Accelerating the adoption of good environmental practice on dairy farms

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The Upper Waikato Sustainable Milk Plan project

The Upper Waikato Sustainable Milk Project, co-funded by the Waikato River Authority, Primary Growth Partnership and DairyNZ, is the largest environmental good-practice catchment project ever undertaken by the New Zealand dairy industry. The primary aim of the project is to support on-farm changes to enhance water quality and ecosystem health in the Waikato River and to demonstrate the collective impact of environmental actions on catchment nutrient loads.

Approach

Over a three-year period from June 2012, all 700 dairy farms in the Upper Waikato Catchment (area 465,871 ha, Fig. 1) are being offered one-on-one advice and support via the development of a farm-specific Sustainable Milk Plan (SMP) (Fig. 2). All individual farm actions are being recorded and analysed to estimate potential changes in farm nutrient loading at a sub-catchment scale. To date 591 plans have been delivered and analysed.

Figure 1. Location of the Upper Waikato Catchment and the 700 dairy farms.

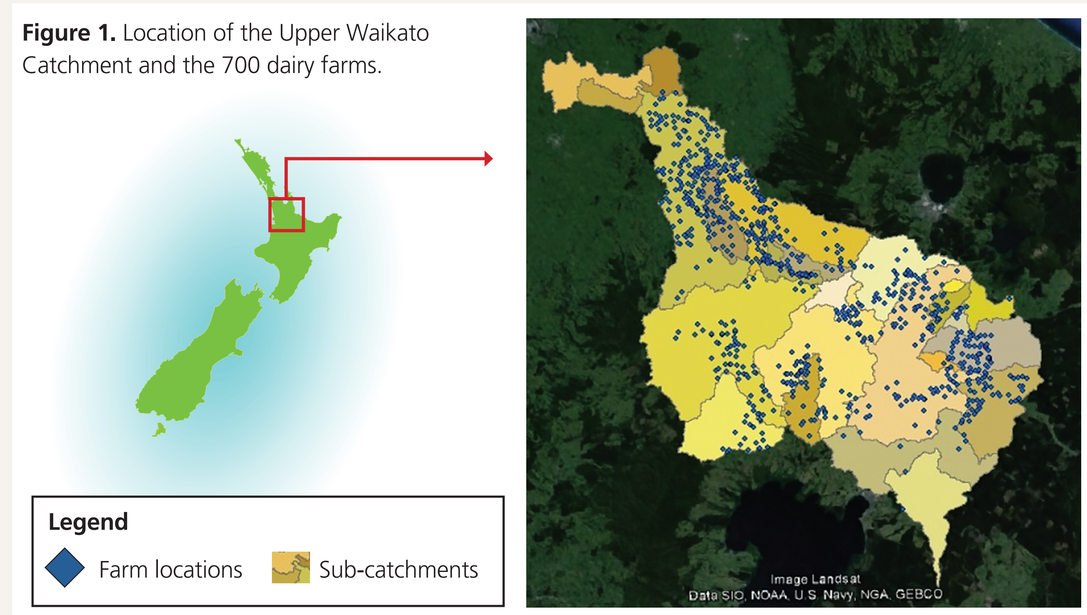

Figure 2. The SMP Processs

Individual on-farm assessment
- Questionnaire utilised
- Farm walk
- Achievements acknowledged

Agreed actions from farmer

In the five management areas:
- Nutrients
- Effluent
- Land management
- Water use
- Waterways

Follow up activity from consultant to support agreed farmer action
- Broker to specialists
- One-on-one advice
- Regional support activities
- Specific technical information, tools and resources.

Final call
- Check progress
- Add new actions
- Review their SMP process

Analysis of on-farm actions

A total of 5300 individual on-farm actions were recorded for the first 591 farms plans analysed to date. Individual actions were classified into the five target areas, 40 categories and 143 sub-categories. The majority of all individual actions are focused on nutrient management (31%), effluent management (27%) and water use management (20%) (Fig.3).

Figure 3. Number of individual actions recorded in each management area for the first 591 farms.

Preliminary analysis of nutrient loss reductions

A preliminary analysis suggests that potential mean reductions in total farm nutrient losses following successful implementation of all SMP recorded actions are 8% for N and 16% for P. Load reductions on individual farms ranged depending on the number and combination of actions being implemented (Fig.4).

The greatest reductions were observed for farms implementing multiple strategies around stock exclusion, optimised effluent/fertiliser application for N, and riparian management plus critical sources areas, stock exclusion and dairy effluent-nutrient application for P.

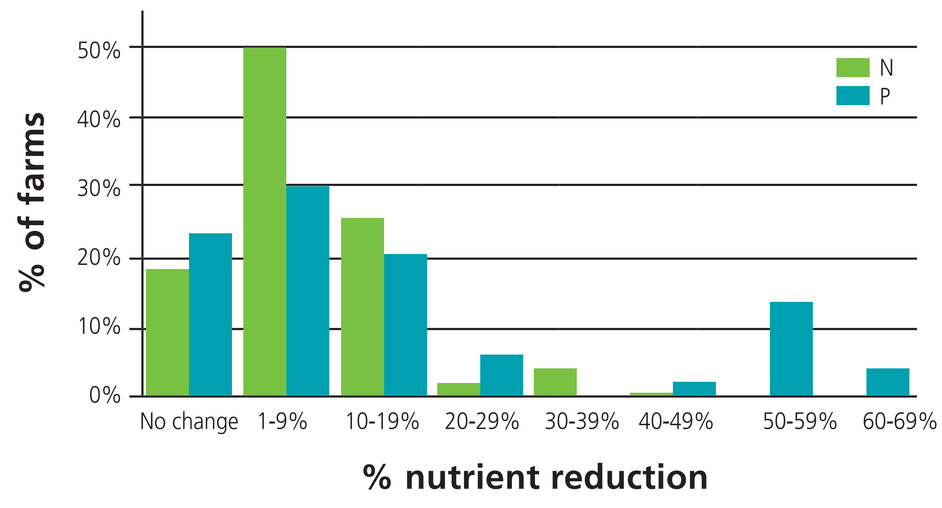

Figure 4. Estimated % reductions in farm N and P losses following the assumed successful implementation of actions in SMPs. Analysis is based on the first 436 farms in the SMP process. No change represents farms with actions which did not have a direct impact on N or P reduction, although will have indirect benefits for improvement in environmental performance.

Summary

Farmers are committing to a wide range of actions to improve environmental performance through the on-going SMP process. The results of our initial analysis support that the successful implementation of these actions is likely to lead to a reduction in farm nutrient loading to the Waikato River System. This indicates the project is on-track to achieving its stated measures of success.

Waikato River Authority

DairyNZ