

### Key points

- Marlborough's aquifers and their related springs or wetlands are at high levels or flows during the 2010/11 summer
- The state of most shallow, unconfined aquifers is stable over time
- The highly confined Benmorven Aquifer remains depleted
- Both the Omaka and Brancott Aquifers have recovered from heavy pumping
- There is a small declining trend in Wairau Aquifer levels
- Current rates of groundwater abstraction are low compared to allocation
- The effects generated by pumping are minor except during severe drought
- If all consented groundwater was used, it would cause far larger seasonal declines which may have unacceptable effects

### Why we monitor

Having sufficient groundwater available in the right place at the right time is essential for both water users and the natural environment.

Groundwater is used for irrigating and processing our agricultural crops. It also provides the drinking water for all of our towns.

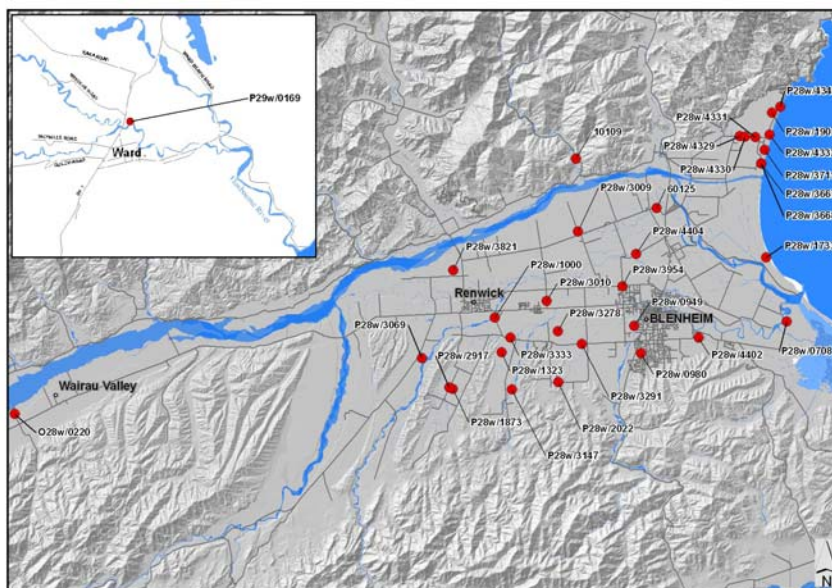
The Wairau Plain springs are fed by groundwater. For example groundwater provides the baseflow for the Taylor River as it flows through Blenheim.

If aquifers and springs dried up, it would affect economic prosperity, together with the health and well-being of residents. Because of the precious nature of this key resource, it is closely monitored on a day to day basis by MDC.



### Where and how we monitor groundwater quantity

To monitor the effect of pumping from wells and climate variability on groundwater, MDC operate a network of 33 wells across the district. As the map shows most sites are located on the Wairau Plain where demand is highest and which has the biggest concentration of aquifers.



Instruments at each monitoring well automatically record aquifer level at 15 minute intervals and transmit this back to Council.

Because groundwater is connected to springs, MDC also gauge their flow on a weekly basis.

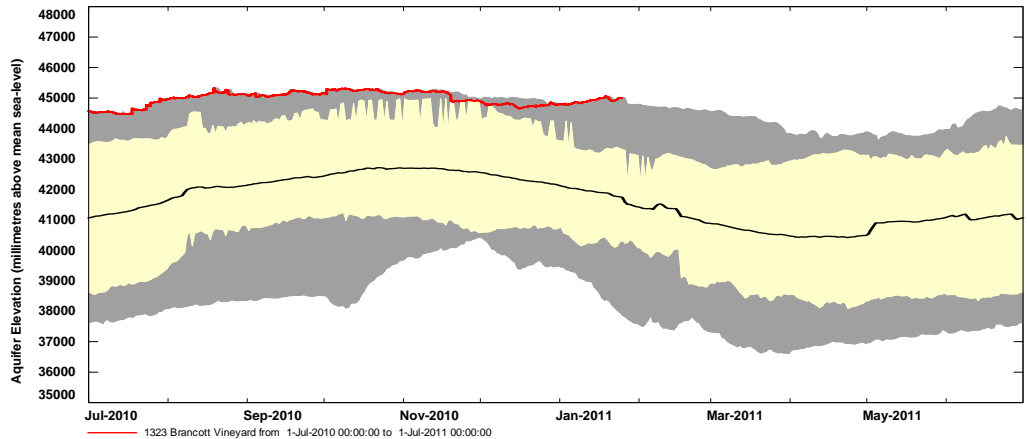
The results are publicly available on the MDC website. MDC use the

information to refine allocation limits and to improve understanding of the link between pumping and spring flows. Knowledge of the day to day status of aquifers is of interest to local residents and water users who depend on groundwater. Each year MDC formally report on the state and trends of regions underground water resources.

## What is the state of Marlborough's aquifers during the 2010/11 summer season?

Marlborough's aquifers and their related springs or wetlands are at normal to high levels or flows for the 2010/11 summer season.

This is due to wetter conditions in late December and lower water demand. There should be no shortages of groundwater for most users this season.



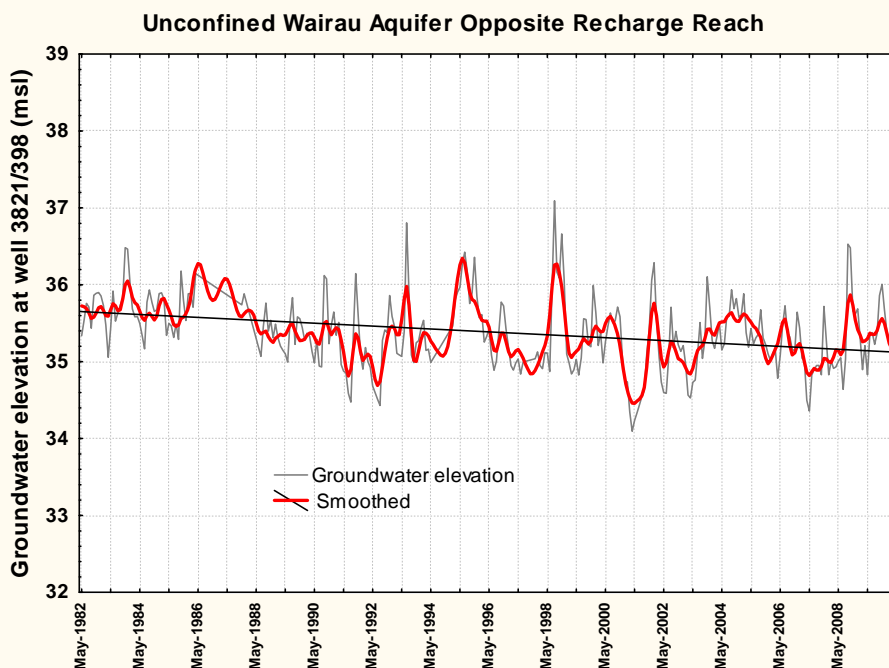
Record Since 1995

The exception is the Benmorven Aquifer which has not rebounded from the effects of heavy pumping over the past decade. The neighbouring Brancott and Omaka Aquifers have recharged faster. The red line in the upper graph shows that since July 2010, Brancott Aquifer levels are the highest since records began in 1995.

## Are there trends in aquifer levels?

The state of most shallow, unconfined aquifers is stable over time. This means that rates of natural recharge is currently balancing pumping and natural drainage.

There is a small declining trend in the unconfined Wairau Aquifer levels over time, which is being investigated to understand its causes. This is shown in the graph below.



## What can you do?

A major limitation on assessing the sustainable yield of our aquifer systems and the effects of pumping is the lack of consumption information.

If you are a consent holder you can help by making sure your water meter is installed and you are sending MDC the readings regularly.

It is also important to have the meter properly fitted to ensure it accurately measures flow.

## What are the effects of consented abstraction?

The regional scale effects of current levels of pumping are minor. This is not surprising as a only a small proportion of consented allocation is actually used for vineyard irrigation.

If consents were fully utilised under dry conditions, it would cause larger seasonal falls in aquifer levels than those observed, which may have unacceptable effects.

Symptoms during the 2000/01 droughts were the recession of spring headwaters and the need to deepen wells.

Interestingly the salinity of coastal groundwaters is falling as levels of consented pumping rise. This is a good sign as it means that younger, fresher groundwater is being drawn into the coastal Cloudy Bay area by pumping.

As expected aquifer levels continue to fall in the coastal area as consents are exercised.

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For more information on groundwater quantity go to

[www.marlborough.govt.nz](http://www.marlborough.govt.nz)

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