

Dumaresq-Barwon Border Rivers Commission



2011-12 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	2010-11	2011-12
July	60,500	250,220
August	116,570	250,750
September	198,510	251,470
October	222,390	255,220
November	226,180	254,000
December	259,290	252,350
January	254,390	251,460
February	252,020	250,930
March	251,610	248,270
April	251,110	246,150
May	250,670	245,100
June	250,880	244,920

(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	2010-11		2011-12	
	Release	Spillway flows	Release	Spillway flows
July	0	0	0	0
August	0	0	0	0
September	0	0	0	0
October	0	0	0	7,795
November	0	0	0	769
December	0	22,173	2,376	29
January	0	110,640	657	0
February	0	179	0	0
March	0	0	0	0
April	0	0	2,354	0
May	0	0	0	0
June	0	0	0	0

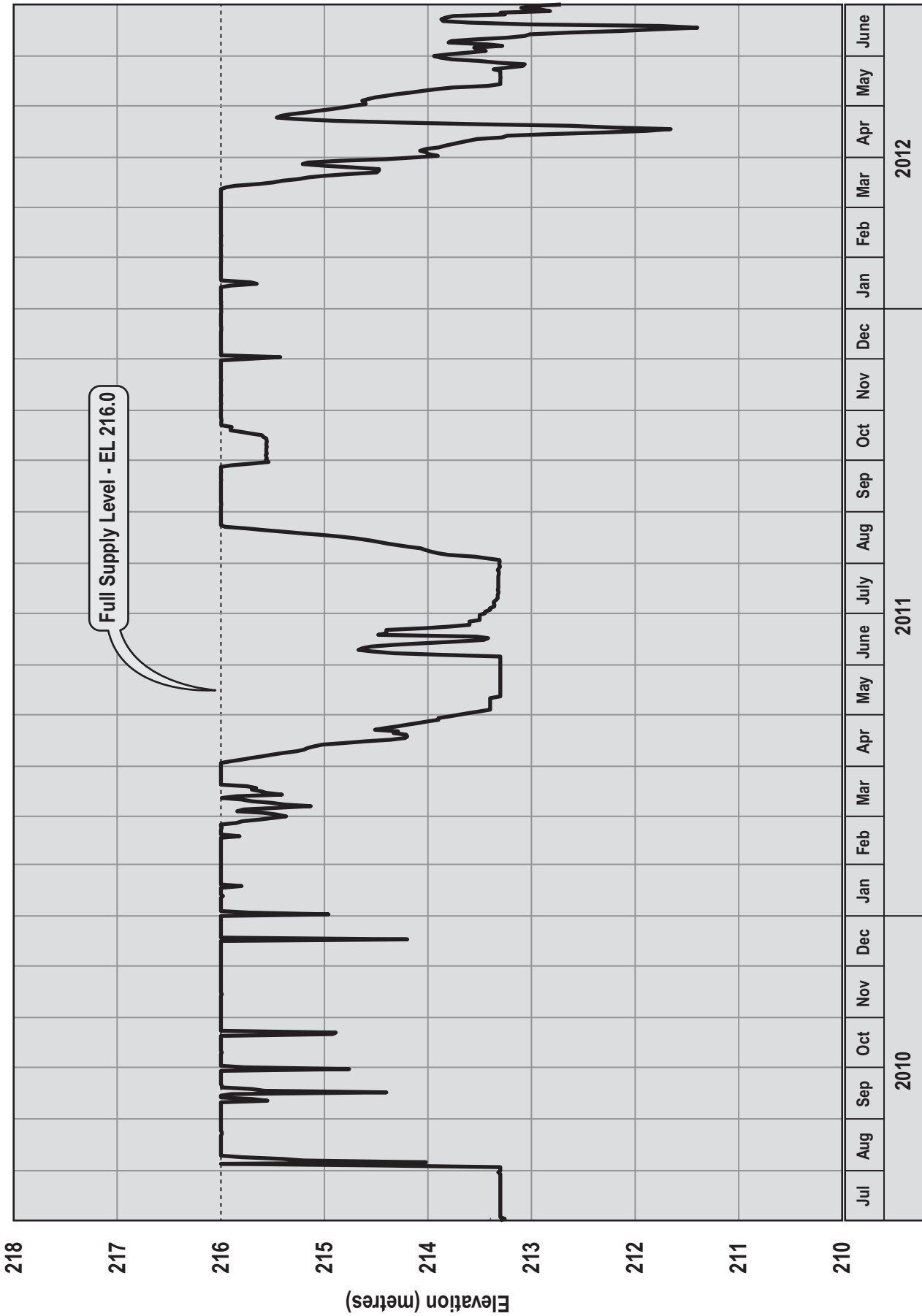
(1) The monthly releases in this table are the flow volumes as recorded at GS 416309B less any spillway flows.

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

Table 4 - Glenlyon Dam recreation statistics

1 July 10 - 30 June 11		1 July 11 – 30 June 12	
Visitors	Camp sites occupied	Visitors	Camp sites occupied
75,850	6,530	80,604	7,928

Figure 1 - Boggabilla Weir storage levels 2010-2012



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	3,545	2,546	511		
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	6,874	6,046	2,490	626		
Texas Town		270				
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	2,192	4,778	981	3,846	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	29,150	125,850
Boggabilla Town	200					
Goondiwindi Town		1,800				
Macintyre River from Goondiwindi Weir to Boomi Weir	121,393	9,978	55,618	15,940	86,000	25,210
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	51,057	25,641	23,030	42,739	60,600	119,370
Mungindi Town	300					
Totals	248,438	84,666	113,741	99,188	176,150	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 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 7 - Water use from the Border Rivers 1 July 11 - 30 June 12 (megalitres)

	Supplemented/regulated			Unsupplemented/ supplementary		
	NSW	QLD	Total	NSW	QLD	Total
Pike Creek and Dumaresq River from Glenlyon Dam to Bonshaw Weir	1,502	770	2,272	844	5,150	5,994
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	1,027	230	1,257	989	7,470	8,459
Texas Town		190	190			
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	229	1,190	1,419	200	4,080	4,280
Yelarbon Town		80	80			
Macintyre River from Dumaresq River junction to Goondiwindi Weir (excluding Goondiwindi & Boggabilla towns)	35,181	8,980	44,161	9,632	23,910	33,542
Boggabilla Town	142		142			
Goondiwindi Town		1,670	1,670			
Macintyre River from Goondiwindi Weir to Boomi Weir	35,360	2,360	37,720	28,380	18,390	46,770
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	22,990	780	23,770	19,226	9,250	28,476
Mungindi Town	216		216			
Totals	96,647	16,250	112,897	59,271	68,250	127,521

(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 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 9 – Summary of resource assessments (Border Rivers) 1 July 11 – 30 June 12 (gigalitres)

Bulk Accounts	Queensland				New South Wales			
	Account balance 1/7/11	Total use/loss for year	Total distribution for year	Account balance 1/7/12	Account balance 1/7/11	Total use/loss for year	Total distribution for year	Account balance 1/7/12
	(a)	(b)	(c)	(a)-(b)+(c)	(a)	(b)	(c)	(a)-(b)+(c)
Storage Loss (Glenlyon Dam)	7.74	13.39	13.39	7.74	10.09	17.42	17.10	9.77
Storage Loss (Pindari Dam)					18.00	15.64	14.79	17.15
Essential Supplies (minimum release)	0.00	0.00	0.00	0.00	6.08	1.19	1.19	6.08
Essential Supplies (other)	6.95	1.72	1.72	6.95	24.71	0.48	0.48	24.71
Essential Supplies Delivery Loss	2.64	0.53	0.53	2.64	10.31	0.18	0.18	10.31
General Use	70.12	13.58	13.58	70.12	292.89	106.37	77.74	264.26
General Use Delivery Loss	21.04	4.09	4.09	21.04	87.87	31.92	23.32	79.27

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

Month	1 July 10 – 30 June 11		1 July 11 – 30 June 12		
	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	20 days		31 days		
August	31 days	103 days / 100%	31 days		
September	30 days		24 days		
October	31 days		31 days	3 days	← 100%
November	30 days		19 days	10.5 days	26%
December	31 days		31 days	3 days	100%
January	31 days	80 days / 100%	2 days	6 days	← 22%
February	22 days		29 days	14.5 days	← 100%
March	23 days		15 days		
April	30 days				
May	31 days		11 days		
June	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.

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

Crop	2010-11			2011-12		
	NSW	Qld	TOTAL	NSW	Qld	TOTAL
Cotton	31,900	14,750	46,650	37,600	8,000	45,600
Lucerne	680	420	1,100	590	600	1,190
Cereals	3,600	1,750	5,350	350	1,200	1,550
Peanuts	150	0	150	55	0	55
Fodder crops	770	230	1,000	700	250	950
Horticultural crops	50	20	70	50	30	80
Other	360	125	485	300	100	400
Total	37,510	17,295	54,805	39,645	10,180	49,825

(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 bores constructed	49	37
Number of applications outstanding	1 ⁽²⁾	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) Applications are for replacement bores - no additional allocation will be granted

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

(4) Applications for proposed bores

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

1 July 10 – 30 June 11		1 July 11 – 30 June 12	
NSW	Qld	NSW	Qld
1,404	3,150	3,242	3,015

Resource management

Table 14 - Beardmore Dam compensation inflow, storage and releases

Month	2010-11			2011-12			
	Inflow (ML)	Release (ML)	Storage at end of month (ML)	Inflow (ML)	Release (ML)	Storage at end of month (ML)	
July	0	0	0	8,900	All inflows up to 730 ML/day were passed through the dam	0	
August	0	0	0	4,400		0	
September	12,410	From mid-September 2010 all inflows up to 730 ML/day were passed through the dam	0	10,400		0	
October	22,630		0	15,600		0	
November	20,843		0	21,900		0	
December	22,630		0	22,600		0	
January	22,630		0	22,600		0	
February	20,009		0	21,200		0	
March	21,788		0	22,100		0	
April	21,900		0	14,800		0	
May	21,493		0	9,600		0	
June	13,599		0	13,600		0	
Totals	199,932				187,700		

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 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	Bearly 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
	4161004	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	416315	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
		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 = number of samples collected and analysed.

Table 17 - Summary of water quality 2011-12

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	165.9	341.5	399.3	12	0.024	0.048	0.071	12	0.385	0.58	0.746	12	3.92	6.85	17.41
	416310	Severn River at Farnbro	12	175.2	245	271.3	12	0.022	0.028	0.049	12	0.551	0.62	0.858	12	4.01	6.7	9.79
	416303	Pike Creek at U/S Glenlyon Dam	12	216.4	263	365.7	12	0.035	0.041	0.08	12	0.602	0.725	1.07	12	3.11	5.1	7.66
	416309	Pike Creek at Glenlyon Dam Tailwater	12	171.7	462	610.9	12	0.021	0.03	0.05	12	0.293	0.405	0.818	12	5.21	8.55	25.7
	416032	Mole River at Donaldson	12	116.3	212.5	245.3	12	0.029	0.038	0.052	12	0.268	0.39	0.509	12	7.75	11	25.06
	416008	Beardy River at Haystack No. 4	12	113.2	180.5	209.8	12	0.018	0.029	0.084	12	0.261	0.33	0.9	12	3.85	16	49.1
	416312	Oaky Creek at Texas	7	464.8	525	550.4	7	0.054	0.062	0.096	7	0.246	0.44	0.774	7	5.18	10.5	53.6
	416415	Macintyre Brook at Booba Sands	12	314.5	419.5	508.9	12	0.049	0.072	0.098	12	0.763	0.855	0.979	12	11.04	19.1	50.7
Dumaresq River	416007	Bonshaw Weir	12	139.9	219	293.8	12	0.023	0.04	0.058	12	0.497	0.62	0.995	12	4.28	9	28.5
	416049	Mauro	12	185.2	260.5	308	12	0.031	0.046	0.081	12	0.433	0.63	1.09	12	6.04	13.95	88.13
Macintyre River	416012	Holdfast	12	171.5	299	335.8	12	0.089	0.137	0.173	12	0.532	0.63	0.892	12	13.76	28.5	97.99
	41610044	Salisbury Bridge (Boggabilla)	12	204.8	281	344.5	12	0.077	0.11	0.176	12	0.557	0.72	0.967	12	15.93	29.8	47.41
	416048	Kanowna	10	238.9	280	350.2	10	0.097	0.117	0.2	10	0.548	0.78	0.993	10	47.47	75.7	186.5
Barwon River	416001	Mungindi	12	238.3	297.5	401.4	9	0.077	0.086	0.121	9	0.518	0.66	0.918	9	68.18	95.1	150.4
Weir River	416202	Talwood	12	138.4	195	226	12	0.173	0.207	0.245	12	1.11	1.45	1.59	12	250.1	287.5	573.5
Intersecting Streams	424002	Paroo River at Willara Crossing	6	69	133.5	184.5	6	0.187	0.255	0.599	6	0.695	1.4	1.75	6	370	700	1,400
	423002	Warrego River at Fords Bridge Bywash	6	117	229	287.5	6	0.169	0.259	0.491	6	0.64	1.2	1.95	6	140	395	3,250
	422015	Culgoa River at Brenda	6	168	257.5	376	6	0.165	0.264	0.333	6	0.675	1.07	1.55	6	125	295	775
	422014	Bokhara River at Goodooga	6	155.5	214.5	351	6	0.125	0.277	0.36	6	0.61	0.985	1.4	6	92.5	315	650
	422013	Birrie River at Near Goodooga	4	148.4	257.5	361.7	4	0.141	0.24	0.315	4	0.607	0.71	1.205	4	134	220	425
	422012	Narran River at New Angledool	6	164	209.5	363	6	0.155	0.251	0.311	6	0.695	1.045	1.55	6	135	300	700
Glenlyon Dam		Glenlyon 1: Top	12	157.5	180	188.7	12	0.022	0.034	0.057	12	0.684	0.89	1	12	1.71	2.6	5.26
	416315	Glenlyon 1: Middle	12	158.2	166.8	181.8	12	0.021	0.03	0.047	12	0.593	0.795	0.947	12	2.91	3.55	4.94
		Glenlyon 1: Bottom	12	158.2	164.7	171	12	0.047	0.051	0.078	12	0.71	0.875	0.96	12	2.51	4.15	5.7

(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.

(2) Access to some sampling sites was restricted during the year.

Table 18 - Stream gauging stations (Border Rivers)

AWRC No	Stream	Station	Equipment (see note)	Telemetry	Established date	Owned by	2010-11 Total Flow (MLx10 ³)	2011-12 Total Flow (MLx10 ³)	Historical Annual Totals & (Year) (MLx10 ³)		
									Min	Max	Median
416001	Barwon River	Mungindi	AR	Yes	1889	NOW	1,395	845	21 (1994-95)	3,131 (1950-51)	433
416002	Macintyre River	Boggabilla	AR	Yes	1895	NOW	3,171	942	29 (1919-20)	4,510 (1950-51)	622
416003	Tenterfield Creek	Clifton	AR	Yes	1921	NOW	223	27	1 (2002-03)	235 (1949-50)	38
416006	Severn River	Ashford	AR	Yes	1934	NOW	489	315	17 (1941-42)	1,389 (1950-51)	181
416007	Dumaresq River	Bonshaw Weir	AR	Yes	1934	NOW	1,729	200	54 (1993-94)	1,729 (2010-11)	266
416008	Beardy River	Haystack	AR	Yes	1934	NOW	243	48	5 (1941-42)	243 (2010-11)	31
416010	Macintyre River	Wallangra	AR	Yes	1937	NOW	349	250	6 (1941-42)	667 (1970-71)	80
416011	Dumaresq River	Roseneath	AR	Yes	1937	NOW	1,389	159	36 (1993-94)	1,608 (1955-56)	281
416012	Macintyre River	Holdfast	AR	Yes	1951	NOW	957	615	49 (1957-58)	1,686 (1955-56)	286
416020	Ottleys Creek	Coolatai	AR	Yes	1967	NOW	16	11	1 (2006-07)	65 (2000-01)	10
416032	Mole River	Donaldson	AR	Yes	1969	NOW	469	84	13 (1993-94)	469 (2010-11)	72
416037	Boomi River	Offtake	AR	Yes	1973	NOW	146	60	3 (1994-95)	146 (2010-11)	40
416040	Dumaresq River	Glenarbon Weir	AR	Yes	1996	NOW	1,815	243	74 (2006-07)	1,815 (2010-11)	193
416043	Macintyre River	Boomi Weir	AR	Yes	1976	NOW	551	330	21 (1994-95)	551 (2010-11)	160
416047	Macintyre River	Terrewah	AR	Yes	1985	NOW	1,488	660	31 (1994-95)	1,488 (2010-11)	260
416048	Macintyre River	Kanowna	AR	Yes	1988	NOW	693	399	25 (1994-95)	727 (1998-99)	143
416201A	Macintyre River	Goondiwindi	AR	Yes	1950	DNRM	3,005	857	61 (1994-95)	4,529 (1950-51)	515
416201B	Macintyre River	Goondiwindi Weir	AR	Yes	1997	DNRM	2,582	810	158 (2006-07)	2,582 (2010-11)	279
416202A	Weir River	Talwood	AR	Yes	1949	DNRM	485	266	0 (2006-07)	687 (1995-96)	61
416305B	Brush Creek	Beebo	AR	Yes	1950	DNRM	22	1.8	0 (Several)	55 (1995-96)	3
416309B	Pike Creek	Glenlyon Dam Tailwater	AR	Yes	1973	DNRM	145	14	4 (1976-77)	180 (1988-89)	49
416310A	Dumaresq River	Farnbro	AR	Yes	1962	DNRM	429	29	0.9 (2002-03)	375 (1975-76)	53
416312A	Oakey Creek	Texas	AR	Yes	1969	DNRM	75	2.5	0.01 (1973-74)	99 (1995-96)	6
416315A	Pike Creek	Glenlyon Dam Headwater	AR	Yes	1977	DNRM	133	8.7	0 (Several)	133 (2010-11)	0
416402C	Macintyre Brook	Inglewood	AR	Yes	1953	DNRM	424	19	6 (1994-95)	546 (1995-96)	36
416415A	Macintyre Brook	Booba Sands	AR	Yes	1987	DNRM	458	18	4 (1994-95)	630 (1995-96)	33

(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 19 - Stream gauging stations (Intersecting Streams)

AWRC No	Stream	Station	Equipment (see note)	Telemetry	Established date	Owned by	2010-11 Total Flow (MLx10 ³)	2011-12 Total Flow (MLx10 ³)	Historical Annual Totals & (Year) (MLx10 ³)		
									Min.	Max.	Median
417001	Moonie River	Gundablouie	AR	Yes	1945	NOW	510	658	0 (1951-52)	596 (1975-76)	71
417204A	Moonie River	Fenton	AR	Yes	1971	DNRM	543	618	0.5 (Several)	670 (1975-76)	68
422005	Bokhara River	Goodwin's	AR	Yes	1944	NOW	375	328	0 (Several)	652 (1955-56)	26
422006	Culgoa River	Downstream Collerina (Kenebree)	AR	Yes	1944	NOW	2,136	1,360	7 (2001-02)	2,341 (1989-90)	300
422010	Birrie River	Talawanta	SG	No	1964	NOW	331	231	0 (Several)	331 (2010-11)	189
422011	Culgoa River	Upstream Collerina (Mundiwa)	AR	Yes	1964	NOW	1,895	953	6 (2001-02)	1,895 (2010-11)	178
422012 422030	Narran River	Angledool	AR	Yes	1959/ 2002	NOW	697	331	0 (1992-93)	697 (2010-11)	106
422013	Birrie River	Near Goodooga	AR	Yes	1964	NOW	504	245	0 (1992-93)	504 (2010-11)	31
422014 422032	Bokhara River	Goodooga Upstream Goodooga Weir	AR	Yes	1915/ 2009	NOW	446	201	0 (Several)	446 (2010-11)	15
422015	Culgoa River	Brenda	AR	Yes	1960	NOW	2,530	1,315	0 (1992-93)	2,530 (2010-11)	278
422016	Narran River	Wilby Wilby	AR	Yes	1964	NOW	617	310	0 (2006-07)	617 (2010-11)	103
422017	Culgoa River	Weilmoringle	AR	Yes	1964	NOW	1,948	857	0 (1992-93)	1,948 (2010-11)	236
422204A	Culgoa River	Whyenbah	AR	Yes	1965	DNRM	2,247	965	2.7 (1992-93)	2,247 (2010-11)	336
422206A	Narran River	Dirranbandi-Hebel Road	AR	Yes	1965	DNRM	1,390	886	0.2 (1992-93)	1,390 (2010-11)	108
422207A	Ballandool River	Hebel-Bollon Road	AR	Yes	1965	DNRM	384	196	0 (1992-93)	384 (2010-11)	17
422209A	Bokhara River	Hebel	AR	Yes	1967	DNRM	368	179	0.5 (1992-93)	368 (2010-11)	22
422211A	Briarie Creek	Woolerilla-Hebel Road	AR	Yes	1992	DNRM	958	376	0 (Several)	958 (2010-11)	7
423001	Warrego River	Fords Bridge	AR	Yes	1921	NOW	66	78	1 (Several)	344 (1989-90)	7
423002	Warrego River	Fords Bridge (Bywash)	AR	Yes	1921	NOW	142	116	0 (1957-58)	249 (1955-56)	36
423202C	Warrego River	Cunnamulla Weir	AR	Yes	1992	DNRM	1,301	1,474	34 (1999-00)	1,837 (2009-10)	290
424002	Paroo River	Willara Crossing	AR	Yes	1975	NOW	320	747	26 (1979-80)	2,072 (1975-76)	188
424201A	Paroo River	Caiwarro	AR	Yes	1967	DNRM	488	1,104	36 (2005-06)	2,040 (2009-10)	324
011202	Bulloo River	Autumnvale	AR	Yes	1967	DNRM	1,156	873	19 (1976-77)	3,241 (1973-74)	414

(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 Water Level ³ 2010-11		Depth to Water Level ³ 2011-12	
							Max (m)	Min (m)	Max (m)	Min (m)
41640001	Keetah Crossing	Qld	A	87.3	No	1985	4.91	4.39	4.56	4.37
41640001	Keetah Crossing	Qld	B	46.8	No	1985	6.28	5.23	5.76	5.6
41640002	Keetah Crossing	Qld	A	17.8	No	1985	Dry	5.63	8.38	7.8
41640003	Yelarbon Desert	Qld	A	92.4	No	1985	4.24	3.80	3.87	3.75
41640003	Yelarbon Desert	Qld	B	47.9	No	1985	5.85	5.70	5.86	5.35
41630009	Glenarbon	Qld	A	93	No	1996	30.31	22.40	27.61	26.95
41630042	David Muggleton	Qld	A	13.3	No	1959	8.24	7.33	7.25	7.16
41630039	'Eldorado'	Qld	A	16.7	No	1959	Note (1)	Note (1)	Note (1)	Note (1)
41630072	Cunningham Weir	Qld	A	90.4	Yes ⁴	1985	42.91	33.97	39.91	32.19
41630072	Cunningham Weir	Qld	B	41.4	Yes ⁴	1985	35.97	29.80	37.68	31.78
41630072	Cunningham Weir	Qld	C	10.4	Yes ⁴	1985	6.29	2.68	5.31	4.84
41630064	Texas	Qld	A	52.5	No	1985	8.24	7.33	16.93	13.35
41630064	Texas	Qld	B	28.5	No	1985	15.72	10.45	12.86	10.36
41630066	Bill & Tater	Qld	A	90.4	Yes ⁴	1985	25.69	15.72	21.46	15.17
41630066	Bill & Tater	Qld	B	45.9	Yes ⁴	1985	22.47	15.75	20.36	15.1
41630067	Bill & Tater	Qld	A	12.2	Yes ⁴	1985	5.59	1.48	4.66	4.01
41630063	Finlay's	Qld	A	100.6	No	1983	12.45	6.59	21.9	5.74
41630063	Finlay's	Qld	B	64.6	No	1983	12.30	6.44	22.13	5.72
41630062	Finlay's	Qld	A	17.4	No	1985	7.87	4.94	6.05	5.15
41630071	Finlay's	Qld	A	48.2	No	1985	9.75	5.49	10.76	4.97
41630071	Finlay's	Qld	B	41.2	No	1985	9.53	5.42	10.05	4.99
41630059	John Moore	Qld	A	101.7	No	1985	7.46	3.28	5.64	4.88
41630069	John Moore	Qld	A	92	No	1985	8.96	6.86	15.44	6.48
41630069	John Moore	Qld	B	35.9	No	1985	7.83	5.41	11.69	5.83
41630069	John Moore	Qld	C	15.4	No	1985	6.68	2.94	7.03	5.08
41630060	John Moore	Qld	A	12.1	No	1985	8.17	4.67	7.62	7.07
41630058	John Moore	Qld	A	10.6	No	1985	6.88	3.95	6.54	6.11
41630070	Phillip Harpham	Qld	A	9.2	No	1985	4.21	2.06	4.62	4.28
41630004	V and E Sattolo	Qld	A	11.8	No	1960	Dry	9.65	10.34	9.37
41630003	V and E Sattolo	Qld	A	27.1	No	1961	16.05	14.75	Note (2)	Note (2)
41630002	V and E Sattolo	Qld	A	29.9	No	1961	12.93	12.41	Note (2)	Note (2)
GW036697	Keetah Bridge	NSW	1	20	Yes	1987	8.88	8.84	8.85	8.81
GW036697	Keetah Bridge	NSW	2	64	Yes	1987	6.8	4.84	6.72	6.69
GW036697	Keetah Bridge	NSW	3	83.5	Yes	1987	5.09	4.58	4.74	4.36
GW040635	Smithfield Section	NSW	1	15.9	No	1960	7.78	6.56	8.53	8.02
GW040636	Smithfield Section	NSW	1	11.3	No	1960	7.43	3.78	6.98	6.31
GW040637	Smithfield Section	NSW	1	7.9	No	1960	6.83	2.04	5.49	4.66
GW040638	Smithfield Section	NSW	1	11.9	No	1960	8.37	8.09	8.31	8.02
GW40771	Smithfield Section	NSW	1	30	Yes	1994	29.75	26.21	29.87	29.56
GW40771	Smithfield Section	NSW	2	37	Yes	1994	31.72	30.0	30.81	30.14
GW40771	Smithfield Section	NSW	3	50	Yes	1994	33.88	32.94	32.35	31.23
GW040641	Riverstone Section	NSW	1	35	No	1960	17.8	8.28	8.98	6.62
GW040644	Riverstone Section	NSW	1	9.5	No	1960	7.66	4.2	7.55	7.23
GW040646	Riverstone Section	NSW	1	7.7	No	1960	5.82	2.49	5.69	4.99
GW040647	Hopwood Section	NSW	1	12.8	No	1959	8.98	5.79	8.03	7.73
GW040649	Hopwood Section	NSW	1	28.9	No	1959	7.76	3.65	6.56	6.25
GW040652	Hopwood Section	NSW	1	12.2	No	1959	8.72	3.98	6.85	6.25
GW40829	Lochiel Section	NSW	1	12	No	1996	10.55	7.61	8.59	8.16
GW40829	Lochiel Section	NSW	2	42	No	1996	10.57	7.65	8.66	8.22
GW40830	Lochiel Section	NSW	1	27	No	1996	11.69	9.17	8.78	8.69
GW40831	Lochiel Section	NSW	1	44	Yes	1996	35.77	35.25	35.28	33.06
GW40831	Lochiel Section	NSW	2	96	Yes	1996	38.11	35.73	36.64	33.52

(1) Monitoring bore has no information available

(2) To be replaced

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

