

# Key messages: Draft Mataranka water allocation plan documents

These have been prepared to assist people to easily understand the main features of the draft Mataranka Water Allocation Plan 2024–2034 (the plan) and answer likely questions. The plan has two accompanying documents, a Background Report describing the water resource information used to inform the plan and Implementation Actions that describes the water resource management in the plan area.

## Key messages:

- A plan sets out the water that must be protected to ensure ecological functions and environmental requirements of the resource. It defines the water available for allocation and for stock and domestic take by establishing the take of water that is sustainable (known as the estimated sustainable yield). It also sets out management rules for water use, and for trade.
- The draft Mataranka water allocation plan (plan) provides for the protection, allocation and management of the groundwater resources of the Tindall Limestone Aquifer within the plan area. The Tindall Limestone Aquifer and the Roper River have been subject to a continuous ground and surface water monitoring regime, groundwater investigations, and resource assessments undertaken over many decades.
- The plan specifically protects and manages groundwater that provides the base flows to the Roper River (and its system of springs and creeks) during the dry season. Wet season flows of the Roper River catchment are fed from rainfall and runoff and require different protections and management rules.
- The plan is comprised of three water management zones: North Mataranka, South Mataranka and Larrimah across an area of approximately 9,282 km<sup>2</sup> extending about 190 km from north to south, and up to 70 km east to west. These areas are aligned to different hydrogeological characteristics of the aquifer, climatic conditions and environmental and ecological values. Different rules apply in different management zones in recognition of these differences.

### North Mataranka and South Mataranka

- recognises the outstanding environmental values and will establish a Protected Environmental Area
- preserves more than 90% of the dry season flows to the Roper River to sustain its discharges to springs and ecosystems
- caps development at current levels of entitlement
- are sensitive to climate variability, triggering of environmental flow thresholds will reduce the amount of water than can be taken by licence holders in that year.

### Larrimah

- groundwater storage volume is increasing, water moves exceedingly slowly and terrestrial ecosystems do not rely on the water within the Tindall Limestone aquifer
- provides the opportunity for water development in the region with negligible impact from extraction.

- Sacred sites are protected under the law by the Northern Territory's *Sacred Sites Act* administered by the Aboriginal Area Protection Authority.
- Aboriginal economic development in the plan area is supported with 4,574 ML per year allocated to the Aboriginal water reserve from within the ESY, which could increase to a maximum of 11,171 ML per year with the recovery of unused water.
- Aboriginal businesses in the plan area currently hold entitlements of 6,600 ML per year, which are in addition to the water available through the Aboriginal water reserve.

## What do we know about the resource?

The plan applies to an area of approximately 9,282 km<sup>2</sup> within the Daly Roper Beetaloo water control district, which includes the towns of Mataranka and Larrimah and the community of Jilkminggan.

The Tindall Limestone Aquifer and the Roper River have been subject to a continuous ground and surface water monitoring regime, groundwater investigations, and resource assessments undertaken over many decades.

A comprehensive surface and groundwater model has been developed for this aquifer. It is also a region where some water dependant development has occurred, primarily for agriculture, tourism and for public water supply, further informing the understanding of the resource and its response to extraction.

Long term monitoring and assessment studies show that rainfall, recharge and groundwater levels are seasonally variable but have been increasing since the 1960s. Groundwater levels have continued to increase despite extraction occurring (from around the early 2000's onwards) confirming that;

1. Water extraction has had a negligible impact on groundwater levels or on dry season flows to the Roper River
2. Groundwater levels and dry season flows of the Roper River are more directly affected by variations in climate over the long term
3. The impact of extraction is dependent on where extraction occurs as well as the volume of extraction.

Based on this understanding, the plan provides for a maximum estimated sustainable yield for each management zone.

Additional management rules apply to the North Mataranka and South Mataranka water management zones to reduce entitlements to mirror the climatic conditions. In practical terms this means reducing entitlements using licence conditions in years where modelling predicts extraction could reduce flows in the Roper River beyond minimum flow thresholds specified in the plan.

This approach maintains groundwater levels and river flows as close to natural conditions as possible.

## How was the estimated sustainable yield determined?

The estimated sustainable yield or ESY for the plan overall has been established as a maximum of 62,429 ML per year. By management zone this is defined as:

- North Mataranka - 2,744 ML per year
- South Mataranka - 24,447 ML per year

- Larrimah - 35,238 ML per year

The ESY operates in conjunction with rules to maintain minimum flow thresholds within the Roper River aligned to climate, and to limit extraction and trade in areas close to the Roper River, known as the Roper Discharge Zone.

The ESY for the Larrimah zone of 35,238 ML per year allows further development where groundwater storage is increasing and where there are no terrestrial groundwater dependent ecosystems to be impacted. Extraction in the Larrimah zone has been shown to have minimal impact on flows in the Roper River as dry season flows are virtually exclusively determined by groundwater levels maintained by recharge in the North Mataranka and South Mataranka water management zones. With groundwater travel time from Larrimah to the Roper River being exceedingly slow (0.1m to 1m per year), any impact of extraction is mitigated by seasonal recharge.

Modelling also shows that the proposed level of extraction in Larrimah will have no measurable impact on throughflow into the South Mataranka zone and on groundwater levels across the Larrimah zone, eliminating the risk of changes in the regional groundwater flow direction.

Together the ESY and the management rules preserve more than 90% of the dry season flows to the Roper River.

## What is the Roper discharge zone?

The Roper River Discharge Zone was extensively studied and documented in the Strategic Regional Environmental and Baseline Assessment (SREBA) studies.

The North Mataranka and South Mataranka water management zones are particularly important as they provide 95% percent of the recharge to the Tindall Limestone Aquifer and maintain dry season flows to the Roper River

Groundwater discharge to the Roper River occurs at Bitter and Rainbow Springs but also through the bed and banks of the river and tributaries that intercept the Tindall Limestone Aquifer.

Within the discharge zone depth to groundwater is shallow, supporting vegetation and surface water features of outstanding ecological and cultural significance. Groundwater levels within the discharge zone are maintained through localised recharge and are influenced by extraction and water uses in this area. This indicates that the closer water extraction is to the discharge zone, the more significant the impact on Roper River dry season flows.

In recognition of this the plan further protects the discharge zone by preventing the grant of any new or increased water licence extraction entitlements within the protection area.

The limits on water extraction from Roper Discharge Zone will be reinforced through the declaration of an Environmental Protection Area under section 36 of the *Environment Protection Act 2019*.

## How does the plan protect the Roper River and springs?

The plan specifically protects and manages groundwater that provides the base flows to the Roper River, and its system of springs and creeks, during the dry season.

Wet season flows of the Roper River catchment are fed from rainfall and runoff and require different protections and management rules.

Additional management rules apply to the North Mataranka and South Mataranka water management zones to reduce entitlements to mirror the climatic conditions. In practical terms this

means reducing entitlements using licence conditions in years where modelling predicts extraction could reduce flows in the Roper River beyond minimum flow thresholds specified in the plan.

This approach maintains groundwater levels and river flows as close to natural conditions as possible.

## How does the protected environmental area work?

A Protected Environmental Area (PEA) is a declared area where the environment or an aspect of the environment should be protected, as determined by section 36 of the Environment Protection Act.

Alongside the statutory effect of the Mataranka water allocation plan, it is also proposed that the Roper Discharge Zone be declared as a Protected Environmental Area (PEA) under the *Environment Protection Act*.

The PEA will reinforce the rules of the water allocation plan to reduce development in the discharge zone providing reinforced protection to the outstanding ecological and environmental assets of the area defined as part of the Strategic Regional Environmental and Baseline Assessment (SREBA).

## How is cultural heritage considered in the plan?

The plan recognises the importance of identifying cultural heritage values and measures to safeguard these in a culturally appropriate way. The Wubalawun, Yangman, Mangarrayi and Jawoyn people have deep spiritual connection with the regions many springs, soaks, billabongs, creeks, rivers and landscapes. This extends to Aboriginal people and groundwater dependent cultural values downstream of the plan area along the Roper River.

While Aboriginal water values and bio cultural knowledge have been documented for the broader Roper region, much less is known about the specific water requirements (quality and quantity) of cultural values and assets. While the process of developing the plan has had some input from local Aboriginal people, ongoing participation of Aboriginal people is a key focus. This work has been identified in the Implementation Actions.

An improved understanding of cultural values and monitoring of cultural sites throughout the life of the plan will ensure safeguards that are appropriate to the Traditional Owners and custodians and the ecological values of the water control district are implemented.

## What about allocation to the Aboriginal water reserve?

An Aboriginal water reserve (AWR) is designed to provide Aboriginal people with greater access to water resources for economic benefit. The volume of water allocated to the AWR depends on the percentage of eligible land in each management zone. Allocations are made to the AWR from the ESY once mandatory allocations are made to the environment and allocations have been made to the priority beneficial uses of rural stock and domestic use and public water supply.

Aboriginal economic development in the plan area is supported with 4,574 ML per year allocated to the Aboriginal Water Reserve from within the Estimated Sustainable Yield. This volume will increase in the event of water being returned through licence compliance action.

## Is there water available for a licence?

No water is available for licensing in the North Mataranka and South Mataranka water management zones at this stage; the trading of water may be an available option. A holder of a water extraction licence may apply to the Controller of Water Resources for an amendment of their licence to trade from one licence to another licence or to a new licence within a water allocation plan area. The Larrimah management zone has water available for licensing.