

Figure 1: Upper Waitaki Geology
 (from SKM; 2004; Waitaki Catchment Groundwater Information; prepared for Ministry for the Environment)

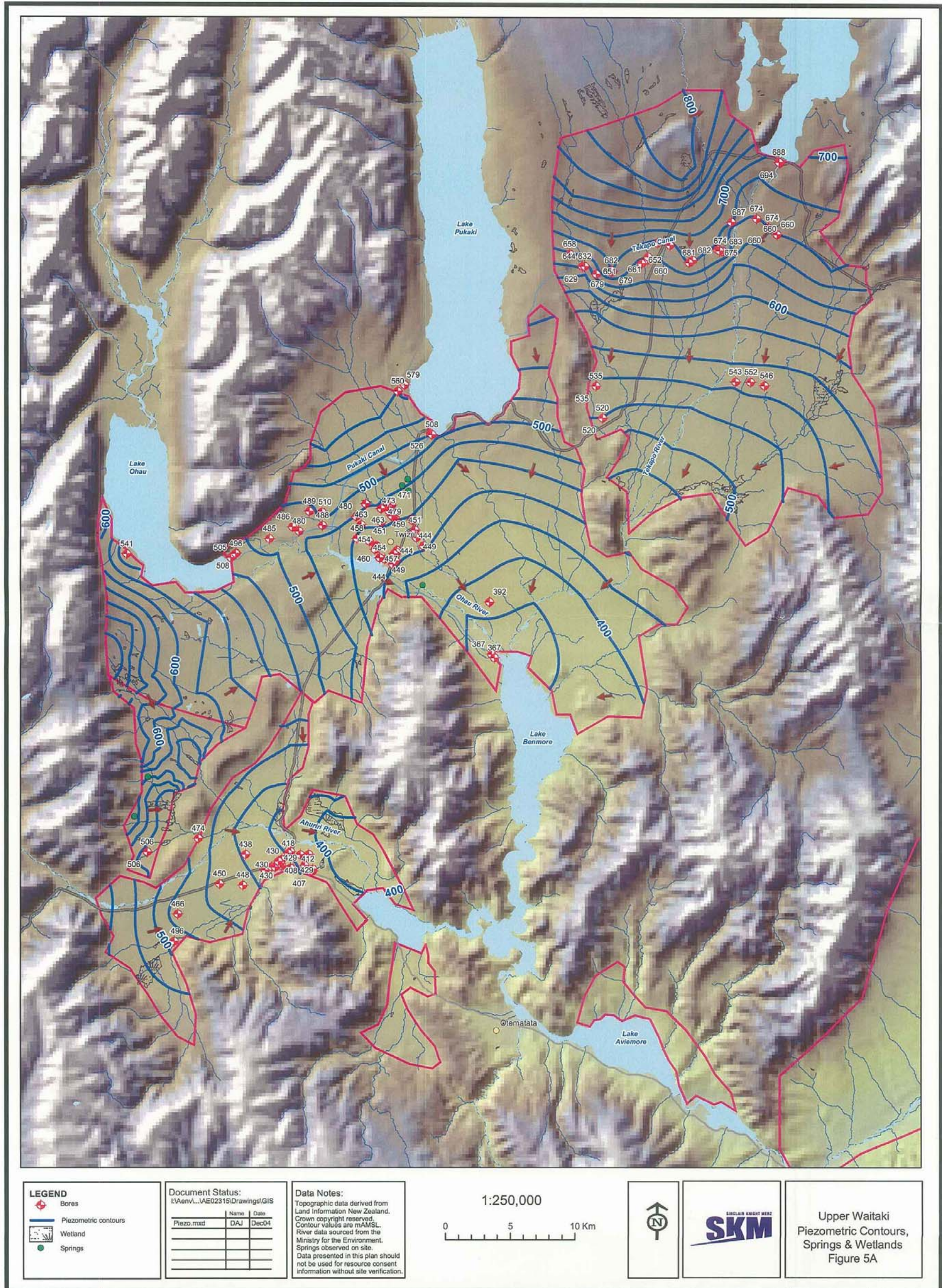


Figure 2: Upper Waitaki Indicative Piezometric Contours and Direction of Groundwater Flow (from SKM; 2004; Waitaki Catchment Groundwater Information; prepared for Ministry for the Environment)

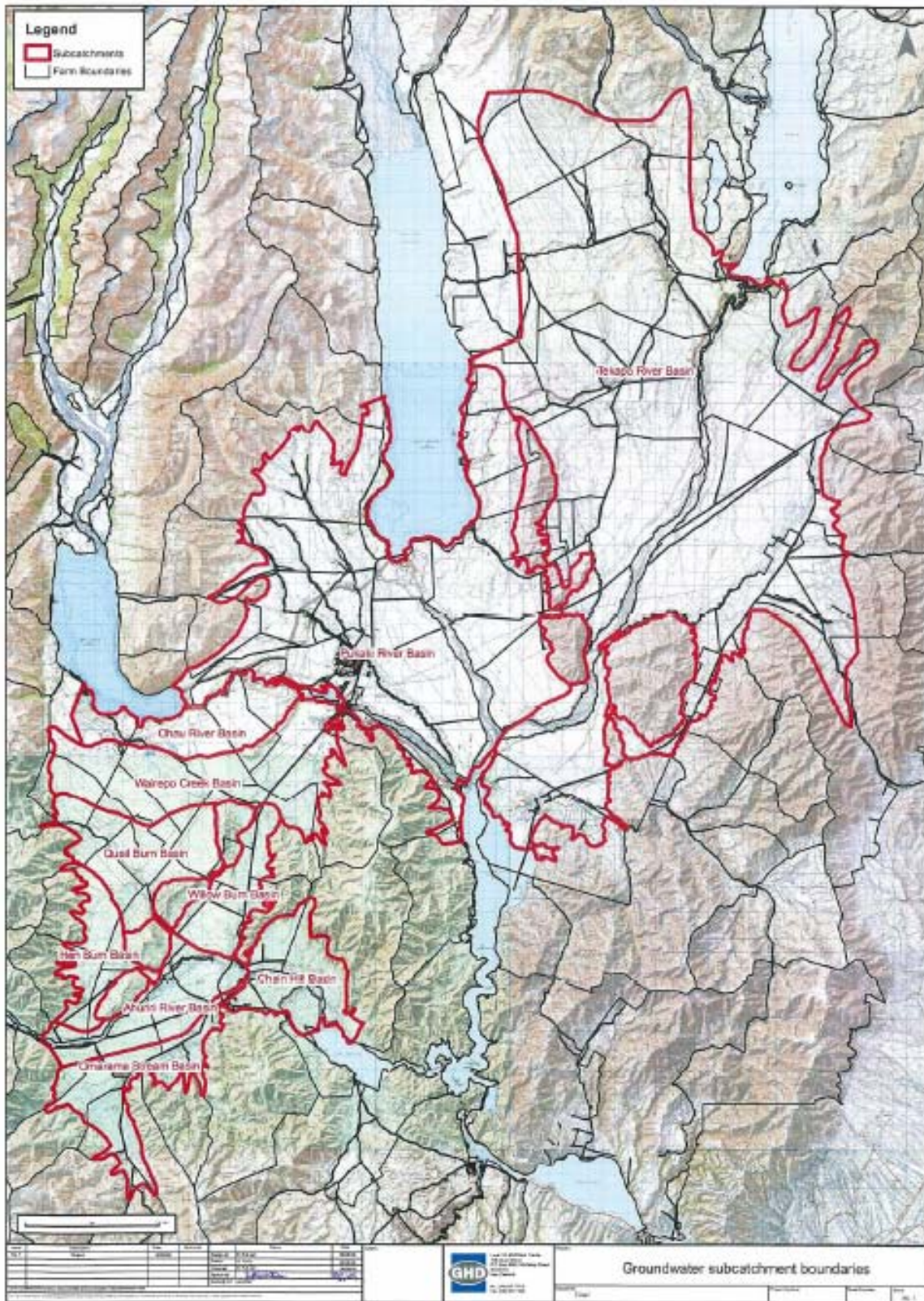


Figure 3: Groundwater Sub-Catchments in Upper Waitaki Catchment

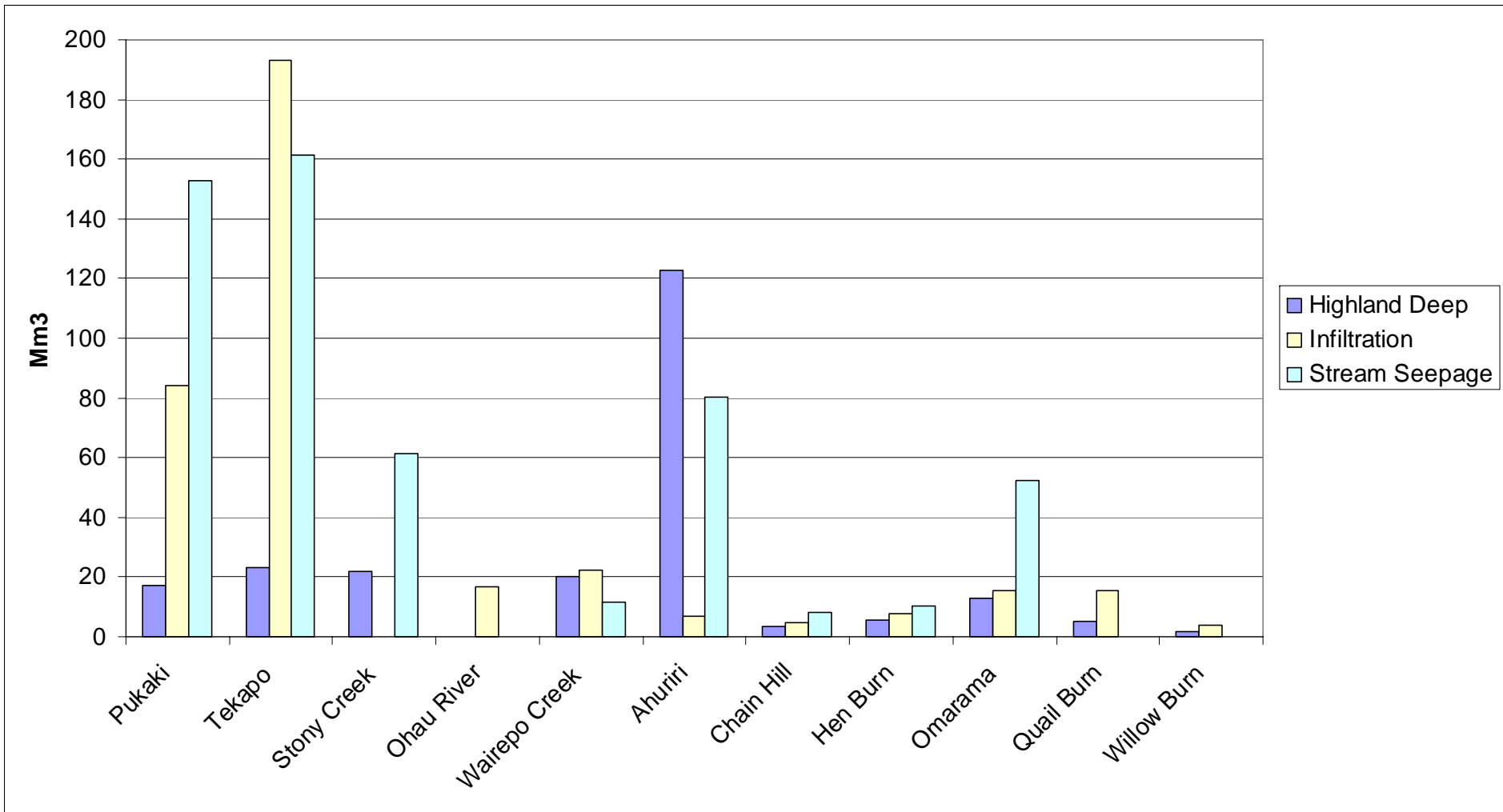


Figure 4: MWRL Estimate of Average Annual Groundwater Recharge Sources for Each Catchment

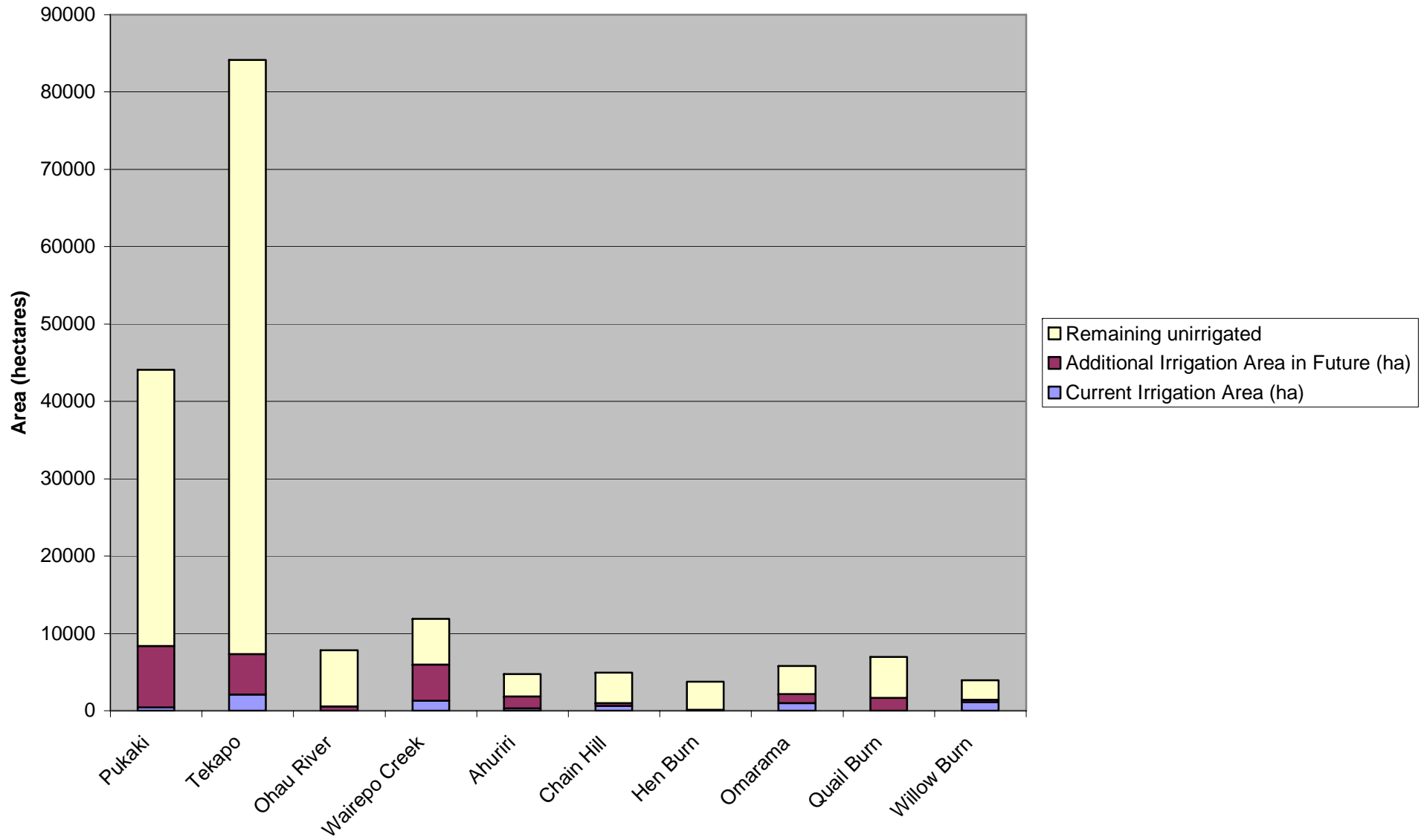


Figure 5a: Change in Land Area for Each Sub-Catchment

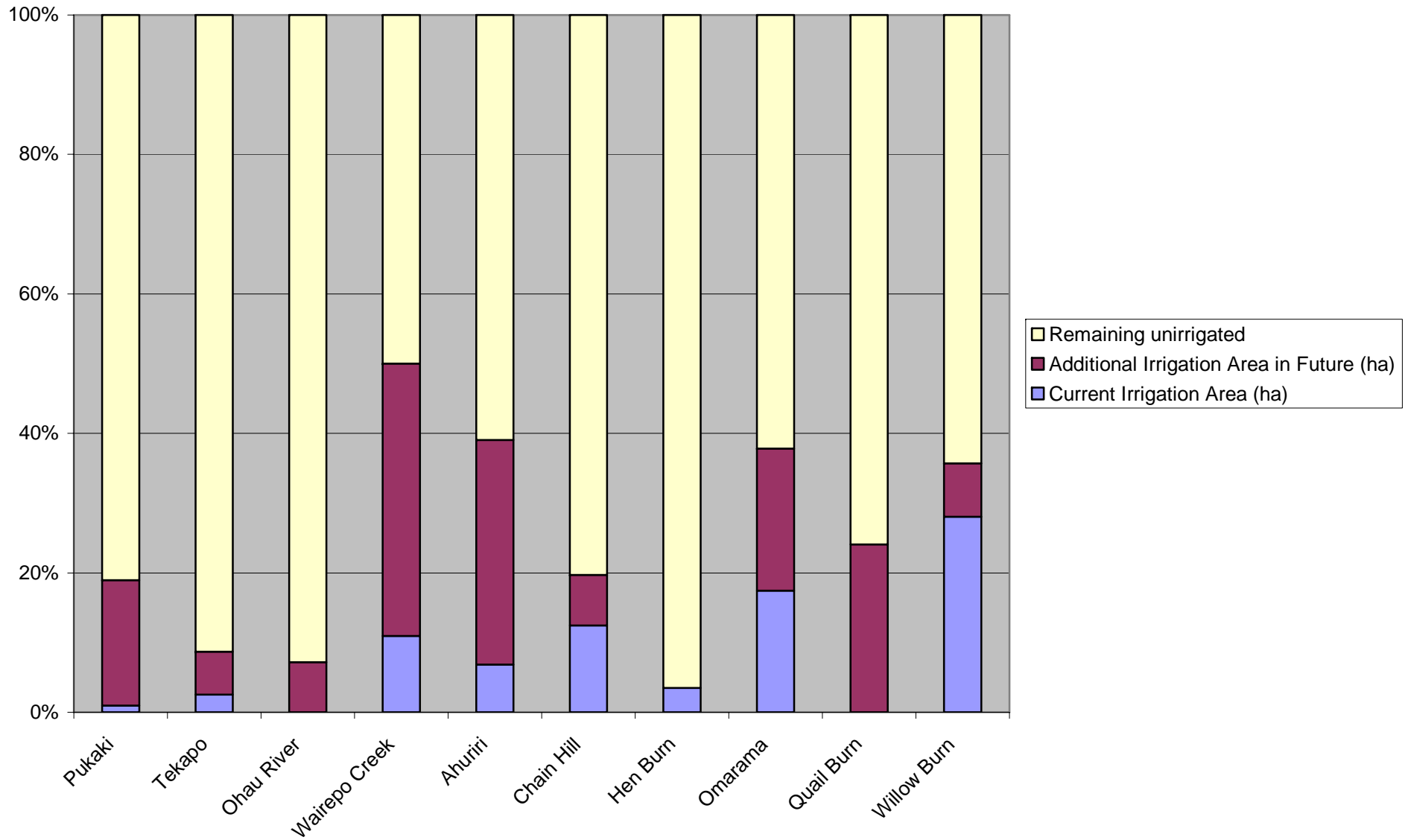


Figure 5b: Change in Percentage Land Area for Each Sub-Catchment

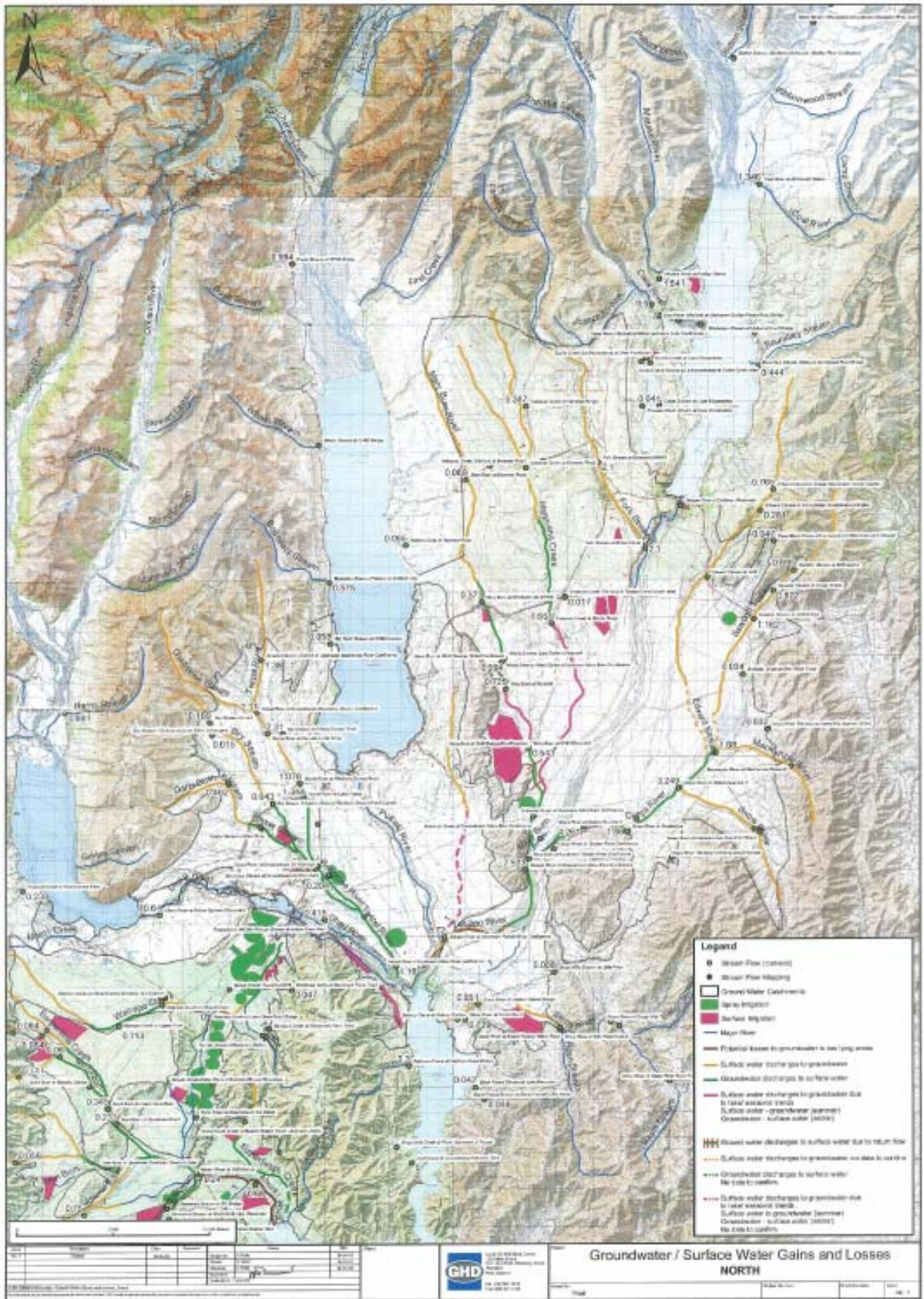


Figure 6: MWRL Map of Stream Gain and Loss Zones in the Upper Waitaki Sub-Catchments Draining to Northern Arm of Lake Benmore

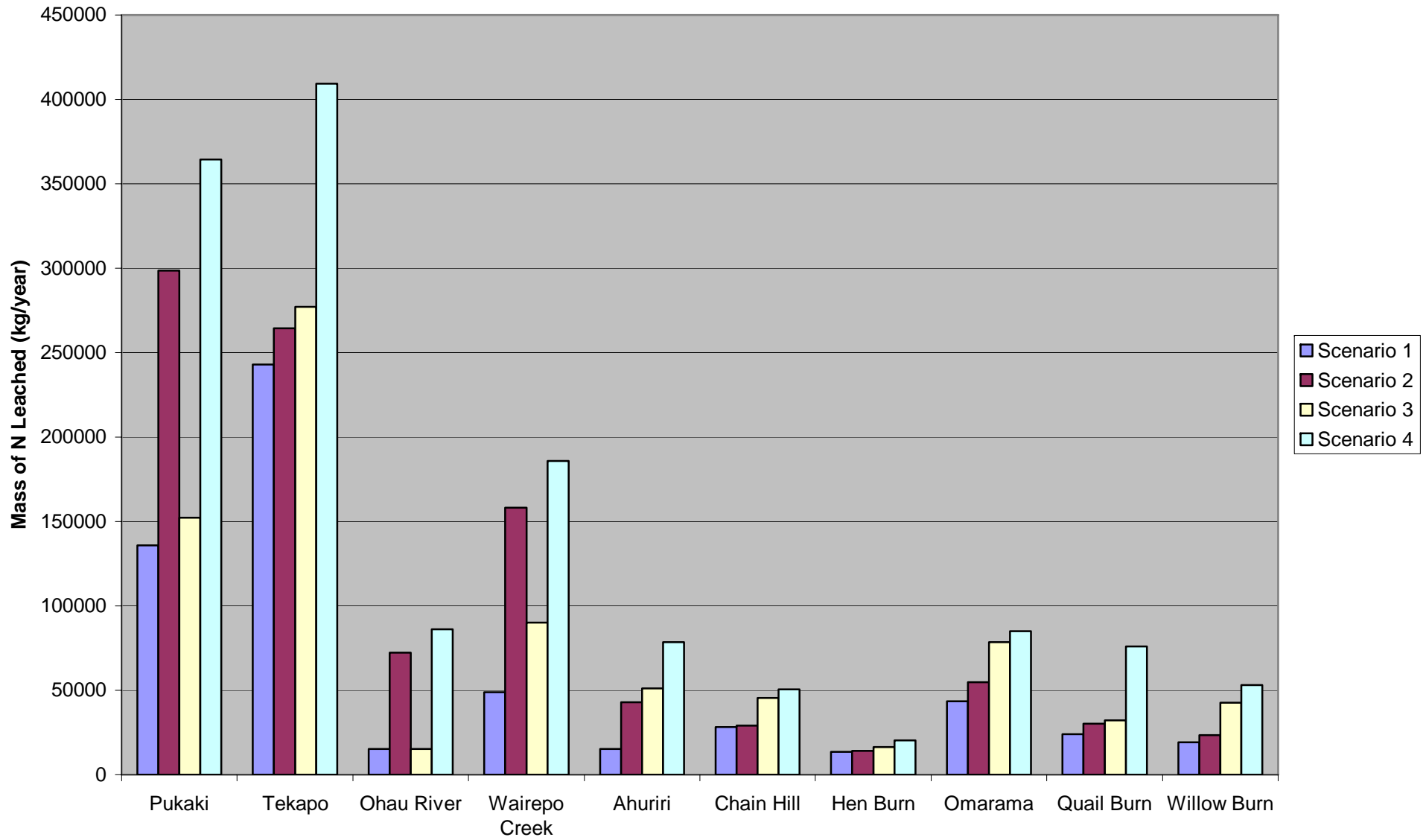


Figure 7: Change in Nitrate-N Reaching Groundwater for Four Scenarios Described by MWRL

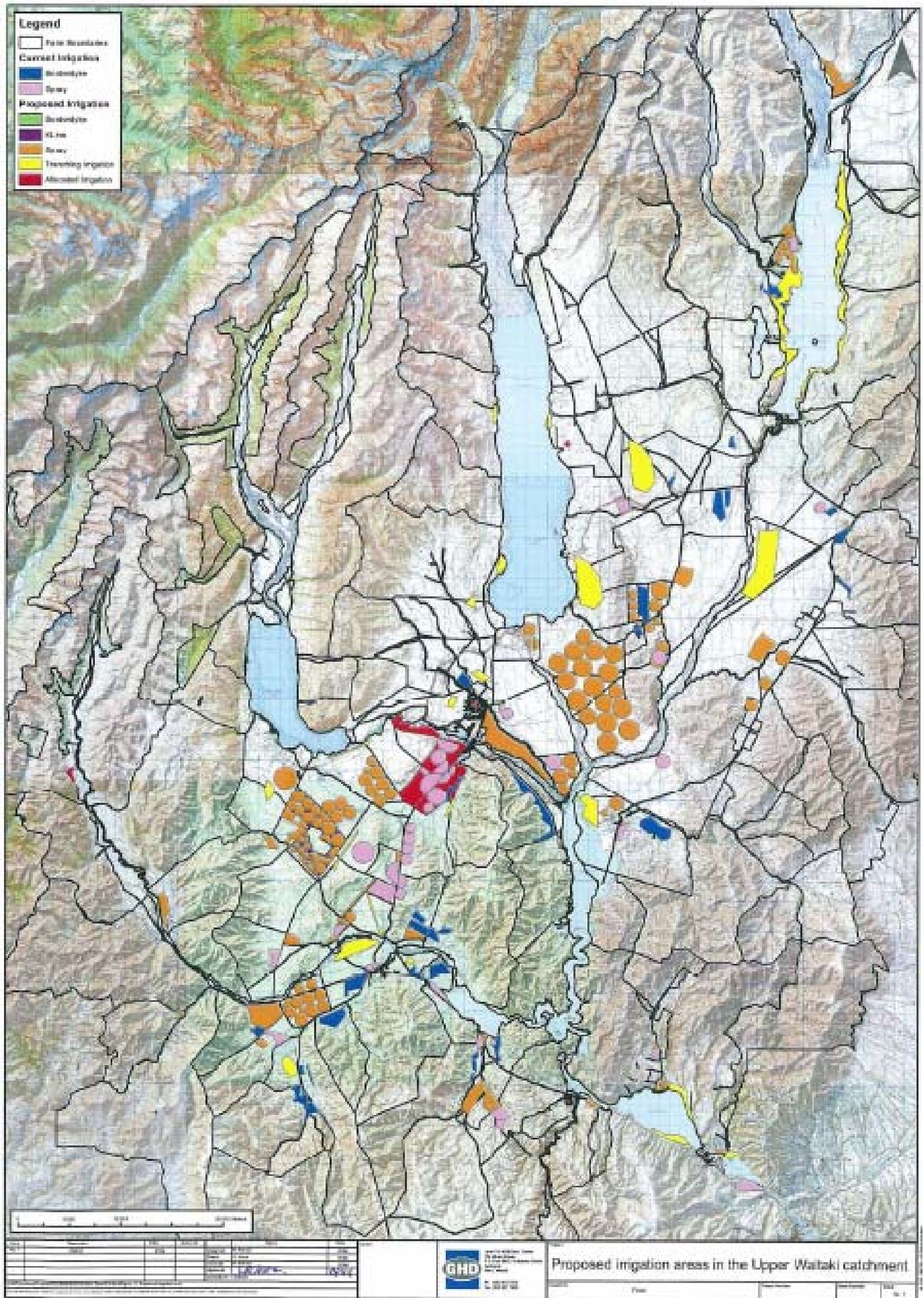


Figure 8: Proposed Irrigation Area in Upper Waitaki Catchment

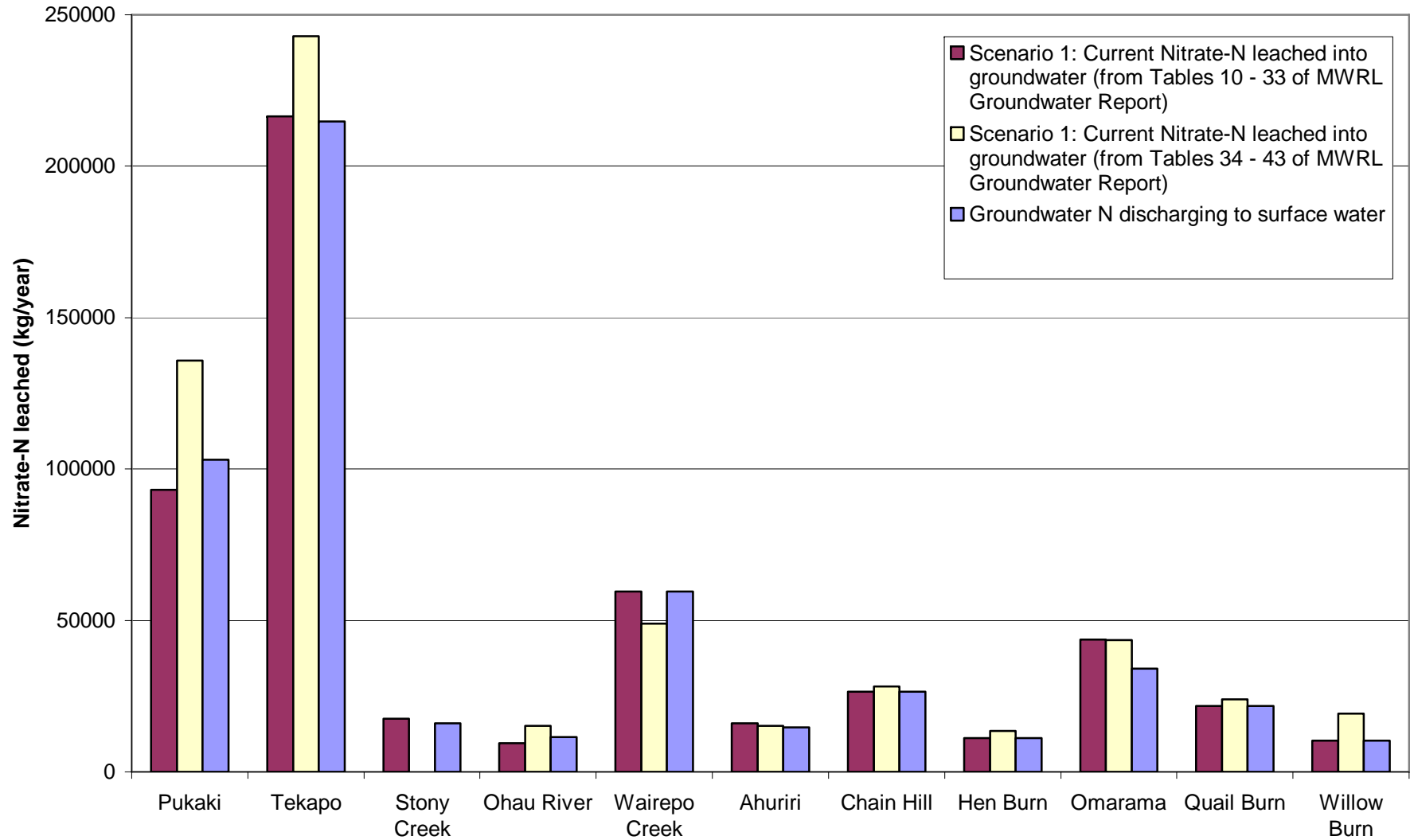


Figure 9: MWRL Assessment of Mass of N Entering Groundwater from Soil Drainage and Mass of N Discharging from Groundwater into Surface Waterways

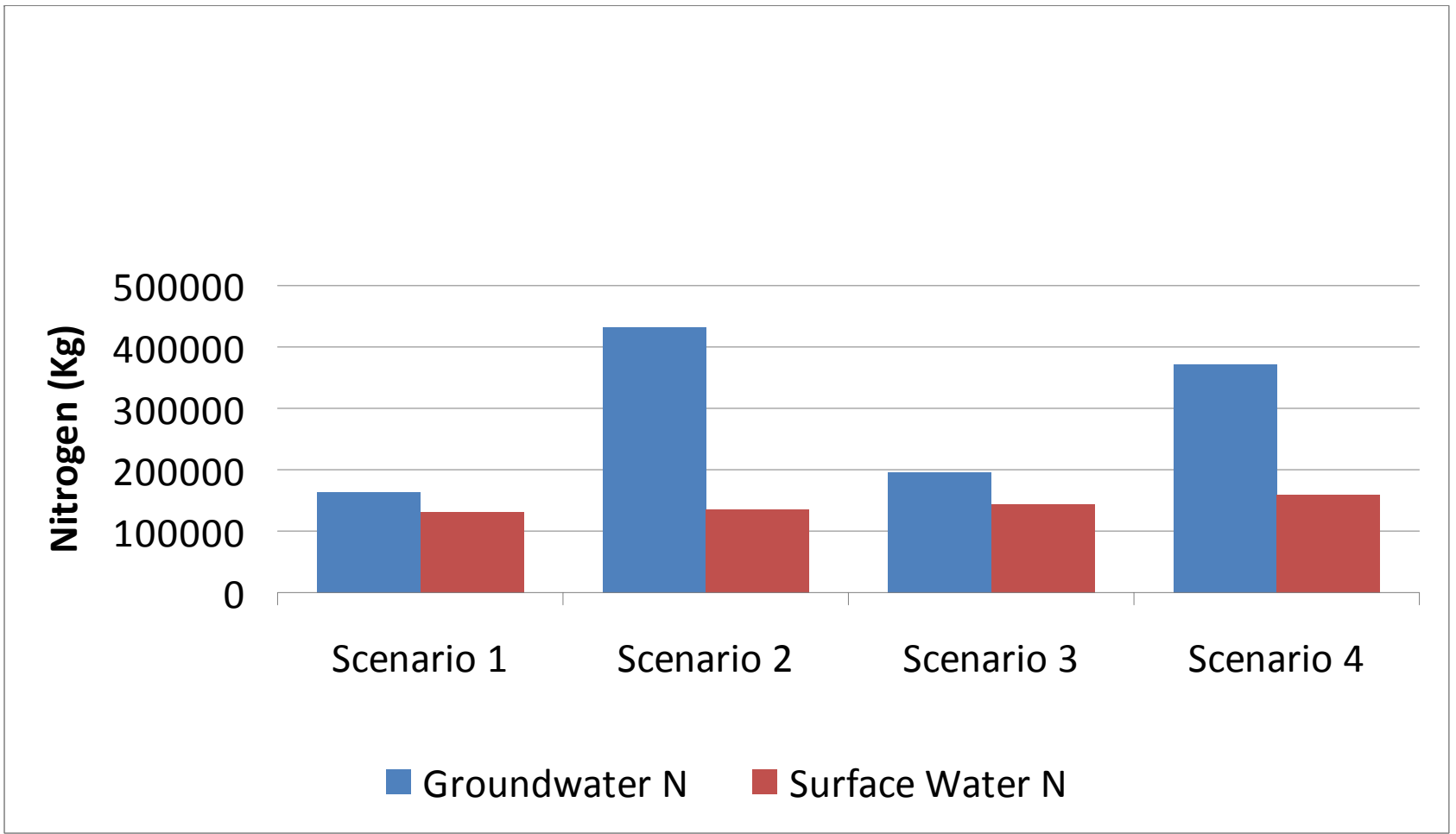


Figure 10a: Nitrogen Inputs to Haldon Arm Catchment

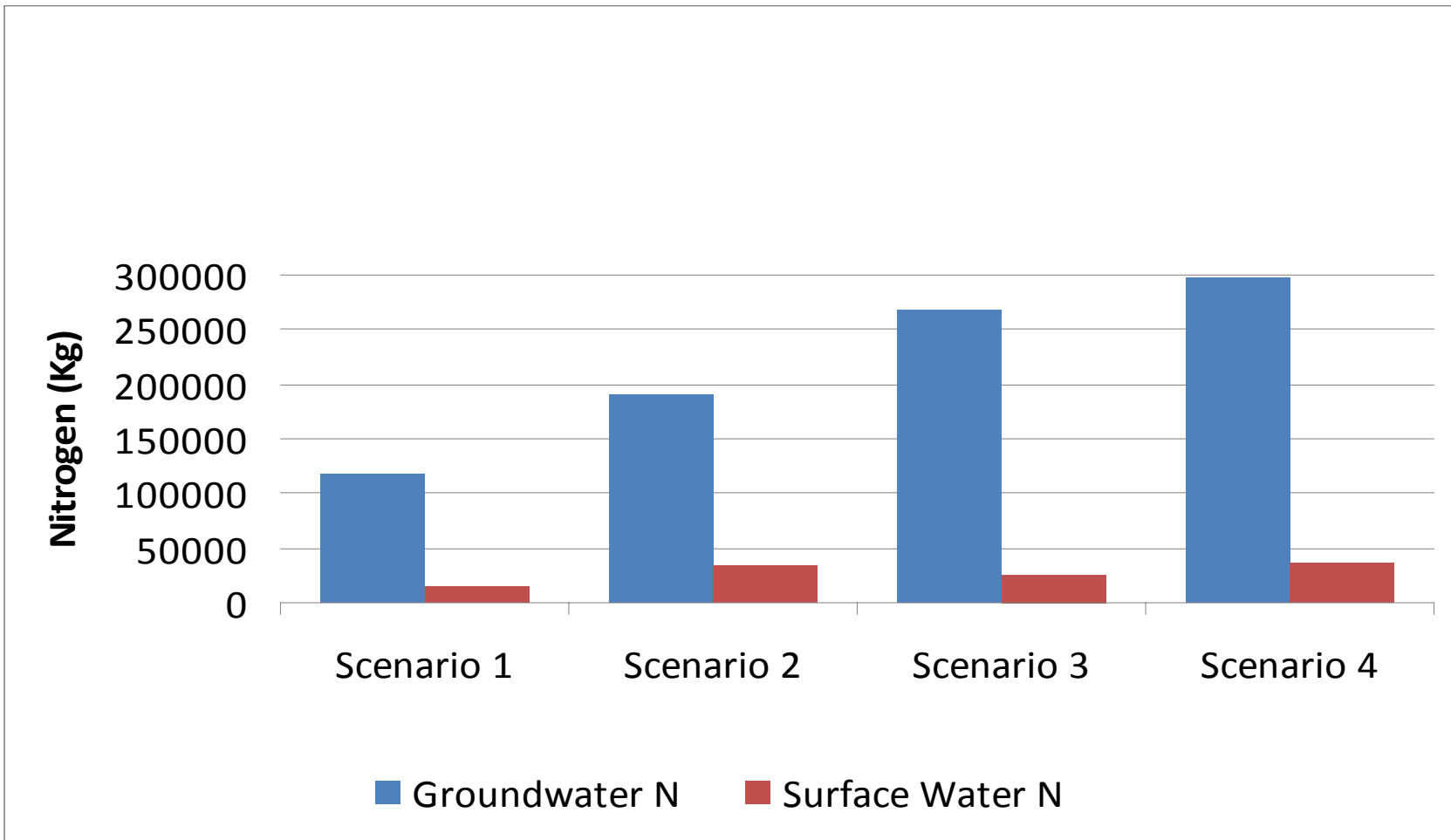


Figure 10b: Nitrogen Inputs to Ahuriri Arm