

# Papanui Catchment



## Managing Water Quality - Papanui Catchment

### Welcome to the first issue of 'Managing Water Quality in the Papanui Catchment'

You're receiving this newsletter as you have been identified the owner or manager of 4 hectares or more of land within the Papanui catchment. As such, you may be affected by new policies and rules under the proposed Tukituki Plan Change 6.

This is the first of a series of newsletters to inform landowners of the plan change implementation process. We will be providing regular updates and progress reports as Hawke's Bay Regional Council works with landowners to address water quality issues affecting the Papanui and wider Tukituki catchment.

### The Papanui Situation

The Papanui is one of six Tukituki sub-catchments identified as having elevated phosphorus levels. Phosphorus, along with other plant nutrients, shade and water temperature, influences the extent of periphyton (slime and algae) growth in rivers and streams.

Reducing high phosphorus levels, while ensuring nitrogen concentrations remain below environmental thresholds, is the strategy that Plan Change 6 outlines to control adverse periphyton growth. To achieve the targets set out in the plan change, the average concentration of dissolved reactive phosphorous in the Papanui needs to be reduced by over 80%.

### Where does the phosphorus come from?

Contributing sources include fertiliser, animal waste and anywhere that soil disturbance leads to sedimentation in waterways. Natural (background) levels of phosphorus and the contributions from municipal wastewater treatment are also considered. In the Papanui however, as much as 96% of the total catchment load originates from non-natural sources.

Unlike nitrogen which is leached through the soil profile into groundwater, phosphorus is mostly transported overland and into waterways attached to soil particles. It also comes from discrete locations within the landscape known as 'critical source areas'.

The good news is that this can make it an easier nutrient to manage. You don't necessarily need to treat large areas to have a positive effect.



Filamentous algae growing in the Papanui Stream

### What is being done?

The stock exclusion requirements in Plan Change 6 are expected to significantly reduce phosphorus levels in the wider Tukituki. However in priority sub-catchments such as the Papanui, further effort will be required to achieve target levels.

The first step is to identify critical source areas of phosphorus loss and what can be done to reduce their impact. This will help to target efforts and resources most effectively.

To achieve this, HBRC is conducting an extensive water monitoring and catchment characterisation study. We will also soon be working alongside landowners to help produce individual phosphorus management plans (PMPs) for their properties.

### Thinking of planting your retired waterways?

HBRC is currently trialling a new riparian planting initiative. A selection of native plants will be available at cost, along with free planning and planting advice, for landowners undertaking a riparian programme. This works out at between \$2 - \$2.70 for a locally-sourced, PB3 quality seedling. Contact Warwick or Kate on **06 857 8219**.

## Water quality monitoring

HBRC's science team has been taking water quality samples and gauging flows at 32 sites on the Papanui and its tributaries. These have been sampled 4 times since September last year, with at least 3 more sampling rounds to be carried out at different seasonal and flow conditions.

The intention is not to single out specific properties or land uses, but to better understand the different tributaries of the Papanui and how they contribute to the catchment as a whole.

There are approximately 60 groundwater bores in the Papanui Catchment. Some of these are also being sampled to increase our understanding of the Papanui groundwater resource and to inform research into the interaction between ground and surface water nutrient concentrations.



## Soil mapping

To help identify vulnerable areas for phosphorus loss, the regional council has invested in improving the quality of the catchment's soil information and mapping. This was carried out by soil scientists from Landcare Research in August and September 2013. Remote sensing techniques and computer modelling was used alongside more traditional soil profiling to update and increase the resolution of existing soil maps.

The improved soil information is now freely available online at [www.smap.landcareresearch.co.nz](http://www.smap.landcareresearch.co.nz)

## Phosphorus Management Plans (PMPs) and Workshops

Under the proposed plan change, every land owner/manager with 4 ha or more in the Papanui Catchment will be required to have a phosphorus management plan. This is essentially a simple farm plan that:

1. Identifies 'critical source areas' for phosphorus loss on individual properties and
2. Outlines mitigation techniques and/or management strategies to control or minimise phosphorous loss and
3. Indicates where and when these strategies will be implemented on farm.

HBRC, in collaboration with primary industry sector groups, will be offering a series of workshops to assist landowners who want to complete their own phosphorus management plans at minimal cost. The workshops will be available to landholders in the Papanui during 2014-15 and in other sub-catchments in the Tukituki after that.

## A Catchment Management Strategy

The information collected from the catchment study and conversations with the Papanui Catchment community, will form the basis of a catchment strategy - to help us invest resources to best effect.

However, to avoid the need for further regulation in the future, the plan will need the support of catchment landowners, and local knowledge and networks will be essential to its success. A group has been established to help steer the development of the catchment management strategy. Its members include:

- Don Cooper (Homewood Rd)
- Brian Gregory (Tapairu Marae)
- Nick Harker (College Road)
- Maitland Manning (CHBDC Councillor (Elsthorpe Rd))
- Roger Maaka (Tamatea Taiwhenua)
- Mike Mohi (HBRC Maori Committee)
- Shane Newman (Te Kura Rd)
- Brent Oliver (Brownrigg Agriculture)
- Hugh Ritchie (Drumpeel Rd)
- Peter Tod (Tod Rd)
- Neil White (Drumpeel Rd)

We appreciate that along with this group, there will be people living and working in the Papanui Catchment who also have a lot to offer. If you would like to learn more about the group, contribute to the process, or get involved yourself, we would be keen to hear from you.

## Who are we?

Warwick Hesketh and Kate McKinnon are HBRC's Waipawa based land management advisors. They work closely with landowners to promote sustainable land management.

Before coming to Waipawa, Warwick worked in Hawke's Bay hill country dealing with erosion issues, riparian management and restoration. His new role involves working with landowners to promote catchment-wide strategies for tackling soil and water quality issues.

Kate started out in HBRC's resource consents section before she took the opportunity to work as a technical consultant in the fertiliser industry for several years. She returned to HBRC in 2013 to take on the land management role previously held by Neil Faulknor and, more recently, Angela Stead.

You are welcome to meet Warwick and Kate at the HBRC Waipawa office at 26 Ruataniwha Street, but please phone ahead first on **06 857 8219**. Alternatively, you can contact:

Warwick Hesketh on **027 496 6289** or [warwick@hbrc.govt.nz](mailto:warwick@hbrc.govt.nz)  
Kate McKinnon on **027 706 5104** or [katem@hbrc.govt.nz](mailto:katem@hbrc.govt.nz)

