Anglesea borefield – Groundwater level and trigger update November 2021

This monthly update provides a status of groundwater levels against the threshold level for the two key bores - P8 and P19 - highlighted in Barwon Water's Bulk Entitlement for the Anglesea borefield.

In summary

- The Anglesea borefield groundwater level trigger components (P8 or P19) were not exceeded during the November reporting period.
- The Anglesea borefield was moved into a standby maintenance mode from 1 July 2020, and we continue to monitor groundwater levels while in standby.
- The Alcoa pumping test commenced on 13 May 2021.
- Barwon Water will commence a pumping test this summer, and this will run for a period of 6 months.
- The pumping test will inform a review of our bulk entitlement.
- Monthly reports and extraction rates for the Anglesea Borefield are available via the web page: www.yoursay.barwonwater.vic.gov.au/anglesea-borefield
- The status of the groundwater level trigger components for the Anglesea Borefield for this month is summarised below.

As part of our comprehensive monitoring and assessment program, we have 42 observation bores that monitor groundwater levels across the Anglesea catchment. These observation bores are located at different depths to monitor groundwater levels in different geological formations – in the Perched Water Table (PWT), Upper Eastern View Formation (UEVF) and Lower Eastern View Formation (LEVF). Barwon Water holds a bulk entitlement to extract groundwater from the LEVF.

Groundwater levels are recorded daily to ensure levels remain within the likely range of natural variation. This provides confidence that operation of the Anglesea borefield is not threatening groundwater dependent ecosystems.

Of the 42 observation bores, there are two key bores that are critical to ensuring groundwater levels can continue to support groundwater dependent ecosystems.

These bores measure groundwater levels in the PWT (P8) in the Anglesea swamp and in the UEVF (P19), overlying the LEVF. It is the combination of groundwater levels in both of these bores that is important. If groundwater levels in both bores fall below a certain threshold level, then action must be taken – including reducing or ceasing pumping – to prevent any potential damage to groundwater dependent ecosystems.

The threshold level (also known as a "trigger") is determined by comparison to a control bore, to account for climatic influences on groundwater levels. The control bore (P17) is located in the Salt Creek swampland which is deemed outside the area of influence from operation of the Anglesea borefield. This means the control bore provides a useful comparison of the natural variation in groundwater levels due to seasonal conditions.

We moved Anglesea borefield into a standby maintenance mode from 1 July 2020. As part of the standby mode, we will continue to extract a small amount of groundwater - at reduced rates and/or intermittently - to ensure the pumps remain operational, and are ready for future use should we need them.

Figures 1 and 2 below present the trigger levels observed each month.

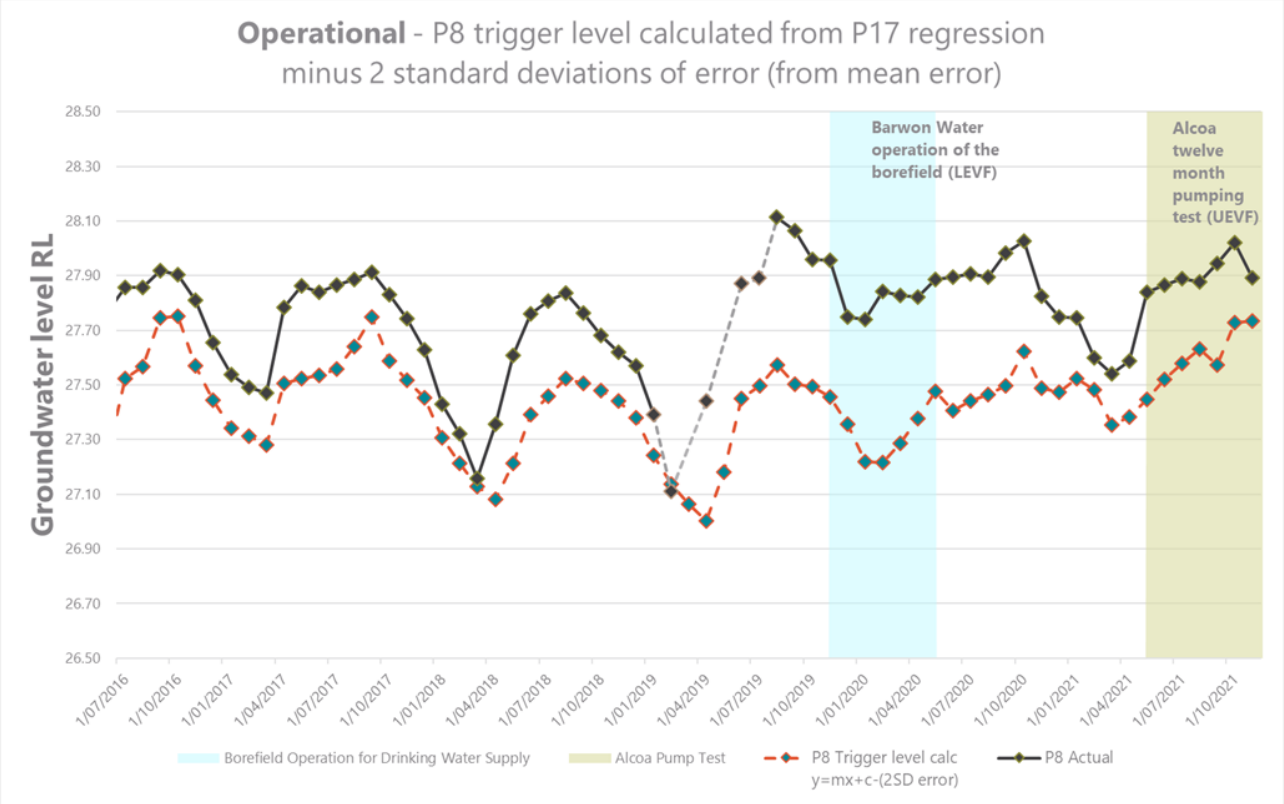


Figure 1. Groundwater level and the trigger level for P8 in the perched water table.

Note: From February to August 2019, the groundwater level data for P8 was collected by manual reads.

During February last year (2019), Barwon Water was not extracting water; however, based on the data available, P8 exceeded the trigger level. This followed the warmest January (2019) on record for Victoria, coupled with below average rainfalls across the state, with some areas like Aireys Inlet recording its lowest January rainfall on record. This shows the strong influence of climate on the triggers – hot, dry days in summer can lead to the triggers being exceeded without pumping.

Figure 1 shows the groundwater level in the perched water table continues to demonstrate a strong correlation with rainfall and seasonal change.

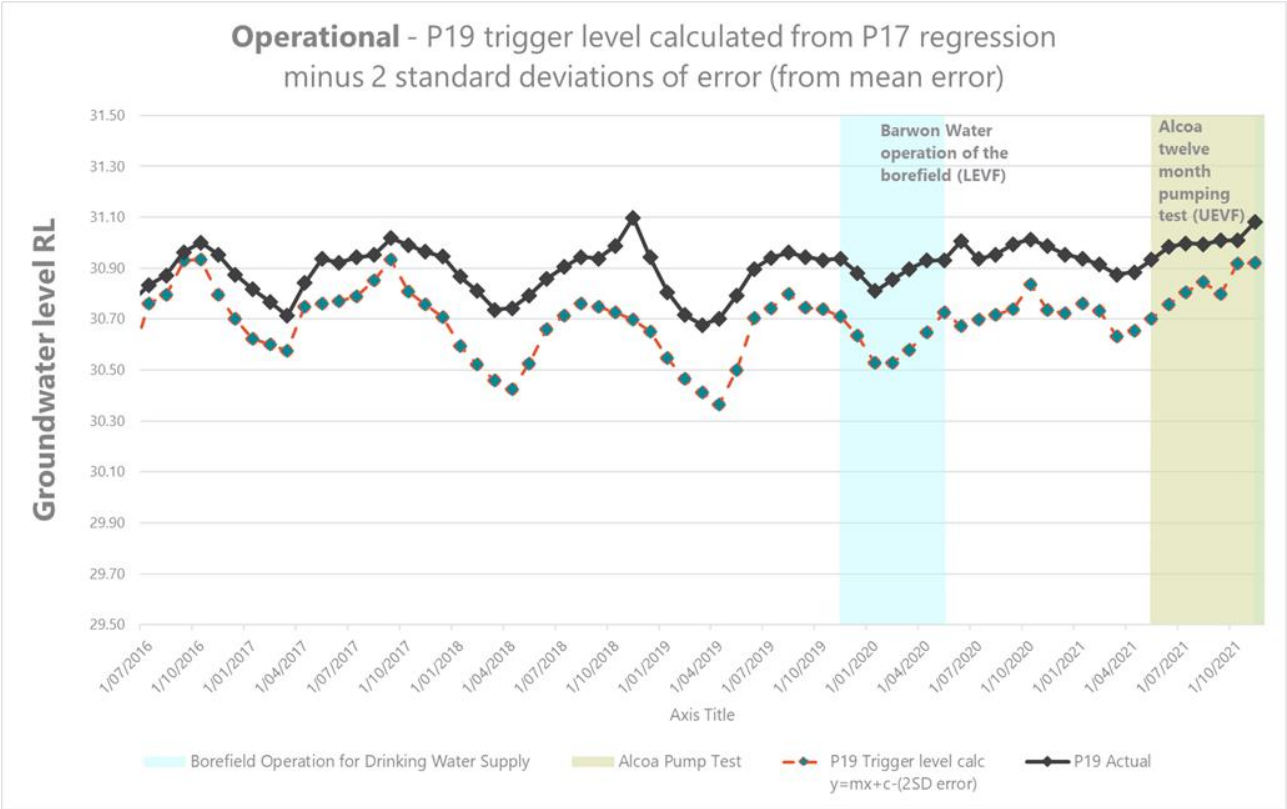


Figure 2. Groundwater level and the trigger level for P19 in the upper eastern view formation.

Figures 1 and 2 show that for the month of November 2021, trigger components (P8 or P19) were not reached.

We constantly monitor water storage levels to ensure there is enough water to meet demand. Future use of the Anglesea borefield to supplement supplies for customers will be based on a number of factors, including time of year, volumes of water in our various water storages, climate forecasts and conditions of the water supply catchments.

For more information and ongoing updates, please visit the Anglesea borefield web page: www.yoursay.barwonwater.vic.gov.au/anglesea-borefield