

MEDIA RELEASE FOR 10 FEBRUARY 2022

Aerial surveying of Aupōuri aquifer gets green light

Plans for aerial electromagnetic (AEM) surveying of the Aupōuri aquifer this autumn have got the green light.

The Te Hiku Water Study project team, representing iwi, the community, landowners and councils, have agreed to a combination of aerial surveying and drilling of groundwater bores to build a better picture of the aquifer and help identify the best ways to balance environmental protection, the increased demand for water, and events such as droughts.

This decision follows ground-based electromagnetic surveying in recent months to test whether AEM surveying would provide the data the community is looking for.

The study is intended to give a better understanding of what the aquifer looks like and where the boundaries between groundwater and seawater are, how the aquifer is connected to wetlands, lakes and streams, and how groundwater recharges.

AEM involves flying over the land with a loop system suspended from beneath a helicopter. Transmitters on the loop send electromagnetic signals underground, and sensors measure the behaviour of the returning signals. Similar to radar, this method allows us to 'see' what's under the ground by looking at and interpreting the way the signals return.

AEM is a safe and effective measurement tool that is used around the world and was most recently used in New Zealand in Hawke's Bay during 2020.

The surveying is predominantly funded by Aqua Intel Aotearoa (AIA), a collaboration between Kānoa (the delivery arm of the Provincial Growth Fund) and GNS Science. Co-funding is provided from Northland Regional Council, Far North District Council, Ngai Takoto, and Te Aupōuri. The surveying will be undertaken by specialists from SkyTEM Australia.

The start date for the AEM survey is subject to overseas specialists being able to get to and from New Zealand through Covid-19 border restrictions and minimizing risk to the health and safety of crew members under the Covid-19 Protection Framework. If the survey cannot go ahead in autumn it will be rescheduled for next summer.

Project team members will be able to answer questions from their community. The Northland-based project team members are Wallace Rivers (Ngai Takoto), Craig Wells (Ngai Takoto), Walter Wells (Ngati Kuri), Penetaui Kleskovich (Te Aupōuri), Stuart Otene (Te Rarawa), Wendy Thomas (landowner), Ian Broadhurst (landowner), Eric Wagener (Ratepayers Association), Susie Osbaldiston (Northland Regional Council) and Bill Lee (Far North District Council). The project team also includes Jane Frances and Ben Pasco from Aqua Intel Aotearoa and Chris Worts from GNS Science.

For more information visit the website <https://www.aquaintel.co.nz/> or email info@aquaintel.co.nz.

BACKGROUND INFORMATION

About AEM surveying

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

AEM is a safe and effective measurement tool that is used around the world. You may see the helicopter flying overhead but you will not notice any impact from the electromagnetic signals.

The exact timing of the aerial surveying is yet to be confirmed, but it is expected to be in autumn, while the weather is still favourable. Low wind, little cloud and no heavy rain are the preferred conditions for aerial surveying.

About the aquifer

The Aupōuri aquifer is an area of natural underground water storage where water flows into the aquifer between rocks, sediment and shell beds. Water can be drawn from the aquifer, and it also flows out into surface water.

It lies approximately between Parengarenga Harbour, Rangaunu Harbour and Ahipara Bay but the full extent of the aquifer is one of the questions for the survey to answer.

This project aims to find out more about what the aquifer looks like (e.g. depth, extent, geology); how and where the aquifer is connected to wetlands, lakes and streams; identify the boundary between groundwater and seawater (e.g., risk areas for salt-water intrusion) and find out more about how groundwater recharges.

Knowing more about the Aupōuri aquifer will help identify the best ways to manage the aquifer, including balancing environmental protection, the increased demand for water, and events such as droughts.

Who's involved

The project idea came from the Te Hiku community and is now part of water studies in the Northland Region being conducted by Aqua Intel Aotearoa (AIA), a collaboration between Kānoa (the delivery arm of the Provincial Growth Fund) and GNS Science.

The project is being overseen by the Te Hiku Water Study Project Team, which includes representatives of iwi, landowners and local and regional councils. The Department of Conservation is collaborating with the study.

AIA is contracting an Australian-based AEM surveying company called SkyTEM to undertake the survey. SkyTEM Australia have undertaken similar work in Hawke's Bay and Waikato.

The \$3.3 million project is mainly funded through AIA. Co-funding is provided from Northland Regional Council, Far North District Council, Ngai Takoto, and Te Aupōuri.

Te Hiku Water Study project team

The members are

- Wallace Rivers (Ngai Takoto)
- Craig Wells (Ngai Takoto)
- Walter Wells (Ngati Kuri)
- Penetaui Kleskovich (Te Aupōuri)
- Stuart Otene (Te Rarawa)
- Wendy Thomas (landowner)
- Ian Broadhurst (landowner)
- Eric Wagener (Ratepayers Association)
- Susie Osbaldiston (Northland Regional Council)
- Bill Lee (Far North District Council)
- Jane Frances (Aqua Intel Aotearoa)
- Ben Pasco (Aqua Intel Aotearoa)
- Chris Worts (GNS)

Other work AIA has underway in Northland

In addition to the aerial surveying, work is underway monitoring surface water flow in rivers across Northland. Work is also underway to look at the potential to harvest and store high surface water flows for use in times of water shortage.

Planning is underway to find out more about the Pouto peninsula groundwater through groundwater drilling.