

## 2021 ANNOUNCED ALLOCATION - ROPER RIVER REGION

Announced allocations are specified in the conditions of groundwater extraction licences granted to take water from bores in the Mataranka Tindall Limestone Aquifer and surface water extraction licences granted on the Roper River.

Announced allocations are set annually and are the factors by which a licensed entitlement must be adjusted in order to maintain an appropriate level of environmental protection and water supply security in, or associated with, the water resource from which the licensed extraction occurs.

The Roper River Catchment integrated surface water – groundwater model (the model) has been used to assess the likely impacts on river flows throughout the 2021/22 water allocation year.

The likely impacts have been assessed as the differences between modelled natural daily flows and modelled altered daily flows resulting from the combined effects of extractions from the Roper River and the Mataranka Tindall Limestone Aquifer.

### Natural River Flows

Natural river flows predicted by the model for regional rainfall from 1 January 1980 to 31 March 2021 and no rainfall at all from 1 April 2021 to 30 April 2021 are shown below.

Date	Modelled Natural Roper River Flows (daily average cumecs)				
	Mataranka Homestead G9030176	Elsy Homestead	Moroak	Judy Crossing	Red Rock G9030250
1 November 2021	1.734	4.577	3.299	2.680	2.193
31 December 2021	1.527	4.112	2.962	2.389	1.934

### Environmental Flows to be Preserved

The Northern Territory Water Allocation Planning Framework applies to the Roper River. As there is no scientific research directly related to environmental water requirements yet available for this river, modelled altered river flows throughout the Roper River should be at least 80% of the modelled natural river flows.

### Altered River Flows - May to December 2021

Altered river flows were modelled from 1 January 1980 to 31 December 2021, using:

- (a) regional rainfall records from 1 January 1980 to 31 March 2021;
- (b) no rainfall at all from 1 April 2021 to 31 December 2021
- (c) estimated use by all stock & domestic extractions from the Mataranka Tindall Limestone Aquifer from 1 January 1980 to 31 December 2021;
- (d) reported and estimated use by all licensed extractions from the Mataranka Tindall Limestone Aquifer from 1 January 1980 to 31 March 2021; and
- (e) all licensed users in the Mataranka Tindall Limestone Aquifer extracting at 100% of maximum entitlements from 1 April 2021 to 31 December 2021.

All surface water licences in the Roper River were set at 100% allocation from 1 January 1980 to 31 December 2021.

2021 altered flows in the Roper River predicted by this modelling were:

Date	Modelled Altered Roper River Flows (daily average cumecs)				
	Mataranka Homestead G9030176	Elsy Homestead	Moroak	Judy Crossing	Red Rock G9030250
1 November 2021	1.607	4.384	3.163	2.490	2.008
31 December 2021	1.435	4.006	2.884	2.265	1.803

The reductions in natural flows in 2021 predicted by this modelling were:

Date	Modelled Change in Natural Roper River Flows				
	Mataranka Homestead G9030176	Elsy Homestead	Moroak	Judy Crossing	Red Rock G9030250
1 November 2021	-7%	-4%	-4%	-7%	-8%
Maximum - December 2021	-8%	-5%	-5%	-7%	-9%

### Expected Effects of Extractions in 2021/22 Water Allocation Year

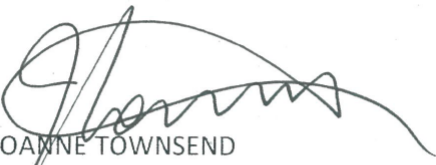
Modelled reductions in natural daily average flows throughout the Roper River were never more than 10% from 1 April to 31 December 2021. This modelling assumed there would be no rain, and therefore no catchment runoff into the Roper River, from May to December in 2021.

Because this extreme dry rainfall/runoff scenario is unlikely to occur, 100% Announced Allocations for all groundwater extraction licences in the Mataranka Tindall Limestone Aquifer and all surface water extraction licences on the Roper River in the 2021/22 water allocation year should be expected to cause changes in river flows that are well below the 20% threshold set under the Northern Territory Water Allocation Planning Framework.

**Announced Allocations for Roper River Region - 2021/22 Water Accounting Year**

In consideration of the modelling results summarised above, I have decided that announced allocation of 100% for the Mataranka Tindall Limestone Aquifer and the Roper River in 2021/22 water allocation year will maintain appropriate levels of environmental protection and water supply security.

The announced allocation for water extraction licences granted in the Mataranka Tindall Limestone Aquifer and Roper River between 1 May 2021 and 30 April 2022 is 100%.



JOANNE TOWNSEND  
Controller of Water Resources

30/4/2021