

Te Tairāwhiti aquifer surveys



He taonga te wai. Water is precious. Despite this we don't know enough about how much we have or where it is. In Te Tairāwhiti, a scientific project is being planned to understand more about how water is stored in underground aquifers across the region. This Government-funded project will help everyone understand more about what water is available in this region to meet everyone's day-to-day needs, and support jobs and income. This information will help with decision making about how we protect and use our land and water, into the future.

Who's involved?

Aqua Intel Aotearoa (AIA), Gisborne District Council (GDC) and iwi are working together on this project.

AIA is a collaboration between Kānoa (the delivery arm of the Provincial Growth Fund) and GNS Science. The project is funded by the Government through AIA, and by GDC.

What will an aquifer survey tell us?

An aquifer is an area of natural underground water storage where water flows into the ground between rocks and sediment. Water can be drawn from the aquifer (e.g., via a well), and can also flow out into surface water (e.g., into a lake, river, stream, or spring).

We can find out more about aquifer depth, extent, geology and connections through airborne electromagnetic (AEM) surveying. AEM is the latest technology which enables us to understand more about what lies under the ground.

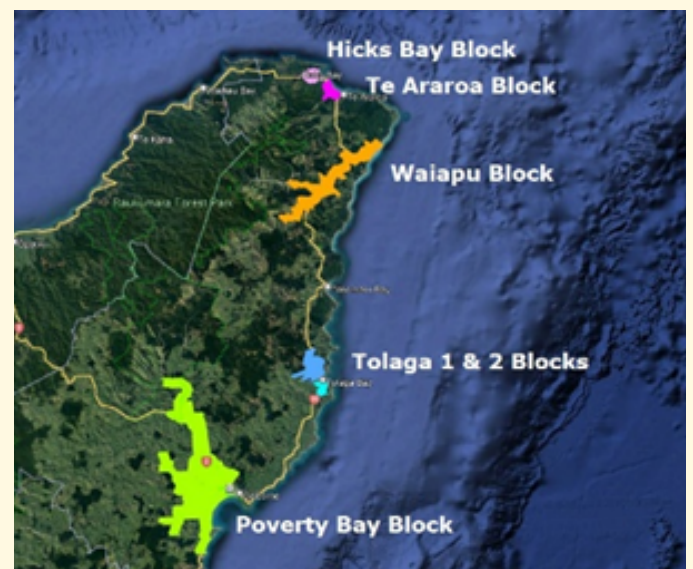
What is the timeframe ?

Surveying is planned to start in February 2023, likely starting in the northern areas first. Surveying is expected to take four to six weeks.

Where is surveying planned?

The plan is to survey the Poverty Bay Flats aquifer. This will help to identify the best ways to manage the aquifer, including balancing environmental protection, increased demand for water, and events such as droughts.

The aerial survey will also extend to areas further north, around Hicks Bay, Te Araroa, Waiapu and Tolaga. This will enable capture of more useful data about other, smaller aquifers while the technology is available. The areas are shown on the map.



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What is AEM surveying?

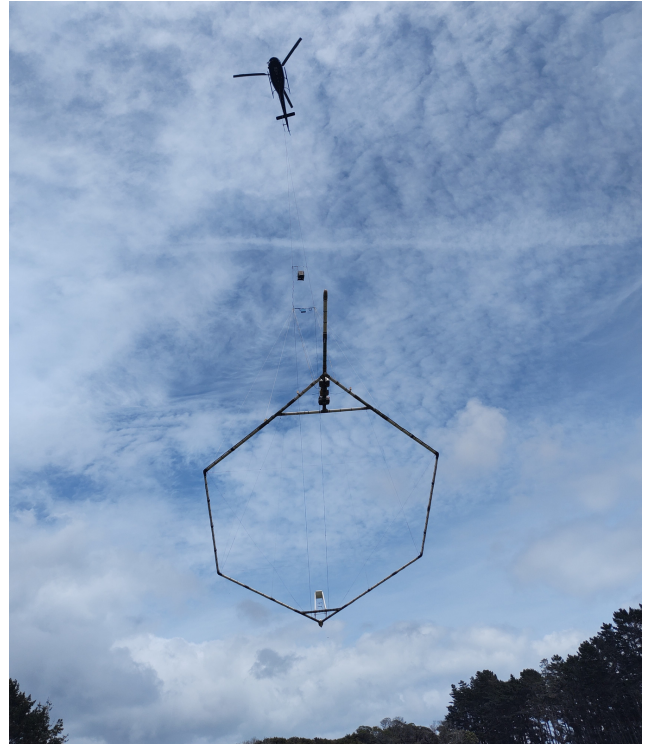
Aerial electromagnetic (AEM) surveying involves flying over the land with a loop system suspended from a helicopter (as shown on the right). Transmitters on the loop send electromagnetic signals underground, and sensors measure the behaviour of the returning signals. Similar to radar, we can 'see' what's under the ground by looking at the way the signals return.

AEM is a safe and effective measurement tool that is used around the world and has been recently used in Northland and Hawke's Bay. Because the helicopter is moving at high speed, there's very limited exposure to the electromagnetic signals. It's safer than watching a LCD or plasma TV or blow-drying your hair.

The surveying collects data from under the ground. No information about what's happening above the ground will be retained or shared. AIA is contracting international specialists SkyTEM Australia to undertake AEM in New Zealand this summer.

What will I see or hear?

You may see the helicopter flying overhead but you will not notice any impact from the electromagnetic signals. The noise from the helicopter has been described as the equivalent to a truck going past on a motorway, and lasts for around two to four minutes. The technology is safe to use above animals.



How will the data be used?

The data will help:

- fill gaps in knowledge about water and guide decisions on water use
- help find locations for accessing drinking water
- better understand whether water is potentially available to support land development.

Where can I find out more information?

- Visit our website: www.aquaintel.co.nz
- Email us: info@aquaintel.co.nz

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AOTEAROA Insights and actions for sustainable water use



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