

*Dumaresq-Barwon
Border Rivers Commission*



*Annual Statistics
2010-11*



Dumaresq-Barwon Border Rivers Commission 2010-11 Annual Statistics

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Water infrastructure

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
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DAMS

Glenlyon Dam	Pike Creek	6.4	Stanthorpe Tenterfield Texas	Earth and rockfill	47.4	254,000	1976
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WEIRS

Boggabilla Weir	Macintyre River	283.5	Boggabilla Goondiwindi	Reinforced concrete and earthfill	8.5	5,850	1991
Boomi Weir	Macintyre River	147.0	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	57.0	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	Dirranbandi	Steel sheetpiling with rock protection			1974
Regulator No 2	Balonne Minor	128.9	Dirranbandi	Steel sheetpiling with rock protection			1974
	Donnegri River	14.9	Dirranbandi	Steel sheetpiling with rock protection			1974
Regulator No 3	Ballandool River	91.4	Dirranbandi	Steel sheetpiling with rock protection			1974
	Bokhara River	79.8	Dirranbandi	Steel sheetpiling with rock protection			1974
Regulator No 4	Birrie River	274.7	Goodooga	Steel sheetpiling with rock protection			1974
	Bokhara River	276.2	Goodooga	Steel sheetpiling with rock protection			1974

Table 2 - Glenlyon Dam monthly storage volumes (megalitres)

End of month	2009-10	2010-11
July	60,280	60,500
August	59,800	116,570
September	58,630	198,510
October	51,090	222,390
November	54,350	226,180
December	56,830	259,290
January	56,930	254,390
February	56,090	252,020
March	57,110	251,610
April	56,060	251,110
May	55,590	250,670
June	56,090	250,880

(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	2009-10		2010-11	
	Release	Spillway flows	Release	Spillway flows
July	0	0	0	0
August	91	0	0	0
September	768	0	0	0
October	7,370	0	0	0
November	2,861	0	0	0
December	3,778	0	0	22,173
January	0	0	0	110,640
February	0	0	0	179
March	0	0	0	0
April	459	0	0	0
May	318	0	0	0
June	0	0	0	0

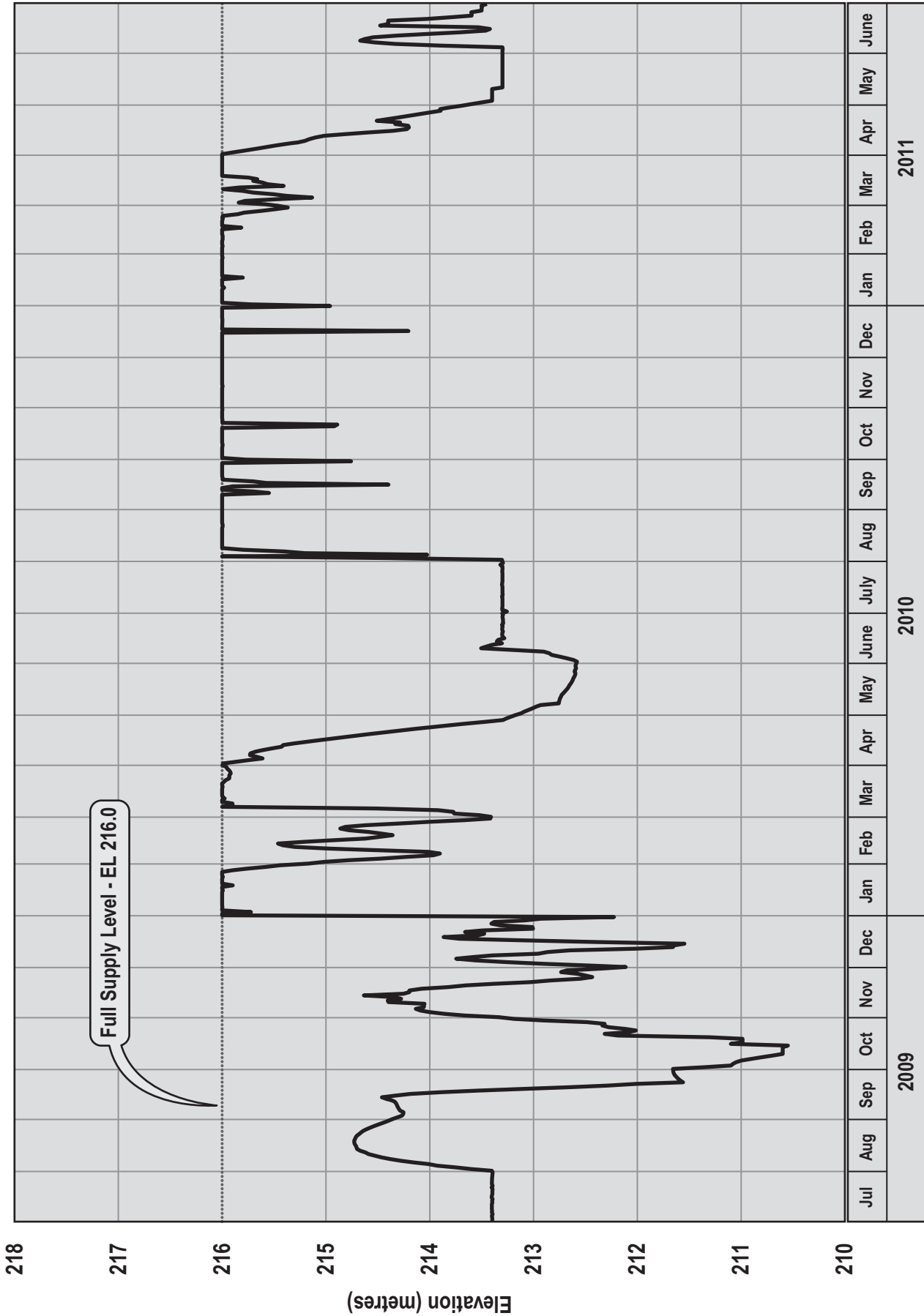
(1) The monthly releases in this table are the flow volumes as recorded at GS 416309B less any spillway flows.

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

Table 4 - Glenlyon Dam recreation statistics

1 July 09 - 30 June 10		1 July 10 – 30 June 11	
Visitors	Camp sites occupied	Visitors	Camp sites occupied
69,960	7,190	75,850	6,530

Figure 1 - Boggabilla Weir storage levels 2010-2011



Resource allocation, sharing and use

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	QLD	NSW	QLD
Pike Creek and Dumaresq River from Glenlyon Dam to Bonshaw Weir	5,682	3,543	2,546	461		
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	6,874	6,046	2,490	721		
Texas Town		270				
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	2,192	4,128	981	3,801	400	6,300
Yelarbon Town		106				
Macintyre River from Dumaresq River junction to Goondiwindi Weir (excluding Goondiwindi & Boggabilla towns)	60,740	32,502	29,076	35,526	24,500	125,850
Boggabilla Town	200					
Goondiwindi Town		1,800				
Macintyre River from Goondiwindi Weir to Boomi Weir	121,393	10,628	55,618	15,940	98,675	25,210
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	51,057	25,641	23,030	42,937	60,600	119,370
Mungindi Town	300					
Totals	248,438	84,664	113,741	99,386	184,175	276,730

(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 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 09 - 30 June 10 (megalitres)

	Supplemented/regulated			Unsupplemented/ supplementary		
	NSW	QLD	Total	NSW	QLD	Total
Pike Creek and Dumaresq River from Glenlyon Dam to Bonshaw Weir	1,632	240	1,872	445	30	475
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	1,046	990	2,036	190	370	560
Texas Town		100	100			
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	672	1,040	1,712	101	1,020	1,121
Yelarbon Town		80	80			
Macintyre River from Dumaresq River junction to Goondiwindi Weir (excluding Goondiwindi & Boggabilla towns)	13,528	4,920	18,448	6,532	9,940	16,472
Boggabilla Town	168		168			
Goondiwindi Town		2,080	2,080			
Macintyre River from Goondiwindi Weir to Boomi Weir	28,579	850	29,429	14,356	4,340	18,696
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	12,988	3,710	16,698	15,186	25,470	40,656
Mungindi Town	280		280			
Totals	58,893	14,010	72,903	36,810	41,170	77,980

(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 10 - 30 June 11 (megalitres)

	Supplemented/regulated			Unsupplemented/ supplementary		
	NSW	QLD	Total	NSW	QLD	Total
Pike Creek and Dumaresq River from Glenlyon Dam to Bonshaw Weir	190	209	399	740	212	952
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	104	68	172	412	1,174	1,586
Texas Town		161	161			
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	2,370	300	2,670	75	1,531	1,606
Yelarbon Town		64	64			
Macintyre River from Dumaresq River junction to Goondiwindi Weir (excluding Goondiwindi & Boggabilla towns)	30,596	2,931	33,527	23,870	66,823	90,693
Boggabilla Town	114		114			
Goondiwindi Town		1,503	1,503			
Macintyre River from Goondiwindi Weir to Boomi Weir	35,975	1,171	37,146	47,923	35,147	83,070
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	21,171	799	21,970	17,455	40,973	58,428
Mungindi Town	195		195			
Totals	90,715	7,206	97,921	90,475	145,860	236,335

(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 09 – 30 June 10 (gigalitres)

Bulk Accounts	Queensland				New South Wales			
	Account balance 1/7/09	Total use/ loss for year	Total distribution for year	Account balance 1/7/10	Account balance 1/7/09	Total use/ loss for year	Total distribution for year	Account balance 1/7/10
	(a)	(b)	(c)	(a)-(b)+(c)	(a)	(b)	(c)	(a)-(b)+(c)
Storage Loss (Glenlyon Dam)	3.78	5.83	5.20	3.15	2.99	5.32	5.61	3.28
Storage Loss (Pindari Dam)					10.85	7.64	4.84	8.05
Essential Supplies (minimum release)	0.00	0.00	0.00	0.00	6.08	15.83	15.83	6.08
Essential Supplies (other)	6.67	2.30	2.29	6.66	24.71	3.34	3.34	24.71
Essential Supplies Delivery Loss	2.56	0.77	0.76	2.55	10.31	1.01	1.01	10.31
General Use	15.23	12.44	8.21	11.00	80.59	71.11	31.53	41.01
General Use Delivery Loss	4.57	3.75	2.46	3.28	24.18	21.33	9.45	12.30

Table 9 – Summary of resource assessments (Border Rivers) 1 July 10 – 30 June 11 (gigalitres)

Bulk Accounts	Queensland				New South Wales			
	Account balance 1/7/10	Total use/ loss for year	Total distribution for year	Account balance 1/7/11	Account balance 1/7/10	Total use/ loss for year	Total distribution for year	Account balance 1/7/11
	(a)	(b)	(c)	(a)-(b)+(c)	(a)	(b)	(c)	(a)-(b)+(c)
Storage Loss (Glenlyon Dam)	3.15	11.92	16.51	7.74	3.28	15.02	21.83	10.09
Storage Loss (Pindari Dam)					8.05	14.57	24.52	18.00
Essential Supplies (minimum release)	0.00	0.00	0.00	0.00	6.08	12.79	12.79	6.08
Essential Supplies (other)	6.66	1.54	1.83	6.95	24.71	0.41	0.41	24.71
Essential Supplies Delivery Loss	2.55	0.45	0.54	2.64	10.31	0.15	0.15	10.31
General Use	11.00	5.82	64.94	70.12	41.01	84.21	336.09	292.89
General Use Delivery Loss	3.28	1.75	19.51	21.04	12.30	25.27	100.84	87.87

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

Month	1 July 09 – 30 June 10		1 July 10 – 30 June 11	
	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 days		20 days	
August			31 days	103 days / 100%
September			30 days	
October			31 days	
November			30 days	
December	1 day	1 day 23 hrs / 19.5%	31 days	
January	22 days		31 days	80 days / 100%
February			22 days	
March		(Note 2)	23 days	
April			30 days	
May			31 days	
June	26 days		30 days	23 hours / 100%

(1) General access to unregulated flows is denoted as hours and days of pumping in Qld and as a percentage of allocation in NSW.

(2) Downstream of the Macintyre Brook junction to the Newinga regulator Qld water users were permitted to pump for 13 hrs and NSW water users were permitted to take 5.5% of allocation. Downstream of the Newinga regulator Qld water users were permitted to pump for 18 days 16 hrs and NSW water users were permitted to take 100% of allocation.

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

Crop	2009-10			2010-11		
	NSW	Qld	TOTAL	NSW	Qld	TOTAL
Cotton	17,500	5,200	22,700	31,900	14,750	46,650
Lucerne	625	375	1,000	680	420	1,100
Cereals	2,500	2,200	4,700	3,600	1,750	5,350
Peanuts	200	0	200	150	0	150
Fodder crops	655	325	980	770	230	1,000
Horticultural crops	50	20	70	50	20	70
Other	280	100	380	360	125	485
Total	21,810	8,220	30,030	37,510	17,295	54,805

(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 ⁽³⁾
Allocation/entitlement issued, bores constructed	15,402	14,421
Allocation/entitlement issued, bores not constructed	0	0
Number of entitlements	26	26
Number of licences	50	
Number of bores constructed	48	37
Number of applications outstanding	0	8 ⁽³⁾

(1) The figures provided for NSW are for the area defined as the Border Rivers Alluvium GWMA 022 Glenlyon Dam to Keetah Bridge

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

(3) Applications for proposed bores.

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

1 July 09 – 30 June 10		1 July 10 – 30 June 11	
NSW	Qld	NSW	Qld
6,144	6,897 ⁽¹⁾	1,404	3,150

(1) Usage for the period 1 April 2009 to 31 March 2010.

Resource management

Table 14 - Beardmore Dam compensation inflow, storage and releases

Month	2009-10			2010-11			
	Inflow (ML)	Release (ML)	Storage at end of month (ML)	Inflow (ML)	Release (ML)	Storage at end of month (ML)	
June	0	0	0	0	0	0	
July	0	0	0	0		0	
August	0	0	0	0		0	
September	0	0	0	12,410	From mid-September 2010 all inflows up to 730 ML/day were passed through the dam	0	
October	0	0	0	22,630		0	
November	0	0	0	20,843		0	
December	1,460	0	1,460	22,630		0	
January	12,250	13,360	0	22,630		0	
February	17,520	17,520	0	20,009		0	
March	22,630	22,630	0	21,788		0	
April	13,420	13,420	0	21,900		0	
May	0	0	0	21,493		0	
June	0	0	0	13,599		0	
Totals	67,280	66,930		199,932			

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⁾	0.20	
	Lowland rivers	0.60	
	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 2009-10

Basin	Site no	Location	Electrical Conductivity $\mu\text{S/cm}$				Total Phosphorus (mg/L)				Total Nitrogen (mg/L)				Turbidity (NTU)			
			N	10 th %ile	Med	90 th %ile	N	10 th %ile	Med	90 th %ile	N	10 th %ile	Med	90 th %ile	N	10 th %ile	Med	90 th %ile
Dumaresq Tributaries	416003	Tenterfield Creek at Clifton	12	215	296	372	11	0.04	0.06	0.12	11	0.56	0.74	0.89	11	2.2	6.4	12
	416310	Severn River at Farnbro	6	117	182	245	5	0.02	0.03	0.05	5	0.41	0.53	0.59	5	6.0	9.4	6
	416303	Pike Creek at U/S Glenlyon Dam	7	205	252	340	5	0.02	0.03	0.15	5	0.24	0.31	0.93	5	2.4	3.2	7
	416309	Pike Creek at Glenlyon Dam Tailwater	12	242	396	465	10	0.03	0.05	0.09	10	0.58	0.70	1.05	10	4.4	6.0	12
	416032	Mole River at Donaldson	12	128	172	240	11	0.04	0.05	0.07	11	0.43	0.49	0.94	11	5.2	9.5	12
	416008	Beardy River at Haystack No. 4	12	115	159	224	11	0.03	0.04	0.05	11	0.31	0.47	0.65	11	4.3	12.0	12
	416312	Oaky Creek at Texas	3	473	487	553	3	0.05	0.05	0.11	3	0.51	0.53	0.87	3	2.2	4.8	3
	416415	Macintyre Brook at Booba Sands	12	238	336	465	11	0.03	0.05	0.13	11	0.52	0.85	1.20	11	5.1	10.0	12
Dumaresq River	416007	Bonshaw Weir	12	152	206	236	11	0.03	0.03	0.05	11	0.41	0.47	0.73	11	2.5	8.1	12
	416049	Mauro	12	171	205	253	11	0.04	0.06	0.10	11	0.49	0.63	0.86	11	4.7	15.0	12
Macintyre River	416012	Holdfast	12	181	270	334	11	0.04	0.05	0.11	11	0.45	0.50	0.77	11	5.7	13.0	12
	4161004	Salisbury Bridge (Boggabilla)	12	186	213	269	12	0.04	0.07	0.11	12	0.53	0.69	0.74	12	13.3	24.5	12
	416048	Kanowna	11	156	202	256	11	0.05	0.07	0.14	11	0.50	0.64	1.00	10	53.0	67.5	11
Barwon River	416001	Mungindi	12	156	203	257	12	0.04	0.07	0.14	12	0.52	0.75	1.09	12	26.0	70.0	12
Weir River	416202	Talwood	12	122	152	224	12	0.14	0.18	0.24	12	1.01	1.35	1.79	12	321.0	450.0	12
Intersecting Streams	424002	Paroo River at Willara Crossing	5	80	103	151	4	0.14	0.17	0.33	4	0.75	0.92	1.42	4	206.0	480.0	5
	423002	Warrego River at Fords Bridge Bywash	4	83	111	130	5	0.14	0.19	0.32	5	0.58	0.78	1.19	5	310.0	600.0	4
	422015	Culgoa River at Brenda	4	48	172	195	5	0.20	0.21	0.45	5	0.75	0.87	1.28	5	308.0	500.0	4
	422014	Bokhara River at Goodooga	3	156	194	224	4	0.21	0.28	0.34	4	0.77	1.10	1.34	4	200.0	355.0	3
	422013	Birrie River at Near Goodooga	1	198	198	198	2	0.24	0.24	0.24	2	0.65	1.03	1.41	2	333.0	345.0	1
	422012	Narran River at New Angledool	3	209	255	269	4	0.11	0.14	0.26	4	0.79	0.84	0.87	4	125.0	320.0	3
Glenlyon Dam	416315	Glenlyon 1: Top	11	194	210	218	11	0.02	0.03	0.03	11	0.79	0.93	1.20	11	1.8	4.5	11
		Glenlyon 1: Middle	11	204	211	220	11	0.02	0.03	0.03	11	0.72	0.81	1.00	11	2.4	4.5	11
		Glenlyon 1: Bottom	10	202	217	235	10	0.02	0.04	0.14	10	0.87	0.91	1.72	10	2.2	3.8	10

(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=No. of samples collected and analysed.

(2) At the time this table was compiled not all the results from the sampling season (2009-2010) had been analysed. Consequently, the values shown here may change slightly when all the results for that sampling season have been analysed.

Table 17 - Summary of water quality 2010-11

Basin	Site no	Location	Electrical Conductivity $\mu\text{S/cm}$				Total Phosphorus (mg/L)				Total Nitrogen (mg/L)				Turbidity (NTU)			
			N	10 th %ile	Med	90 th %ile	N	10 th %ile	Med	90 th %ile	N	10 th %ile	Med	90 th %ile	N	10 th %ile	Med	90 th %ile
Dumaresq Tributaries	416003	Tenterfield Creek at Clifton	12	135	317	372	12	0.03	0.06	0.10	12	0.45	0.71	1.20	12	3.7	18.0	25.0
	416310	Severn River at Farnbro	12	135	193	214	12	0.03	0.04	0.07	12	0.62	0.90	1.00	12	4.3	10.2	18.8
	416303	Pike Creek at U/S Glenlyon Dam	12	158	195	253	12	0.02	0.04	0.06	12	0.55	0.81	1.09	12	3.5	10.8	39.7
	416309	Pike Creek at Glenlyon Dam Tailwater	12	308	482	614	12	0.02	0.04	0.06	12	0.31	0.45	0.86	12	3.0	8.2	24.7
	416032	Mole River at Donaldson	12	111	166	253	12	0.03	0.04	0.07	12	0.32	0.52	0.88	12	3.8	16.0	31.9
	416008	Beardy River at Haystack No. 4	12	95	122	159	12	0.02	0.04	0.08	12	0.42	0.55	0.83	12	11.7	27.0	49.5
	416312	Oaky Creek at Texas	10	204	370	513	10	0.03	0.05	0.07	10	0.32	0.55	0.81	10	8.6	19.0	87.5
	416415	Macintyre Brook at Booba Sands	12	186	326	561	12	0.05	0.09	0.14	12	0.71	0.95	1.39	12	10.1	35.0	100.0
Dumaresq River	416007	Bonshaw Weir	12	122	184	316	12	0.04	0.05	0.07	12	0.80	0.96	1.58	12	9.2	18.0	63.0
	416049	Mauro	12	141	194	366	12	0.04	0.06	0.09	12	0.83	1.00	1.49	12	5.0	26.0	72.0
Macintyre River	416012	Holdfast	12	175	230	352	12	0.08	0.15	0.21	12	0.52	0.73	1.27	12	9.4	36.5	85.0
	41610044	Salisbury Bridge (Boggabilla)	12	172	222	372	12	0.06	0.09	0.16	12	0.68	0.88	1.37	12	13.7	36.0	93.5
	416048	Kanowna	11	144	247	375	11	0.07	0.14	0.17	11	0.64	0.89	1.20	11	65.0	100.0	170.0
Barwon River	416001	Mungindi	11	175	243	358	12	0.06	0.12	0.20	12	0.50	1.04	1.10	12	37.3	120.0	179.0
Weir River	416202	Talwood	12	163	187	223	12	0.16	0.23	0.27	12	1.22	1.60	1.89	12	214.0	475.0	600.0
Intersecting Streams	424002	Paroo River at Willara Crossing	4	91	98	145	4	0.19	0.23	0.41	4	0.80	1.01	2.60	4	545.0	875.0	1100.0
	423002	Warrego River at Fords Bridge Bywash	6	117	162	203	6	0.18	0.21	0.22	6	0.74	0.86	1.20	6	255.0	475.0	800.0
	422015	Culgoa River at Brenda	5	165	192	243	5	0.10	0.25	0.32	5	0.58	1.40	1.70	5	470.0	500.0	550.0
	422014	Bokhara River at Goodooga	5	138	153	246	5	0.28	0.38	0.41	5	1.00	1.40	2.00	5	410.0	600.0	1060.0
	422013	Birrie River at Near Goodooga	3	156	156	232	3	0.29	0.34	0.37	3	1.16	1.40	2.36	3	378.0	450.0	570.0
	422012	Narran River at New Angledool	4	152	181	243	4	0.13	0.23	0.28	4	0.78	1.30	1.60	4	290.0	550.0	600.0
Glenlyon Dam		Glenlyon 1: Top	12	153	164.5	212.3	12	0.0226	0.0415	0.0556	12	0.832	0.895	1.086	12	3.78	8.15	11.9
	416315	Glenlyon 1: Middle	12	160.3	166.5	212.2	12	0.022	0.0455	0.0722	12	0.764	0.875	0.94	12	3.14	11.45	18.8
		Glenlyon 1: Bottom	12	183.1	185	212.3	12	0.0274	0.068	0.1675	12	0.832	0.95	1.19	12	6.47	11.5	14.9

(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=No. of samples collected and analysed.

Table 18 - Stream gauging stations (Border Rivers)

AWRC No	Stream	Station	Equipment (see note)	Telemetry	Established date	Owned by	2009-10 Total Flow (MLx10 ³)	2010-11 Total Flow (MLx10 ³)	Historical Annual Totals & (Year) (MLx10 ³)		
									Min	Max	Median
416001	Barwon River	Mungindi	AR	Yes	1889	NOW	218	1,395	21 (1994-95)	3,131 (1950-51)	433
416002	Macintyre River	Boggabilla	AR	Yes	1895	NOW	214	3,143	29 (1919-20)	4,490 (1950-51)	622
416003	Tenterfield Creek	Clifton	AR	Yes	1921	NOW	6	223	1 (2002-03)	235 (1949-50)	38
416006	Severn River	Ashford	AR	Yes	1934	NOW	115	569	17 (1941-42)	1,389 (1950-51)	181
416007	Dumaresq River	Bonshaw Weir	AR	Yes	1934	NOW	90	1,729	54 (1993-94)	1,729 (2010-11)	266
416008	Beardy River	Haystack	AR	Yes	1934	NOW	18	243 ²	5 (1941-42)	243 (2010-11)	31
416010	Macintyre River	Wallangra	AR	Yes	1937	NOW	9	349	6 (1941-42)	667 (1970-71)	80
416011	Dumaresq River	Roseneath	AR	Yes	1937	NOW	70	1,389	36 (1993-94)	1,608 (1955-56)	281
416012	Macintyre River	Holdfast	AR	Yes	1951	NOW	140	1,033	49 (1957-58)	1,686 (1955-56)	280
416020	Ottleys Creek	Coolatai	AR	Yes	1967	NOW	2	16	1 (2006-07)	65 (2000-01)	10
416032	Mole River	Donaldson	AR	Yes	1969	NOW	36	493	13 (1993-94)	493 (2010-11)	72
416037	Boomi River	Offtake	AR	Yes	1973	NOW	8	146	3 (1994-95)	146 (2010-11)	29
416040	Dumaresq River	Glenarbon Weir	AR	Yes	1996	NOW	116	1,855	74 (2006-07)	1,855 (2010-11)	169
416043	Macintyre River	Boomi Weir	AR	Yes	1976	NOW	107	586	21 (1994-95)	586 (2010-11)	160
416047	Macintyre River	Terrewah	AR	Yes	1985	NOW	135	1,488	31 (1994-95)	1,488 (2010-11)	226
416048	Macintyre River	Kanowna	AR	Yes	1988	NOW	134	693	25 (1994-95)	727 (1998-99)	135
416201A	Macintyre River	Goondiwindi	AR	Yes	1950	DERM	193	3,005	61 (1994-95)	4,529 (1950-51)	515
416201B	Macintyre River	Goondiwindi Weir	AR	Yes	1997	DERM	189	2,582	158 (2006-07)	2,582 (2010-11)	279
416202A	Weir River	Talwood	AR	Yes	1949	DERM	182	485	0 (2006-07)	687 (1995-96)	60
416305B	Brush Creek	Beebo	AR	Yes	1950	DERM	1.8	22	0 (Several)	55 (1995-96)	3
416309B	Pike Creek	Glenlyon Dam Tailwater	AR	Yes	1973	DERM	16	145	4 (1976-77)	180 (1988-89)	53
416310A	Dumaresq River	Farnbro	AR	Yes	1962	DERM	3.6	429	0.9 (2002-03)	375 (1975-76)	53
416312A	Oakey Creek	Texas	AR	Yes	1969	DERM	6.7	75	0.01 (1973-74)	99 (1995-96)	6
416315A	Pike Creek	Glenlyon Dam Headwater	AR	Yes	1977	DERM	0	133	0 (Several)	133 (2010-11)	0
416402C	Macintyre Brook	Inglewood	AR	Yes	1953	DERM	30	424	6 (1994-95)	546 (1995-96)	37
416415A	Macintyre Brook	Booba Sands	AR	Yes	1987	DERM	28	458	4 (1994-95)	630 (1995-96)	35

(1) AR = automatic recorder; SG = staff gauge, Established date = commencement date of Hydstra data records, NOW = NSW Office of Water, DERM = Qld Department of Environment and Resource Management

(2) Estimate only

Table 19 - Stream gauging stations (Intersecting Streams)

AWRC No	Stream	Station	Equipment (see note)	Telemetry	Established date	Owned by	2009-10 Total Flow (MLx10 ³)	2010-11 Total Flow (MLx10 ³)	Historical Annual Totals & (Year) (MLx10 ³)		
									Min.	Max.	Median
417001	Moonie River	Gundablouie	AR	Yes	1945	NOW	397	508	0 (1951-52)	596 (1975-76)	61
417204A	Moonie River	Fenton	AR	Yes	1971	DERM	472	543	0.5	670 (1975-76)	68
422005	Bokhara River	Goodwin's	AR	Yes	1944	NOW	162	303	0 (several)	652 (1955-56)	22
422006	Culgoa River	Downstream Collierina (Kenebree)	SG	No	1944	NOW	1,035	2,136	7 (2001-02)	2,341 (1989-90)	294
422010	Birrie River	Talawanta	SG	No	1964	NOW	147	Not Available	0 (several)	379 (1975-76)	26
422011	Culgoa River	Upstream Collierina (Mundiwa)	AR	Yes	1964	NOW	689	1,895	6 (2001-02)	1,895 (2010-11)	178
422012 422039	Narran River	Angledool 1 Angledool 2	Discontinued AR	No	1959	NOW	199	687	0 (1992-93)	687 (2010-11)	106
422013	Birrie River	Near Goodooga	AR	No	1964	NOW	171	504	0 (1992-93)	504 (2010-11)	29
422014 422030	Bokhara River	Goodooga Upstream Goodooga Weir	SG AR	No	1915	NOW	152	407	0 (several)	407 (2010-11)	15
422015	Culgoa River	Brenda	AR	Yes	1960	NOW	457	2,530	0 (1992-93)	2,530 (2010-11)	135
422016	Narran River	Wilby Wilby	AR	No	1964	NOW	174	621	0 (2006-07)	621 (2010-11)	103
422017	Culgoa River	Weilmoringle	SG	No	1964	NOW	288	1,728	0 (1992-93)	999 (1983-84)	218
422204A	Culgoa River	Whyenbah	AR	Yes	1965	DERM	812	2,247	2.7 (1992-93)	2,247 (2010-11)	323
422206A	Narran River	Dirranbandi-Hebel Road	AR	Yes	1965	DERM	526	1,390	0.2 (1992-93)	1,390 (2010-11)	108
422207A	Ballandool River	Hebel-Bollon Road	AR	Yes	1965	DERM	138	384	0 (1992-93)	384 (2010-11)	15
422209A	Bokhara River	Hebel	AR	Yes	1967	DERM	121	368	0.5 (1992-93)	368 (2010-11)	21
422211A	Briarie Creek	Woolerilla-Hebel Road	AR	Yes	1992	DERM	274	958	0 (several)	958 (2010-11)	7
423001	Warrego River	Fords Bridge	AR	Yes	1921	NOW	98	66	1 (several)	344 (1989-90)	7
423002	Warrego River	Fords Bridge (Bywash)	AR	Yes	1921	NOW	139	142	0 (1957-58)	249 (1955-56)	36
423202C	Warrego River	Cunnamulla Weir	AR	Yes	1992	DERM	1,837	1,301	34 (1999-00)	1,837 (2009-10)	218
424002	Paroo River	Willara Crossing	AR	Yes	1975	NOW	1,412	320	26 (1979-80)	2,072 (1975-76)	185
424201A	Paroo River	Caiwarro	AR	Yes	1967	DERM	2,040	488	36 (2005-06)	2,040 (2009-10)	323
011202	Bulloo River	Autumnvale	AR	Yes	1967	DERM	3,126	1,156	19 (1976-77)	3,241 (1973-74)	411

(1) AR = automatic recorder; SG = staff gauge, Established date = commencement date of Hydtra data records, NOW = NSW Office of Water, DERM = Qld Department of Environment and Resource Management

Table 20 - Groundwater monitoring network

Bore number	Location	State	Piezometer	Depth (m)	Automatic WL Recorder (Yes/No)	Year Installed	Depth to Water Level ³ 2009-10		Depth to Water Level ³ 2010-11	
							Max (m)	Min (m)	Max (m)	Min (m)
41640001	Keetah Crossing	Q	A	87.3	No	1985	5.09	4.92	4.91	4.39
41640001	Keetah Crossing	Q	B	46.8	No	1985	6.52	6.40	6.28	5.23
41640002	Keetah Crossing	Q	A	17.8	No	1985	Dry	Dry	Dry	5.63
41640003	Yelarbon Desert	Q	A	92.4	No	1985	4.38	4.21	4.24	3.80
41640003	Yelarbon Desert	Q	B	47.9	No	1985	5.93	5.84	5.85	5.70
41630009	Glenarbon	Q	A	93	No	1996	38.31	34.06	30.31	22.40
41630042	David Muggleton	Q	A	13.3	No	1959	8.25	8.10	8.24	7.33
41630039	'Eldorado'	Q	A	16.7	No	1959	Note (1)	Note (1)	Note (1)	Note (1)
41630072	Cunningham Weir	Q	A	90.4	Yes	1985	48.54	37.10	42.91	33.97
41630072	Cunningham Weir	Q	B	41.4	Yes	1985	35.17	32.24	35.97	29.80
41630072	Cunningham Weir	Q	C	10.4	Yes	1985	6.31	6.05	6.29	2.68
41630064	Texas	Q	A	52.5	No	1985	23.76	20.31	8.24	7.33
41630064	Texas	Q	B	28.5	No	1985	17.51	16.24	15.72	10.45
41630066	Bill & Tater	Q	A	90.4	Yes	1985	40.13	24.02	25.69	15.72
41630066	Bill & Tater	Q	B	45.9	Yes	1985	35.41	28.83	22.47	15.75
41630067	Bill & Tater	Q	A	12.2	Yes	1985	6.14	5.74	5.59	1.48
41630063	Finlay's	Q	A	100.6	No	1983	32.25	12.45	12.45	6.59
41630063	Finlay's	Q	B	64.6	No	1983	33.24	12.30	12.30	6.44
41630062	Finlay's	Q	A	17.4	No	1985	8.79	7.75	7.87	4.94
41630071	Finlay's	Q	A	48.2	No	1985	16.94	9.75	9.75	5.49
41630071	Finlay's	Q	B	41.2	No	1985	16.09	9.53	9.53	5.42
41630059	John Moore	Q	A	101.7	No	1985	8.10	7.92	-7.46	-3.28
41630069	John Moore	Q	A	92	No	1985	25.53	12.23	8.96	6.86
41630069	John Moore	Q	B	35.9	No	1985	21.46	9.84	7.83	5.41
41630069	John Moore	Q	C	15.4	No	1985	9.66	7.24	6.68	2.94
41630060	John Moore	Q	A	12.1	No	1985	8.82	8.59	8.17	4.67
41630058	John Moore	Q	A	10.6	No	1985	7.68	7.51	6.88	3.95
41630070	Phillip Harpham	Q	A	9.2	No	1985	4.84	4.01	4.21	2.06
41630004	V and E Sattolo	Q	A	11.8	No	1960	Dry	Dry	Dry	9.65
41630003	V and E Sattolo ²	Q	A	27.1	No	1961	20.84	15.41	16.05	14.75
41630002	V and E Sattolo ²	Q	A	29.9	No	1961	15.79	12.51	12.93	12.41
GW036697	Keetah Bridge	NSW	1	20	Yes	1987	8.89	8.85	8.88	8.84
GW036697	Keetah Bridge	NSW	2	64	Yes	1987	6.81	6.73	6.8	4.84
GW036697	Keetah Bridge	NSW	3	83.5	Yes	1987	5.42	5.09	5.09	4.58
GW040635	Smithfield Section	NSW	1	15.9	No	1960	8.50	8.2	7.78	6.56
GW040636	Smithfield Section	NSW	1	11.3	No	1960	8.04	7.84	7.43	3.78
GW040637	Smithfield Section	NSW	1	7.9	No	1960	7.16	6.90	6.83	2.04
GW040638	Smithfield Section	NSW	1	11.9	No	1960	Dry	Dry	8.37	8.09
GW40771	Smithfield Section	NSW	1	30	Yes	1994	27.31	26.79	29.75	26.21
GW40771	Smithfield Section	NSW	2	37	Yes	1994	30.99	30.49	31.72	30.0
GW40771	Smithfield Section	NSW	3	50	Yes	1994	35.35	34.31	33.88	32.94
GW040641	Riverstone Section	NSW	1	35	No	1960	11.12	9.97	17.8	8.28
GW040644	Riverstone Section	NSW	1	9.5	No	1960	8.24	7.79	7.66	4.2
GW040646	Riverstone Section	NSW	1	7.7	No	1960	7.26	6.40	5.82	2.49
GW040647	Hopwood Section	NSW	1	12.8	No	1959	9.74	9.68	8.98	5.79
GW040649	Hopwood Section	NSW	1	28.9	No	1959	8.27	8.03	7.76	3.65
GW040652	Hopwood Section	NSW	1	12.2	No	1959	8.92	8.67	8.72	3.98
GW40829	Lochiel Section	NSW	1	12	No	1996	10.63	10.45	10.55	7.61
GW40829	Lochiel Section	NSW	2	42	No	1996	10.67	10.47	10.57	7.65
GW40830	Lochiel Section	NSW	1	27	No	1996	12.09	11.85	11.69	9.17
GW40831	Lochiel Section	NSW	1	44	Yes	1996	37.06	36.59	35.77	35.25
GW40831	Lochiel Section	NSW	2	96	Yes	1996	42.74	39.65	38.11	35.73

(1) Monitoring bore has no information available

(2) Destroyed sometime after November 2010 so limited readings available

(3) Depth to water level is the distance below the measuring point