Dairying in New Zealand is pasture-based year round. Taranaki is one of New Zealand’s most productive dairying regions, with 1.760 dairy farms and 490,000 dairy cows. It is also highly dissected by a pattern of radial streams. With 11,000km of stream banks on the ring plain, the average farm property (220 hectares) has over 70m of stream bank, with over 200m on some farms. This brings challenges for managing point source and diffuse runoff pollution to maintain the quality of the receiving waters.

Despite a doubling of cow numbers in Taranaki over the last forty years and a huge increase in the use of urea fertiliser since the early 1990s (replacing clover based nitrogen fixation), water quality in the Taranaki region has remained stable or shown improvement overall. Measures of stream health such as macroinvertebrate community abundance and diversity show long term ecologically and statistically significant improvement. Significant improvements have emerged more recently (2006-2014 data) in nutrient levels also.

These trends are associated with a voluntary and unsubsidized regional programme of riparian fencing and planting implemented progressively from 1994. It is anticipated that by 2020, 5,408km of riparian exclusion and 5,408km of riparian strip planting will have been completed, at an estimated cost to farmers of $NZ 80 million (Euro 50 million).

Analysis of various possible drivers of the region-wide improvements in ecological condition of streams and rivers, along with more recent reductions in nutrient concentrations, emphasizes that the strongest association is with the progressive implementation of the riparian fencing and planting programme.