A FARMER PREPARED CATCHMENT PLAN
- HOW DID THEY DO IT?

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Rerewhakaaitu farmers were concerned about their ability to keep farming in the future based on the increasing attention being given to water quality and the likelihood of increasing regulation of nutrient use and increased rules around nutrient loss off farms and the need to improve the water quality in Lake Rerewhakaaitu.

Between 2002 and 2009 two projects were carried out in the catchment of Lake Rerewhakaaitu, focusing on N and P in particular. Over this time information was gained on where nutrients came from, how they moved into the water system and where they went. The work also highlighted a range of practical mitigations that could be implemented on farm to reduce nutrient loss to waterways and the lake. By the end of these projects most farmers had implemented some mitigations to reduce nutrient loss off their farms.

At the last project meeting in June 2009, the then CEO of Bay of Plenty Regional Council, offered the farmers the opportunity to write the catchment plan. The Council offered a clean sheet of paper without any requirements, only that there must be "action on the ground". Farmers accepted the offer and developed the plan over the following years. The aim of the plan is to reduce the lake TLI to 3.6 or lower and keep it there.

This paper summarizes how the farmers went about developing the catchment plan and how they worked with service providers.

The farmer group established some ground rules on how they would work with service providers to complete the plan. This action was designed to assure and give confidence to all farmers that information gained would not be detrimental to their farming businesses. The main features are:

- Farmers continue to farm profitably and sustainably.
- Farmers are central and in charge of writing the plan.
- Open sharing of all information by all parties.
- Farmers will have first access to results of catchment work and to discuss directly with providers of the work.
- Opportunity to interrogate, validate and interpret specific catchment data
- Use an independent facilitator from outside dairying and Regional Council.
- All farm data confidential, but this be aggregated into a catchment representation. Use of individual data was anonymous.

These principles were adhered to during the development of the plan and contributed significantly to the positive relationships between farmers, key Council staff and science providers.

The progress of developing the plan went through the process:

- Farmers voluntarily agreed to prepare a farmNMP on each farm. This would include mitigations to reduce nutrient loss and to complete these by June 2015.
- The basis of this work is Overseer©.
- A catchment Overseer model was developed from all the farm data.
- Farmers voluntarily agreed to independent on farm audit on progress with mitigation completion in autumn 2012, 2014 and 2015.

In addition a number of other actions were undertaken

- Investigate the installation of suitable macromitigations in the catchment that would help lower nutrient loss to the lake. These included the use of detainment bunds, riparian fencing and riparian planting on a key stream in the catchment.
- A plan to calibrate all effluent systems on farms and modify operation where needed. This action has been completed.
- Aim to have 100% compliance in the annual Dairy Monitoring Programme of the Regional Council.

The council developed a lake nutrient model and from this the target reductions of nitrogen and phosphorus required to get TLI down to 3.6 were estimated.

Overseer© runs were undertaken in 2009/10 and 2012/13. The change in nutrient loss reduction on dairy farms in the catchment between these two runs showed that nitrogen loss fell 6.25% over this period. Phosphate nutrient loss off dairy farms fell by 11.5% over the same period. Estimated nutrient loss from all pastoral land in the catchment fell by 16.4% for nitrogen and 13% for phosphorus.

The Regional Council measures the lake water quality annually. In August 2013 a press statement from the Council was made:

> *"The annual Lake Rerewhakaaitu reading for 2013 has declined to 3.5. The annual TLI has jumped down 0.2 TLI units to bring the three yearly average down to the Regional Water and Land Plan objective of 3.6. Nitrogen has been decreasing over the last six years and Secchi depth has improved over half a metre from last year. This may have been driven by decreasing phosphorus levels over the last five years."*

The plan has been completed and the mitigation actions in the plan are intended to be completed by June 2015. Although good progress has been made farmers recognize that the TLI could go back. Completion of all mitigations will be critical to complete the plan.

There are some challenges that remain before the actions in the plan have been completed and these are:

- Will farmers complete the committed mitigations?

The 2012 audit showed that 49% of mitigations were completed. Most farmers had 'effluent calibration' as mitigation. These have been completed. This take completed mitigations to over 60%. There is some confidence that completions will get close to 100%.

- The lake TLI reading may go back up.

  Farmers acknowledge this as a possibility. It is feasible that the TLI will fluctuate over time. However the loss of nutrients to the lake from major intense rain event(s) will be much less than if the plan was not in place and most of the mitigations not completed.

- There is a fall in the milk price.

  This could slow down mitigations with high capital cost. Many of these have already been done or are being done now.

- Will new farmers in the catchment commit to the plan?

  So far all new farmers have joined the project and adopted the on farm plans.

- What happens when the plan is finished at June 2015?
  "The 'plan' will never finish. It is ongoing into the future" – Mac Pacey, Dairy farmer.

Over the course of developing the plan there were hall meetings and newsletter updates to all farmers and service providers. The relationship between farmers, scientists and Council staff improved and recognition of each parties contribution in reducing nutrient loss is now recognized.

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References

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