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Dairy farmers have recently come under much criticism for supposedly polluting Canterbury and Christchurch's water. What some people may not be aware of is the importance that dairy farmers place on measures that will minimise the impact they have on both surface and groundwater.

Of five monitored sites in the Central Plains, two are currently rated poor according to the ECan website. This is contrary to a recent media article stating that nearly three quarters of river sites monitored by Environment Canterbury in 2004-5 were rated poor or very poor for water quality, and deemed unsuitable for contact recreation. The clear implication of this article being that this was due to farm intensification and dairy farming in particular.

In comparison, of 20 river, beach and estuary sites monitored in Christchurch, 10 fall under poor and a very poor as a result of stormwater runoff, oxidation pond discharges from the city's sewage plants and bird population. The contamination of water in those sites can not be attributed to 'dirty dairying' or farming in general.

In Canterbury 90 percent of dairy farmers do not come into contact with waterways. And in fact, due to Canterbury dairy farmers meeting their obligations under the Fonterra Clean Streams Accord, 96 percent of dairy farmers have culverts or bridges on water crossings, and most stock is excluded from waterways by fencing.

It is important to point out we have not started with pristine ground and surface waters. Dr Vince Bidwell, a senior research engineer at Lincoln Ventures Ltd a subsidiary of Lincoln University, states that nitrate would have been draining towards groundwater from the first turning of the turf in 19th century agriculture. Dr Bidwell claims that dairy farming has had an immediate impact on the consumptive use of the groundwater resource and has quickly brought to a head the need to implement effective decision making about how to allocate the "sustainable" level of use of water.

Whether the groundwater irrigation system currently used in the Central Plains is ecologically unsustainable is debatable, because farmers have to pump water from deeper and deeper aquifers using scarce electricity resources. Despite that, most summers the area is in drought. Yet it doesn't have to be that way. Canterbury has more than sufficient water to meet the province's demands but this water is not always in the right place at the right time and most of it flows out to sea. The key idea behind the proposed Central Plains Water irrigation scheme to store excess water in a reservoir for when it is needed; at which stage it will be released through distribution channels. No electricity is needed as it is a gravity-fed system.

In order to receive water from the proposed scheme individual farmers must commit to the scheme's Sustainable Management Agreement. This requires them to adopt best farming practices in relation to fertiliser application and rates of water use so as to best maintain and enhance healthy groundwater and river systems. While the Sustainable Management Agreement is still under development it is likely to involve restrictions on certain farming practices, ongoing monitoring and independent auditing of individual farmer activities.

In Canterbury, Dairy Farmers have been working for many years with world-class scientists at Lincoln University to look at ways to minimise the impact of dairy farming on groundwater and surface water. Using the Lincoln University farm as a model, direct measurements have been made of nitrogen and microbial leaching losses from the farm to provide a longer-term assessment of the impact of dairy farming on groundwater quality. The project utilises sophisticated tile drain monitoring systems equipped with automatic samplers to collect leaching water and groundwater samples for analysis.

The project is helping to ensure that environmental impacts of intensive dairy farming can be minimised by developing and applying best management practices. One initiative from the project has been the development of eco-n a fertilizer that reduces nitrate leaching. These initiatives and others like the Fonterra Clean Streams Accord highlight the importance the dairy industry is placing on ensuring sustainability.

At a recent conference held at Lincoln University, Professor Keith Woodford stated that dairy farming production in Canterbury has, over the last five years been increasing at the rate of 11 percent per annum. This current year there are nearly 700 dairy farms in Canterbury and over 800 if the Waitaki district is included. Export income from these farms after processing will be approximately $1.6 billion and 4,200 jobs will have been created as a direct result of the dairy farming activity. It can be argued that the effect on the national economy will support a Gross Domestic Product of $5.5 billion.

Translating this information so that we can understand the effect on our regional economy, we can say with confidence that dairying in the Canterbury region creates more than 10,000 jobs.

Many people would ask whether there are alternatives that can generate similar outcomes for the Canterbury economy. The short answer is no. Livestock farming will generate about one third of the gross income that dairying will provide and in general terms dairying is the highest and best use of land that has irrigation.

Dairy farming has the potential to further raise the living standards of all New Zealanders by using resources that we in have in abundance. Sufficient water, good soils, world leading farm management systems and good farm practice are what sets us apart from other countries and pays our way in the world economy.

- Frank Brenmuhl is the chair of Dairy Farmers of New Zealand and industry group of Federated Farmers.