

Media release 14 December 2022

Aerial mapping will build deeper knowledge of Te Tairāwhiti water

From the beginning of February, a scientific project gets underway to understand more about Tairāwhiti's critical groundwater.

The project involves surveying underground aquifers - areas of natural underground water storage where water flows into and is stored below the ground between rocks and sediment. The surveying will be undertaken by helicopter, using aerial electromagnetic (AEM) technology to 'see' under the ground.

Aqua Intel Aotearoa (a partnership between GNS Science and Kānoa, funded by the Provincial Growth Fund) is working with Gisborne District Council to plan the survey, in discussion with Te Runanganui o Ngāti Porou, Tāmanuhiri Tūtū Poroporo Trust, Te Aitanga a Māhaki Trust and Rongowhakaata Iwi Trust.

The plan is to survey the aquifers in Poverty Bay flats and in smaller areas further north around Wharekahika/Hicks Bay, Te Araroa, Waiapu and Tolaga Bay, starting in February next year.

Aqua Intel Aotearoa Programme Director Jane Frances says in discussions to date, all four iwi have indicated they support the objective of gathering scientific information to guide decision making, but there is more work to do on arrangements for accessing, storing and using the data for future purposes.

"Aqua Intel Aotearoa is committed to ensuring data management and governance arrangements work for iwi and council. The Government's investment in this project is intended to provide high-quality science and data to help understand how to protect and use land and water in order to improve the wellbeing of wai, whenua, and whānau", said Jane Frances.

Gisborne District Council Chief of Strategy and Science Jo Noble is supportive of this project.

"We welcome this significant investment from central Government to enable this research to be undertaken and to provide us with invaluable data to help guide future decision-making around freshwater."

AEM surveying involves flying over the land with a loop system suspended from a helicopter. Transmitters 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.

This is a safe and effective measurement tool that is used around the world and is currently being used to survey aquifers in Southland. AIA is operating in four regions – Northland, Gisborne, Otago and Southland.

The technology is safe for people and animals. 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 project will not be gathering data or information on anything above ground. While the helicopter will carry a camera, this is only to guide the crew managing the slung load, and no photos or video will be retained or shared.

The survey is primarily funded by the Government through AIA, with a contribution from Gisborne District Council. International specialists SkyTEM Australia and a New Zealand helicopter company will fly the survey.

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For further information visit www.aquaintel.co.nz or contact communications advisor Janice Rodenburg 021705301.