

## Relationship with the Biodiversity Programme and other Council initiatives

This document constitutes a major part of the Greater Wellington Regional Council's programme to enhance the Region's ecosystems and biodiversity.

In 2000, Greater Wellington increased its investment in regional biodiversity because it recognised the need to halt the continued loss of remnant areas, species, and ecosystems. Greater Wellington's biodiversity programme addresses the following ecosystem types, which are depleted or under threat in the Region:

- Wetlands
- Rivers and streams
- Estuaries
- Dunes
- Lowland bush
- Coastal escarpments
- Marine ecosystems

Each of these types of ecosystem is addressed by Greater Wellington in different ways, both through plans and strategies, and through a wide variety of programmes and projects.

The Wetland Action Plan provides for all wetlands, except those alongside rivers (with flowing water) and estuaries (with salt water). Its focus is natural wetlands and does not deal with constructed wetlands (where these are created in areas where there were none previously).

The strategic direction for river ecosystems is set out in this document. This is being supplemented by a series of investigations into the health of river ecosystems, and the ecological communities that live in them (e.g. native fish).

Greater Wellington's work on estuaries has not yet been set out in a single document. The most significant activity is occurring in the Pauatahanui estuary, and this is described in "Towards Integrated Management - Pauatahanui Inlet Action Plan". Other estuaries on which Greater Wellington is working include the Waitohu, Otaki, and Riversdale estuaries.

Similarly, there is no overall strategy for Greater Wellington's dune restoration efforts. This is happening as discrete projects at a number of sites from Otaki to Castlepoint. It is expected that a strategy for Greater Wellington's dune efforts will be developed.

The Regional Pest Management Strategy provides overall direction for works and services relating to lowland bush "key native ecosystems". Programmes for coastal escarpments and marine ecosystems are still being developed but are site specific and unlikely to warrant strategic overviews or description at this stage.

# 1. Introduction

## 1.1 Purpose of this Strategy

The purpose of this Strategy is to get the riparian margins of more rivers and streams in the Region managed in a way that helps realise these environmental outcomes:

- Improved water quality
- Improved aquatic habitat
- Healthier river ecosystems
- The building of ecological links through the wider landscape
- Halting the decline of regional biodiversity
- Improved ability for Maori to exercise their traditional use of and guardianship over water and its environs
- Improved community recognition of the part streams play in environmental systems, and consequent improved care for those streams by the community.

Not all identified outcomes will be achieved from individual efforts on single stream reaches, but each person's effort will build on those of others. The riparian management programme is one of about a dozen Council-supported initiatives to improve water quality and protect ecosystems around the Region (see Appendix 1).

## 1.2 The community's view on our approach

Greater Wellington released a draft Strategy for community comment in July 2001. In general, consultation on the draft supported having a graduated funding arrangement that encouraged farmers to fence streams from stock and plant appropriate streamside species. People felt that Greater Wellington support for riparian management should apply to streams that are both good and bad (in terms of existing water quality, etc).

The criticisms of the funding arrangement proposed in the draft were that it did not sufficiently encourage the use of native vegetation and that it did not direct management towards streams that would get the greatest benefit, e.g. smaller streams in vulnerable places, or streams that have historically supported abundant fish life, e.g. the Horokiri Stream.

Iwi groups all stated that they couldn't select any particular stream or catchment to target. All streams are important, and all need a case by case approach to address cultural issues. All iwi groups supported the use of native plants, particularly native plants used for cultural purposes or that would enhance native fisheries.

## 1.3 Connection with Biodiversity Programmes

This Strategy has two principal foci - water quality and biodiversity. This means that we will promote riparian management to rehabilitate and restore the whole stream environment, not just reduce contaminants in the water.

Riparian areas are extremely rich in terms of their biodiversity. The main reason is that this environment is one where aquatic and terrestrial ecosystems meet and overlap. Some 450 species of native insect, 200 native crustaceans, molluscs and worms, 35 native (or indigenous) freshwater fish species, four frog species, and many of our 88 remaining indigenous land bird species live in the healthy examples of these areas, or visit them regularly. The problem is, the healthy areas that remain are much smaller than they once were and are still threatened by human activity. Many are no longer connected to other healthy riparian areas because riparian vegetation has decreased with the development of towns and cities and with the replacement of complex ecological systems with vast pastoral mono-cultures.

Restoring even ten metres of vegetation beside small streams helps return the stream to a more natural environment for aquatic life, including fish. New Zealand has a sparse but unique freshwater fish fauna with most of the native species only found in this country. There have been 31 freshwater fish species recorded in the Wellington Region since 1921, of which 23 are native.<sup>1</sup> One, the grayling, is now extinct. Five species (the shortjaw kokopu, giant kokopu, brown mudfish, koaro, and banded kokopu) require conservation action.<sup>2</sup> Native fish are primarily generalised invertebrate carnivores, eating a combination of aquatic and terrestrial insects.<sup>3</sup> This makes streamside vegetation, where many terrestrial invertebrates live, an important part of the native fish habitat.

Eighteen of the native fish recorded in the Wellington Region need to migrate between fresh water and the sea, usually in relation to spawning. The spawning habitat requirements of many native fish are very specific. Inanga, for example, rely on tidally-inundated riparian vegetation in or near the river estuary.<sup>4</sup> The banded kokopu, koaro and shortjaw kokopu lay their eggs on stream banks or amongst the coarse gravels on the stream margins when the small forested streams in which they live are in flood.<sup>5</sup> This is why identifying, and then retiring and planting the spawning areas of riparian margins, and keeping the streams free for fish passage, is as important as restoring stream habitat for fish species.

In 2000, Greater Wellington increased its investment in regional biodiversity because it recognised the need to halt the continued loss of remnant areas, species, and ecosystem complexity and work towards restoring the Region's ecological balance. Streamside management is part of this larger programme because it can help to restore natural river ecosystems and establish ecological links.

<sup>1</sup> Strickland, R, and A Quarterman (2001). *Review of freshwater fish in the Wellington Region*. Cawthron Institute and Wellington Regional Council.

<sup>2</sup> Tisdall, C. (1994). *Setting priorities for the conservation of New Zealand's threatened plants and animals*. Department of Conservation, Wellington.

<sup>3</sup> McDowall, R. M. (1990) *New Zealand freshwater fishes: a natural history and guide*. Auckland, Heineman Reed.

<sup>4</sup> Taylor MJ, and GR Kelly (2001). *Inanga Spawning habitats in the Wellington Region, and their potential for restoration. Part 1: Kapiti, Porirua, Wellington, and Hutt City*. NIWA and Wellington Regional Council.

<sup>5</sup> McDowall, R. (2000). *Hidden Treasures Exposed: discovering our freshwater fish fauna*. Cawthron Institute, New Zealand.















