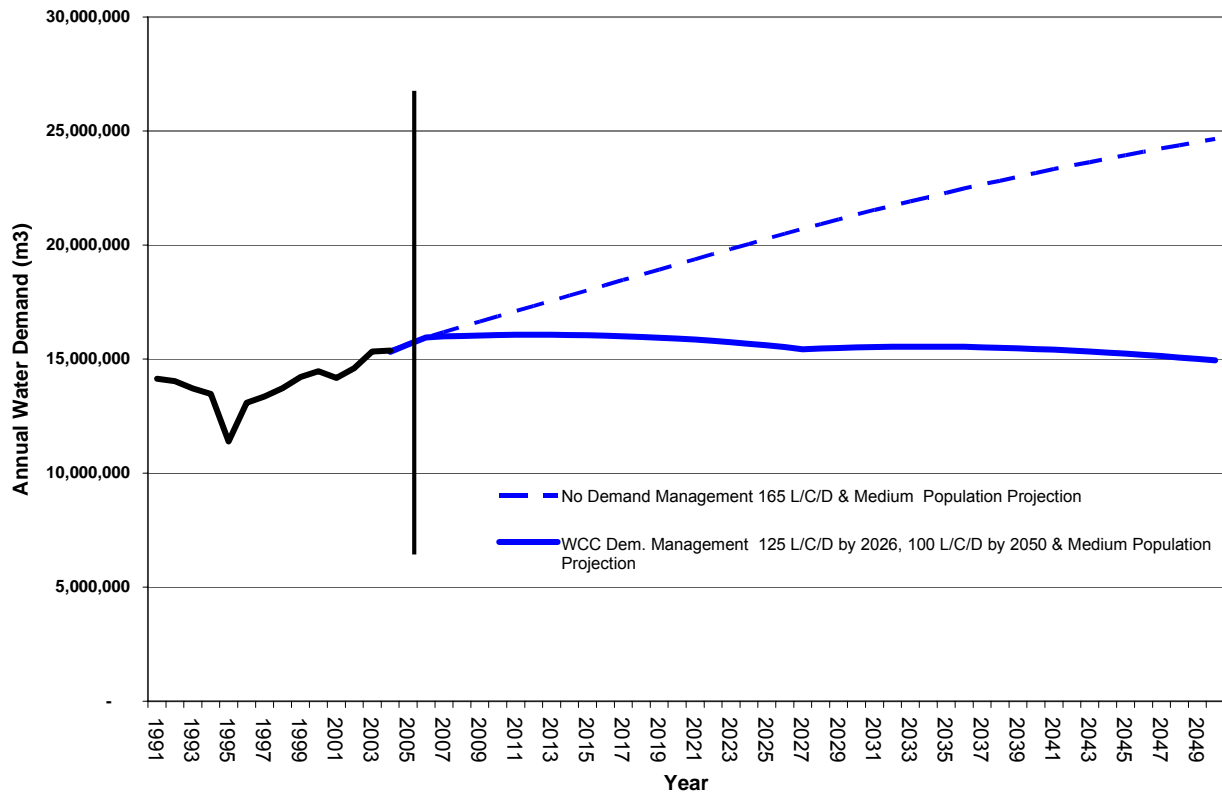
The current demand is summarised in the following graph:

Figure 10: Current Demand for Water



The impact of Council’s strategy on demand is shown in the following graph, which shows that by reducing domestic water use per person by 25% by 2026 (and by 40% by 2050); Council will be able to meet the needs of the future population without increasing supply.

Figure 11: Projected Demand for Water



The outcomes of this strategy are further illustrated in the following table:

Table 5: Reductions in Water Use (per capita)

Water Supplied 2003-2004	Volume m3	Usage litres/p/day
Bulk Water Purchased from Watercare Services Ltd	15,724,032	
Total Water Sold	13,755,751	
Domestic Water Sold	11,142,158	
Population Supplied	182,052	
Per Capita Domestic Water Use 2003-2004		167
Target Per Capita Domestic Water Use 2026 (25% reduction over 20 year period)		125

Statement of Options Available to Meet Current and Future Demands

Council considers that the optimal provision of 3 waters services will be best achieved by ensuring a sustainable development approach and a move away from traditional engineering solutions such as pipes and dams.

Thus the options for meeting current and future needs provide for a degree of additional infrastructure but greater emphasis will be given to non-infrastructure solutions. Due to the integrated nature of the 3 waters, the detailed actions to meet current and future demand will be provided in a separate section of this Assessment.

Council has considered 4 broad scenarios to meet current and future demands and these are summarised in the table below (and detailed in Appendix 2):

Table 6: Scenarios for Current & Future Demand

Scenario	Description	2005 Costs \$per Household	2015 Costs \$per Household	Comment
1	Current rate of progress	\$299.48	\$309.17	Gradual reduction in water use. However if water use increases in rest of region then additional regional supplies will be required.
2	Slowing progress	\$299.48	\$325.59	Increase in water use over time requiring additional regional supplies, including next stage of Waikato Pipeline and a new dam.
3	Accelerated progress within Waitakere City Council	\$299.48	\$292.19	Reduction in water use. However if water use increases in rest of region then additional regional supplies will be required
4	Accelerated progress/virtual regional integration	\$299.48	\$290.13	Regional reduction in water use delaying the need for additional regional supplies.

Statement of Council's Intended Role

Council will continue to provide water supply services in accordance with the current levels of service, but with additional emphasis on demand management. It is not proposed to extend the currently reticulated area.

Council will, through its part ownership of Watercare Services Limited, continue to advocate for a more sustainable approach for services provided that organisation.

With regard to the properties that are not connected to the reticulated water supply system, Council will provide advice on the management of water supplies to avoid public health risks.

Council intends to implement a comprehensive work programme for the sustainable management of water supply as set out in the guiding principles and the 8 draft action tactics set out in this assessment.

This Assessment concludes that the most efficient and effective method of providing water services is through regional cooperation and planning. Thus Council will continue to work closely with the other stakeholders in the Auckland regional water industry.

Council will actively promote change to the current practice through a number of methods including economic instruments and demonstration projects.

Statement of Councils Proposals for Meeting Current and Future Demand

Council intends that future demand will be met primarily by implementing a water demand management programme with additional supplies provided by rain water tanks.

In order to meet this objectives, this will require a reduction in domestic water use per person of 25% compared to 2004/05 usage, representing 125 litres per person per day.

Council intends to implement a demand management programme over the next 10 years, based on a positive cost benefit analysis prepared by Maunsell Limited. This programme recommends the following measures:

- Continue with pressure management and water loss programmes
- Promote and retrofit rainwater tanks
- Promote and retrofit water-efficient appliances
- Continue and enhance water education programmes and survey water uses

The issue of efficient pricing will also be addressed in the 2006-2016 Long Term Council Community Plan and this include consideration of water funding options, including a two-part tariff and 3-monthly water billing instead of 6-monthly as at present.
