

Katherine-Daly-Roper Region Early Notice

March 2023

This Early Notice provides an outlook of water resource management for the forthcoming water accounting year (from 1 May 2023 - 30 April 2024) in the Katherine, Daly (Ooloo), Roper (Mataranka) Regions and includes predictions on river flows and water availability for 2023-24. This notice is an update to the Katherine-Daly-Roper Regional Climate Update published December 2022. The notice delivers on the department's commitment to providing greater support and more timely information to water users.

Further details on the information collected and explanations used to inform this notice are contained in the technical summary section of this document.

Key Findings

Based on the information collected to date, early indications for the 2023-24 water year (from 1 May 2023 - 30 April 2024) are that water licence allocations are **likely** to be **100 per cent** for the following water resources:

- ✓ Katherine Tindall Limestone
- ✓ Mataranka Tindall limestone
- ✓ Tindall Limestone aquifer (Flora)
- ✓ Jinduckin Formation
- ✓ Ooloo Dolostone
- ✓ Edith River
- ✓ Adelaide River
- ✓ Katherine River upstream of Tindall Limestone Aquifer Donkey camp weir

Formal Notice

The Controller of Water Resources will formally notify licence holders of their 2023-24 annual announced allocation before 1 May 2023.

Technical summary

Water Resources collects a large amount of information including rainfall, river flows, groundwater levels and water use. This information is analysed and modelling is conducted to understand and predict the behaviour of the Territory's water resources in response to rainfall and water extraction, over the coming year.

Rainfall

During the current wet season, beginning 1 November 2022 to 28 February 2023, there has been **above median rainfall** across the Katherine River and the broader Douglas-Daly catchment areas.

For the Katherine-Daly (Ooloo) Region the Bureau of Meteorology climate outlook predicts a 30 per cent chance of **exceeding median rainfalls** for March and 35 per cent chance of exceeding median rainfall in April 2023. If this happens, the percentage of wet season rain for 2022-23 would be **approximately equal to the long-term median**.

The Roper (Mataranka-Tindall) catchment area has recorded **median to above median rainfall** to 28 February 2023. The climate outlook for Mataranka-Tindall predicts below **median rainfall** for the rest of March and April 2023. If this happens, the percentage of wet season rain for 2022-23 is expected to be **approximately equal to the long-term median**.

Groundwater

Monitoring results for the volume of groundwater in storage in October 2022 (end of the dry) identified a slight increase compared with the same period the previous year for the Daly (Ooloo), Katherine and Roper (Mataranka) regions. Monitoring conducted in early March 2023 identified a continued trend in increasing groundwater storage volumes compared with the same period the previous year for all three regions.

2023 Announced allocation outlook

Modelling scenarios, which factor rainfall, total extraction and recharge were run in February 2023 to predict the flows in the Katherine, Daly and Roper Rivers at 1 November 2023, and assume no further rainfall will occur for the remainder of 2023. The modelled scenarios identified that the predicted flow rates on 1 November 2023 are expected to either meet or exceed environmental flow targets for each water resource.

Katherine River:

Modelled predictions in the Katherine River indicate a natural flow rate at Wilden of 2.4 m³/s on 1 November 2023 (assuming zero rainfall for the remainder of 2023).

The Katherine Tindal Limestone Water Allocation Plan 2019-2024 (Katherine Plan) reports this level of natural flow rate as an 'Average' river flow scenario, which requires that 70 per cent of river flows be reserved for the environment and other public benefit, with 30 per cent of the river flows made available for extraction.

Modelling of extractions (including rural stock and domestic and existing water licences) predicts a 21 per cent reduction in flows at Wilden, which meets the Katherine Plan criteria.

Daly River:

Modelled predictions indicate a natural flow rate at Dorisvale of 7.4 m³/s, Ooloo Crossing of 10.3 m³/s and Mount Nancar 15.6 m³/s on 1 November 2023 (assuming zero rainfall for the remainder of 2023).

The Ooloo Dolostone Aquifer Water Allocation Plan 2019-2029 (Ooloo Plan) sets out environmental flow requirements of 6.2 m³/s at Dorisvale, 12 m³/s at Ooloo Crossing and 12 m³/s at Mount Nancar.

The predicted flows on 1 November 2023 at Dorisvale and Mount Nancar meet the environmental flow requirements. However the predicted flows at Ooloo Crossing are below the environmental flow requirements.

Where the environmental flow targets are not met, the Ooloo Plan allows up to 8 per cent of flows to be available for extraction, with 92 per cent of flows to be reserved for the environment and other public benefit.

Modelling which includes predicted extractions for rural stock and domestic use, and assumes 100 per cent of water licences are used, predict the reduction in flow at Ooloo Crossing to be 3 per cent. Assessing the modelled outcomes against the 8 per cent requirement, the environmental flow targets of the Ooloo Plan will be met.

Roper River:

Modelled predictions indicate a natural flow rate at Elsey Homestead of 3.4 m³/s on 1 November 2023 (assuming zero rainfall for the remainder of 2023). Modelling, which includes predicted extractions for rural stock and domestic use, and assumes 100 per cent of water licences are used, predict the reduction in flow to be approximately 1.4 per cent.

Applying the Northern Territory Water Allocation Planning Framework, which requires no more than 20 per cent of flow be extracted for consumptive use, the reduction in flows are expected to be within this limit, indicating at least 80 per cent of flow will be maintained for the environment and other public benefit.