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Report to Environment Committee
from John Sherriff, Manager Resource Investigations

Annual Freshwater Quality Report 1999/2000

1. Purpose

To present the findings of the 1999/2000 Annual Freshwater Quality Report to the Committee.

2. Background

The Wellington Regional Council monitors freshwater quality at sixty two sites throughout the Region. The Council undertakes this monitoring to fulfil its responsibilities under the Resource Management Act 1991, the Regional Policy Statement and the Regional Freshwater Plan.

The results of our monitoring are summarised in an annual report to:

- Provide a measure of the state of our freshwater resources;
- Identify water quality trends and causes for these trends;
- Identify emerging or on-going water quality issues;
- Evaluate the attainment of environmental objectives set out in the Regional Policy Statement and Regional Plans

This report provides the results of monitoring undertaken throughout the Region between March 1999 and February 2000.

3. Methods

Water quality was monitored in the following ways:

- Monthly sampling for chemical and microbiological variables and assessment of algal cover;
- Dissolved oxygen, water clarity and temperature were measured in the field;

- Biological oxygen demand, conductivity, pH, turbidity, nutrients and faecal coliforms were analysed in the laboratory;
- Annual (summer) sampling of macroinvertebrates from the streambed. The structure of the macroinvertebrate community is summarised by the Semi Quantitative Macroinvertebrate Community Index (SCMCI). This index is the most commonly used index in New Zealand for the assessment of biological water quality.

The following guidelines were used to assess these results:

- Draft New Zealand Periphyton Guidelines prepared by the Ministry for the Environment
- Australia and New Zealand Environment and Conservation Council (ANZECC) Water Quality Guidelines 1991
- Water Quality Classes, Schedule 3, Resource Management Act 1991

4. Results

The monitoring results show little change from those reported last year. The Waitohu, Ngarara, Porirua, Makara, Karori, Ngauranga, and Waiwhetu Streams and Mangaroa River still have the poorest water quality in the Region.

Ngarara, Waitohu, Waiwhetu and Ngauranga Streams all showed high levels for turbidity and biochemical oxygen demand.

Karori, Waiwhetu, Porirua, Ngauranga, Owhiro, Ngarara and Makara Streams all reported high faecal coliform levels.

Ammonia levels were high in the Ngarara, Waitohu, Waiwhetu, Mangaroa and Ngarara Streams.

These waterbodies are affected by runoff from urban and /or rural areas. The Council's current work programme includes a number of projects which are ultimately intended to reduce the effects of stormwater runoff. These include riparian planting trials and a major stormwater investigation. As the lessons learnt from these projects are implemented, we anticipate that water quality in these most affected waterbodies will improve.

The report includes some general recommendations which will help us develop our understanding of the causes of poor water quality and aid us in identifying appropriate solutions. These are:

1. to implement continuous water quality monitoring equipment so that diurnal changes in water quality can be identified; and
2. to undertake targeted investigations at identified problem areas to develop a better understanding of the causes of poor water quality.

The Council has recently purchased continuous water quality monitoring equipment and is in the process of deploying this equipment at problem spots. A targeted investigation of Porirua Stream will be undertaken this year.

5. Communication

The Annual Freshwater Quality Report will be circulated to the following organisations who have an active interest in water quality:

- Territorial authorities
- Iwi authorities
- Wellington Fish and Game Council
- Wellington Department of Conservation

A press release will be issued so that the report's findings can be relayed to the wider community. Copies of the report will be available at the meeting for Councillors who would like a copy.

6. Recommendation

That the report be received and its contents noted.

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