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Committee Environment Committee
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Wellington Waterwatch - stream health monitoring and assessment kits in action

1. Purpose

To inform the Committee of progress with the Wellington Waterwatch programme.

2. Strategic Context

This project contributes to three of the *Take 10 quality for life* elements adopted in Greater Wellington's ten-year plan. These are community (ensuring people have useful information about our region and contribute to its protection and restoration), water (protecting aquatic ecosystems) and biodiversity (protecting, restoring and managing the region's most important ecosystems).

3. Background

Greater Wellington has been helping care groups and interested individuals monitor the health of their streams for several years. This work is known as the Wellington Waterwatch programme.

Groups participating in the programme use the Stream Health Monitoring and Assessment kit (SHMAK kit) developed by Federated Farmers and NIWA (a number of other organisations, including Greater Wellington, also contributed to its development). The kits have been designed for use by non-scientists (farmers and locals in urban areas) to monitor the health of the streams in their areas.

Wellington Waterwatch is modelled on the very successful Waterwatch Australia programme run by Environment Australia. Each state in Australia has a monitoring programme similar to ours.

3.1 What does it involve?

Monitoring stream health involves looking not only at water quality but also at the physical features of the stream and the plants and animals living there.

It requires groups to take a standard set of measurements and observations at regular intervals (e.g. monthly) and keep a record of the results so that they can be compared over time.

The assessment part of the programme involves giving a score to each monitoring result and then using these scores to determine the condition of the stream. Comparing scores over time provides an opportunity to see whether a stream is improving, degrading or staying the same. It also allows us to see how effective stream management changes are in improving the stream. Overall, the programme provides a way for people to assess whether land uses, urban activities and practices are affecting waterways.

People carry out a series of tests using instruments or assessment techniques. There are three types of data that are collected:

- Biological data – based on common and easily recognised “indicator organisms” whose tolerance for pollution is well established;
- Physical and chemical data about the stream – measurements and observations of conditions at a monitoring site at a single moment in time (e.g. pH, temperature, flow, dissolved oxygen); and
- Land use and activity data - the information collected covers the area immediately upstream of a monitoring site and the whole stream catchment. This is needed to interpret the stream assessment result.

Test results are typed onto a form and sent to Greater Wellington. We check the data for accuracy, place it into a data base, and then use a computer programme to display it in a graph. The graphs are then placed on the Greater Wellington website.

4. What is Greater Wellington’s role?

At present we support 19 groups monitoring stream health in 17 catchments. Greater Wellington:

- provides the Stream Health Monitoring and Assessment kits and manuals;
- trains care groups or interested people in how to use the programme;
- hosts the database and website;
- carries out quality control on the data; and
- assists with publicity about the monitoring results.

Wellington Waterwatch is used by Greater Wellington to:

- encourage the involvement of local communities in the *Take Care* programme (and eventually rehabilitate degraded streams and wetlands);

- increase general community awareness of stream health problems and the need to solve them;
- help determine the effectiveness of streamside rehabilitation carried out by community groups working with us on *Take Care* projects.

Results from the programme also complement the water quality monitoring carried out by our own scientists. Whilst SHMAK does not provide the same level of detail as the Greater Wellington water quality monitoring programme, used properly, it can provide us with very credible and robust results about the health of our streams.

Our support for groups working to monitor a stream depends on whether:

- the catchment is listed as one of the six most degraded in the region;
- there is a Greater Wellington baseline monitoring programme carried out for a particular stream (we do not monitor every large stream in the region);
- there is work being carried out by a community group and monitoring would help determine the effectiveness of the groups' work and help with decisions on where to focus efforts; and
- Greater Wellington baseline water quality monitoring results have shown that there is a problem with stream health in the catchment and community monitoring would supplement monitoring from our own programme (quite often we have only one baseline site on a stream, and community monitoring can provide information from another 4-5 sites if required).

5. Next steps

It has taken time to slowly build up the number of groups, get some initial results and provide the means for local community groups to record their data in a database. Greater Wellington Information Technology staff have worked hard to create a database suitable for holding the data and the means to usefully show the data on the new website.

We now have the framework for the programme solidly in place and the capacity to use the results effectively.

Over the next few years we will be taking opportunities to help more groups begin stream health monitoring. We will also provide some refresher training to those groups who have been carrying out the monitoring for the last four years.

6. Communication

Stream health monitoring results from the community groups carrying out the monitoring are now placed on the Greater Wellington website. Results are

often placed in local community newspapers – either with help from Greater Wellington staff or by the groups themselves.

7. Recommendation

It is recommended that the Committee:

1. *receive the report; and*
2. *note the contents.*

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