

POTENTIAL REDUCTIONS IN FARM NUTRIENT LOADS RESULTING FROM FARMER PRACTICE CHANGE IN THE UPPER WAIKATO CATCHMENT

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The Upper Waikato Sustainable Milk Project is the largest environmental good-practice catchment project ever undertaken by the New Zealand dairy industry. Co-funded by the Waikato River Authority, Primary Growth Partnership and DairyNZ, the project aims to accelerate the adoption of good environmental practice on farm to ultimately improve the health of the Waikato River. Over a three-year period from June 2012, all 700 dairy farms in the Upper Waikato Catchment were offered one-on-one advice and support via the development of a farm-specific DairyNZ Sustainable Milk Plan (SMP). All actions were recorded and coded into specific management categories to provide a more comprehensive analysis of the likely impacts of successful implementation on farm contaminant losses. In this paper we estimate potential reductions in farm nutrient losses for 594 farms which have completed the full SMP process. For each farm, nitrogen (N) and phosphorus (P) reductions were derived from individual farm Overseer[®] Nutrient Budget information and assumed nutrient reduction efficacy rates assigned to each specific mitigation strategy. Given the uncertainties and variability associated with quantifying efficacy rates attributable to different mitigation strategies, several approaches were trialled using a combination of Overseer modelling, existing studies published in the scientific literature and expert opinion. Mean reductions in farm nutrient losses for actions already completed are estimated to be 5% for N and 12% for P. These reduction estimates are expected to increase to 8% for N and 21% for P once all actions across all 642 SMP farms are fully implemented.

Editor's Note: A manuscript has not yet been submitted for this presentation.