

*Dumaresq-Barwon
Border Rivers Commission*



*Annual Statistics
2001-02*



Dumaresq-Barwon Border Rivers Commission 2001-02 Annual Statistics

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The Border Rivers Commissioners would like to record their sincere thanks to the staff from SunWater, the Queensland Department of Natural Resources and Mines, the New South Wales Department of Land and Water Conservation and the New South Wales Department's water service provider group, State Water, who provided the information and statistics for this report.

Unless otherwise noted the annual statistics provided in this report are for the period 1 October to 30 September.

Water Infrastructure

Table 1 - Key Features of Border Rivers Commission Works

Name	Stream	AMTD (km)	Nearest Town/s	Description	F.S.L above Bed (EL)	Storage Capacity (ML)	Date Completed
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DAMS

Glenlyon Dam	Pike Creek	6.4	Stanthorpe Tenterfield Texas	Earth & 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	184.3	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
Glenarbo Weir	Dumaresq River	5.7	Yelarbo	Steel Sheetpiling	2.7	353	1959
Goondiwindi Weir	Macintyre River	268.8	Goondiwindi	Timber Crib (Fish ladder 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	Steel Sheetpiling 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

OTHER

Little Weir River Diversion	Barwon River		Mungindi	Excavated Channel and Box Culverts			1986
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Table 2 - Glenlyon Dam Monthly Storage Volumes (megalitres)

End of Month	2000-01	2001-02
September	149,586	136,734
October	138,655	136,102
November	139,219	148,019
December	137,605	147,665
January	103,405	136,820
February	140,325	121,454
March	140,214	128,165
April	139,197	128,338
May	138,235	126,982
June	137,605	126,020
July	137,550	124,727
August	136,887	122,140
September	136,734	118,058

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

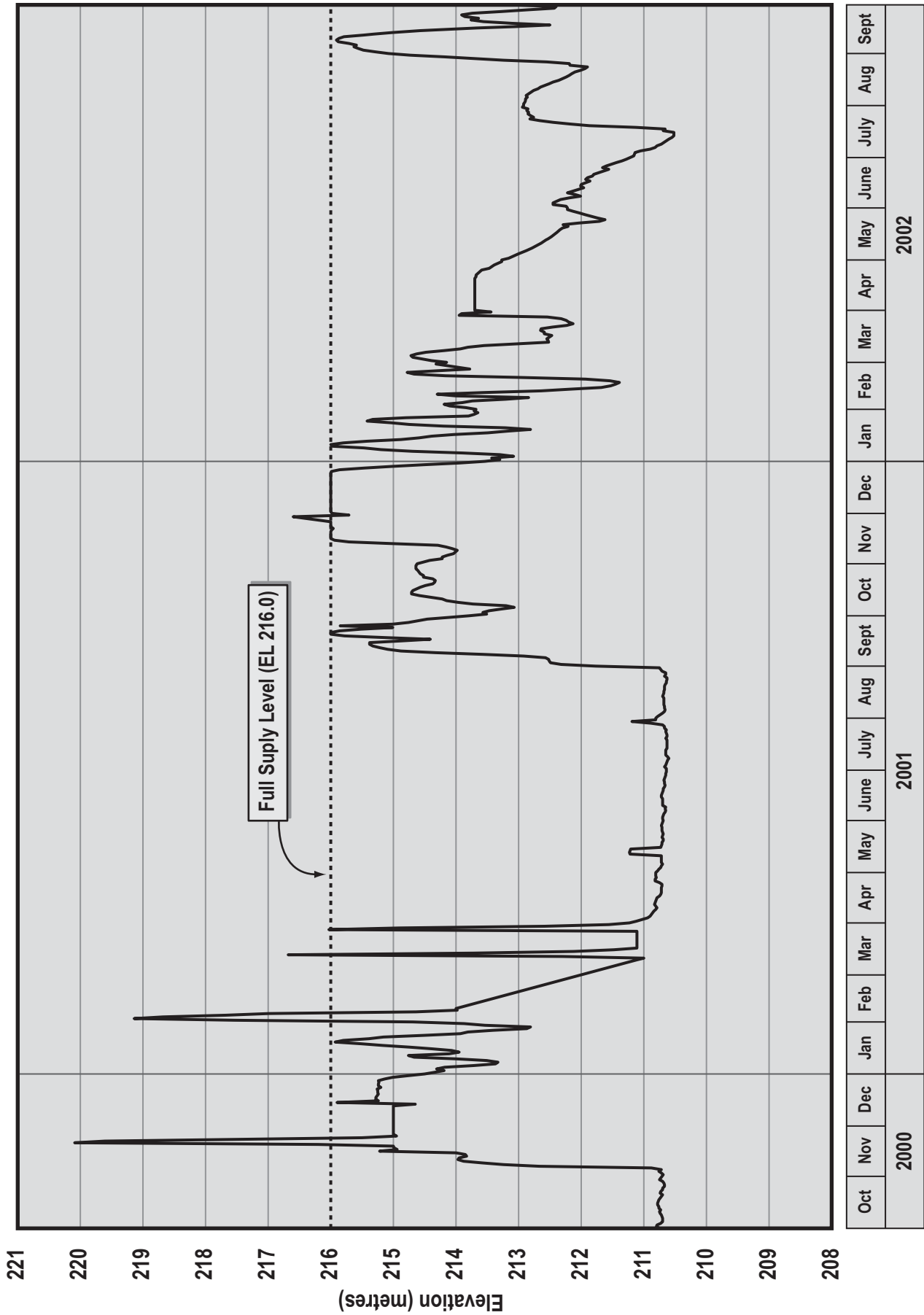
Table 3 - Glenlyon Dam Monthly Releases / Spillway Flows (megalitres)

Month	2000-01		2001-02	
	Release	Spillway Flows	Release	Spillway Flows
October	12,137	0	551	0
November	397	0	515	0
December	180	0	155	0
January	31,631	0	9,214	0
February	226	0	14,334	0
March	155	0	7612	0
April	150	0	180	0
May	155	0	341	0
June	150	0	386	0
July	155	0	474	0
August	155	0	2,177	0
September	150	0	3,618	0

Table 4 - Glenlyon Dam Recreation Statistics

2000-01		2001-02	
Number of Visitors	Number of Camper Days	Number of Visitors	Number of Camper Days
25,100	6,474	27,706	5,809

Figure 1 - Boggabilla Weir Storage Levels 2000-2002



Resource Allocation, Sharing and Use

Table 5 - Irrigation Licences - Border Rivers Catchment Upstream of Mingoola

	Number of Licences		
	New South Wales	Queensland	Total
Dumaresq River and Tributaries above Mingoola (excluding licences on Glenlyon Dam or Pike Creek downstream of Glenlyon Dam)	107	344	451

Table 6 - Irrigation, Off-Allocation, Waterharvesting, Industrial & Town Water Licences and Offstream Storages - Border Rivers Regulated Section

	Number of Licences		Allocations (Megalitres)		Off-stream Storages (ML) (Number of Storages)	
	NSW	QLD	NSW	QLD	NSW	QLD
Pike Creek and Dumaresq River from Glenlyon Dam to Bonshaw Weir	25	32	7,144	6,628	0	0
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	19	26	5,723	5,896	0	0
Texas Town		1		270		
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	15	36	4,939	6,486	400 (1)	6,300 (5)
Yelarbon Town		1		106		
Macintyre River from Dumaresq River junction to Goondiwindi Weir (excluding Goondiwindi & Boggabilla towns)	11	48	58,060	32,776	25,700 (5)	125,850 (51)
Boggabilla Town	1		320			
Goondiwindi Town		1		1,800		
Macintyre River from Goondiwindi Weir to Boomi Weir	16	21	105,191	9,240	74,460 (16)	25,210 (15)
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	19	41	61,590	21,570	46,300 (8)	119,370 (53)
Mungindi Town	1		320			
Totals	107	207	243,287	84,772	146,860	276,730

Table 7 - Water Use from the Border Rivers 2000-01

	On-allocation			Off-allocation		
	NSW	QLD	Total	NSW	QLD	Total
Pike Creek and Dumaresq River from Glenlyon Dam to Bonshaw Weir	918	313	1,231	1,048	685	1,723
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	920	1,045	1,965	1,248	2,395	3,643
Texas Town	-	192	192	-	-	-
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	341	3,454	3,795	213	13,408	13,621
Yelarbon Town	-	70	70	-	-	-
Macintyre River from Dumaresq River junction to Goondiwindi Weir (excluding Goondiwindi & Boggabilla towns)	32,527	20,388	52,915	36,900	53,637	90,537
Boggabilla Town	156	-	156	-	-	-
Goondiwindi Town	-	1,582	1,582	-	-	-
Macintyre River from Goondiwindi Weir to Boomi Weir	50,383	6,120	56,503	44,951	25,172	70,123
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	26,392	14,193	40,585	26,127	36,667	62,794
Mungindi Town	248	-	248	-	-	-
Totals	111,885	47,357	159,242	110,487	131,964	242,451

The above water use statistics include the use of water released into the Border Rivers from Pindari Dam which is owned and operated by the State of New South Wales and Coolmunda Dam which is owned and operated by SunWater.

Table 8 - Water Use from the Border Rivers 2001-02

	On-allocation			Off-allocation		
	NSW	QLD	Total	NSW	QLD	Total
Pike Creek and Dumaresq River from Glenlyon Dam to Bonshaw Weir	1,819	1,534	3,353	636	550	1,186
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	2,409	3,551	5,960	1,226	230	1,456
Texas Town	-	277	277	-	-	0
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	522	2,713	3,235	215	2,326	2,541
Yelarbon Town	-	83	83	-	-	0
Macintyre River from Dumaresq River junction to Goondiwindi Weir (excluding Goondiwindi & Boggabilla towns)	35,430	14,088	49,518	9,466	14,931	24,397
Boggabilla Town	176	-	176	-	-	0
Goondiwindi Town	-	2,038	2,038	-	-	0
Macintyre River from Goondiwindi Weir to Boomi Weir	59,605	4,674	64,279	14,862	6,585	21,447
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	33,817	10,723	44,540	15,750	26,788	42,538
Mungindi Town	333	-	333	-	-	0
Totals	134,111	37,283	171,394	42,155	51,410	93,565

The above water use statistics include the use of water released into the Border Rivers from Pindari Dam which is owned and operated by the State of New South Wales and Coolmunda Dam which is owned and operated by SunWater. Water temporarily transferred from one State to the other is reported as being use in the State of origin not the State of destination.

Table 9 – Resource Assessments for the Border Rivers 2001-02 (gigalitres)

Date of Assessment	Queensland Accounts					New South Wales Accounts					
	Storage Loss	Essential Supplies	General Use	Delivery Loss	Total	Storage Loss (Glenlyon Dam)	Storage Loss (Pindari Dam)	Essential Supplies	General Use	Delivery Loss	Total
1 October	6.42	10.96	44.85	13.46	75.69	5.00	17.28	62.20	201.97	60.60	347.05
1 November	5.98	10.81	44.65	13.40	74.84	5.03	17.45	61.67	200.82	60.26	345.23
1 December	6.56	10.96	47.56	14.28	79.35	5.54	17.93	62.20	225.25	67.58	378.50
1 February	5.54	10.96	37.56	11.28	65.34	5.88	14.73	62.20	163.43	49.04	295.29
1 March	5.46	10.96	35.01	10.52	61.95	5.18	13.69	62.20	136.03	40.82	257.91
1 April	5.52	10.96	36.29	10.91	63.68	5.44	13.62	62.20	137.42	41.23	259.91
1 May	5.52	10.80	36.29	10.91	63.52	5.47	13.44	62.20	138.28	41.49	260.88
1 June	5.07	10.53	36.25	10.90	62.75	5.03	13.03	61.3	138.28	41.49	259.13
1 July	4.88	10.40	36.08	10.85	62.21	4.96	12.95	60.81	138.28	41.49	258.49
1 August	4.32	10.25	36.06	10.84	61.47	4.43	12.42	58.90	138.28	41.49	255.52
1 September	3.69	10.11	35.90	10.79	60.49	3.73	11.58	58.86	133.01	38.56	245.74
1 October	5.07	10.96	31.23	9.23	56.49	5.18	11.74	58.55	117.38	33.87	226.72

1 Resource assessments based on a system of continuous accounting commenced in the Border Rivers on 1 October 2001.

2 The resource assessments take into account the water stored in Glenlyon Dam as well as the water stored in Pindari Dam. The water stored in Pindari Dam is available only to NSW. The water stored in Glenlyon Dam is shared between NSW and Qld in the ratio 57:43.

Table 10 - Access Opportunities to Unregulated Flows from the Border Rivers

Month	Number of Days			
	2000-01		2001-02	
	Glenlyon to Goondiwindi	Goondiwindi to Mungindi	Glenlyon to Goondiwindi	Goondiwindi to Mungindi
October	-	-	-	-
November	35	41	0.3	-
December			16	17
January	-	-	-	-
February	23	18	-	-
March	31	41	1	-
April			1	7
May	-	-	-	-
June	-	-	-	-
July	2	9	-	-
August			-	-
September	-	-	-	-

Table 11 - Production in the Border Rivers (hectares)

Crop	2000-01			2001-02		
	NSW	Qld	TOTAL	NSW	Qld	TOTAL
Cotton	36,200	27,800	64,000	36,350	29,670	66,020
Lucerne	460	430	890	400	430	830
Cereals	970	1,020	1,990	1,480	4,480	5,960
Peanuts	(1)	(1)	(1)	210	570	780
Fodder Crops	700	220	920	500	130	630
Horticultural Crops	125	120	245	240	30	270
Other	790	790	1,580	560	760	1,320
Total	39,245	30,380	69,625	39,740	36,070	75,810

(1) Previously included in "Other"

Table 12 - Groundwater Licences in the Border Rivers Groundwater Area

	NSW	Qld ²
Issued Allocation	20,960 ¹	14,729
Issued Allocation (100% surface water allocation)	14,643	-
Issued Allocation (0% surface water allocation)	20,960	-
Allocation Issued, bores constructed	20,960	14,421
Allocation Issued, bores not constructed	0	308
Number of Licences	64	38
Number of Bores Constructed	64	37
Number of Applications Outstanding	0	9

(1) This amount does not include 2 unrestricted perpetual licences for which a volumetric entitlement has not yet been determined.

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

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

2000-01		2001-02	
NSW	Qld	NSW	Qld
3,563	3,345	5,688	4,209

Resource Management

Table 14 - Beardmore Dam Compensation Inflow, Storage and Releases

Month	2000-01			2001-02		
	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	564
July	0	0	0	1,670	0	2,230
August	0	0	0	0	0	2,000
September	0	0	0	0	500	1,500
October	0	0	0	0	1,200	300
November	21,200	21,200	0	3,650	464	3,180
December	5,070	5,070	0	14,200	15,600	2,120
January	0	0	0	6,500	7,840	781
February	14,600	14,600	0	6,860	3,690	3,950
March	641	0	624	6,260	10,200	0
April	0	0	592	10,600	15,100 ⁽¹⁾	0
May	0	0	578	0	774	0
June	0	0	564	0	0	0
Totals	41,511	40,870		49,740	55,368	

(1) Includes 5,172 megalitres obtained through a system of temporary transfer from allocation holders in the St George area.

Table 15 - Guidelines for Physical and Chemical Stressors - ANZECC (2000)

Water Quality Indicator		Default Trigger Value ⁽¹⁾	Notes
Salinity (μScm^{-1})	Upland Rivers ⁽²⁾	30 - 350	Conductivity may be higher during low flow periods.
	Lowland Rivers	125 - 2200	
	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⁾	2 - 25	High turbidities may be observed during high flow events.
	Lowland Rivers	6 - 50	
	Lakes and Reservoirs	1 - 20	Deep reservoirs will generally have a lower turbidity than shallow reservoirs.
Total Nitrogen (mgL^{-1})	Upland Rivers ⁽²⁾	0.25	
	Lowland Rivers	0.50	
	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 2000-01

Basin	Site No.	Location	Electrical Conductivity $\mu\text{S/cm}$				Total Phosphorus (mg/L)				Total Nitrogen (mg/L)				Turbidity (NTU)				Total Blue Green Algae (cells/mL)				
			N	10th %ile	Med	90th %ile	N	10th %ile	Med	90th %ile	N	10th %ile	Med	90th %ile	N	10th %ile	Med	90th %ile	N	10th %ile	Med	90th %ile	
Dumaresq Tributaries	416003	Tenterfield Creek, Clifton	13	198	410	688	13	0.012	0.023	0.090	13	0.284	0.450	0.720	13	1.3	2.4	7.6					
	416310	Severn River at Farnbro	5	127	160	169	5	0.023	0.045	0.062	5	0.496	0.650	0.996	5	3.2	5.9	14.0					
	416303	Pike Creek U/S Glenlyon Dam	8	246	425	1130	2				2				2								
	416309	Pike Creek at Glenlyon Dam TW	14	182	196	209	14	0.014	0.027	0.123	14	0.533	0.625	0.841	14	1.4	2.5	6.5					
	416032	Mole River, Donaldson	13	110	169	224	13	0.016	0.042	0.057	13	0.226	0.330	0.736	13	4.1	6.2	15.4					
	416008	Beardy River, Haystack No. 4	14	130	207	237	14	0.021	0.037	0.054	14	0.270	0.490	0.637	14	5.3	11.5	36.1					
	416312	Oaky Creek at Texas	10	599	691	733	10	0.022	0.038	0.135	10	0.242	0.390	1.000	10	14.8	20.0	52.0					
	416415	Macintyre Brook, Booba Sands	28	231	609	756	28	0.025	0.057	0.114	28	0.459	0.690	0.990	72	1.4	3.1	7.7					
Dumaresq	416007	Bonshaw Weir	14	123	189	275	14	0.019	0.039	0.070	14	0.276	0.465	0.894	14	4.8	13.5	50.5					
	416049	Mauro	14	125	206	304	14	0.030	0.052	0.090	14	0.297	0.505	1.068	14	5.2	16.0	61.0					
Macintyre	416012	Holdfast	14	165	257	480	14	0.036	0.107	0.145	14	0.355	0.545	0.954	14	6.7	17.0	50.5					
	416201	Goondiwindi	14	145	237	444	14	0.046	0.092	0.145	14	0.375	0.625	0.979	14	9.2	22.5	124.0					
	416043	Boomi Weir	11	193	220	456	11	0.044	0.086	0.171	11	0.300	0.440	0.810	11	30.0	50.0	90.0					
Weir	416202	Talwood	8	161	187	206	8	0.153	0.181	0.242	8	0.991	1.160	1.593	8	246.0	425.0	1130					
Intersecting Streams	424002	Willara Crossing on Paroo	11	119	139	165	11	0.17	0.25	0.32	11	1	1.13	1.5	11	485	675	880	11	0	0	0	
	423002	Fords Bridge Bywash on Warrego	7	84	135	167	7	0.14	0.24	0.30	7	0.61	0.73	1.0	7	200	400	790	11	0	0	0	
	422015	Culgoa River at Brenda	10	156	175	195	10	0.13	0.19	0.28	10	0.56	0.86	1.21	10	273	375	500	10	0	0	1099	
	422014	Bokhara River at Goodooga	12	185	250	296	12	0.12	0.15	0.36	12	0.67	1.05	1.37	12	143	250	427	1	7639	7639	7639	
	422013	Birrie River near Goodooga	1	144	144	144	1	0.25	0.25	0.25	1	0.87	0.87	0.87	1	400	400	400					
	422012	Narran River at New Angledool	11	155	182	198	11	0.08	0.09	0.22	11	0.49	0.63	0.93	11	45	400	300	9	0	282	1250	
Storages	416315	Glenlyon 1: Top																					
		Glenlyon 1: Middle																					
		Glenlyon 1: Bottom																					

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)
 2 Statistics are for the period 1 July – 30 June

Table 17 - Summary of Water Quality 2001-02

Basin	Site No.	Location	Electrical Conductivity $\mu\text{S/cm}$				Total Phosphorus (mg/L)				Total Nitrogen (mg/L)				Turbidity (NTU)			Total Blue Green Algae (cells/mL)				
			N	10th %ile	Med	90th %ile	N	10th %ile	Med	90th %ile	N	10th %ile	Med	90th %ile	N	10th %ile	Med	90th %ile	N	10th %ile	Med	90th %ile
Dumaresq Tributaries	416003	Tenterfield Creek, Clifton	8	379	498	528	8	0.013	0.044	0.081	8	0.368	0.545	0.873	8	1.3	3.3	8.1				
	416310	Severn River at Farnbro	0				0				0				0							
	416303	Pike Creek U/S Glenlyon Dam	2	245	266	287	2	0.024	0.029	0.034	2	0.398	0.430	0.462	2	5.9	6.5	7.1				
	416309	Pike Creek at Glenlyon Dam TW	12	188	195	208	12	0.014	0.032	0.117	12	0.551	0.620	0.981	12	1.7	3.4	5.6				
	416032	Mole River, Doldson	10	157	223	256	10	0.023	0.033	0.052	10	0.286	0.385	0.544	10	6.7	13.2	20.4				
	416008	Beardy River, Haystack No. 4	11	180	218	283	11	0.040	0.046	0.075	110	0.360	0.500	0.670	11	6.4	9.8	60.0				
	416312	Oaky Creek at Texas	12	564	746	850	12	0.031	0.106	0.135	12	0.524	0.790	1.690	12	13.3	21.0	49.5				
	416415	Macintyre Brook, Booba Sands	12	314	477	735	12	0.042	0.066	0.119	12	0.603	0.855	1.080	12	9.2	14.5	50.0				
Dumaresq	416007	Bonshaw Weir	12	194	250	288	12	0.026	0.038	0.059	12	0.370	0.430	0.520	12	7.0	11.5	19.9				
	416049	Mauro	12	185	238	320	12	0.026	0.044	0.067	12	0.401	0.440	0.535	12	7.1	13	23.9				
Macintyre	416012	Holdfast	12	217	281	424	12	0.068	0.105	0.158	12	0.395	0.555	0.818	12	8.5	15.5	65.8				
	416201	Goondiwindi	12	223	277	372	12	0.067	0.094	0.125	12	0.421	0.495	0.711	12	6.5	18.5	38.8				
	416043	Boomi Weir	12	196	268	338	12	0.067	0.091	0.129	12	0.480	0.530	0.737	12	35.1	45.0	85.0				
Weir	416202	Talwood	10	99	131	155	10	0.128	0.164	0.303	10	0.939	1.050	1.950	10	213	405	630				
Intersecting Streams	424002	Willara Crossing on Paroo	13	80.6	106	115	13	0.15	0.19	0.26	13	0.87	1.00	1.28	13	268	400	115				
	423002	Fords Bridge Bywash on Warrego	6	136	144	148	5	0.18	0.24	0.42	5	0.71	0.89	2.08	6	156	380	148				
	422015	Culgoa River at Brenda	8	186	207	267	8	0.11	0.15	0.20	8	0.70	0.89	1.02	8	267	370	267				
	422014	Bokhara River at Goodooga	10	182	330	498	10	0.13	0.22	0.39	10	0.94	1.45	1.70	10	219	420	498				
	422013	Birrie River near Goodooga	4	175	233	306	4	0.18	0.28	0.35	4	0.81	1.09	1.30	4	311	405	485				
	422012	Irran River at New Angledool	10	172	190	296	10	0.06	0.10	0.19	10	0.56	0.77	0.98	10	11	65	500				
Storages	416315	Glenlyon 1: Top	11	183	191	205	11	0.015	0.024	0.029	11	0.720	0.750	0.860	11	2.5	2.5	5.0				
		Glenlyon 1: Middle	12	184	189	204	12	0.011	0.022	0.025	12	0.721	0.770	0.870	12	1.72	2.2	6.9				
		Glenlyon 1: Bottom	12	183	192	205	12	0.017	0.027	0.172	12	0.740	0.875	1.380	12	2.71	3.95	6.0				

- 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)
- 2 Statistics are for the period 1 July – 30 June
- 3 The algal data for Glenlyon Dam is not suitable for this type of statistical analysis
- 4 No samples were taken from the Severn River at Farnbro 416310 due to lack of water

Table 18 - Stream Gauging Stations (Border Rivers)

AWRC No	Stream	Station	Equipment (See Note)	Telemetry	Established Date	Maintained by	2000-01 Total Flow (MLx10 ³)	2001-02 Total Flow (MLx10 ³)	Historical Annual Totals & (Year) (MLx10 ³)		
									Min	Max	Median
416001	Barwon River	Mungindi	AR	Yes	1889	DLWC	429	42	21 (1994-95)	3,288 (1955-56)	429
416002	Macintyre River	Boggabilla	AR	Yes	1895	DLWC	1415	465	59 (2001-02)	5,393 (1989-90)	741
416003	Tenterfield Creek	Clifton	AR	Yes	1921	DLWC	33	5	4 (1994-95)	305 (1949-50)	36
416006	Severn River	Ashford	AR	Yes	1970	DLWC	612	247	30 (1994-95)	695 (1977-78)	212
416007	Dumaresq River	Bonshaw Weir	AR	Yes	1934	DLWC	475	119	49 (1993-94)	1,200 (1975-76)	284
416008	Beardy River	Haystack	AR	Yes	1970	DLWC	104	21	7 (1971-72)	183 (1974-75)	49
416010	Macintyre River	Wallangra	AR	Yes	1973	DLWC	300	115	9 (1994-95)	371 (1983-84)	111
416011	Dumaresq River	Roseneath	AR	Yes	1972	DLWC	377	99	35 (1993-94)	1,798 (1955-56)	311
416012	Macintyre River	Holdfast	AR	Yes	1951	DLWC	978	361	53 (1960-61)	1,865 (1955-56)	331
416020	Ottleys Creek	Coolatai	AR	Yes	1967	DLWC	69	9	1 (1992-93)	69 (1900-01)	8
416032	Mole River	Donaldson	AR	Yes	1969	DLWC	198	30	12 (1993-94)	442 (1975-76)	78
416037	Boomi River	Offlake	AR	Yes	1973	DLWC	54	18	3 (1994-95)	125 (1983-84)	39
416040	Dumaresq River	Glenarbon Weir	AR	Yes	1996	DLWC	474	113	261 (1998-99)	819 (1997-98)	308
416043	Macintyre River	Boomi Weir	AR	Yes	1976	DLWC	320	140	20 (1994-95)	390 (1995-96)	166
416047	Macintyre River	Terrewah	AR	Yes	1985	DLWC	629	233	70 (1993-94)	1,274 (1997-88)	345
416048	Macintyre River	Kanowna	AR	Yes	1988	DLWC	330	105	24 (1994-95)	560 (1995-96)	248
416060	Macintyre River	Boggabilla Weir Downstream	AR	Yes	1997	DLWC					
416201A	Macintyre River	Goondiwindi	AR	Yes	1917	NRM	1,376	412	61 (1994-95)	4,488 (1955-56)	689
416201B	Macintyre River	Goondiwindi Weir	AR	Yes	1997	NRM	1,224	413	454 (1999-00)	1,625 (1997-98)	482
416202A	Weir River	Talwood	AR	Yes	1949	NRM	66	18	1 (1979-80)	688 (1995-96)	59
416305B	Brush Creek	Beebo	AR	Yes	1950	NRM	3.2	4	0 (Several)	55 (1995-96)	3
416309B	Pike Creek	Glenlyon Dam Tailwater	AR	Yes	1973	NRM	49	40	3 (1976-77)	173 (1990-91)	72
416310A	Dumaresq River	Farnbro	AR	Yes	1962	NRM	64	15	2 (1993-94)	407 (1975-76)	61
416312A	Oakey Creek	Texas	AR	Yes	1969	NRM	17	7	0 (1973-74)	100 (1995-96)	7
416315A	Pike Creek	Glenlyon Dam Headwater	AR	Yes	1977	NRM	0	0	0 (Several)	178 (1983-84)	0
416402C	Macintyre Brook	Inglewood	AR	Yes	1953	NRM	38	31	8 (1994-95)	549 (1995-96)	42
416415A	Macintyre Brook	Booba Sands	AR	Yes	1987	NRM	32	30	4 (1994-95)	637 (1995-96)	51

AR = Automatic Recorder; SG = Staff Gauge, Established Date = HYDSYS Period of Record (from which all long term calculations are made).

Table 19 - Stream Gauging Stations (Intersecting Streams)

AWRC No	Stream	Station	Equipment (See Note)	Telemetry	Established Date	Maintained by	2000-01 Total Flow (MLx10 ³)	2001-02 Total Flow (MLx10 ³)	Historical Annual Totals & (Year) (MLx10 ³)		
									Min.	Max.	Median
417001	Moonie River	Gundablouie	AR	Yes	1945	DLWC	90	8	0 (Several)	628 (1982-83)	68
417204A	Moonie River	Fenton	AR	Yes	1971	NRM	76	6	0 (1979-80)	669 (1975-76)	71
422005	Bokhara River	Goodwin's	AR	Yes	1944	DLWC	28	1	0 (Several)	771 (1955-56)	24
422006	Culgoa River	Downstream Collerina (Kenebree)	SG	No	1944	DLWC	160	8	5 (1979-80)	2,404 (1989-90)	300
422010	Birrie River	Talawanta	SG	No	1964	DLWC	17	1	0 (Several)	380 (1975-76)	27
422011	Culgoa River	Upstream Collerina (Mundiwa)	AR	Yes	1964	DLWC	89	7	7 (2001-02)	1,009 (1970-71)	208
422012	Narran River	Angledool	SG	No	1959	DLWC	38	4	0 (Several)	609 (1982-83)	109
422013	Birrie River	Near Goodooga	SG	No	1964	DLWC	19	3	0 (1992-93)	659 (1982-83)	32
422014	Bokhara River	Goodooga	SG	No	1915	DLWC	14	3	0 (Several)	465 (1982-83)	22
422015	Culgoa River	Brenda	AR	Yes	1960	DLWC	37	2	0 (1992-93)	2,409 (1982-83)	264
422016	Narran River	Wilby Wilby	SG	No	1964	DLWC	48	1	0 (1979-80)	558 (1982-83)	109
422017	Culgoa River	Weilmoringle	SG	No	1964	DLWC	37	0.3	0 (1992-93)	946 (1983-84)	218
422204A	Culgoa River	Whyenbah	AR	Yes	1965	NRM	113	23	2 (1992-93)	1,822 (1982-83)	346
422206A	Narran River	Dirranbandi-Hebel Road	AR	Yes	1965	NRM	32	7	0 (1992-93)	1,063 (1982-83)	121
422207A	Ballandool River	Hebel-Bollon Road	AR	Yes	1965	NRM	8	3	0 (1992-93)	532 (1982-83)	17
422209A	Bokhara River	Hebel	AR	Yes	1967	NRM	9	8	1 (1992-93)	367 (1982-83)	38
422211A	Briarie Creek	Woolerbilla-Hebel Road	AR	Yes	1992	NRM	5	0	0	701 (1982-83)	7
423001	Warrego River	Fords Bridge	AR	No	1921	DLWC	16	2	1 (1997-98)	328 (1989-90)	9
423002	Warrego River	Fords Bridge (Bywash)	AR	No	1921	DLWC	35	18	0 (1957-58)	315 (1955-56)	37
423202C	Warrego River	Cunnamulla Weir	AR	Yes	1992	NRM	720	293	33 (1999-00)	1,587 (1996-97)	184
424002	Paroo River	Willara Crossing	AR	No	1975	DLWC	119	68	16 (1984-85)	2,071 (1975-76)	203
424201A	Paroo River	Caiwarro	AR	Yes	1967	NRM	173	143	26 (1984-85)	2,037 (1989-90)	343
011202	Bulloo River	Autumnvale	AR	Yes	1967	NRM	403	300	48 (1979-80)	3,022	410

AR = Automatic Recorder; SG = Staff Gauge, Est. Date = HYDSYS Period of Record (from which all long term calculations are made).

Table 20 - Groundwater Monitoring Network

Bore Number	Location	State	Piezometer	Depth (m)	Automatic WL Recorder (Yes/No)	Year Installed	Depth to WL 2000-01		Depth to WL 2001-02	
							Max (m)	Min (m)	Max (m)	Min (m)
41640001	Keetah Crossing	Q	A	87.3	No	1985	-3.28	-3.01	-18.72	-3.24
41640001	Keetah Crossing	Q	B	46.8	No	1985	-5.18	-4.96	-5.39	-5.21
41640002	Keetah Crossing	Q	A	17.8	No	1985	-8.19	-7.6	-8.45	-8.34
41640003	Yelarbon Desert	Q	A	92.4	No	1985	-2.79	-2.48	-3.05	-2.66
41640003	Yelarbon Desert	Q	B	47.9	No	1985	-4.34	-4.13	-4.68	-4.35
41630053	'Tranquil' – Val Lennon	Q	A	13.0	No	1958				
41630009	Glenarbon	Q	A	93	No	1996	-31.38	-17.52	-25.18	-19.28
41630042	David Muggleton	Q	A	13.3	No	1959	-6.85	-6.77	-7.00	-6.89
41630039	'Eldorado' – Harley Girdle	Q	A	16.7	No	1959	-5.65	-4.89	-6.33	-5.26
41630072	Cunningham Weir	Q	A	90.4	Yes	1985	-30.37	-20.28	-35.77	-25.47
41630072	Cunningham Weir	Q	B	41.4	Yes	1985	-27.92	-18.64	-32.46	-23.07
41630072	Cunningham Weir	Q	C	10.4	Yes	1985	-5.65	-5.15	-5.88	-5.66
41630064	Texas	Q	A	52.5	No	1985	-19.63	-12.65	-19.36	-13.76
41630064	Texas	Q	B	28.5	No	1985	-14.91	-10.23	-16.02	-11.24
41630066	Bill & Tater	Q	A	90.4	Yes	1985	-20.29	-9.39	-22.70	-10.15
41630066	Bill & Tater	Q	B	45.9	Yes	1985	-18.66	-8.81	-20.74	-9.40
41630067	Bill & Tater	Q	A	12.2	Yes	1985	-4.59	-3.84	-4.58	-4.01
41630063	Finlay's	Q	A	100.6	No	1983	-16.02	-4.9	-14.11	-6.2
41630063	Finlay's	Q	B	64.6	No	1983	-16.67	-4.88	-14.6	-6.1
41630062	Finlay's	Q	A	17.4	No	1985	-4.8	-4.13	-4.96	-4.38
41630071	Finlay's	Q	A	48.2	No	1985	-7.19	-3.9	-7.39	-4.54
41630071	Finlay's	Q	B	41.2	No	1985	-6.8	-3.95	7.08	-4.53
41630059	John Moore	Q	A	101.7	No	1985	-6.45	-6.1	-6.59	-6.29
41630069	John Moore	Q	A	92	No	1985	-13.57	-6.41	-15.68	-7.81
41630069	John Moore	Q	B	35.9	No	1985	-13.16	-6.1	-15.26	-8.99
41630069	John Moore	Q	C	15.4	No	1985	-6.59	-5.64	-6.76	-6.35
41630060	John Moore	Q	A	12.1	No	1985	-8.09	-7.56	-8.35	-8.03
41630058	John Moore	Q	A	10.6	No	1985	-7.06	-6.54	-7.29	-6.99
41630070	Phillip Harpham	Q	A	9.2	No	1985	-5.03	-4.18	-4.91	-4.61
41630004	V and E Sattolo	Q	A	11.8	No	1960	-8.73	-8.56	-9.94	-8.93

Table 20 - Groundwater Monitoring Network (Continued)

Bore Number	Location	State	Piezometer	Depth (m)	Automatic WL Recorder (Yes/No)	Year Installed	Depth to WL 2000-01		Depth to WL 2001-02	
							Max (m)	Min (m)	Max (m)	Min (m)
41630003	V and E Sattolo	Q	A	27.1	No	1961	-10.18	-8.77	-16.11	-9.89
41630002	V and E Sattolo	Q	A	29.9	No	1961	-8.8	-7.59	-15.21	-8.38
GW036697	Keetah Bridge	NSW	1	20	No	1987	-8.62	-8.51	-8.64	-8.61
GW036697	Keetah Bridge	NSW	2	64	No	1987	-5.96	-1.79	-6.05	-5.97
GW036697	Keetah Bridge	NSW	3	83.5	No	1987	-3.61	-2.98	-3.97	-3.5
GW040635	Smithfield Section	NSW	1	15.9	No	1960	-8.21	-7.29	-8.62	-8.15
GW040636	Smithfield Section	NSW	1	11.3	No	1960	-7.43	-6.96	-7.74	-7.24
GW040637	Smithfield Section	NSW	1	7.9	No	1960	-5.94	-5.37	-6.2	-5.69
GW040638	Smithfield Section	NSW	1	11.9	No	1960	-9.7	-9.19	-10.59	-9.23
GW040639	Smithfield Section	NSW	1		No	1960	-8.45	-8.45		
GW040640	Smithfield Section	NSW	1	10.2	No	1960				
GW40771	Smithfield Section	NSW	1	30	Yes	1994	-20.98	-19.07	-23.19	-19.4
GW40771	Smithfield Section	NSW	2	37	Yes	1994	-21.85	-20.75	-24.96	-21.06
GW40771	Smithfield Section	NSW	3	50	No	1994	-27.65	-22.64	-27.51	-23.09
GW040641	Riverstone Section	NSW	1	35	No	1960	-7.97	-6.7	-15.81	-7.28
GW040642	Riverstone Section	NSW	1	9.7	No	1960				
GW040644	Riverstone Section	NSW	1	9.5	No	1960	-8.22	-7.53	-8.11	-7.71
GW040645	Riverstone Section	NSW	1	7.5	No	1960				
GW040646	Riverstone Section	NSW	1	7.7	No	1960	-6.83	-5.28	-6.56	-5.76
GW040647	Hopwood Section	NSW	1	12.8	No	1959	-9.27	-8.01	-9.64	-9.38
GW040648	Hopwood Section	NSW	1	10.1	No	1959				
GW040649	Hopwood Section	NSW	1	28.9	No	1959	-7.42	-7.19	-7.81	-7.44
GW040650	Hopwood Section	NSW	1	11.4	No	1959				
GW040652	Hopwood Section	NSW	1	12.2	No	1959	-7.7	-7.43	-8.06	-7.65
GW040653	Hopwood Section	NSW	1	10.3	No	1959				
GW40829	Lochiel Section	NSW	1	12	No	1996	-8.8	-8.27	-9.17	-8.82
GW40829	Lochiel Section	NSW	2	42	Yes	1996	-8.8	-8.69	-9.17	-8.82
GW40830	Lochiel Section	NSW	1	27	No	1996	-8.5	-8.42	-8.9	-8.57
GW40831	Lochiel Section	NSW	1	44	No	1996	-26.84	-19.72	-34.22	-22.81
GW40831	Lochiel Section	NSW	2	96	Yes	1996	-27.28	-20.15	-35.16	-28.28

Notes