

INTEGRATED WATER MANAGEMENT

APRIL 2014

Policy

Water New Zealand believes that a greater emphasis needs to be given to the integrated management of the three waters (freshwater, wastewater, stormwater) in a safe and sustainable way. It is encouraging to note that a number of utilities are already actively managing the three waters in an integrated manner. Practice, however, remains variable. A division of approach between the management of the different waters is no longer appropriate due to changing demand patterns. There is also a growing awareness of potential environmental decline resulting from the inappropriate disposal of waste water and stormwater and increasing environmental burdens where reuse and recycling of water are not integrated with water efficiency. Moreover, water management strategies are inextricably linked to land use planning, and these activities need to be better integrated at a regional level.

Explanation

Stormwater and wastewater are generally regarded as waste products that should be disposed of as efficiently as possible. With technological advancements there are now alternatives to disposal. Many of these have been developed and are being utilised in Australia to support water efficiency. While the water situation in Australia is highly stressed compared with this country, it would be prudent to begin exploring water use, water efficiency and subsequently reuse techniques, where appropriate. The awareness of disposal issues, coupled with an increasing demand on surface and groundwater supplies in parts of the country, has made consideration of water efficiency and alternative uses more compelling. Increasingly, New Zealand needs to look toward a more integrated method of water management, where the three waters are collectively utilised to maximum capacity.

Currently most treated wastewater is discharged back into the environment; however, with appropriate management controls, including water quality, there are a number of uses for treated wastewater, some of which include:

- industrial production;
- irrigation of landscapes, golf courses and some agricultural crops;
- wastewater solids for land rehabilitation and fertiliser substitute;
- aquifer recharging;
- biogas as a fuel;
- wetland development; and
- supplement to potable water supply.

In terms of stormwater, some of the aforementioned applications for treated wastewater could also be employed for captured stormwater. Also, at a more micro-scale, housing could run its non-drinking water from rainwater by capturing it in rainwater tanks. Not only would this assist in the preservation of other water sources, but it would also defer some of the pressures on stormwater management.

Several barriers currently exist to the introduction of integrated water management. One is public lack of knowledge on the health and safety issues of recycling and reuse of water resources. Another is the concern that there will be untenable costs incurred in the introduction and implementation of integrated water management programmes.

While there here would be costs in the establishment of water efficiency regimes and a public education programme, there would also be financial gains and environmental and social benefits far outweighing these initial costs. The installation of demand management devices, coupled with integrated water management plans, may be cheaper than sourcing and extracting new water sources.

Fostering an informed discussion on integrated management techniques will be an important tool in raising awareness of the value of water.