

## 2016-17 Announced Allocations Report

### Water Allocation for the Tindall Limestone Aquifer, Katherine

#### Announcement

In accordance with clause 32 of the Water Allocation Plan – Tindall Limestone Aquifer, Katherine, the Controller of Water Resources is announcing that allocations for the 2016-17 water accounting year are **100%** for total, high and medium licence security categories, **64%** for low security licences other than for public water supply; and **0%** for low security public water supply.

Licence Security	2016-17 Allocation
Total	100%
High	100%
Medium	100%
Low – Public Water Supply	0%
Low - Other	64%

#### Background

The Tindall Limestone Aquifer, Katherine is recharged by water that seeps down into the aquifer through the soil profile and directly through sinkholes. Water also enters the aquifer from the sandstone plateau east of Katherine. Groundwater exits the aquifer through springs and seeps along the Katherine River, maintaining the flow of the river through the dry season.

The amount of groundwater that flows into the Katherine River is determined by the balance between seasonal recharge and the water extracted from bores for consumptive beneficial uses. The Department uses an integrated groundwater and surface water model of the Katherine - Daly River Region to predict the late dry season flow each year, using the amount of rainfall received over the previous wet season.

The Water Allocation Plan for the Tindall Limestone Aquifer, Katherine sets out the volume of water that can be extracted by licences over the coming water accounting year, according to the late dry season natural flows predicted for the Katherine River. The volume of water that can be taken is announced each year on May 1<sup>st</sup>.

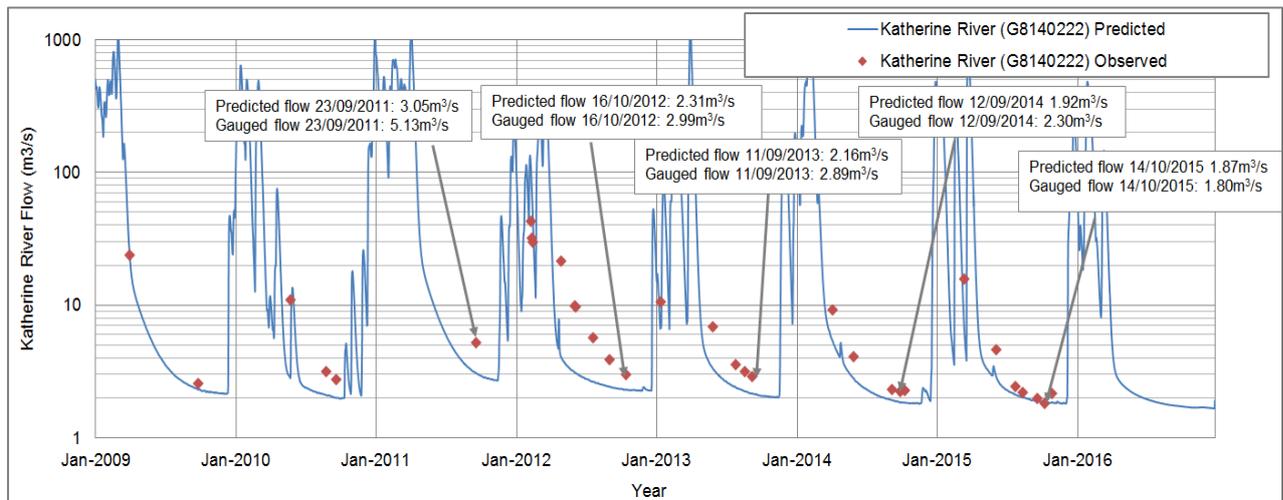
#### 2016-17 Determination

Modelling for the 2016-17 water accounting year predicts that the natural flow in the Katherine River on 1 November 2016 will be 1.99 cubic metres per second (m<sup>3</sup>/s). Under the Plan, for this predicted flow, the extraction limit for the Tindall Limestone Aquifer, Katherine, is 33,383 ML/year. As this extraction limit includes 1,300 ML for unlicensed stock and domestic use, the available extraction for all licenced use is 32,083 ML. The sum of all

2016-17 licenced entitlements is 35,275. Therefore, it is necessary to reduce the allowable licenced extractions by 3,192 ML. This reduction is applied first to the Low Security – Public Water Supply licence category whose maximum entitlement is 1,717 ML/year, and then to other Low Security licences whose maximum entitlement is 4,151 ML/year. After Low Security – Public Water Supply is restricted to 0% (in accordance with clause 32 of the plan), a further 1,475 ML/year must be reduced from Low Security licenced entitlements. This results in an extraction limit of 64% for licences in the Low Security category.

Application of clause 32 of the Water Allocation Plan for the Tindall Limestone Aquifer, Katherine results in 100% for total, high and medium licence security categories, 64% for low security licences other than for public water supply; and 0% for low security public water supply.

Figure 1 shows predicted flows in the Katherine River under a modelled pumping scenario that includes all reported and estimated surface water and groundwater extractions; and measured flows (G8140222) for the period January 2009 to December 2016. This graph demonstrates that the model predictions match the gauged flows very well, especially the low flows that occur during the late dry season. This gives confidence that the model can be used to predict late dry season flows and inform the decision about the maximum extraction volume that can be allocated for the coming water accounting year through the application of clause 32 of the Plan.



**Figure 1 Predicted and Observed Katherine River Flows from January 2008 to December 2016.**