



# STATE OF THE WATER RESOURCE

Alice Springs

2023-24



This report provides information about the current status of the water resource, how water is shared and used, and the activities undertaken to manage water during 2023-24.

WATER CONTROL DISTRICT  
**ALICE SPRINGS**

PLAN AREA  
**4,528 KM<sup>2</sup>**

CLOSEST COMMUNITY  
**ALICE SPRINGS**

**ARRERNTJE**

### ACKNOWLEDGEMENT

The Department of Lands, Planning and Environment proudly acknowledges the Northern Territory's Aboriginal communities and their rich culture and pays respect to the Elders past and present.

We acknowledge Aboriginal peoples as the Traditional Owners and custodians of the lands and waters on which we all rely.

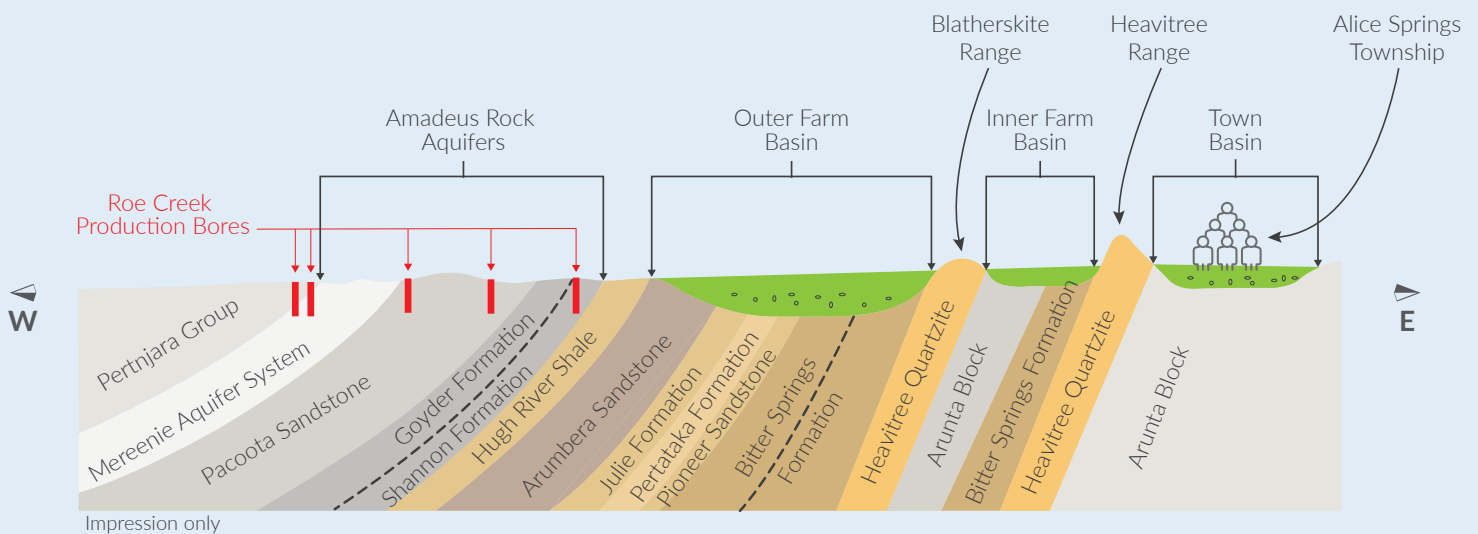
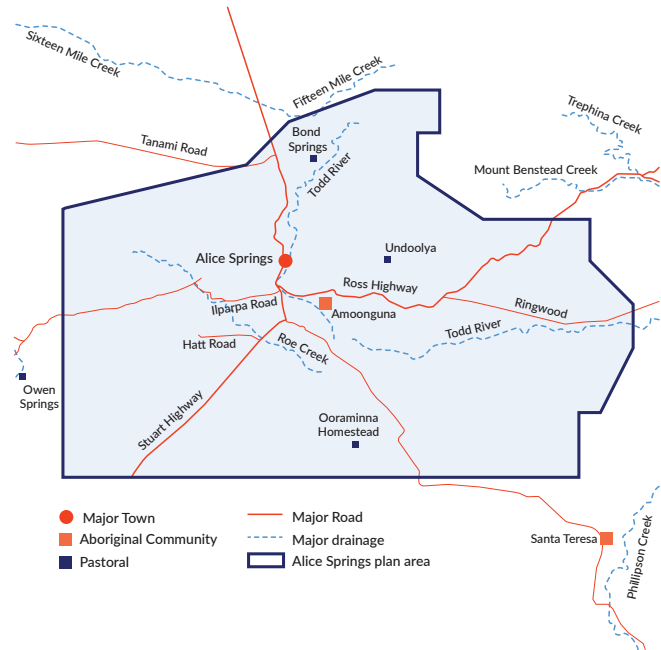
Front cover image: Alice Springs

**The Alice Springs Water Allocation plan (the plan) has been in operation since 2016; it underwent a midterm review in 2021 and is due to expire in 2026. The plan tells us how water should be shared between competing uses and sets objectives for management.**

The plan area is divided into two surface water management zones, four alluvial aquifer management zones and six Amadeus Basin management zones. The water management zones are considered to manage separate groundwater resources, though the aquifers can become connected by surface water drainage lines during periods of inundation.

The Alice Springs town water supply is sourced from the Amadeus Basin Aquifers at the Roe Creek borefield, while aquifers in the Rocky Hill region have been flagged as a potential supply source for the future. The remaining water management zone regions support small-scale horticultural, recreational, industrial, defence and stock and domestic uses.

Where groundwater lies close to the ground surface, it supports important Aboriginal cultural features and groundwater dependent ecosystems (GDEs).



**AMADEUS ROCK AQUIFERS**



**AVERAGE ANNUAL RECHARGE**  
100 - 650 ML/YR

The department has a comprehensive understanding of the aquifer systems within the Alice Springs water allocation plan area. The department maintains a network of 115 monitoring locations, including 106 bores and 9 surface water sites in the plan area. All monitoring locations are visited annually, and the

collected data is used to further understanding of groundwater flow processes in the region.

To view monitoring data across the Northern Territory, visit the [water data portal](https://ntg.aquaticinformatics.net/)<sup>1</sup>.

<sup>1</sup> <https://ntg.aquaticinformatics.net/>



## WATER THAT STAYS IN THE ENVIRONMENT

3,779,740 ML



WATER FOR USE  
21,246 ML/YR

### 1 RURAL STOCK AND DOMESTIC (Unlicensed and estimated)



214 ML/YR

### 2 PUBLIC WATER SUPPLY (Licensed)



13,000 ML/YR

### 3 ABORIGINAL WATER RESERVE



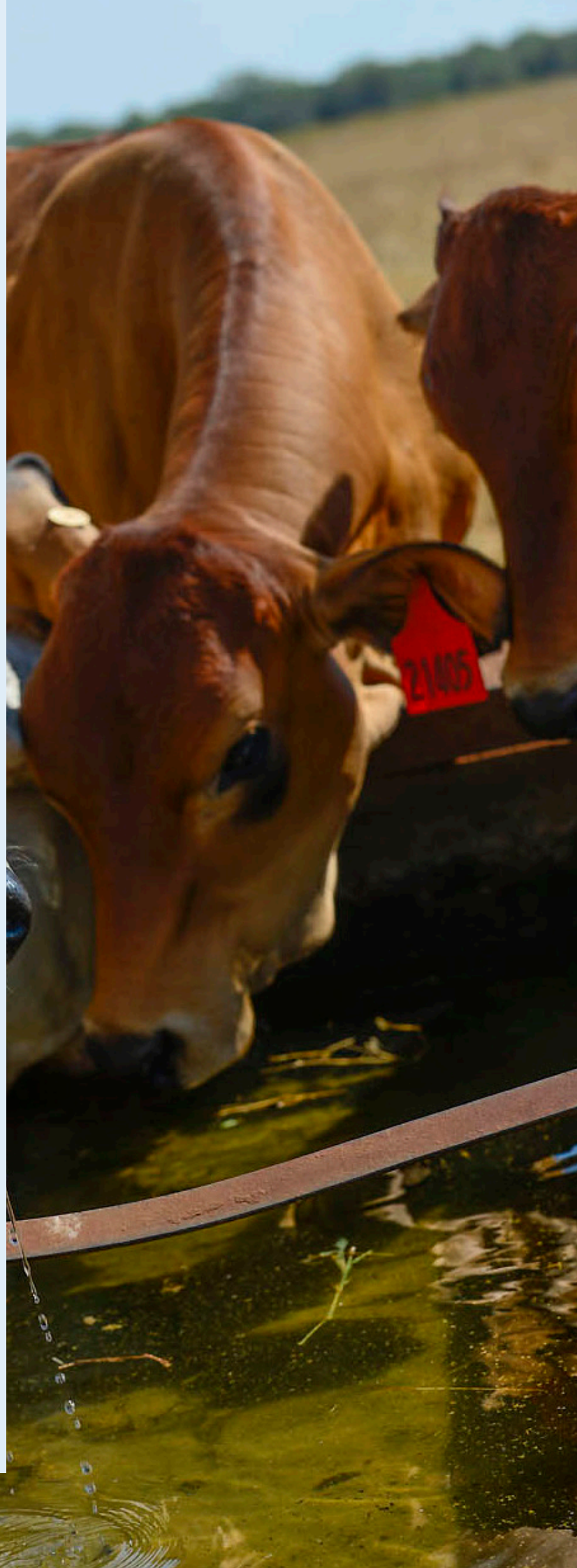
Not applicable\*

### 4 ECONOMIC DEVELOPMENT (Licensed)



8,032 ML/YR

\*The Strategic Aboriginal Water Reserve Policy Framework was established after the plan declaration in 2016.



## The plan protects ecological environmental requirements by keeping the majority of water in the environment. Approximately 94% remains in the system over a 100-year period, not accounting for recharge events that will also occur over this period.

The plan has determined that a combined 21,246 ML/YR can be extracted from aquifers in the plan area, to sustain the Alice Springs township and its surrounding communities. Drinking water will always be allocated first so that town and community populations have enough water supply.

Provisions are also made for rural stock and domestic users. Once this determination is made, water is allocated to support economic development in the region, including provisions for an Aboriginal water reserve.

There is a large amount of water stored in the Mereenie aquifer system, which is replenished by surface water flows along the Todd River following significant rainfall events. Recharge can occur via stream bank infiltration and floodout ponding where standing water can remain for days to weeks at a time.

### CLIMATE AND WATER

Aquifers in the plan area display characteristics typical of Arid Zone resources, with low annual rainfall averages and relatively high rates of evapotranspiration contributing to long periods of little to no groundwater recharge.

Significant rainfall events can result in recharge to aquifers at intervals of approximately 7–10 years. Surface water flows are intermittent and can result in temporary ponding in low-lying areas adjacent to drainage lines.

Find out more about how resources behave in the [Top End compared to the Arid Zone](#)<sup>2</sup>.

### RAINFALL

Rainfall over the plan area is intermittent and highly variable, influenced largely by the dissipation of tropical monsoon depressions over the November to April period. The average rainfall for the district, based on more than 120 years of data, is 264 mm per year recorded at Alice Springs. The 2023–24 season recorded 280 mm of rainfall at Alice Springs Post Office and 445 mm at Alice Springs Airport.



## RAINFALL

AVERAGE

**264** mm/YR

2023–24 YEAR

**280** mm/YR

RECORDED  
ALICE SPRINGS  
POST OFFICE



mm = Millimetres  
ML = Megalitres



<sup>2</sup> <https://nt.gov.au/environment/water/management-security/water-allocation/water-allocation-framework>



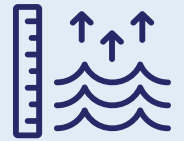


## GROUNDWATER LEVELS

Groundwater level monitoring shows changes to groundwater storage in the aquifer in response to climate variables and water extraction. Groundwater levels are measured in depth (metres) below ground level (mBGL). Groundwater levels generally rise in response to significant rainfall events. The hydrograph below shows the depth to groundwater for the last 5 years in the Mereenie aquifer system, measured at RN013829 near the Roe Creek borefield. The standing water level here is around 164 mBGL. The 2023 dry season saw a small groundwater level increase at this location, although the March 2024 water level was 0.4 m lower compared to the same time last year. There is a gap in the logger data for the period August 2023 until March 2024.

You can view ground water levels for the Alice Springs plan area throughout the year on the [water data portal](#)<sup>3</sup>.

# GROUNDWATER LEVELS

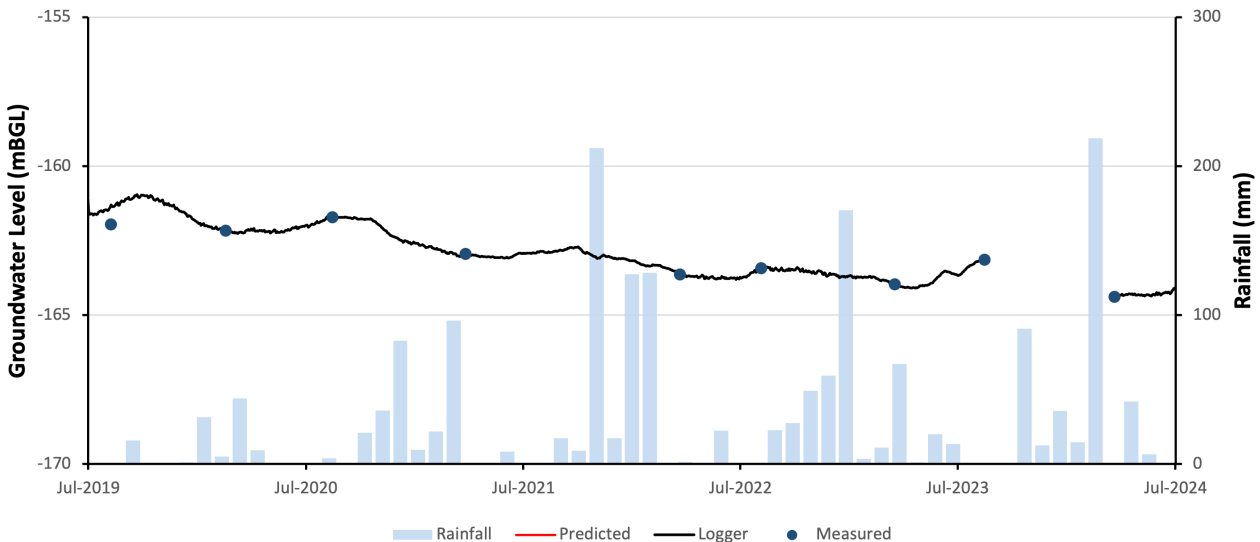


**2023-24  
MEASURED  
163.1 mBGL**

**2024-25  
MEASURED  
163.8 mBGL**

mBGL = Metres Below Ground Level

## GROUNDWATER LEVELS RESPONDING TO RAINFALL



<sup>3</sup> <https://nt.gov.au/environment/water/licensing/licensing-portal>

## REGULATING WATER USE

The number of water extraction licences reduced from 17 to 16 during this financial year following the surrender of 1 licence by the licence holder. No additional water extraction licences were applied for in the plan area this financial year. To see water licences in the plan area visit the [water licence portal](#)<sup>4</sup>.

Overall, approximately 50% less water is being used by water licence holders than has been allocated, which provides opportunities for water trade in the

region. Visit the website to find out more about [how to trade water](#)<sup>5</sup>.

The department regulates water licence holders to ensure compliance with the conditions licence. Visit the website to find out more about [compliance and enforcement](#)<sup>6</sup>.

The department regulates water licence holders to ensure compliance with the conditions of the licence. Regular audits and checks of licence records are undertaken to identify breaches of licences.

### WATER LICENCE

#### STATISTICS 2023-24



WATER EXTRACTION LICENCES	16
LICENCES APPROVED	0
LICENCES DECLINED	0
LICENCES SURRENDERED	1
VOLUME OF WATER LICENSED FOR ECONOMIC USE (ML/YR)	17,895

### WATER COMPLIANCE

#### STATISTICS 2023-24



PER CENT OF LICENSED WATER USED	49
PER CENT OF LICENCES REPORTING WATER USE	94
PER CENT OF LICENCES METERED	82
LICENCE INSPECTIONS	2
WARNING LETTERS	0
INFRINGEMENTS ISSUED	0

## WATER MANAGEMENT

Water management adapts and improves over time. The water plan supports this by identifying strategies and actions to effectively share water and manage risks to the water resource.

Regional groundwater monitoring program reviewed and new monitoring locations added to the network to investigate recharge and water level fluctuations around Rocky Hill region.

There were upgrades to the surface water and groundwater monitoring instruments at an existing site, to ensure continuous reporting of rainfall and river levels.

## KEY PRIORITIES FOR THE FUTURE

- Mapping of the groundwater dependent ecosystems
- Continued monitoring of identified surface and groundwater locations - generally in February/ March and September/October each year
- Aquifer protection study to inform land use planning around Alice Springs

<sup>4</sup> <https://nt.gov.au/environment/water/licensing/licensing-portal>

<sup>5</sup> <https://nt.gov.au/environment/water/licensing/water-extraction-licence/water-trading>

<sup>6</sup> <https://nt.gov.au/environment/water/management-security/water-policies-and-guidelines>



**STATE OF THE WATER RESOURCE 2023-24**  
Alice Springs



For more information visit  
[depws.nt.gov.au/alicewaterplan](https://depws.nt.gov.au/alicewaterplan)