

## Australian Capital Territory Narrative to accompany the 2018-19 s71 report

### Summary

The ACT's annual rainfall was below average across the region. The ACT has not received above average rainfall since 2013-14. Even though four of the months received above average rainfall, the ACT still received low streamflow across the region for the year as a result of below average rainfall and poor soil moisture conditions. The ACT's net water diversions was slightly above the 21,594 GL in 2017-18 to 23,122 GL. There were only small changes to entitlements and no trades occurred during the 2018-19 period.

### 2018-19 Conditions

Based on Canberra Airport readings the ACT experienced below average rainfall for the period 2018-19 (532.4 mm). The ACT was deficient by -82 mm against the long-term average rainfall at the Canberra Airport gauge is 615 mm. Total area-averaged rainfall across the whole territory for the year was 626 mm, below the mean value of 784 mm. Rainfall was very low during July 2018 and April 2019 across almost the entire region. The below-average rainfall throughout the spring 2018 and winter 2019 months was likely due to a positive phase of the Indian Ocean Dipole. Rainfall was above average across the entire region in December 2018 and March 2019. Rainfall was only above average in December 2018 and March 2019. All other months had average to below-average rainfall. In July 2018, rainfall was below the 10th percentile and was the driest July since 1995.

Soil moisture in the root zone (0-1m depth) was well below average across most of the region. Streamflows were well below average for most of the year, which reflects the relatively low rainfall and very poor soil moisture conditions experienced across the region.

Total annual flow in the Queanbeyan River upstream of Googong Dam (Station 410781) was 5 GL compared to the average value of 41 GL. This was the third lowest on record and the lowest in 10 years. The high rainfall during December 2018 had only a minor effect on streamflow in these rivers. The very dry soil moisture conditions across the region during the preceding winter–spring months meant much of the rainfall that occurred was soaked up by the soil.

### Entitlements

The ACT's Access Canberra (previously Environment Protection Authority) is now responsible for the management of all entitlements within the ACT after the responsibility to manage Commonwealth entitlements transferred from the National Capital Authority to the Access Canberra during 2014-15. This 2018-19 reporting cycle is the third complete year Access Canberra has managed and reported on all entitlements for a reporting period. There was no change in the number or volume of entitlements held by Icon Water and for all other entitlements there was a small increase for surface water and groundwater but a decrease for the combined surface/groundwater entitlements as compared to 2017-18.

Entitlements		Entitlements held for 2018-19	Entitlement volume GL
Surface water	Icon Water entitlements	7	71.00
	All other entitlements	109	5.1
	<b>Total Entitlements</b>	<b>116</b>	<b>76.1</b>
Groundwater	Icon Water entitlements	0	0
	All other entitlements	151	1.8
	<b>Total Entitlements</b>	<b>151</b>	<b>1.8</b>
SW/GW	All other entitlements	31	2.1
	<b>Total Entitlements</b>	<b>31</b>	<b>2.1</b>

There are no further surviving allocations entitlements (combined surface water/groundwater) to be issued. These entitlements are being phased out on the transfer or sale of property.

### Diversions and Returns

The ACT recorded a total net surface water diversion of 23.1 GL during 2018-19. This result provides a small increase in water use within the Territory of 1.5 GL as compared to 2017-18. The 23.1 GL net consumed represents roughly half of the water available to the ACT under the current 42.7 GL net take from watercourses.

Surface Water		Annual Entitlement GL	Annual Diversion GL	%
Diversions	Icon Water diversions	71.0	53.4	75
	Private diversions	5.1	2.8	55
	<b>Total Diversion</b>	<b>76.1</b>	<b>56.2</b>	<b>74</b>
Returns	LMWQCC return		30.0	
	QSTP return		3.0	
	<b>Total Returns</b>		<b>33.0</b>	
<b>Net Diversion</b>	(Diversions – Returns)	<b>42.7</b>	<b>23.1</b>	<b>54</b>
Interceptions	Runoff dams	4.64	2.32	50
	Commercial plantations	11.0	6.5	59
<b>Baseline Diversion Limit</b>		58.3		
<b>Sustainable Diversion Limit</b>		<b>53.4</b>	<b>29.1</b>	<b>54</b>

The table above shows the ACT's SDL of 53.44 GL to account for the 2.0 GL contributed to The Living Murray Initiative and the 4.9 GL of Shared Reduction amount. This adjustment results in an annual permitted take of 58.34 GL.

The ACT recorded a total net groundwater diversion of 1.08 GL consumed during the 2018-19 period. This result provides a slight increase in groundwater use within the Territory of 0.14 GL as compared to 2017-18. The 1.08 GL consumed reflects the ACT's good management practices to control the consumption of available water in the ACT to 34% under the 3.16 GL Sustainable Diversion Limit.

<b>Groundwater</b>		<b>Annual Entitlement</b>	<b>Annual Diversion</b>	<b>%</b>
		<b>GL</b>	<b>GL</b>	
<b>Diversions</b>	Private diversions		1.80	60
	Icon Water diversions		0	0
	<b>Total Diversion</b>		<b>1.80</b>	<b>60</b>
<b>Baseline Diversion Limit</b>		1.70		
<b>Sustainable Diversion Limit</b>		<b>3.16</b>	<b>1.08</b>	<b>34</b>

### Trade

There were no surface water or groundwater entitlements traded during 2018-19.

<b>Trade (within ACT)</b>		<b>Entitlements exchanged</b>	<b>Entitlement volume</b>
		<b>2018-19</b>	<b>GL</b>
<b>Surface water</b>	Icon Water	0	0
	All other SW entitlements	0	0
	<b>Entitlements exchanged</b>	<b>0</b>	<b>0</b>
<b>Groundwater</b>	Icon Water	0	0
	All other GW entitlements	0	0
	<b>Entitlements exchanged</b>	<b>0</b>	<b>0</b>

There was no interstate water entitlements traded during the 2018-19 period.

<b>Interstate Trade</b>		<b>Entitlements exchanged</b>	<b>Entitlement volume</b>
		<b>2018-19</b>	<b>GL</b>
<b>Surface water</b>	Icon Water	0	0
	All other SW entitlements	0	0
	<b>Entitlements exchanged</b>	<b>0</b>	<b>0</b>
<b>Groundwater</b>	Icon Water	0	0
	All other GW entitlements	0	0
	<b>Entitlements exchanged</b>	<b>0</b>	<b>0</b>

**ACT Model**

Water restrictions have not been imposed throughout the years 2011-2018 and there were also no water restrictions imposed during 2018-19 period. Therefore, the ACT's mandatory regime of permanent water conservation measures continues to apply.

The model output, climate adjusted cap and net abstraction have been reliable throughout the last six reporting cycles. This demonstrates that the ACT continues the practice of good water planning and water management by using only 54% of surface water against the sustainable diversion limit within the ACT valley. It also demonstrates that the cultural shift in the behaviour of the ACT community enables the management of a changing climate.

**Held Environmental Water**

The ACT did not hold any environmental water during the 2018-19.

**Planned Environmental Water**

Riffle maintenance flows are environmental flows that are mandatory requirements under entitlement licence held by Icon Water in the Cotter catchment to enable flushing of sediment from pools between Corin Dam and Bendora Dam and between Bendora Dam and the Cotter Dam. All requirements for the Corin, Bendora, Cotter and Googong Reservoirs were achieved for 2018-19. From the Corin Dam an environmental pool flush of 550ML/d was achieved on 17 October 2018.

Similarly, Icon Water is required under licence to provide environmental baseflows from the four dams to replicate natural flows throughout the year. The Icon Water licence stipulates that 11.0 GL of environmental flow be released from Corin Dam during 2018-19 to maintain and improve river health, 14.4 GL from Bendora Dam, 12.9 GL from Cotter Dam and 3.2 GL from Googong Dam. For 2018-19 Icon Water met and exceeded all environmental watering requirements under licence.