

Baroota

Prescribed Water Resources Area

2018 Groundwater level and salinity status
report



**Government
of South Australia**

Department for
Environment and Water

2018 Status summary

Baroota PWRA



The Baroota Prescribed Water Resources Area (PWRA) has been assigned a **green** status for 2018 because positive trends have been observed over the past five years.

The status is based on five-year trends: over the period 2014–18, 94% of wells show rising or stable groundwater levels.

The status is based on five-year trends. To view the *Baroota PWRA Groundwater level and salinity status report 2009–10*, which includes long-term trends in rainfall, groundwater levels and salinity, please visit the [Water Resource Assessments](#) page on WaterConnect. To download the full record of groundwater level and salinity data for the Baroota PWRA, please visit the *Groundwater Data* page on [WaterConnect](#).

This status report does not seek to evaluate the sustainable limits of the resource, nor does it make any recommendations on management or monitoring of the resource. These actions are important, but occur through separate processes such as prescription and water allocation planning.

Rainfall

See Figures 1 and 2

Rainfall station	Port Germein Bureau of Meteorology (BoM) rainfall station, number 19037, is located near Port Germein in the southern part of the Baroota PWRA.
Annual total ¹	244 mm 87 mm (26%) less than the five-year average of 331 mm 82 mm (25%) less than the long-term (1900-2018) average of 326 mm

Groundwater extraction

Groundwater extractions	No extraction volumes available
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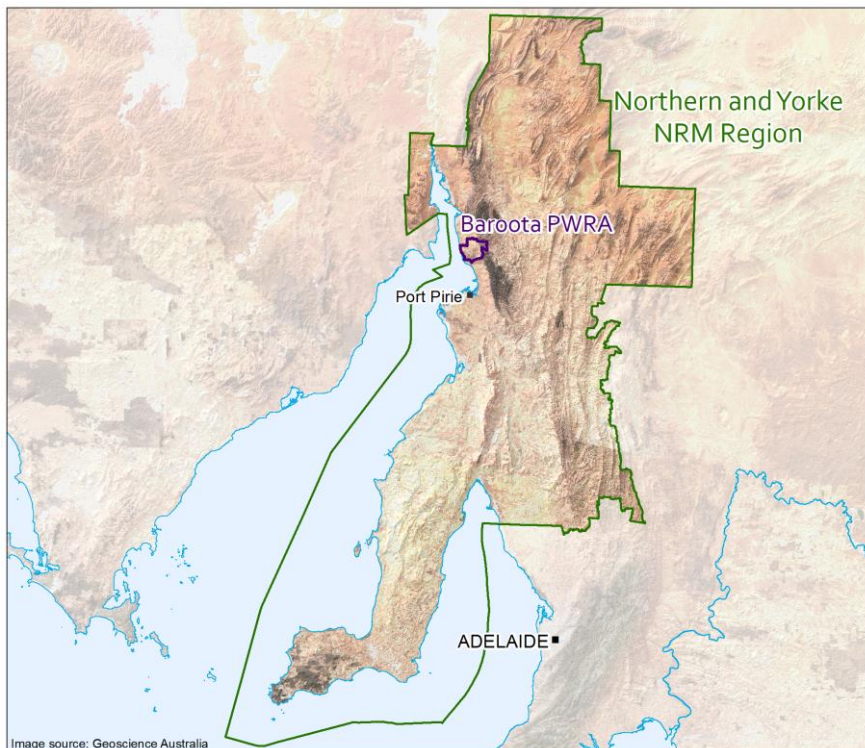
Groundwater level

See Figure 3

Five-year trend: 2014–18	12 out of 16 wells (75%) show a rising trend, at rates of 0.04–1.82 m/y (median of 0.19 m/y) 3 wells (19%) are stable 1 well (6%) shows a declining trend, at a rate of 0.04 m/y
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¹ For the water-use year 1 July 2017 to 30 June 2018

Regional setting



The Baroota PWRA is located within the Northern and Yorke Natural Resources Management Region and lies on the western side of the Flinders Ranges in the Mid North region of South Australia, approximately 25 km north of Port Pirie. It is a local-scale resource for which groundwater, surface water and watercourse water are prescribed under South Australia's *Natural Resources Management Act 2004*.

Groundwater extractions in the Baroota PWRA occur from the Quaternary aquifer, which is comprised of clay and gravel sediments that were deposited as outwash from the Flinders Ranges, and can be up to 100 m thick. These shallow sediments are underlain by a deeper Tertiary sand aquifer.

Variations in rainfall and rates of groundwater extraction are important factors in groundwater level and salinity changes in the Baroota PWRA. Below-average rainfall may result in a reduction in recharge to the aquifers. Below-average summer rainfall can also result in increasing irrigation extractions, and both elements can cause the groundwater levels to decline and salinities to increase. Conversely, above-average rainfall can result in increases in recharge and decreases in irrigation extraction, which may cause groundwater levels to rise and salinities to stabilise or decrease.

Connections between surface water bodies and groundwater may also affect groundwater levels and salinities in the Baroota PWRA. Leakage from the Baroota Reservoir manifests as streamflow along Baroota Creek and may contribute recharge to the groundwater system, especially when the reservoir is full and overflow occurs.

BAROOTA PRESCRIBED WATER RESOURCES AREA

**1. Long-term average annual rainfall
(1900 to 2018)**

**2. Five-year average annual rainfall
(2013-14 to 2017-18)**

**3. Annual rainfall
(2017-18)**

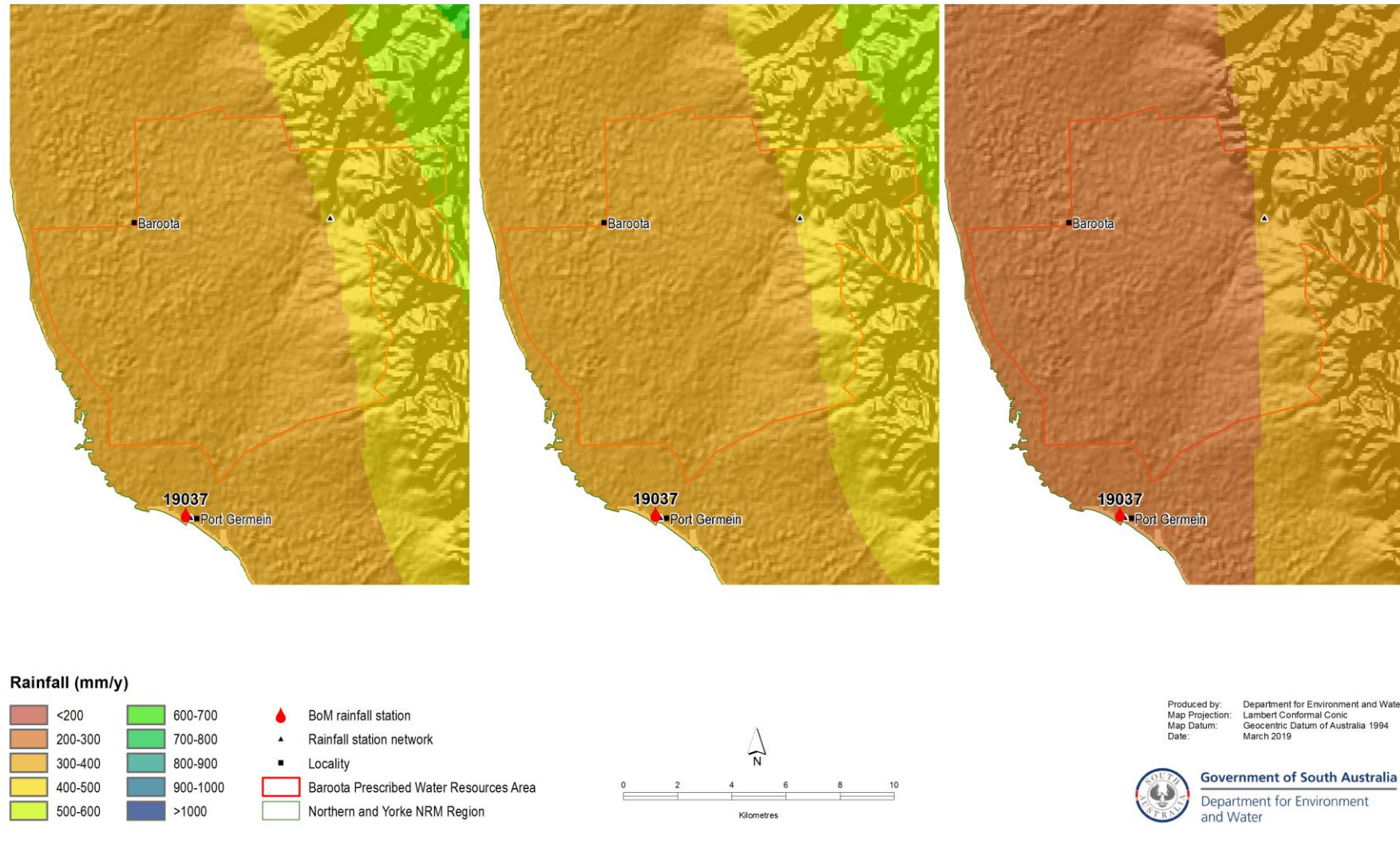


Figure 1. Spatial distribution of (1) long-term and (2) five-year average annual rainfall, and (3) annual rainfall²

² Data sources: SILO interpolated point and gridded datasets available at <https://legacy.longpaddock.qld.gov.au/silo/> – see [More information](#)

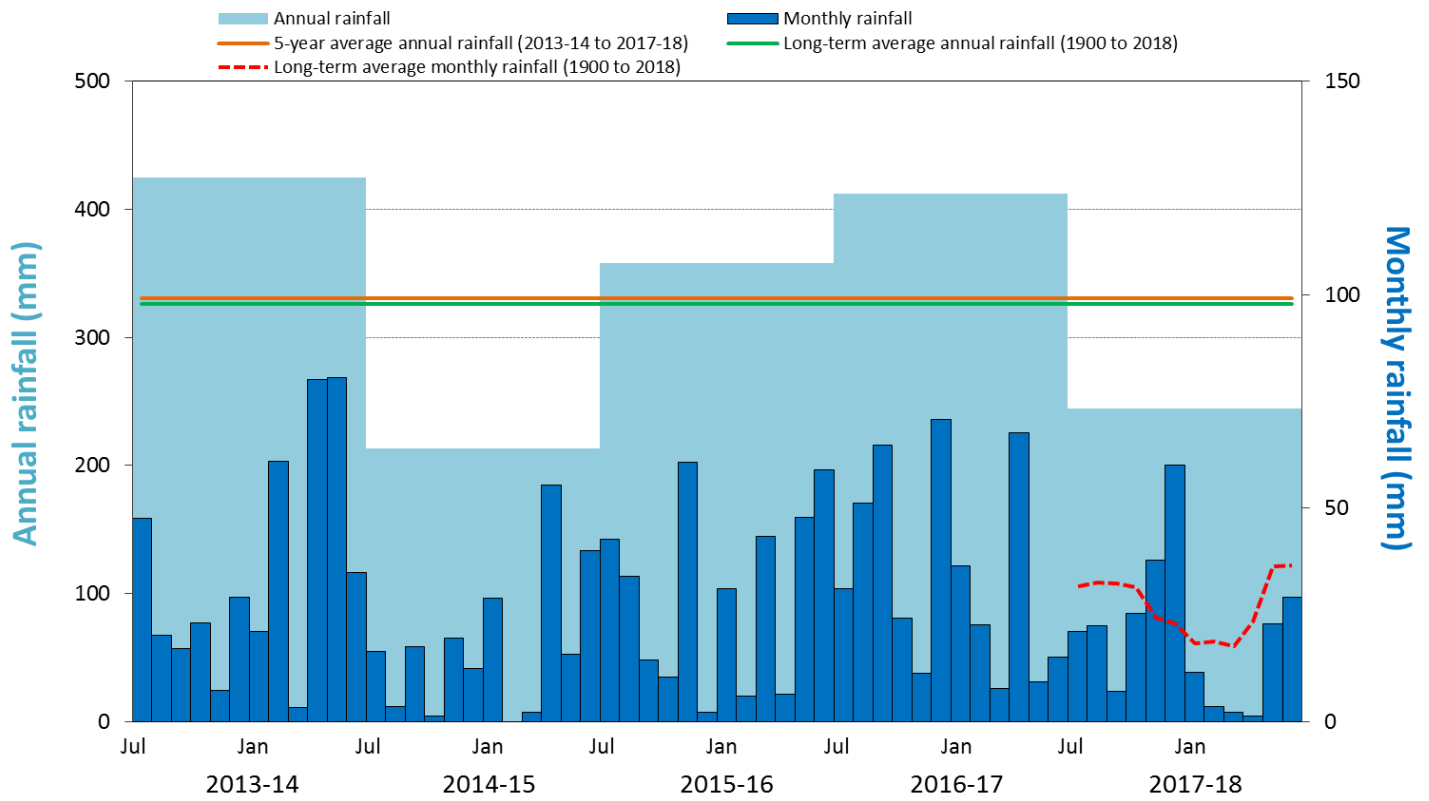
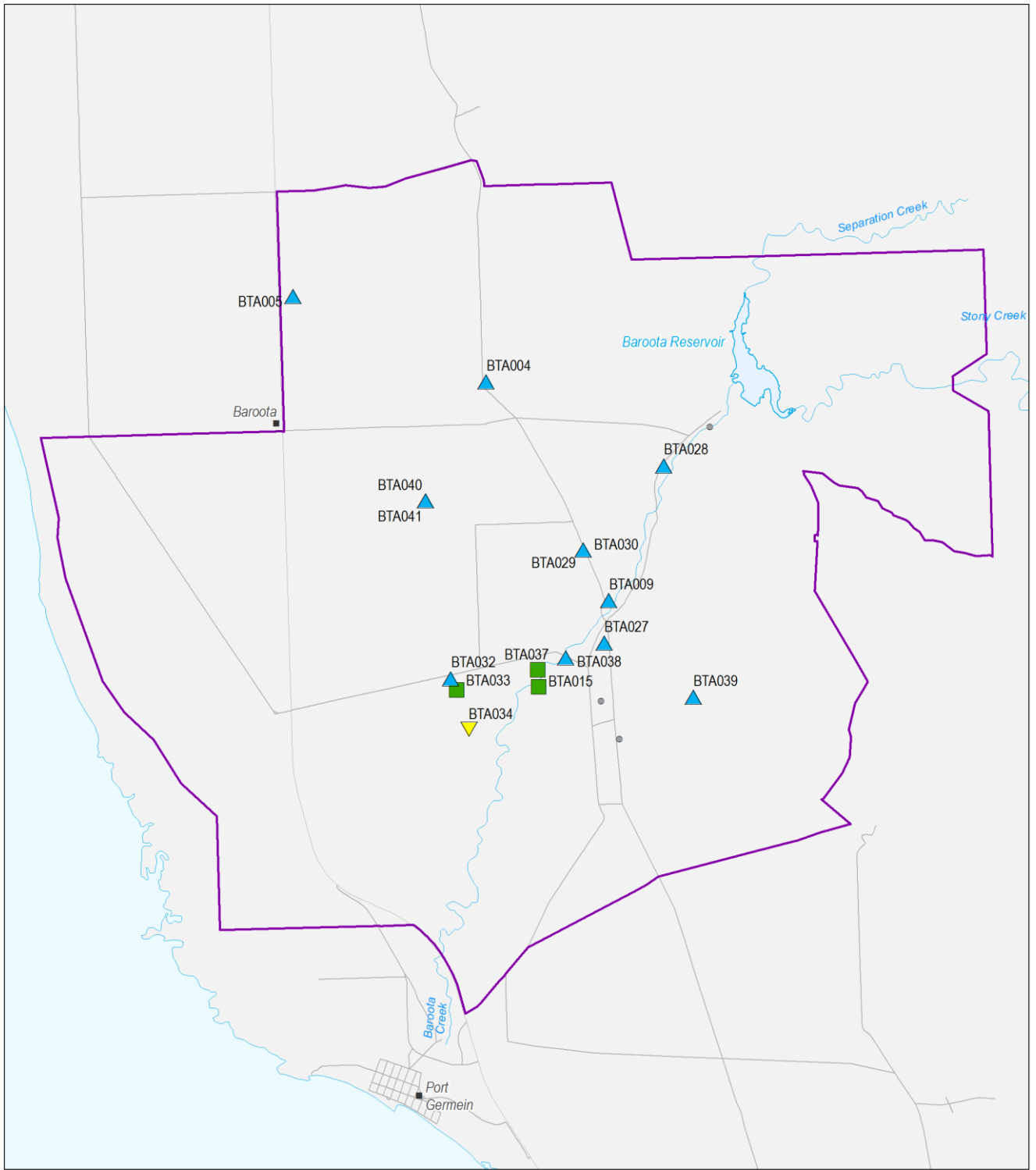


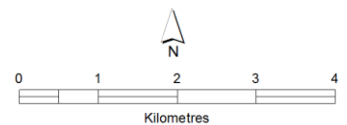
Figure 2. Annual and monthly rainfall for the past five water-use years recorded at Port Germein (BoM Station 19037)³

³ Data source: SILO Patched Point Dataset, available <https://legacy.longpaddock.qld.gov.au/silo/> – see [More information](#)



2018 water level status

- ▲ Groundwater level is above the historical minimum and has a rising trend
- Groundwater level is above the historical minimum and is stable
- ▼ Groundwater level is above the historical minimum but has a declining trend
- ▲ Groundwater level is the lowest on record but has a rising trend
- Groundwater level is the lowest on record but is stable
- ▼ Groundwater level is the lowest on record and has a declining trend
- Current monitoring well, insufficient data available
- Locality
- Watercourse
- Road
- Reservoir
- Baroota Prescribed Water Resources Area



Produced by: Department for Environment and Water
 Map Projection: Lambert Conformal Conic
 Map Datum: Geocentric Datum of Australia 1994
 Date: March 2019



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 Department for Environment and Water

Figure 3. Five-year trends (2014–18) in groundwater pressure levels: Baroota PWRA

More information

To determine the status of the Baroota PWRA for 2018, the trends in groundwater levels and salinities over the past five years (2014 to 2018, inclusive) were analysed, in contrast to the year-to-year assessments that have been used in *Groundwater level and salinity status reports* published prior to 2015. Please visit the [Frequently Asked Questions](#) on the *Water Resource Assessments* page on WaterConnect for more detail on the current method of evaluating the status of groundwater resources.

To view descriptions for all status symbols, please visit the *Water Resource Assessments* page on [WaterConnect](#).

For additional information related to monitoring wells nomenclature, please refer to the *Well Details* page on [WaterConnect](#).

For information completeness and consistency across all the groundwater and salinity status reports, the legend on each map herein shows the full range of water level and salinity status that could possibly be reported. However, the measured data that appear on each map may not span this full range.

Rainfall data used in this report are sourced from the SILO interpolated point and gridded datasets, which are calculated from BoM daily and monthly rainfall measurements and are available online at <https://legacy.longpaddock.qld.gov.au/silo/>.

To view the *Baroota PWRA groundwater level and salinity status report 2009–10*, which includes background information on hydrogeology, rainfall and relevant groundwater-dependent ecosystems, please visit [WaterConnect](#). To view all past published *Groundwater level and salinity status reports*, please visit the [Water Resource Assessments](#) page on WaterConnect.

To download groundwater level and salinity data from monitoring wells within the Baroota PWRA, please visit the *Groundwater Data* page under the Data Systems tab on [WaterConnect](#).

For further details about the Baroota PWRA, please see an update on the development of the *Baroota Water Allocation Plan* on the Natural Resources Northern and Yorke [website](#).

Units of Measurement

mm	millimetre
ML	megalitre
m/y	metres per year
mg/L	milligrams per litre
mg/L/y	milligrams per litre per year
mm/y	millimetres per year

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