



## Auditor-General's overview

### Local authorities: Planning to meet the forecast demand for drinking water.

Access to good quality water for drinking, bathing, clothes washing, and cooking is essential to our health and well-being. In a country that as a whole has reliable annual rainfall, numerous lakes, rivers, and streams, and a small population, the public expects supplies of drinking water to be secure for years to come.

Local authorities are responsible for supplying drinking water to about 87% of the country's population and they manage water supply infrastructure estimated in 2009 to be worth \$11 billion. Each year from 2009 to 2019, local authorities collectively have budgeted for about \$605 million on operational expenditure and \$390 million on capital expenditure to maintain and manage water supplies.

There are many challenges involved in supplying good quality drinking water now and forecasting demand in the future, and concern has been raised publicly that some local authorities may not be well equipped for the task. Some local authorities face more challenges than others, depending on a variety of environmental, economic, and social factors.

My staff carried out a performance audit of local authorities to help us form a view about how well prepared the country is to meet the likely future demand for drinking water. The local government sector is large and diverse, so my staff selected a representative sample of eight local authorities. Three of the eight local authorities were managing their drinking water supplies effectively to meet forecast demand for drinking water, three could be doing better, and two were managing poorly.

Feedback from the local government sector indicates that the variable performance we found in our sample fairly reflects what is happening within other local authorities. Therefore, I consider that local communities cannot be complacent about the security of their drinking water supply. It is important that we all play our part to ensure the sensible use of water in our local community, and that we take an interest in the way our local authority is managing water supplies now and how it plans to meet future demand.

I am encouraged that there was a good level of awareness about what is needed, and that each local authority we audited not only acknowledged its challenges in ensuring consistent delivery of good quality drinking water but was also actively working on solutions to meet future demand. The local authorities that were well placed to meet the forecast demand for drinking water have consistently used a wide range of strategies to influence demand and supply patterns. They also had an ongoing focus on water supply efficiency, such as minimising water leaks.

### Scope of our audit

The eight local authorities that we selected for our performance audit were Tauranga City Council, Opotiki District Council, South Taranaki District Council, Kapiti Coast District Council, Nelson City Council, Tasman District Council, Christchurch City Council, and Central Otago District Council.

We did not audit any local authorities in the Auckland region because we plan to do a separate performance audit when the transition to one local authority for Auckland is complete.

### Demand forecasting

My staff looked at the forecasts the eight selected local authorities used to estimate the likely future demand for drinking water, and the strategies they were using to make sure they could meet that demand.

Demand forecasting involves predicting how much drinking water will be needed in the future and where it will be needed. A reliable forecast can help to ensure that the local authority supplies enough drinking water for domestic and industrial use, while allowing for future growth and development. It can also contribute to a more efficient use of ratepayers' funds, because the infrastructure is the right size to meet the need, including an appropriate level of surplus capacity.

Local authorities can use a wide range of strategies to meet the forecast demand for drinking water. The choice of strategies will depend on the circumstances of each local authority.

### Overall results

All eight local authorities are able to ensure the security of drinking water supply in their districts at present. However, providing security of supply into the future depends on, in some instances, significant improvements in forecasting, planning, and upgrading infrastructure. Some of the challenges, such as increasing competition for access to water, the need to reduce consumption, and the costs associated with upgrading infrastructure are only likely to increase in difficulty.

Only three of the eight local authorities in our sample were managing their drinking water supplies effectively to meet future demand for drinking water. Nelson City Council, Tasman District Council, and Tauranga City Council had forecasting techniques that were reasonably detailed and likely to be sufficiently accurate. They had good planning behind their strategies to meet the forecast demand, and were consistently implementing those strategies. As a result of this effective management, they were well placed to meet the forecast demand for their drinking water.

Christchurch City Council, Opotiki District Council, and Kapiti Coast District Council were adequately managing their drinking water supplies, and were adequately placed to meet the forecast demand for drinking water. They had more to do to improve the accuracy of their forecasts and implement their strategies to meet future demand.

South Taranaki District Council and Central Otago District Council were poorly placed to meet the forecast demand for drinking water. They had a significant amount of work to do to improve forecasts and upgrade drinking water supply infrastructure.

It is important to note that those local authorities currently in an adequate or poor position to meet the forecast demand have started to improve how they manage their drinking water supplies. They know what they need to do and are making progress to implement improvements. I am also aware that it is likely that these local authorities have made improvements since the fieldwork for this audit was carried out in late 2008. Provided those improvements continue, within the next 10 years these local authorities should be better placed to meet the forecast demand for drinking water.

#### Strengths in managing drinking water supplies

My staff identified a number of strengths in how local authorities managed their drinking water supplies.

As part of their planning, all eight local authorities had identified their main challenges for meeting the forecast demand for drinking water. Common challenges included the need to upgrade infrastructure to meet the drinking water standards for water quality, managing demand to reduce consumption, and improving information available for forecasting, planning, and asset management.

All eight local authorities integrated drinking water supply planning into their 2009-19 long-term council community plans. They had all budgeted capital expenditure that aligned with their main drinking water supply challenges. Comparatively, South Taranaki District Council and Central Otago District Council were planning to spend more, but this was consistent with the scale of infrastructure upgrades that they need to manage their particular water supply challenges.

All eight local authorities had prepared risk management plans for drinking water as part of their water supply asset management plans. They were also preparing public health risk management plans, and some of those plans were already approved. It was too early for us to assess implementation of the public health risk management plans.

All eight local authorities had assessed what they need to do to meet the country's drinking water standards. Their assessments were behind the changes they were making and their increased capital expenditure for supplying drinking water. Five of the smaller local authorities need to upgrade their infrastructure, especially those that have previously received poor water-quality grades.

#### Weaknesses in managing drinking water supplies

Five local authorities used a demand forecasting method that would be considered the minimum in terms of industry standards. This is unsatisfactory, because it could result in infrastructure that is not the right size for their needs and therefore wastes public funds. It could also place unnecessary demands on scarce water resources.

The ability of some of the local authorities to prepare reliable forecasts for drinking water demand was limited by the quality of information they had, particularly about water use. Few of the eight local authorities explicitly addressed uncertainty in their forecasts. There were few examples of forecast verification or peer review.

All eight local authorities could improve how they choose their water management strategies. Their evaluation of the costs and benefits of strategy options was variable and generally limited. The types, quality, and quantity of information used varied widely.

Five of the local authorities had incomplete asset management information. Two had better information, but it was still not complete. The eighth had a lot of information, but did not make the best use of it.

Some of the local authorities could do more to improve the efficiency of their water supply systems through, among other things, active leakage and pressure control programmes. This should result in more efficient and sustainable use of water. It should also result in savings on expenditure on new infrastructure, because it will be sized and timed more accurately to meet actual demand.

Levels of service, performance measures, and targets varied among the eight local authorities. This variation may well be appropriate given the different circumstances of each local authority. However, in some instances, targets were poorly defined, which makes it difficult to measure progress. This is generally consistent with findings this Office reported in 2008 (see *The Auditor-General's observations on the quality of performance reporting*).

While most of the eight local authorities were clearly taking sustainable development into account, the actions they had chosen were not comprehensive. None of the local authorities had a fully integrated approach to dealing with sustainable development and supplying drinking water.

#### Improving how supplies of drinking water are managed

Opportunities for local authorities to improve how they manage their drinking water supplies include:

- improving the information available for demand forecasting;
- using more tools to assess and verify the reliability of their demand forecasting;
- preparing comprehensive demand management plans; and
- putting more emphasis on improving the efficiency of their drinking water supply systems.

I encourage all local authorities to assess themselves against the eight recommendations in this report and to implement any that are relevant to them.

I thank the eight local authorities we audited for providing my staff with considerable help and co-operation. The information from this audit will be of benefit to the whole local government sector.



Lyn Provost  
Controller and Auditor-General