

TEST BORES

The river recharge with groundwater solution projects a maximum abstraction rate from an extended borefield of 32,000 cubic metres per day by the year 2060, up from the current consented 23,000 cubic metres per day.

This will require additional bores to be drilled while closing some of the existing bores closer to the coast.

A tender for the investigation bore drilling programme will be let shortly with drilling likely to start around the end of March this year.

The programme involves drilling up to six investigation bores. Three bores are north of the current borefield in the area of Greenhill Road. The other 3 bores are south of Waikanae River in the area of Greendale Drive. The drilling programme is designed to minimise the length of any new pipe work. Drilling will be one bore at a time. This will allow us to alter the sequence of drilling depending on the yield and quality of each new investigation bore.

The investigation work is expected to take up to 12 months depending on what is found. The aim is to identify another three bores with an average production rate of 4.1 litres per second.

The results of all investigations will form part of the information provided when a resource consent is sought for the river recharge solution once Council has confirmed its preferred option.



Jenny Rowan, QSO JP
Mayor Kāpiti Coast District

DOMESTIC BORES TESTED

Another aspect of the testing to determine the feasibility of the River Recharge with Groundwater proposal, was the sampling of shallow domestic bores along the coastline from Raumati to Peka Peka before Christmas.

This was needed in order to better understand where the salt/fresh water interface lies.

Council asked Waikanae, Paraparaumu and Raumati bore owners along the coast to help and make available their domestic bores for testing.

Bore owners responded willingly with nearly 300 bores being offered for testing.

These were mapped and tests carried out on 97. The results are being analysed and will be loaded into the ground water model to help improve our knowledge of the 70m deep Waimea aquifer.

Thank you for your cooperation and support.

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Kāpiti Coast Water Supply



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our water is precious - he tāonga te wai

FISH TO PROVIDE SOME ANSWERS

Eels, trout and whitebait will help provide answers on whether river recharge with groundwater is the ultimate solution to Waikanae, Paraparaumu and Raumati's long term water supply requirements.

A controlled experiment to monitor the condition of the fish and other aspects of the river is being carried out in the Waikanae River downstream from the Water Treatment Plant intake.

It will test the effects of the river recharge supply solution on the river's ecology. River water and ground water will be mixed to reflect the extreme situation of a projected 60,000 population and a one in 50 years drought.

The solution proposes pumping groundwater from an expanded Waikanae Borefield into the Waikanae River below the water treatment plant intake so the river levels are maintained to meet natural flows. During low flows water for supply will continue to be taken from the river with groundwater replacing what is taken.

NIWA scientist Dr Alastair Suren has set up two channels with baffles on either side of the river. Ground water is being pumped into the channel on the right bank while the channel down the left bank will be used as a control. Further dye testing was also carried out to ensure the mixed waters are in the correct proportions and remain within the channels.

The test will simulate the situation in a 50 year drought when ground water from the bores will be pumped into the river mixing 70% groundwater with 30% river water.

Eels, trout and inanga (whitebait) have been caught and placed in nine cages in each channel, three cages of each fish species in each channel. The fish were weighed and measured at the start of the test and will be re-measured at the end. The aim is to carry out the test for up to six weeks.

If the groundwater is required to supplement the potable water or there is a flood event, the test may be altered. There is a duplicate test with fish in tanks in case the more natural experiment is compromised.

Algae and invertebrates in the river are also being collected and measured. Invertebrates are the main food source for the fish so their number and condition are critical to measuring the health of the river.

Testing for any effects of pumping groundwater for a period are being carried out on wetland areas near the borefield including Totara Lagoon and Nga Manu.

Both tests will show if there are any effects on the ecology of the river and associated wetlands from adding groundwater to the river.



Dr Alastair Suren finishes the last of the river baffle installations.