

Baroota Prescribed Water Resources Area

2018–19 groundwater status overview



Baroota PWRA

All aquifers



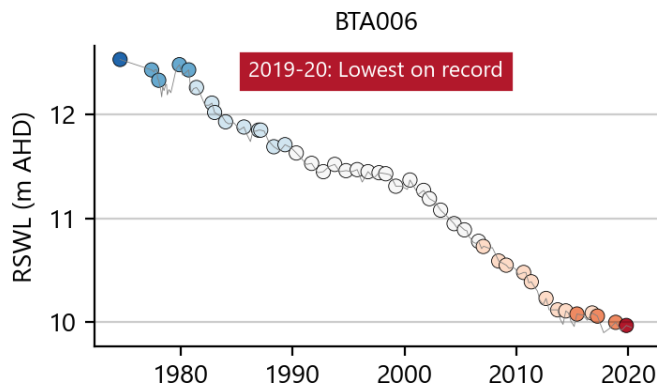
LEGEND

- Highest on record
- Very much above average
- Above average
- Average
- Below average
- Very much below average
- Lowest on record
- Long-term trend

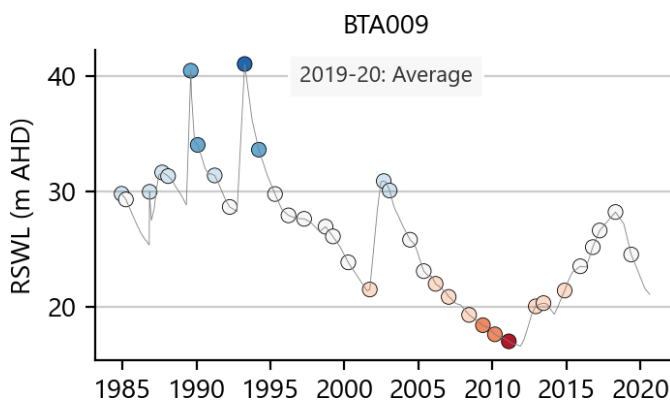
Groundwater level

Water levels in Quaternary and Tertiary aquifer monitoring wells are at 'average' levels in 2019

- 69% of wells have water levels which are at 'average' to 'very much above average' and 31% of wells are at 'below average' to 'lowest on record'
- From 2015–19, 69% of wells show a rising trend in water levels, whereas 31% show declining trends
- The figure below shows the slow, long-term decline of water level in a well in the shallowest, unconfined Quaternary aquifer (BTA006). It should be noted that saturated Quaternary sediments are up to 100 m thick across the PWRA.



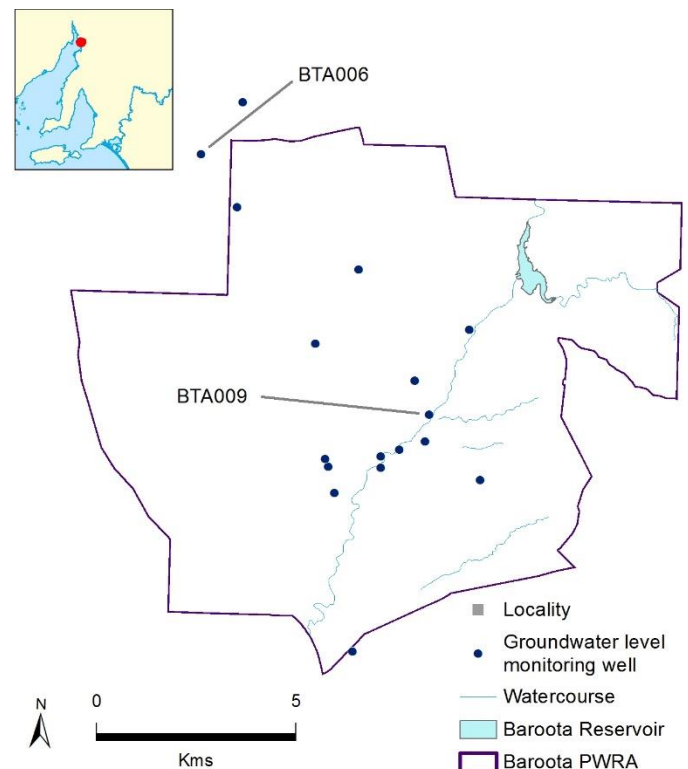
- Wells located close to Baroota Creek (see below for an example from BTA009) show a number of large transient increases in water level of 5 to 10 m related to flow events down Baroota Creek, for example in 1989, 1993 and 2002. Following each of these events, a steady decline in water level was observed.



Regional context

The Baroota PWRA lies on the western side of the Flinders Ranges in the Northern and Yorke Landscape Region. It is a local-scale resource for which surface water and groundwater have been prescribed under the Landscape SA Act 2019. A water allocation plan has not been prepared yet for this area, but it is currently being considered.

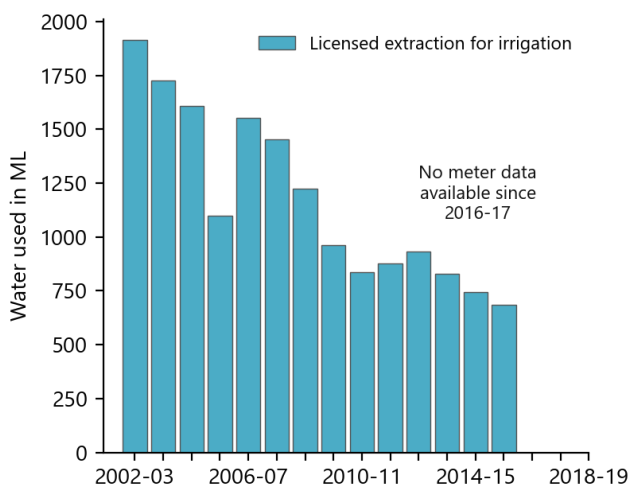
The main groundwater resource in the Baroota PWRA is composed of a number of aquifers located in Quaternary alluvial sediments adjacent to the Flinders Ranges. An area of low-salinity groundwater surrounds Baroota Creek, which has a large catchment to the east and north-east. Baroota Reservoir lies in the headwaters of Baroota Creek, but is no longer used for water supply.



Water extraction

There is no metered extraction data available since 2016–17. Meters have been installed on all wells used for irrigation in the Quaternary and Tertiary aquifers

- Water use is primarily for irrigation and stock and domestic use. River Murray water is also available for use via the Morgan to Whyalla pipeline
- The volume of groundwater extracted for irrigation reduced from a peak in 2002–03 of 1916 ML to levels below 1000 ML since 2009–10 (see figure below).



Groundwater salinity

Groundwater salinity varies widely across the PWRA, with salinities increasing from east to west.

- No salinity data is available for 2019.

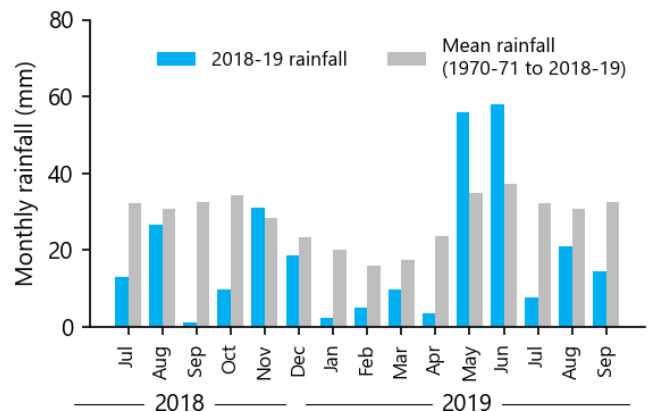
Climate-driven trends in water resources

Climate is one of the primary drivers of trends in the local water resources. Groundwater resources in the Baroota PWRA are highly dependent on rainfall.

Groundwater levels are affected by the amount of rainfall recharge to both the Quaternary sediments and fractured rock aquifers in the ranges, as well as reservoir levels and flow conditions in Baroota Creek. Periods of above-average rainfall are likely to result in rising groundwater levels and decreasing groundwater salinity, while years of below-average rainfall are likely to result in declining groundwater levels and increasing groundwater salinity.

Rainfall was lower than average for 2018–19

- The average annual rainfall is between 350 mm and 400 mm for the plains within the central Baroota PWRA, with slightly higher totals of up to 450 mm found in the elevated areas to the east
- Rainfall at Port Germein measured 234 mm, which was lower than the average of 331 mm
- Long-term data trends are variable, between slightly increasing and stable to declining. Conditions in winter 2018 and early spring 2018 were drier than average. In particular, the summer of 2018–19 and early autumn 2019 were very dry compared to average conditions
- The figure below shows monthly rainfall at Port Germein.



More Information

This fact sheet is a high level summary of information provided in the 2018-19 Water Resources Assessment for the Baroota PWRA. Full details of the assessment can be found at: <https://www.waterconnect.sa.gov.au/>