7 Glossary of Terms

Aquifer: A geological formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Aquitard: A geological formation, or part of a formation, through which virtually no water moves.

Brackish water: Slightly salty. In this study, defined as water with a chloride concentration of greater than 250 mg/L (EC greater than 1,000 μS/cm) and less that of seawater (~19,000 mg/L).

Datalogger: Submersible electronic device that records characteristic data collected from groundwater such as level, temperature, electrical conductivity, etc.

Drawdown: The distance between the non-pumping water level and the surface of the cone of depression.

Fresh water: As defined in this study, water with chloride concentration below the CDWQG value of 250 mg/L (EC of less than ~1,000 μS/cm).

Freshwater lens: In this study, the static body of groundwater (does not include transient recharge mounding) that floats above the denser, saline water below.

Geological unit: A volume of rock with similar lighology or other geologic properties.

Geological formation: A geological unit or group of units with similar age or type of depositional history, and other geological similarities on larger regional scale.

Hydraulic conductivity: The rate of flow of a unit volume of water a prevailing density and viscosity passes through one square unit of porous medium under a unit hydraulic gradient (meters/second).

Hydrogeological unit: A volume of rock or sediment which has similar hydraulic properties for groundwater flow.

Litholog: For this study; a record (log) of the rock types encountered during drilling. The Ministry of Environment well database contains summary lithologic units made by drillers.

Numerical modelling: A method of describing groundwater flow by mathematical approximations with specified values for boundary conditions.

Precipitation: Rainfall and snowfall, expressed as depth of water equivalent which accumulates on land or water, measured with rain gauges. Not all precipitation infiltrates to the aquifer.

Recharge: Water from precipitation and surface waters which infiltrates down to the water table and adds to water storage in the aquifer.

Salt water: As defined in this study, water with chloride concentration above the CDWQG value of 250 mg/L (EC of greater than ~1,000 μS/cm).

Saltwater intrusion: The migration, either lateral or vertical, of saltwater into freshwater aquifers under the influence of groundwater development such as pumping of freshwater near a source of saltwater.

Static: Characterized by a fixed or stationary condition.

Steady-state: A condition that does not change over time, or in which any one change is continually balanced by another, such as the stable condition of a system in equilibrium.

Storativity: The volume of water released from, or taken into, storage by a confined aquifer per unit surface area of aquifer per unit change in hydraulic head.

Transmissivity: The rate at which water of a prevailing density and viscosity is transmitted through a unit width of porous medium under a unit hydraulic gradient. It is a function of properties of the liquid, the porous media, and the thickness of the unit and is the product of hydraulic conductivity and the saturated thickness of the aquifer (metres^2/second).

Upconing: In this study, the process in which dense salt water is vertically transported through less dense freshwater by means of a pressure gradient established by pumping. The process is named for the inverted cone shape of saline water that may form at the interface below a pumped well.

Water level: A measurement of depth to water in a well or an elevation of water in a water body or a well. It is made with water level tape or other sensor. Water level accuracy depends on how well the well collar is surveyed and other considerations.