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Report to the Utility Services Committee  
from Murray Kennedy, Strategy and Asset Manager and  
Dan Roberts, Group Manager Operations

## **Wainuiomata Treatment Plant: Catchment Management**

### **1. Purpose**

To update the Committee on catchment management issues.  
To obtain approval for security improvement aspects of catchment management.

### **2. Background**

The Wainuiomata and Orongorongo catchments cover an area of 63 square kilometres. Water is collected at five intakes and piped to the Wainuiomata water treatment plant.

Both catchments were, until recently, closed to the public. Prior to commissioning the Wainuiomata plant in 1993 there was no water treatment other than the addition of chlorine.

Last year the Council approved limited public access to the catchments through a series of open days. The first of these was to have been held in September this year. In August there was a rise in the *Giardia* and *Cryptosporidium* counts in the raw water. A single test indicated the presence of *Giardia* in the treated water. As a consequence, the open days and club access days were postponed until next year.

Investigations into the reason for the rise of *Giardia* and *Cryptosporidium* in the raw water were not conclusive. Some dead animals were found in the catchments. Of several samples taken only one showed *Cryptosporidium*. Tests on opossums subsequently confirmed that only a low percentage of those tested were carriers.

### 3. Issues

#### 3.1 Water Treatment Process

The water treatment plant at Wainuiomata was commissioned in 1993. While it produces drinking water which meets the 1995 Standards, the overall quality has not been as high as the Te Marua plant. To rectify this a larger chemical contact tank is being constructed and will be commissioned over the next few months. Final commissioning may need to wait until there are lower water temperatures in April or May next year.

#### 3.2 Raw Water Quality

*Giardia* and *Cryptosporidium* levels in the raw water have now returned to those previously experienced over the last few years. Maintaining low, or zero levels, is particularly important. A draft document has been published by the Ministry of Health for grading drinking water supplies (1998). It states on page 9:

*Throughout the world, and New Zealand is no exception, by far the most common problems arise from microbiological contamination of the source waters. Animal, bird and human effluent, introduced in one way or another upstream from a water supply, can make that water unfit for consumption. Bacteria and viruses have always been of major concern, while protozoa such as Giardia and Cryptosporidium are increasingly being highlighted as causing ill health through drinking-water.*

*There are two ways in minimising the risk from these microbiological contaminants:*

- 1. Keep the source as clean as possible, by protecting the catchment and minimising the possibility of contamination.*
- 2. Treat the water to remove and/or inactivate any contaminants introduced.*

*The most successful approach is to use both of these, and to regularly monitor the water quality to demonstrate that any risks are firstly identified, and secondly are being controlled. Good systematic and ongoing management is important.*

The third report of the recent Sydney Water Inquiry states on page 5:

*A modern treatment plant is not a substitute for proper catchment management. Protecting the catchment provides the best long-term protection for Sydney's drinking water.*

This information plus the recent *Giardia/Cryptosporidium* incident at Wainuiomata have highlighted the need to review the resources dedicated to catchment management. This is covered in the next three sections.

### 3.3 **Catchment and Treatment Plant Security**

Various security measures are in place at the treatment plant. It is proposed to have these reviewed by a security consultant. Physical security will be improved by the proposed erection of an automated gate across the roadway about 300 m from the treatment plant. This will be closed outside normal work hours.

The boundaries of parts of the catchment area are much more accessible than the Te Marua catchment. A track borders the western boundary. Unauthorised access is of concern, both to the Council and its neighbours. Two unauthorised hunters were spoken to during a recent inspection. In spite of culling, there are still attractions for experienced hunters.

Mr Kara Puketapu, Chairman of Te Runanganui o Taranaki Whanui ki te Upoko o Te Ika a Maui, who are an adjacent land owner, has expressed a willingness to work co-operatively on the problem of security. He had indicated verbal support for more signage advising that the catchment is a restricted area. Also, following consultation with other neighbours and within WRC, it is proposed to limit access along the track on the western boundary of the catchment.

One of the ways of providing better catchment security is to have a greater presence in the catchment area and for this presence to be known. Section 4 details the proposal to appoint a ranger.

### 3.4 **Staff Hunting**

Staff have been able to hunt in the catchment for many years. Until recently they could also be accompanied by a friend or relative. Last year the right to take other people with them was withdrawn. Following the recent *Giardia* and *Cryptosporidium* problem all staff hunting was suspended.

Staff have made representations that they should be able to take a friend or relative with them if they cannot find a colleague to accompany them. Each employee could only be accompanied by one person who is not an employee. This is on the grounds that being accompanied by a non staff member is preferable from a Health and Safety aspect to hunting alone. It is proposed to allow this once hunting is permitted again. It is expected this will be after the contact tank is commissioned.

### 3.5 **Pest Control**

Professional cullers were in both catchments for some weeks during winter this year. The target was deer, goats, pigs - some 70 animals were shot. In November the Department of Conservation carried out culling on their land, which is adjacent.

Finance has been provided for possum control in the winter of 1999. It is expected a paper will be put before the Committee in February 1999 considering the various options.

#### 4. **Proposal to Appoint a Ranger**

It is proposed to appoint a full time ranger for the Wainuiomata/Orongorongo catchments. An earlier proposal regarding removal of houses at the treatment plant envisaged this possibility and allowed for retention of one house.

The ranger will be an employee of the Landcare Division. Through a roster system we hope to provide a seven day a week coverage of the catchment.

Duties will include:

- Catchment security (perimeter patrols, unauthorised access, poachers etc).
- Managing public access and security issues.
- Building and maintaining relationships externally with neighbouring landowners, tangata whenua, recreation groups and other special interest groups.
- Building and maintaining strong working relationships with external agencies; Territorial Local Authorities, New Zealand Police, Department of Conservation.
- Patrolling catchments.
- Public relations, and visitor information.
- Managing permitted public access to the catchments in conjunction with open days.
- Contributing to asset management planning, visitor safety and structure upgrade programmes.
- Contributing to fire control, forest health assessment, noxious weeds and pests, planning and implementation.
- Assisting water supply staff in the catchment.

Time has precluded resolving all the details with the Landcare Division. However, subject to additional funding being approved by the Council, the Divisional Manager, Landcare acknowledges the wider benefits of a professional catchment ranger. Clearly the Landcare Division is in the best position to recruit, train and manage such a person. A separate paper will be submitted to the Landcare Committee and this Committee in due course outlining financial implications. Our expectation at this stage is that Water Supply would meet in the order of 70 to 80 percent of the costs.

A further benefit from having a ranger is that staff can be invited to become warranted officers as part of the increased security arrangements. The new ranger would be responsible for running this scheme, following appropriate training for the staff.

**5. Recommendation**

- (i) *That the Committee notes the catchment management issues.*
- (ii) *The Committee approves the improved security arrangements including the provision of a ranging service.*

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