Groundwater investigations in association with Victoria University

For the last few years Greater Wellington has supported a number of student groundwater investigations in the Wellington Region. We have supported students financially, with advice and equipment to undertake investigations that help to improve our understanding of groundwater in the region. The students have all been completing Honours or Masters post-graduate degrees with the School of Earth Sciences.

In the 2004 academic year we supported two students: Charlotte Welch and Yvonne Ruehe.

Charlotte investigated the interaction between the Waikanae River and the adjacent shallow aquifer. Charlotte's work confirmed that when the river flow is less than 5 cumecs, about 300 L/s leaks into the shallow aquifer from the river. Charlotte also confirmed that water lost from the river flows through the aquifer toward the Waimeha Stream and that flow in the stream largely accounts for the water lost from the river.

Yvonne investigated the movement of rainfall through soils at four Paraparaumu locations. This work was designed to test the assumption made for our estimation of rainfall recharge that is reported in our 2005 report, *Investigating the sustainable use of shallow groundwater on the Kapiti Coast.* Yvonne's investigation has shown that rainfall recharge to groundwater is strongly dependent on antecedent soil moisture conditions and rainfall intensity. The work has demonstrated that sandy Kapiti soils have a poor ability to retain moisture and highlights the importance of rainfall to groundwater levels in shallow aquifers on the Kapiti Coast.