

# Water Balance Report

## Macquarie Valley 2015/16

Water Balance Component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
<b>Storage Volume</b>					
Volume in storage at start of year			359,117		100%
Volume in storage at end of year			452,320		100%
<b>Change in storage</b>			<b>93,203</b>	<b>20%</b>	100%
<b>Storage net evaporation</b>			<b>15,259</b>	<b>3%</b>	100%
<b>Inflows</b>					
Storage inflows	331,860	72%			100%
Downstream tributaries (1)	127,828	28%			100%
<b>Subtotal</b>	<b>459,688</b>	<b>100%</b>			100%
<b>Net water diverted under water rights (2)</b>					
Domestic and stock rights			1,200	0%	0%
Native title rights			0	0%	0%
<b>Subtotal</b>			<b>1,200</b>	<b>0.3%</b>	0%
<b>Net water diverted under access licences</b>					
Domestic and stock			1,999	0.4%	100%
High security			9,031	2%	100%
General security			60,778	13%	100%
Local water utility			13,321	3%	100%
Major water utility (3)			0		
Supplementary water			23,905	5%	100%
Conveyance			0		
<b>Subtotal (4)</b>			<b>109,034</b>	<b>24%</b>	100%
<b>Environmental water</b>					
Net diversion to wetlands (5)			133,632	29%	100%
End of system flows (6)			5,078	1%	100%
<b>Subtotal</b>			<b>138,710</b>	<b>30%</b>	100%
<b>Other Outflows (7)</b>			<b>15,345</b>	<b>3%</b>	100%
<b>Unaccounted difference (8)</b>			<b>86,937</b>	<b>19%</b>	
<b>TOTAL</b>	<b>459,688</b>	<b>100%</b>	<b>459,688</b>	<b>100%</b>	

### Notes:

(1) Downstream tributaries include the Bell R, Little R and Talbragar R. Ungauged tributaries were estimated from the increase in mass balance between Burrendong Dam and Baroona.

(2) Water rights are not metered. Values presented are estimated from recommended values as specified in the Water Sharing Plan

(3) There are no Major Water Utility or Conveyance licences in this water source

(4) About 16,161 ML of usage by environmental licences held by State and Commonwealth are included in the total extraction. This water has been delivered to Macquarie Marshes.

(5) Planned environmental water delivery requirements were met 100% in 2015-16. The net diversion to wetlands include delivery of environmental water allowance of 36,392 ML and the flows into wetlands due to unregulated tributary flows, operational surplus and rain rejections.

(6) End of system flows measured at Miltara

(7) Other outflows - The domestic and stock replenishment flows were delivered in Marra Creek 6,858 ML, Belringar Ck below APC channel 937 ML, Bogan River Nyngan to G'bar confluence 615 ML and Gum Cowal 6,935ML. Lower Bogan was replenished through surplus flows and from own catchment flows. Belringar Ck U/S and Ewenmar Ck were replenished from tributary flows. Lower Macquarie was replenished through marsh release and surplus flows.

(8) Unaccounted difference is estimated as the difference between inflows, outflows and change in storage. This includes river evaporation, evapotranspiration, seepage, overbank flows and any measurement errors recording other components.

All the above figures are based on operational data used by waterNSW and are not quality coded. Archived data may differ from the operational data due to changes in the rating tables.

The above water balance for Macquarie Valley includes Burrendong and Windamere storages within the area covered by the Water Sharing Plan for the Macquarie-Cudgegong Regulated Rivers water source.

(9) Planned environmental water delivery requirements were met 100% in 2015/16