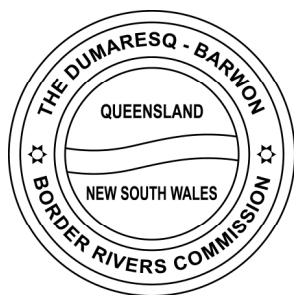


*Dumaresq-Barwon Border
Rivers Commission*



*Annual Statistics
2016-17*

Dumaresq-Barwon Border Rivers Commission

2016-17 Annual Statistics

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Table 1 Key features of Border Rivers Commission works

Name	Stream	AMTD (km)	Nearest town/s	Description	FSL above bed (m)	Storage capacity (ML)	Date completed
DAMS							
Glenlyon Dam	Pike Creek	6.4	Stanthorpe Tenterfield Texas	Earth & rockfill	47.4	254,000	1976
WEIRS							
Boggabilla Weir	Macintyre River	283.5	Boggabilla Goondiwindi	Reinforced concrete and earthfill	8.5	5,850	1991
Boomi Weir	Macintyre River	147	Boomi	Steel sheetpiling	4.1	354	1960
Bonshaw Weir	Dumaresq River	126.7	Texas	Steel sheetpiling	2.9	617	1953/58
Coomonga Weir	Coomonga Creek		Toobeah	Steel sheetpiling			1986
Cunningham Weir	Dumaresq River	67.9	Texas	Timber piled (written-off)	4.6	543	1954
Glenarbon Weir	Dumaresq River	57	Yelarbon	Steel sheetpiling	2.7	353	1959
Goondiwindi Weir	Macintyre River	268.8	Goondiwindi	Timber crib (fishway added)	2.8	1,800	1942
Mungindi Weir	Barwon River	4.8	Mungindi	Steel sheetpiling	3.6	730	1936/65
REGULATORS							
Boomi Regulator	Boomi River		Boomi	Reinforced concrete with hardwood dropboards			1960
Newinga Regulator	Barwon to Weir River flood channel		Talwood	Reinforced concrete with aluminium dropboards			1993
Regulator No 1	Balonne Minor	163.5	Dirranbandi	Steel sheetpiling with rock protection			1974
	Culgoa River	162.6					
Regulator No 2	Balonne Minor	128.9	Dirranbandi	Steel sheetpiling with rock protection			1974
	Donnegri River	14.9					
Regulator No 3	Ballandool River	91.4	Dirranbandi	Steel sheetpiling with rock protection			1974
	Bokhara River	79.8					
Regulator No 4	Birrie River	274.7	Goodooga	Steel sheetpiling with rock protection			1974
	Bokhara River	276.2					

Table 2 - Glenlyon Dam monthly storage volumes (megalitres)

End of month	2015-16	2016-17
July	77960	66188
August	78671	102,558
September	78671	157,130
October	76234	178,302
November	76780	177,350
December	75071	174,660
January	76078	166,210
February	74455	157886
March	70216	171857
April	67277	190996
May	65900	190570
June	66116	189718

(1) Storage volumes in this table are at 24:00 hrs on the last day of each month as recorded at GS 416315A.

Table 3 - Glenlyon Dam monthly releases / spillway flows (megalitres)

Month	2015-16		2016-17	
	Release	Spillway flows	Release	Spillway flows
July	0	0	1.3	0
August	0	0	23	0
September	0	0	83.1	0
October	2096	0	23.2	0
November	72	0	2.1	0
December	2207	0	2032.3	0
January	87	0	9327.1	0
February	1599	0	7969.2	0
March	5923	0	993.1	0
April	3473	0	4.2	0
May	1354	0	0.1	0
June	0	0	0	0

(1) The monthly releases in this table are the flow volumes as recorded at GS 416309B less any spillway flows.

(2) The monthly spillway flows are the flow volumes as recorded at GS416315A.

Table 4 - Glenlyon Dam recreation statistics

1 July 15 – 30 June 16		1 July 16 – 30 June 17	
Visitors	Camp sites occupied	Visitors	Camp sites occupied
29506	7266	33275	4556

Table 5 Supplemented/regulated and unsupplemented/supplementary water entitlements and off stream storages Border Rivers

	Supplemented/regulated (megalitres) (1)		Unsupplemented/supplementary (megalitres)		Off-stream Storages (megalitres)	
	NSW	QLD	NSW(2)	QLD	NSW	QLD
Pike Creek and Dumaresq River from Glenlyon Dam to Bonshaw Weir	5012	2,982	2,245	511		
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	5,287	5,676	2,463	626		
Texas Town		270				
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	436	2,254	516	3,846	400	6,300
Yelarbon Town		106				
Macintyre River from Dumaresq River junction to Goondiwindi Weir (excluding Goondiwindi & Boggabilla towns)	59,949	35,603	25,861	35,526	29,150	125,850
Boggabilla Town	200					
Goondiwindi Town		1,800		645		
Macintyre River from Goondiwindi Weir to Boomi Weir	130,715	9,985	58,470	15,940	86,025	25,210
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	53,147	25,988	29,215	42,739	65,600	125,264
Mungindi Town	300					
Totals	255,046	84,664	118,770	99,833	181,175	282,624

(1) The statistics for supplemented/regulated water entitlements in this table include all supplemented/regulated water entitlements including entitlements for irrigation, industrial, town water, high security, stock and domestic purposes but they do not include authorities/permits issued for the taking of stock and domestic water under rights granted to riparian landholders.

Table 6 - Water use from the Border Rivers 1 July 15 30 June 16 (megalitres)

	Supplemented/ regulated			Unsupplemented/ supplementary		
	NSW	QLD	Total	NSW	QLD	Total
Pike Creek and Dumaresq River from Glenlyon Dam to Bonshaw Weir	1452	729	2,181	677	731	1,408
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	1057	917	1,974	594	681	1,275
Texas Town		125	125			
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	75	427	502	66	3159	3,225
Yelarbon Town		102	102			
Macintyre River from Dumaresq River junction to Goondiwindi Weir (excluding Goondiwindi & Boggabilla towns)	10389	530	10,919	7472	10951	18,423
Boggabilla Town	179		179			
Goondiwindi Town		1,993	1,993		241	241
Macintyre River from Goondiwindi Weir to Boomi Weir	21039	689	21,728	21504	6450	27,954
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	12641	1,366	14,007	9759	17270	27,029
Mungindi Town	243		243			
Totals	47,075	6,878	53,953	40,072	39,483	79,555

(1) The above water use statistics only include water diverted from the Border Rivers under the authority of Border Rivers water entitlements. Water transferred from a tributary (eg the Macintyre Brook) to the Border Rivers and then diverted from the Border Rivers is not included in these statistics. Water temporarily transferred from one state to the other is reported as being use in the state of origin not the state of destination.

(2) Water taken by both Qld and NSW irrigators under the water sharing rules permitting small enterprises upstream of Goondiwindi Weir to pump from small unregulated inflows for direct irrigation, is included in the states' supplementary/unregulated water use statistics.

Table 7 - Water use from the Border Rivers 1 July 16 – 30 June 17 (megalitres)

	Supplemented/ regulated			Unsupplemented/ supplementary		
	NSW	QLD	Total	NSW	QLD	Total
Pike Creek and Dumaresq River from Glenlyon Dam to Bonshaw Weir	1942	852	2,794	478	782	1,260
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	1515	1,815	3,330	440	818	1,258
Texas Town		104	104			
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	492	208	700	87	20010	20,097
Yelarbon Town		105	105			
Macintyre River from Dumaresq River junction to Goondiwindi Weir (excluding Goondiwindi & Boggabilla towns)	20948	4,798	25,746	27493	47331	74,824
Boggabilla Town	154		154			
Goondiwindi Town		1,481	1,481			0
Macintyre River from Goondiwindi Weir to Boomi Weir	58612	1,935	60,547	56949	33755	90,704
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	31376	9,119	40,495	24669	108191	132,860
Mungindi Town	218		218			
Totals	115257	20,417	135,674	110116	210,887	321,003

(1) The above water use statistics only include water diverted from the Border Rivers under the authority of Border Rivers water entitlements. Water transferred from a tributary (eg the Macintyre Brook) to the Border Rivers and then diverted from the Border Rivers is not included in these statistics. Water temporarily transferred from one state to the other is reported as being use in the state of origin not the state of destination.

(2) Water taken by both Qld and NSW irrigators under the water sharing rules permitting small enterprises upstream of Goondiwindi Weir to pump from small unregulated inflows for direct irrigation, is included in the states' supplementary/unregulated water use statistics.

Table 8 Summary of resource assessments (Border Rivers) 1 July 15 30 June 16 (gigalitres)

Bulk Accounts	Queensland				New South Wales			
	Account balance 1/07/2015	Total use/loss for year	Total distribution for year	Account balance 1/07/2016	Account balance 1/07/2015	Total use/loss for year	Total distribution for year	Account balance 1/07/2016
	(a)	(b)	(c)	(a)-(b)+(c)	(a)	(b)	(c)	(a)-(b)+(c)
Storage Loss (Glenlyon Dam)	4.32	8.89	9.91	5.34	3.62	4.71	2.77	1.68
Storage Loss (Pindari Dam)					8.19	8.41	10.2	9.98
Essential Supplies (minimum release)	0	0	0	0	6.08	5.1	5.1	6.08
Essential Supplies (other)	6.95	2.1	1.17	6.02	24.71	0.76	0.76	24.71
Essential Supplies Delivery Loss	2.64	0.62	0.34	2.36	10.31	0.24	0.24	10.31
General Use	20.68	6.23	13.49	27.94	47.86	60.28	73.22	60.8
General Use Delivery Loss	6.22	1.87	3.25	7.6	14.36	18.09	21.98	18.25

Table 9 Summary of resource assessments (Border Rivers) 1 July 16 30 June 17 (gigalitres)

Bulk Accounts	Queensland				New South Wales			
	Account balance 1/07/2016	Total use/loss for year	Total distribution for year	Account balance 1/07/2017	Account balance 1/07/2016	Total use/loss for year	Total distribution for year	Account balance 1/07/2017
	(a)	(b)	(c)	(a)-(b)+(c)	(a)	(b)	(c)	(a)-(b)+(c)
Storage Loss (Glenlyon Dam)	5.34	12.75	15.16	7.75	1.68	8.48	13.1	6.3
Storage Loss (Pindari Dam)					9.98	14.12	22.14	18
Essential Supplies (minimum release)	0	0	0	0	6.08	0	0	6.08
Essential Supplies (other)	6.02	1.76	2.68	6.94	24.71	3.14	3.14	24.71
Essential Supplies Delivery Loss	2.36	0.54	0.82	2.64	10.31	0.95	0.95	10.31
General Use	27.94	18.68	60.85	70.11	60.80	110.31	301.24	251.73
General Use Delivery Loss	7.6	5.6	19.04	21.04	18.25	33.09	90.37	75.53

Table 10 Access to unsupplemented/supplementary water from the Border Rivers

Month	1 July 15 – 30 June 16		1 July 16 - 30 June 17	
	Access by small irrigation enterprises u/s of Goondiwindi Weir	General access to unregulated flows(1)	Access by small irrigation enterprises u/s of Goondiwindi Weir	General access to unregulated flows(1)
July	31	18%	31	1.3 days
August	31	9%	31	4.1 days
September	15		30	13 days
October			31	5.5 days
November	10	9%	24	
December	1		0	
January	19		4	
February	14	4%	15	
March			30	4.8 days
April			31	4.5 days
May			31	
June	3		30	

(1) General access to unregulated flows is authorised in hours and days in Queensland and as a percentage in New South Wales

Table 11 – Irrigated production in the Border Rivers (hectares)

Crop	2015-16			2016-17		
	NSW	Qld	TOTAL	NSW	Qld	TOTAL
Cotton	13200	4200	17400	27094	8100	35194
Lucerne	750	500	1250	516	500	1016
Cereals	1610	1200	2810	1000	2500	3500
Peanuts	100	0	100	300	500	800
Fodder crops	670	200	870	820	200	1020
Horticultural crops	80	0	80	360	0	360
Other	50	50	100	20	100	120
Total	16,460	6,150	22,610	30,110	11,900	42,010

(1) The irrigated production statistics in this table include the crops grown on properties which take all or part of their irrigation water supplies from the Border Rivers. Crops grown on properties not supplied at least in part from the Border Rivers are not included in this table.

(2) The statistics for each year include the winter crop areas planted during the year

Table 12 - Groundwater allocation/entitlements in the Border Rivers Groundwater Area

	NSW ⁽¹⁾	Qld
Issued allocation/entitlement	15,402	14,421 ⁽²⁾
Allocation/entitlement issued, bores constructed	15,402	14,421
Allocation/entitlement issued, bores not constructed	0	0
Number of entitlements	26	26
Number of bores constructed	49	39 ⁽³⁾
Number of applications outstanding	0	0

(1) The figures provided for NSW are for the area defined as the NSW Border Rivers Upstream Keetah Bridge Alluvial Groundwater Source.

(2) The Queensland figures do not include the allocation issued in the shallow aquifer, which is about 3,500 ML

(3) 4 of the 39 bores constructed are not equipped.

Note: on the 1 June 2012 the "Water Sharing Plan for the NSW Border Rivers Unregulated and Alluvial Water Sources (the plan)" commenced.

In the plan, the area of the NSW alluvium that is part of the NSW/QLD Border Rivers Commission agreement is the NSW Border Rivers Upstream of Keetah Bridge Alluvial Groundwater Source.

The commencement of the plan turns on the Water Management Act 2000 in the area of the plan. This Act allows for trading of unit shares. You do not have to own land to own water. The number aquifer access licences can grow (if holders split share holdings) or reduce (if holders amalgamate share holdings) and the number of extraction points (bores) can also grow or reduce. The total number of shares will remain the same and usage will be restricted to the long term average extraction limit.

As of 15 September 2016 the following statics are in place:

Total amount of Local Water Utility Access ML	10
Total number of Local Water Utility Access extraction points	1
Total number of Aquifer Access Licence unit shares	15,392 ⁽⁵⁾
Long term average extraction limit ML	8,085
Total number of Aquifer Access Licences	25
Total number of Aquifer Access Licence extraction points completed	48
Total number of Aquifer Access Licences extraction points not completed	0

(5) At the commencement of the plan the available water determination is one ML per unit share

Table 13 - Groundwater use in the Border Rivers Groundwater Area (megalitres)

1 July 15 – 30 June 16		1 July 16 – 30 June 17	
NSW	Qld	NSW	Qld
3740	6679	3138	4706

Table 14 - Beardmore Dam environmental, stock and domestic water inflow, storage and outflow / releases (#)

Month	2015-16			2016-17		
	Inflow (ML)	Outflow / Release (ML)	Storage at end of month (ML)	Inflow (ML)	Outflow / Release (ML)	Storage at end of month (ML)
July	2400	2300	400	0	800	0
August	0	600	0	4300	0	4300
September	0	0	0	13200	16700	0
October	0	0	0	12000	10100	0
November	6500	0	6400	150	0	0
December	8800	12900	2100	0	0	0
January	11400	13000	300	2600	0	2500
February	15800	16500	100	0	2000	400
March	100	0	200	7800	5800	2200
April	400	0	500	14100	18400	0
May	0	400	100	500	700	0
June	800	0	800	0	0	0
Totals	46,200	45,700		54,650	54,500	

The first 730 meglitres per day of inflow to Beardmore Dam is accounted for as environmental, stock and domestic water under section 275 of the Condamine and Balonne resouce operations plan. Includes water harvesting event in February where Beardmore dam filled and spilled.

Table 15 Guidelines for physical and chemical stressors ANZECC (2000)

Water quality indicator		Default trigger value (1)	Notes
Salinity (μScm^{-1})	Upland rivers (2)	350	Conductivity may be higher during low flow periods
	Lowland rivers	300	
	Lakes and reservoirs	20 - 30	Conductivity in lakes and reservoirs is generally low but will vary depending on catchment geology
Turbidity (NTU)	Upland rivers (2)	25	High turbidities may be observed during high flow events
	Lowland rivers	50	
	Lakes and reservoirs	1 - 20	Deep reservoirs will generally have a lower turbidity than shallow reservoirs
Total Nitrogen (mgL^{-1})	Upland rivers (2)	0.2	
	Lowland rivers	0.6	
	Lakes and reservoirs	0.35	
Total Phosphorus (mgL^{-1})	Upland rivers (2)	0.02	Above these levels excessive algal growth may occur
	Lowland rivers	0.05	
	Lakes and reservoirs	0.01	

(1) The default trigger values provide a guide to the value or range of values of the specific water quality indicator, which, if exceeded, may indicate conditions detrimental to the health of the ecosystem which may require management action.

(2) Upland rivers are those above 150m altitude

Table 16 Summary of water quality 2015 16

Basin	Site no	Location	Electrical				Total Phosphorus				Total Nitrogen				Turbidity			
			N	10th %ile	Med	90th	N	10th %ile	Med	90th	N	10th %ile	Med	90th	N	10th %ile	Med	90th
Dumaresq Tributaries	416003	Tenterfield Creek at Clifton	11	253	322	391	12	0.03	0.08	0.15	12	0.56	0.82	1	11	3.32	5.85	8.6
	416310	Severn River at Farnbro	11	205	230	280	11	0.03	0.03	0.16	11	0.48	0.64	1.6	11	2.5	4.9	18
	416303	Pike Creek U/S Glenlyon Dam	8	296	344	387	8	0.03	0.03	0.03	8	0.23	0.27	0.35	8	0.37	0.58	4.21
	416309	Pike Creek at Glenlyon Dam Tailwater	12	261	364	499	12	0.03	0.05	0.18	12	0.42	0.67	1.37	12	2.1	6.7	11.9
	416032	Mole River at Donaldson	12	152	184	309	12	0.03	0.03	0.04	12	0.3	0.49	0.59	12	3.6	7.8	18.2
	416008	Beardy River at Haystack	12	131	153	164	12	0.03	0.04	0.04	12	0.32	0.44	0.5	12	4.7	11.5	33.3
	416312	Oaky Creek at Texas	7	616	644	686	7	0.03	0.07	0.11	7	0.19	0.61	0.82	7	4.9	9.4	14.1
	416415	Macintyre Brook at Booba Sands	12	379	490	610	12	0.04	0.05	0.06	12	0.68	0.83	0.99	12	6	9.1	32.2
Dumaresq River	416007	Macintyre River at Bonshaw Weir	12	172	226	288	12	0.03	0.03	0.05	12	0.36	0.52	0.7	12	4.4	9.1	22.6
	416049	Macintyre River at Mauro	12	170	229	288	13	0.03	0.05	0.09	13	0.45	0.6	0.68	12	6.5	8.4	28.4
Macintyre River	416012	Macintyre River at Holdfast	12	245	295	364	14	0.06	0.09	0.15	14	0.5	0.59	0.81	12	8.7	18.1	52.7
	4.2E+07	Salisbury Bridge (Boggabilla)	12	218	259	299	13	0.05	0.1	0.12	13	0.58	0.66	0.89	12	11.3	25.6	60.5
	416048	Macintyre River at Kanowna	12	192	244	291	13	0.07	0.11	0.16	13	0.6	0.71	1.08	12	46.6	82.6	177
Barwon River	416001	Barwon River at Mungindi	12	183	247	288	12	0.06	0.09	0.17	12	0.6	0.72	1	12	47.8	68.6	174.3
Weir River	416202	Weir River at Talwood	11	119	130	160	12	0.16	0.2	0.35	12	0.93	1.15	1.86	12	401.8	614.5	935.9
Intersecting Streams	424002	Paroo at willara crossing	12	61	91	119	12	0.14	0.2	0.28	12	0.64	0.79	1.19	12	461.7	669.5	982.7
	423002	Warrego River at Fords Bridge	11	83	130	156	11	0.19	0.28	0.42	11	0.79	1	1.3	11	274	578	2100
	422015	Culgoa River at Brenda	11	160	210	278	11	0.17	0.21	0.26	11	0.67	0.83	1.1	11	312	421	500
	422014	Bokhara River at Goodooga	12	150	221	297	12	0.21	0.29	0.38	12	0.7	0.94	1.39	12	371.5	563	650
	422013	Birrie River near Goodooga	5	142	190	282	5	0.22	0.28	0.32	5	0.78	0.9	1.09	9	390.6	550	787.2
	422012	Narran River at New Angledool	12	161	188	234	12	0.24	0.27	0.36	12	0.7	0.89	1.1	12	428.3	487	663
Glenlyon Dam	416315	Glenlyon 1: Top	12	257.1	260	267	11	0.02	0.03	0.03	11	0.84	0.96	1	11	1.9	2.4	3.7
		Glenlyon 1: Middle	12	253	263.5	270	11	0.02	0.03	0.03	11	0.75	0.8	0.86	11	1.5	2.5	2.9
		Glenlyon 1: Bottom	12	252.1	261	272.4	12	0.03	0.04	0.12	12	0.77	0.93	1.28	12	1.2	2.5	3.4

(1) The table provides information on the median value (middle value), the 10th percentile (10% of the samples are below this value) and the 90th percentile (90% of the samples are below this value; v.v. 10% of the samples are greater than this value). N = number of samples collected and analysed.

Table 17 Summary of water quality 2016 17

Basin	Site no	Location	Electrical				Total Phosphorus				Total Nitrogen				Turbidity			
			N	10th %ile	Med	90th	N	10th %ile	Med	90th	N	10th %ile	Med	90th	N	10th %ile	Med	90th
Dumaresq Tributaries	416003	Tenterfield Creek at Clifton	12	186	310	414	12	0.03	0.06	0.08	12	0.48	0.72	1.10	12	3.5	5.8	15.0
	416310	Severn River at Farnbro	11	191	217	250	11	0.02	0.04	0.06	11	0.54	0.70	1.00	11	3.1	6.2	14.3
	416303	Pike Creek U/S Glenlyon Dam	6	208	244	291	6	0.02	0.03	0.05	6	0.36	0.54	0.73	6	1.7	9.0	19.5
	416309	Pike Creek at Glenlyon Dam Tailwater	11	270	400	518	11	0.04	0.07	0.12	11	0.35	0.45	0.83	11	2.6	5.2	7.8
	416032	Mole River at Donaldson	12	130	162	245	12	0.03	0.05	0.07	12	0.35	0.69	0.88	12	3.6	13.0	24.0
	416008	Beardy River at Haystack	12	100	123	162	12	0.02	0.04	0.06	12	0.35	0.51	0.72	12	8.2	20.8	30.9
	416312	Oaky Creek at Texas	8	440	533	628	8	0.03	0.05	0.13	8	0.36	0.47	1.19	8	4.9	6.3	24.7
	416415	Macintyre Brook at Booba Sands	12	223	395	602	12	0.04	0.08	0.11	12	0.76	1.00	1.29	12	6.4	10.4	38.5
Dumaresq River	416007	Macintyre River at Bonshaw Weir	12	134	173	230	12	0.03	0.05	0.07	12	0.49	0.63	0.97	12	3.7	18.2	31.6
	416049	Macintyre River at Mauro	12	121	184	248	12	0.04	0.07	0.08	12	0.49	0.64	0.93	12	5.2	22.9	39.4
Macintyre River	416012	Macintyre River at Holdfast	12	200	237	321	12	0.10	0.14	0.22	12	0.61	0.82	1.15	12	10.7	25.0	100.0
	4.2E+07	Salisbury Bridge (Boggabilla)	12	191	217	343	12	0.09	0.11	0.15	12	0.62	0.76	1.00	12	10.3	29.2	57.6
	416048	Macintyre River at Kanowna	11	177	248	284	11	0.09	0.14	0.18	11	0.59	0.96	1.20	11	39.2	75.0	108.0
Barwon River	416001	Barwon River at Mungindi	12	178	213	260	12	0.08	0.11	0.16	12	0.69	0.92	1.38	12	41.9	93.0	156.5
Weir River	416202	Weir River at Talwood	12	120	171	247	12	0.08	0.17	0.33	12	1.08	1.42	1.64	12	172.0	465.0	900.0
Intersecting Streams	424002	Paroo at willara crossing	8	58	112	137	8	0.15	0.18	0.25	8	0.80	1.01	1.67	8	449.4	550.0	745.0
	423002	Warrego River at Fords Bridge	8	84	91	188	8	0.10	0.24	0.45	8	0.51	1.11	2.16	8	454.0	550.0	1642.1
	422015	Culgoa River at Brenda	9	140	200	334	9	0.12	0.23	0.27	9	0.65	1.18	1.38	9	173.0	400.0	690.0
	422014	Bokhara River at Goodooga	10	138	260	410	10	0.13	0.27	0.53	10	0.78	1.27	2.20	10	394.0	603.5	753.6
	422013	Birrie River near Goodooga	2	113	125	137	2	0.24	0.25	0.26	2	0.77	0.92	1.06	2	400.0	400.0	400.0
	422012	Narran River at New Angledool	10	111	170	236	10	0.12	0.17	0.28	10	0.55	0.96	1.43	10	148.2	446.5	776.8
Glenlyon Dam	416315	Glenlyon 1: Top	12	198	210	243	12	0.02	0.03	0.04	12	0.70	1.10	1.20	12	1.4	3.4	6.3
		Glenlyon 1: Middle	12	197	201	236	12	0.02	0.03	0.04	12	0.78	0.99	1.05	12	2.2	6.1	9.0
		Glenlyon 1: Bottom	12	211	219	246	12	0.03	0.05	0.11	12	0.98	1.11	1.29	12	2.8	6.6	8.8

(1) The table provides information on the median value (middle value), the 10th percentile (10% of the samples are below this value) and the 90th percentile (90% of the samples are below this value; v.v. 10% of the samples are greater than this value). N = number of samples collected and analysed

Table 18 Stream gauging stations (Border Rivers)

AWRC No	Stream	Station	Equipment (see note)	Telemetry	Established date	Owned by	2015-16 Total Flow (MLx103)	2016-17 Total Flow (MLx103)	Historical		
									Min	Max	Median
416001	Barwon River	Mungindi	AR	Yes	1889	Water NSW	79		21 (1994-95)	3,131 (1950-51)	431
416002	Macintyre River	Boggabilla	AR	Yes	1895	Water NSW	265	1624	29 (1919-20)	4,490 (1950-51)	622
416003	Tenterfield Creek	Clifton	AR	Yes	1921	Water NSW	10	51.5	1 (2002-03)	235 (1949-50)	36.5
416006	Severn River	Ashford	AR	Yes	1934	Water NSW	89	440	17 (1941-42)	1,389 (1950-51)	187
416007	Dumaresq River	Bonshaw Weir	AR	Yes	1934	Water NSW	132	891	54 (1993-94)	1,739 (2010-11)	252
416008	Beardy River	Haystack	AR	Yes	1934	Water NSW	42.5	219	5 (1941-42)	219 (2016-17)	31
416010	Macintyre River	Wallangra	AR	Yes	1937	Water NSW	75.3	247	6 (1941-42)	667 (1970-71)	77
416011	Dumaresq River	Roseneath	AR	Yes	1937	Water NSW	87.3	532	36 (1993-94)	1,603 (1955-56)	273
416012	Macintyre River	Holdfast	AR	Yes	1951	Water NSW	168	721	49 (1957-58)	1,682 (1955-56)	280
416020	Ottdleys Creek	Coolatai	AR	Yes	1967	Water NSW	8.1	15	1 (2006-07)	65 (2000-01)	8
416032	Mole River	Donaldson	AR	Yes	1969	Water NSW	41.3	210	13 (1993-94)	465 (1975-76)	71
416037	Boomi River	Offtake	AR	Yes	1973	Water NSW	12.1	77	3 (1994-95)	149 (2011-12)	34
416040	Dumaresq River	Glenarbon Weir	AR	Yes	1996	Water NSW	122	875	74 (2006-07)	1,793 (2010-11)	190
416043	Macintyre River	Boomi Weir	AR	Yes	1976	Water NSW	134	440	21 (1994-95)	551 (2010-11)	158
416047	Macintyre River	Terrewah	AR	Yes	1985	Water NSW	193	913	31 (1994-95)	1,488 (2010-11)	243
416048	Macintyre River	Kanowna	AR	Yes	1988	Water NSW	106	389	25 (1994-95)	727 (1998-99)	140
416201A	Macintyre River	Goondiwindi	AR	Yes	1950	DNRM	241	1624	61 (1994-95)	4,616 (1950-51)	789
416201B	Macintyre River	Goondiwindi Weir	AR	Yes	1997	DNRM	222	1331	158 (2006-07)	2,421 (2010-11)	279
416202A	Weir River	Talwood	AR	Yes	1949	DNRM	14.7	99	0 (2006-07)	687 (1995-96)	66
416305B	Brush Creek	Beebo	AR	Yes	1950	DNRM	0.3	2.5	0 (Several)	55 (1995-96)	2.5
416309B	Pike Creek	Glenlyon Dam Tailwater	AR	Yes	1973	DNRM	16.3	20.5	4 (1976-77)	180 (1988-89)	49
416310A	Dumaresq River	Farnbro	AR	Yes	1962	DNRM	2.4	110	0.9 (2002-03)	433 (2010-11)	53
416312A	Oakey Creek	Texas	AR	Yes	1969	DNRM	3.5	17	0.01 (1973-74)	99 (1995-96)	6
416315A	Pike Creek	Glenlyon Dam Headwater	AR	Yes	1977	DNRM	0	0	0 (Several)	133 (2010-11)	0
416402C	Macintyre Brook	Inglewood	AR	Yes	1953	DNRM	12.2	63	6 (1994-95)	542 (1995-96)	37
416415A	Macintyre Brook	Booba Sands	AR	Yes	1987	DNRM	5.3	69	4 (1994-95)	630 (1995-96)	33

(1) AR = automatic recorder; SG = staff gauge, Established date = commencement date of Hydtra data records, NOW = NSW Office of Water, DNRM = Queensland Department of Natural Resources and Mines

Table 19 Stream gauging stations (Intersecting Streams)

AWRC No	Stream	Station	Equipment (see note)	Telemetry	Established date	Owned by	2015-16 Total Flow (MLx103)	2016-17 Total Flow (MLx103)	Historical		
									Min	Max	Median
417001	Moonie River	Gundablouie	AR	Yes	1945	Water NSW	3.33	107	0 (1951-52)	674 (2011-12)	63.5
417204A	Moonie River	Fenton	AR	Yes	1971	DNRM	1.1	102	0.5 (1979-80)	670 (1975-76)	68
422005	Bokhara River	Goodwin's	AR	Yes	1944	Water NSW	1.94	5.76	0 (Several)	652 (1955-56)	25.6
422006	Culgoa River	Downstream Collerina	SG	No	1944	Water NSW	28.5	86.3	7 (2001-02)	2,341 (1989-90)	284
422010	Birrie River	Talawanta	SG	No	1964	Water NSW	0.835	4.06	0 (Several)	379 (1975-76)	24.3
422011	Culgoa River	Upstream Collerina	AR	Yes	1964	Water NSW	29.3	80.1	6 (2001-02)	1,898 (2010-11)	167
422030	Narran River	Angledool	Discontinued	No	1959	Water NSW	5.86	32.5	0 (1992-93)	697 (2010-11)	107.3
422013	Birrie River	Near Goodooga	AR	No	1964	Water NSW	2.46	5.72	0 (1992-93)	510 (2010-11)	28.7
422032	Bokhara River	Goodooga	SG	No	1915	Water NSW	2.65	7.06	0 (Several)	445 (2010-11)	14.4
422015	Culgoa River	Brenda	AR	Yes	1960	Water NSW	18.1	71.5	0 (1992-93)	2530 (2010-11)	135
422016	Narran River	Wilby Wilby	AR	No	1964	Water NSW	4.24	30.3	0 (2006-07)	623 (2010-11)	103
422017	Culgoa River	Weilmoringle	SG	No	1964	Water NSW	15.9	70.5	0 (1992-93)	1900 (2010-11)	165
422204A	Culgoa River	Whyenbah	AR	Yes	1965	DNRM	59	186	2.7 (1992-93)	2,247 (2010-11)	320
422206A	Narran River	Dirranbandi- Hebel Road	AR	Yes	1965	DNRM	12.5	53	0.2 (1992-93)	1,993 (2010-11)	104
422207A	Ballando ol River	Hebel-Bollon Road	AR	Yes	1965	DNRM	2.2	5.7	0 (1992-93)	390 (2010-11)	15
422209A	Bokhara River	Hebel	AR	Yes	1967	DNRM	6.7	10.4	0.5 (1992-93)	374 (2010-11)	20
422211A	Briarie Creek	Woolerbilli- Hebel Road	AR	Yes	1992	DNRM	0.02	0.5	0 (Several)	953 (2010-11)	7
423001	Warrego River	Fords Bridge	AR	Yes	1921	Water NSW	0.481	6.85	1 (Several)	344 (1989-90)	5.82
423002	Warrego River	Fords Bridge (Bywash)	AR	Yes	1921	Water NSW	8.55	43.1	0 (1957-58)	249 (1955-56)	36.1
423202C	Warrego River	Cunnamulla Weir	AR	Yes	1992	DNRM	115	346	0 (2013-14)	1,832 (2009-10)	137
424002	Paroo River	Willara Crossing	AR	Yes	1975	Water NSW	75.6	119	26 (1979-80)	2,072 (1975-76)	170
424201A	Paroo River	Caiwarro	AR	Yes	1967	DNRM	184	168	13 (2012-13)	2,041 (2009-10)	300
11202	Bulloo River	Autumnvale	AR	Yes	1967	DNRM	322	351	19 (1976-77)	3,241 (1973-74)	388

(1) AR = automatic recorder; SG = staff gauge, Established date = commencement date of Hydstra data records, NOW = NSW Office of Water, DNRM = Queensland Department of Natural Resources and Mines

Table 20 Groundwater monitoring network

Bore number	Location	State	Piezometer	Depth (m)	Automatic WL Recorder (Yes/No)	Year Installed	Depth to WL 2015-16		Depth to WL 2016-17	
							Max (m)	Min (m)	Max (m)	Min (m)
41640001	Keetah Crossing	Qld	A	87.3	No	1985	Not on network		5.85	4.4
41640001	Keetah Crossing	Qld	B	46.8	No	1985	5.91	4.78	5.85	4.62
41640002	Keetah Crossing	Qld	A	17.8	No	1985	Dry (8.37)		Dry (8.30)	
41640003	Yelarbon Desert	Qld	A	92.4	No	1985	4.25	3.89	4.17	3.88
41640003	Yelarbon Desert	Qld	B	47.9	No	1985	5.69	5.31	5.75	5.31
41630009	Glenarbon	Qld	A	93	No	1996	Not on network		38.07	31.33
41630042	David Muggleton	Qld	A	13.3	No	1959	7.55	7.43	7.61	7.16
41630039	'Eldorado'	Qld	A	16.7	No	1959	Not on network		Not on network	
41630072	Cunningham Weir	Qld	A	90.4	Yes	1985	48.93	33.87	49.57	35.14
41630072	Cunningham Weir	Qld	B	41.4	Yes	1985	36.37	30.14	35.12	30.47
41630072	Cunningham Weir	Qld	C	10.4	Yes	1985	5.9	5.71	5.87	4.53
41630064	Texas	Qld	A	52.5	No	1985	23.47	19.84	23.56	17.61
41630064	Texas	Qld	B	28.5	No	1985	20.03	17.06	17.65	15.44
41630066	Bill & Tater	Qld	A	90.4	Yes	1985	40.20	20.35	38.92	18.96
41630066	Bill & Tater	Qld	B	45.9	Yes	1985	31.3	18.15	33.09	22.70
41630067	Bill & Tater	Qld	A	12.2	Yes	1985	5.35	4.81	5.04	4.48
41630063	Finlay's	Qld	A	100.6	No	1983	15.67	7.42	9.93	6.56
41630063	Finlay's	Qld	B	64.6	No	1983	15.49	7.37	10.54	6.46
41630062	Finlay's	Qld	A	17.4	No	1985	6.64	5.87	6.17	5.27
41630071	Finlay's	Qld	A	48.2	No	1985	Not on network		Not on network	
41630071	Finlay's	Qld	B	41.2	No	1985	Not on network		Not on network	
41630059	John Moore	Qld	A	101.7	No	1985	6.95	6.78	6.90	6.17
41630069	John Moore	Qld	A	92	No	1985	16.17	7.28	20.17	9.57
41630069	John Moore	Qld	B	35.9	No	1985	11.96	7.68	16.38	8.10
41630069	John Moore	Qld	C	15.4	No	1985	7.45	6.01	7.37	5.89
41630060	John Moore	Qld	A	12.1	No	1985	Not on network		Not on network	
41630058	John Moore	Qld	A	10.6	No	1985	Not on network		Not on network	
41630070	Phillip Harpham	Qld	A	9.2	No	1985	5.57	3.93	4.54	3.81
41630004	V and E Sattolo	Qld	A	11.8	No	1960	Not on network		11.39	11.05
41630003	V and E Sattolo	Qld	A	27.1	No	1961	Not on Network		Not on network	
41630002	V and E Sattolo	Qld	A	29.9	No	1961	14.81	13.72	14.45	12.82
GW036697	Keetah Bridge	NSW	1	20	Yes	1987	8.89	8.85	8.89	8.87
GW036697	Keetah Bridge	NSW	2	64	Yes	1987	5.27	4.72	6.94	4.61
GW036697	Keetah Bridge	NSW	3	83.5	Yes	1987	6.87	6.8	6.85	4.96
GW093060	Smithfield Section	NSW	1	13.4	No	2009			7.92	6.6
GW093061	Smithfield Section	NSW	1	15.1	No	2009			9.41	8.12
GW093061	Smithfield Section	NSW	2	25.3	No	2009			19.3	18.44
GW040635	Smithfield Section	NSW	1	15.9	No	1960	9.07	8.62	8.44	7.24
GW040636	Smithfield Section	NSW	1	11.3	No	1960	8.02	7.81	7.71	6.68
GW040637	Smithfield Section	NSW	1	7.9	No	1960	6.88	6.65	6.21	5.58
GW040638	Smithfield Section	NSW	1	11.9	No	1960	11.43	10.45	11.26	9.46

Table 20 Groundwater monitoring network

Bore number	Location	State	Piezometer	Depth (m)	Automatic WL Recorder (Yes/No)	Year Installed	Depth to WL 2015-16		Depth to WL 2016-17	
							Max (m)	Min (m)	Max (m)	Min (m)
GW093062	Smithfield Section	NSW	1	15.6	No	2009			8.79	7.75
GW40771	Smithfield Section	NSW	1	30	Yes	1994	29.87	29.39	30.03	29.67
GW40771	Smithfield Section	NSW	2	37	Yes	1994	32.95	32.08	33.31	32.05
GW40771	Smithfield Section	NSW	3	50	Yes	1994	35.09	33.47	35.55	29.72
GW040641	Riverstone Section	NSW	1	35	No	1960	8.73	7.93	7.6	7.31
GW040642	Riverstone Section	NSW	1	9.7	No	1960			6.58	5.81
GW040644	Riverstone Section	NSW	1	9.5	No	1960	8.56	8.03	8.24	7.46
GW040646	Riverstone Section	NSW	1	7.7	No	1960	7.21	5.99	6.29	5.56
GW040647	Hopwood Section	NSW	1	12.8	No	1959	8.86	8.79	8.77	7.72
GW040648	Hopwood Section	NSW	1	11.2	No	1959			8.35	8.02
GW040649	Hopwood Section	NSW	1	28.9	No	1959	7.82	7.64	7.56	7.1
GW040650	Hopwood Section	NSW	1	12.6	No	1959			8.64	8.24
GW040652	Hopwood Section	NSW	1	12.2	No	1959	8.4	8.27	8.38	7.88
GW040653	Hopwood Section	NSW	1	10.9	No	1959			8.29	7.84
GW93063	Lochiel Section	NSW	1	12	No	2009			7.06	6.14
GW93063	Lochiel Section	NSW	2	21.7	No	2009			7.04	6.41
GW93064	Lochiel Section	NSW	1	13.3	No	2009			8.46	7.71
GW93064	Lochiel Section	NSW	2	22.3	No	2009			7.12	7.73
GW93065	Lochiel Section	NSW	1	12.6	No	2009			6.99	6.58
GW93065	Lochiel Section	NSW	2	27	No	2009			8.5	7.73
GW40829	Lochiel Section	NSW	1	12	No	1996	9.46	9.34	9.32	8.92
GW40829	Lochiel Section	NSW	2	42	No	1996	9.62	9.48	9.49	8.14
GW40830	Lochiel Section	NSW	1	27	No	1996	10.23	9.88	10.27	10.16
GW40831	Lochiel Section	NSW	1	44	Yes	1996	36.75	33.99	37.09	34.52
GW40831	Lochiel Section	NSW	2	96	Yes	1996	38.92	36.65	40.61	34.89

(1) Monitoring bore has no information available.