

Groundwater investigations and modelling

We provide a range of technical and planning services for the management of groundwater resources.

Our team of geologists, hydrogeologists, civil engineers, chemists and biologists are experienced in site and hydrogeological characterisation, monitoring, groundwater modelling and peer review services.

Expertise

Our specialist services include:

- Preliminary groundwater regime assessments
 - Desk study reviews and site history investigation
 - Preliminary risk assessments and walkover inspections
 - Feasibility assessments
- Review services
 - Peer review of hydrogeological and modelling reports
- Regulatory liaison
 - Community consultation
 - Resource consent applications
 - Expert evidence
- Site characterisation and monitoring
 - Well installation and development
 - Groundwater sampling
 - Drilling and geological logging
 - Hydraulic testing including slug tests, packer tests and pumping tests
- Groundwater resource characterisation and assessment
 - Irrigation
 - Water supply
 - Contaminant investigation and modelling
 - Wastewater disposal
- Groundwater sampling
 - Ground and surface water interaction

- characterisation
 - Resource consent monitoring
- Modelling
 - Numerical risk assessment modelling
 - Groundwater flow and solute transport modelling
 - Wellhead protection and capture zone analysis
 - Dewatering assessments
- Health and safety
 - Safety plan development
 - Staff and client training.

Experience

Our reputation for quality work includes:

- Peer review of an aquifer pumping test report on a shallow semi-confined alluvial aquifer for consent application (Poverty Bay Flats, New Zealand)
- Hydrogeological characterisation and conceptual model development of a fractured volcanic rock system for design of remedial works for the cleanup of a hydrocarbon plume (Ballan, Victoria, Australia)
- A downstream effects assessment of the development of a hydroelectric power scheme on groundwater abstraction site hydrogeology near the Arnold River (West Coast, New Zealand)
- Hydrogeological investigation including permeability testing, groundwater sampling and hydro-chemical characterisation associated with the development of a wastewater land treatment scheme (Mangawhai, New Zealand)
- A stream depletion assessment in relation to groundwater pumping (Canterbury, New Zealand)
- Feasibility assessment, intrusive investigations and hydro-chemical analysis for an industrial groundwater supply in a fractured basalt aquifer (Upolu Island, Samoa).