Te Hiku Water Study - April 2022

The aim of the Te Hiku Water Study is to find out more information on the Aupōuri aquifer. We already know a lot about the aquifer, but we want to fill some information gaps. More knowledge will help us to identify the best ways to balance environmental protection, the increased demand for water, and events such as droughts.

Surveying planned for November 2022

The Te Hiku Water Study project team, representing iwi, the community, land owners and councils have agreed to a combination of aerial surveying and drilling of groundwater bores. This will help build a better picture of the aquifer to guide decision making.

Ground-based electromagnetic surveying in recent months has confirmed that aerial electromagnetic (AEM) surveying is likely to provide useful data.

The AEM surveying is scheduled for November 2022, when the weather is favourable. Low wind, little cloud and no heavy rain are the preferred conditions.

What is Aerial Electromagnetic surveying ?

Aerial electromagnetic (AEM) surveying involves flying over the land with a loop system suspended from a helicopter (see photo). 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. You may see the helicopter flying overhead but you will not notice any impact from the electromagnetic signals.

AEM was most recently used in New Zealand in Hawke's Bay during 2020. The surveying will be undertaken by specialists from SkyTEM Australia, who also conducted the Hawke's Bay survey.

Photo credit: SkyTEM Australia

Who is involved in the project?

Aqua Intel Aotearoa (AIA) is a collaboration between Kānoa (the delivery arm of the Provincial Growth Fund) and GNS Science. AIA are doing the mahi and a local Project Team is overseeing the study.

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

Who is on the Project Team?

- 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 (AIA)
- Ben Pasco (AIA)
- Chris Worts (GNS Science)

For more information, please:

- visit www.aquaintel.co.nz
- email info@aquaintel.co.nz
- speak to a Project Team member

What we aim to learn

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.

The aquifer lies approximately between Parengarenga Harbour, Rangaunu Harbour and Ahipara Bay. The full extent of the aquifer is one of the questions we aim to answer from the survey.

We aim to learn more about:

- what the aquifer looks like (e.g. depth, extent, geology)
- how the aquifer is connected to wetlands, lakes and streams
- the boundary between groundwater and seawater (risk areas for saltwater intrusion)
- how groundwater recharges.

What will the information be used for?

This information will improve our understanding of the aquifer and groundwater within the aquifer.

This will guide decisions for environmental protection, economic growth and development, resource consents, water management, and water availability for the local community.

AQUA INTEL AOTEAROA
Insights and actions for sustainable water use

GNS SCIENCE TE PŪ AO

Far North District Council
Te Kaunihera o Tai Tokerau Ki Te Raki

TE RARAWA

Te Aupouri Iwi

Kānoa
Regional Economic Development & Investment Unit

Northland REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

Ngāti Kuri
trust board incorporated

NGAITAKOTO