

5.3 Fresh water

5.3.1 Introduction

It's a wet and windy day in Wellington. It's pouring down in Masterton and Paraparaumu too. Maybe we moan about the rain as it slants into our faces, as streets and pavements become awash and as rivers and streams start rising and perhaps threaten our homes or businesses. But this supply of rainwater is absolutely fundamental to us – fresh water sustains our health, our economy, our recreation and the region's ecosystems.



We put many demands on water – it is taken out of rivers and from groundwater aquifers, and wastes are put into it. We swim and fish in it, we kayak and canoe on it. Our multiple expectations and demands on fresh water can create conflicts of use. From the wider perspective of sustainability, fresh water health is important – it supports the biodiversity that drives the environmental systems which we depend on so heavily. For Maori, water is highly valued and disposal of waste into it is especially offensive.

We use and enjoy fresh water in all sorts of ways, yet we often take it for granted – it will always be there, it will be “clean”, and there will be enough. Are these realistic assumptions or do they reflect a dangerous complacency about the availability and value of water?

Fresh water in the region is managed by Greater Wellington through responsibilities given by a range of legislation, but primarily by the *Resource Management Act 1991* (RMA). The RMA provides the context within which both the *Regional Policy Statement for the Wellington Region 1995* and the *Regional Freshwater Plan for the Wellington Region 1999* were prepared.

Greater Wellington's responsibilities include “allocating” water, and managing water quality by controlling discharges. While the region's fresh water is generally adequate in quantity and quality for the

range of human and ecosystem needs in 2006, it is a relatively fixed supply (courtesy of our reasonably regular annual rainfall).

In future, water demand due to population growth is expected to rise and climate change may influence the frequency, intensity and distribution of rainfall in the region. Changes to rainfall will influence groundwater levels and the quantity of water in rivers. Areas with low rainfall will face the secondary effect of increased demand on a falling supply (e.g. for irrigation). (See also chapter on **climate change**).

At a national level, the Government is concerned about the availability of water, and how it might best be used to meet economic and environmental needs. In the Wellington region, we also need to think seriously about our changing pattern of supply (as a result of climate change) and our increasing demand for fresh water if we are to continue to meet the range of expectations we have for it.

5.3.2 How successful has the Regional Policy Statement been?

The current Regional Policy Statement has three objectives that broadly seek to ensure that water quality and quantity is sufficient for our current “uses”, that the cultural values attributed to water by iwi are appropriately recognised, and that there

is consideration for the potential fresh water needs of future generations. The life-supporting capacity of fresh water is also recognised.

Since the Regional Policy Statement became operative in 1995, and based on a history of responsibility for water management, Greater Wellington has continued to develop systems to allocate water to meet demands and to maintain water quality. Fourteen river catchments have formal minimum flows and allocation limits, and all groundwater aquifers that water is taken from have allocation regimes. Additionally, while many rivers in the region have no official minimum flows, they do have limits based on historical flows rather than “in-stream” needs, and these limits may be imposed as conditions of resource consents.

On the downside, we know that at least three of the groundwater aquifers may already be over-allocated. In addition, our knowledge of small water abstraction quantities from streams and groundwater is not complete, and we are unsure of the effect of these smaller water “takes” on the biodiversity of small streams and wetlands.

There have been improvements in water quality in some streams and rivers, with a correlation between improved quality and the stream’s biological health. For example, the region is home to a healthy diversity of 22 species of native fish. One of the major problems for water quality has been point-source discharges, and these have almost all stopped as a result of controls in the resource consent process. Nonetheless, discharges from municipal wastewater, urban and industrial stormwater, leachate from landfills, and silt run-off from major earthworks are still a problem in some areas.

At a general level, the Regional Policy Statement has been reasonably successful in managing water quality (from point sources) and quantity. However, some stream reaches and catchments do have water quality problems, while certain activities (particularly non-point source pollution) continue to create pressures on water quality and quantity. Urban streams are in poor shape and many lowland streams are suffering from stock access and lack of shade from streamside (riparian) vegetation.

5.3.3 What’s changed and what are the fresh water issues now and for the future?

Public concern about fresh water has seen an increased community involvement in streamside restoration, informal water quality monitoring and support for social marketing campaigns such as Greater Wellington’s “Be The Difference”. Greater Wellington’s programmes for schools (Take Action) and small industry (Take Charge) also focus on promoting water quality and stream habitat management.

All these programmes have raised people’s awareness of streams and the ecosystems that depend on them. The programmes have also resulted in an increase in personal involvement in projects and raised expectations about Greater Wellington’s management of streams and rivers.

On an international scale, New Zealand has a lot of fresh water per head compared with other countries (second highest behind Norway), but despite this abundance, or perhaps because of it, fresh water is not used very efficiently. This situation needs to change soon if we are to respect the role of good quality fresh water for economic and environmental sustainability.

In 2005, Greater Wellington produced its state of the environment report, *Measuring up 2005*. Within the “things are OK...at the moment” message in the chapter on fresh water, a number of issues were identified:

- There is enough water for now, but water use is increasing and we are reaching a critical stage. There needs to be new approaches to water management so that what we have is more efficiently allocated and used. Possibilities include water metering, water transfers and matching water more precisely to, for example, crop needs.
- We think we are okay right now with how the water allocation and minimum flows regime is working. Part and parcel of improved efficiency in water management will be clarification and confirmation of how much water is actually used, where it is coming from, which sources

are at their limits, what water is used for and what are the effects of takes (large and small) on ecosystems and biodiversity that are also dependent on the fresh water resource.

- As demands for human use of fresh water increase, the importance of maintaining and protecting the life-supporting capacity of river systems and groundwater also grows and this reinforces the need to be more efficient in what is taken, and to reduce contaminants that enter fresh water systems.
- Some fresh water ecosystems are under threat from water takes and the effects of upstream land use and activities. Wetland ecosystems are a good example, but within urban areas, there is an emerging problem for many small “first” and “second” order streams that begin their flow at the top of river systems. These streams might not have permanent water flow but are very important for stream health (by supplying water and biodiversity to the river and other water bodies that may exist downstream). As subdivision proceeds into steeper terrain, these ephemeral streams are being filled by earthworks and their value to the river system is being lost.
- Urban streams also suffer from stormwater pollution and sediment run-off from subdivision and development within their catchments. Stormwater run-off also contains contaminants from vehicles – pollutants from exhaust and engine systems but also from wear and tear of the vehicle itself (including rubber dust, aluminium, chromium, iron, paint etc.).
- Rural streams also suffer from agricultural run-off carrying excess nutrients and sediment into rivers, lakes and wetlands, which causes poor water quality and ecosystem disruption.
- Urban and rural streams both experience major impacts from flood management work. Many streams become drains, and rivers get

straightened to speed the flow of water to the sea. Natural patterns of drainage produce habitats that support more biodiversity and it would be helpful if we could mimic natural patterns in flood management.

- Access to and along rivers and lakes is a statutory consideration. Access issues arise from time to time and there may be a need for clearer guidance on how public rights of access can be most effectively met whilst respecting the rights of landowners.

5.3.4 Comments and questions for you to consider

Historically, we have tended to meet, rather than manage, demand for water. As we approach some of the limits on our use of water, the emphasis may have to shift from prolific use to efficient use.

Greater Wellington has primary responsibility for managing takes from and discharges to fresh water. However, land use activities can both influence demand for water and produce discharges that affect water quality. To date, Greater Wellington has not exercised its function of controlling land use for water quality. Land use management has been left to city and district councils through their district plans. Perhaps this is an arrangement that should be revisited.

The effects of land use on water can be divided between those arising from “point” sources (such as wastewater from a sewage treatment works) and “non-point” sources where contaminants are washed into streams overland (such as agricultural run-off). Point sources have been easier to manage. More difficult are the land use effects of overland run-off and stream modification, which can be more insidious and affect much wider areas. For the future, there may need to be more effective attention paid to non-point sources.

Question 1:

Do you think we have identified the right issues for fresh water management? Are there other issues that we should recognise for fresh water management in the Wellington region? Should the Regional Policy Statement state the management goals for rivers – that water in rivers is to be managed to maintain aquatic ecosystems, or must be suitable for contact recreation, for example?

Question 2:

How effective do you feel fresh water management practice has been during the last decade? What have been the main factors that have influenced our performance? How might we further encourage the good factors and reduce the bad ones?

Question 3:

What are the priority areas for action? Should there be a focus on more efficient use of fresh water resources? How could we best promote improved efficiency? In terms of priority for water quality, are urban streams a more urgent priority than rural rivers?

Question 4:

What role do you see for the Regional Policy Statement in fresh water management for the region as compared with the Regional Freshwater Plan? Would it be helpful if the Regional Policy Statement dealt with fresh water management more deliberately with related policy areas, such as ecosystems and biodiversity, soils and the coastal environment?

Question 5:

Should city and district councils develop land use controls in district plans to more explicitly manage all effects of land use, including effects on fresh water? Should Greater Wellington exercise its function of controlling land use for water quality? Would it be helpful if there were more directive policies in the Regional Policy Statement to achieve integrated management of land and water?

Question 6:

How should the cultural relationship of the tangata whenua with rivers, lakes, wetlands and other water bodies be recognised? How can we best promote the management of fresh water in ways that take into account iwi values and beliefs?