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Report to Environment Committee
from Murray McLea, Section Leader, Policy Development

The Freshwater Ecosystems Programme: Progress and Future Direction

1. Purpose

To inform the Committee of progress we are making on the Freshwater Ecosystems Programme and the direction it will be taking in the future.

2. Background

The Council initiated a Freshwater Ecosystem Programme (“the Programme”) at the beginning of the present three year financial cycle. We are now almost two years into the Programme. It is part of a larger push by the Council to increase biodiversity in the Region by enhancing ecosystem types, such as lowland bush, dunes, estuaries, rivers and their margins, wetlands, and the marine environment.

3. Goals for Freshwater Ecosystems

The goals of the Programme are to:

- (1) Increase the knowledge and understanding of freshwater ecosystems;
- (2) Identify ways that we can improve our management of rivers;
- (3) Enhance freshwater ecosystems through restoration projects or projects that mitigate adverse effects of present activities; and
- (4) Increase interest in freshwater ecosystems and awareness of them.

4. **What's Happened So Far?**

Work to date has focused on increasing our knowledge and understanding of freshwater ecosystems. The following projects have been completed:

- a detailed look at the functioning and processes of freshwater ecosystems in the Region;
- workshops with flood protection staff and with other staff in the Council on how freshwater ecosystems function;
- a review of existing information about freshwater fish in the Region;
- fish surveys at 90 sites across the Region's rivers;
- an easily accessible GIS database of fish records in the Region;
- surveys of Inanga (whitebait) spawning sites in the western part of the Region;
- inventories of structures affecting fish passage in South Wairarapa and the western part of the Region; and
- classification of rivers in the Region using the national "river environment classification" system.

5. **Future Direction**

Using the information obtained so far, we can now begin to focus on the other goals identified. The work outlined below is planned for the remainder of this financial year and the next financial year.

5.1 **Improving Our Management of Rivers**

Flood protection is one of the most commonly occurring activities in riverbeds that has implications for freshwater ecosystems. Staff in the Landcare Division and the Wairarapa Division carry out most of the Region's flood protection works. They work with rivers on a daily basis. Their experience and knowledge will help with the uptake of practices that can benefit freshwater ecosystems while achieving protection against floods. We have already held a workshop with flood protection staff aimed at better understanding the links between river ecosystems and flood protection practices. Further workshops along these lines will provide opportunities to critically examine whether and how we can do better.

5.2 **Restoring Inanga (Whitebait) Spawning Sites.**

We now know the sites where Inanga spawn in the western part of the Region. Surveys of Inanga spawning habitat are planned for rivers in the Wairarapa next month. The adults of this native fish species spawn in the lower reaches of rivers. After the eggs have hatched the juveniles migrate upstream as whitebait. Our surveys also rank the potential for restoration of Inanga spawning sites. Restoration of some selected areas will be a next step. Restoring Inanga spawning habitat is relatively easy and cost effective compared with restoring many other habitat types.

5.3 **Mitigating The Adverse Effects of Structures on Fish Passage**

A database of structures in rivers that restrict fish passage is now well advanced. In South Wairarapa and the western part of the Region, we can now identify sites where mitigation work on structures will be useful and practical. The next step will be to carry out work on some structures that will improve fish passage. There are opportunities to provide examples on our own land. For example, some culverts on the Rimutaka Incline Track could be significantly improved. The Parks and Forest Department of the Landcare Divisions identified this as work they would like to see done.

6. **Communications**

Not much of the information about freshwater ecosystems that we have collected so far has been passed on to the public. We are currently preparing guidelines on fish passage that will help resource consent applicants who are considering placing structures in rivers. Some of the material we have collected on freshwater ecosystem processes and freshwater fish will be of interest to Care Groups carrying out projects in rivers. Information on Inanga spawning habitat will help people interested in restoring these habitats.

7. **Recommendations**

It is recommended that the Committee:

- (1) *receives the report; and*
- (2) *notes the contents.*

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