



## The Waikato Economic Impact Joint Venture Studies project has undertaken a series of studies to better inform water policy and management decisions at both regional and national levels.

The studies analyse the potential economic and environmental effects that may arise as a result of setting water quality objectives and limits, and will:

- provide robust, credible information to support central and local government decision making on fresh water
- provide Healthy Rivers: Plan for Change/Wai Ora: He Rautaki Whakapaipai with robust analysis of the potential economic, social, cultural and environmental impacts of a range of different limits and targets.

Established in early 2013, the project partners are the Ministry for Primary Industries, Ministry for the Environment, DairyNZ, Waikato Regional Council and the Waikato River Authority. The Department of Conservation has also contributed to the project.

The project stemmed from a central government request for more information to support its decisions on changes to the National Policy Statement for Freshwater Management.

## What the project is doing

The initial work of the project was driven by central government's need for information to inform decisions about changes to the National Policy Statement for Freshwater Management. Core to this was development of a model linking land use profitability to water quality targets. This was piloted in the Upper Waikato, and provided information to central government to inform its decisions on the National Policy Statement for Freshwater Management.

The four studies released to date are:

- *Evaluation of policies for water quality improvement in the Upper Waikato catchment*
- *Catchment models for nutrients and microbial indicators , modelling application to the Upper Waikato catchment*
- *Estimated age in surface water and changes in nitrogen concentration in groundwater in the Upper Waikato catchment*
- *Review of freshwater non-market value studies. Literature review and peer review/workshop of a survey*

The studies form a modelling framework to test options, rather than providing findings or recommendations for a particular course of action.

The first three studies describe a series of interlinking models which tested the analytical approach in the Upper Waikato. Collectively, they provide a framework to assess potential costs (in terms of the effect on land use profitability) of different scenarios for reducing the amount of nitrogen and phosphorus entering the upper Waikato River. The outputs are generated from a series of models, each with limitations, so they need to be interpreted with care.

The fourth study extensively reviews relevant research on non-market values associated with water quality. It suggests a categorisation of values and identifies knowledge gaps in this space. Amongst other things, it notes the importance of context for understanding values, and cautions against the inferring of values for the Waikato and Waipa River catchments from other studies reviewed.

Links to the studies are available at [www.waikatoregion.govt.nz/FreshWaterManagement](http://www.waikatoregion.govt.nz/FreshWaterManagement)

The current work of the Joint Venture extends the modelling approach piloted in the Upper Waikato to the entire Waikato and Waipa River catchments. This will provide a tool for analysing a range of scenarios for water quality targets and limits. It has particularly focused on nutrient discharges, but the approach can be extended to incorporate other types of discharge too.

Unlike the pilot phase in the Upper Waikato, the catchment modelling does not link land use discharges to nutrient concentrations in water bodies. The Technical Alliance of Healthy Rivers: Plan for Change/Wai Ora: He Rautaki Whakapaipai will instead determine the most suitable methodology to link discharges to nutrient concentrations. Studies investigating the recreational and cultural values of freshwater quality are also being undertaken. This will enable better community discussions on the wider costs and benefits of freshwater management choices.

## Supporting Healthy Rivers: Plan for Change/Wai Ora: He Rautaki Whakapaipai

The studies' analysis of potential economic and environmental impacts of a range of targets and limits will support Healthy Rivers: Plan for Change/Wai Ora: He Rautaki Whakapaipai.

The Joint Venture project aims to provide tools for the Collaborative Stakeholder Group, along with the Technical Alliance, to use. It provides no answers as such, but provides a means for the Collaborative Stakeholder Group, with support from the Technical Alliance, to find its own answers.

The catchment modelling work provides a tool which the Collaborative Stakeholder Group will be able to use to consider scenarios they develop. For example, when the Collaborative Stakeholder Group wants to understand the implications of particular targets, the model will provide information about how those targets are expected to affect land uses.

It is also intended the analysis and information will enable Waikato Regional Council to meet recently strengthened requirements of the Resource Management Act 1991. For example, the RMA requires an assessment of the benefits and costs of policies, which now includes an explicit requirement to assess the implications for economic growth and employment.

## More information

More information and links to studies released to date by the Waikato Economic Impact Joint Venture Studies project are available at [www.waikatoregion.govt.nz/FreshWaterManagement](http://www.waikatoregion.govt.nz/FreshWaterManagement)