

**Dumaresq-Barwon
Border Rivers Commission
Annual Statistics 2004-05**





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The Border Rivers Commissioners would like to record their sincere thanks to the staff from SunWater, State Water, the Queensland Department of Natural Resources and Mines and the former New South Wales Department of Infrastructure, Planning and Natural Resources who provided the information and statistics for this report.

Please note that as from 1 July 2003 the Commission's reporting period for statistics is 1 July to 30 June rather than the former reporting period of 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	147.0	Boomi	Steel sheetpiling	4.1	354	1960
Bonshaw Weir	Dumaesq River	126.7	Texas	Steel sheetpiling	2.9	617	1953/58
Coomonga Weir	Coomonga Creek		Toobeah	Steel sheetpiling			1986
Cunningham Weir	Dumaesq River	67.9	Texas	Timber piled (written-off)	4.6	543	1954
Glenarbo Weir	Dumaesq River	57.0	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	2003-04	2004-05
July	28,213	56,480
August	27,990	55,149
September	25,428	55,212
October	28,155	53,418
November	27,530	57,225
December	31,337	75,394
January	55,858	75,086
February	62,440	72,474
March	61,644	68,642
April	59,799	65,698
May	58,660	62,177
June	57,624	61,335

(1) 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)

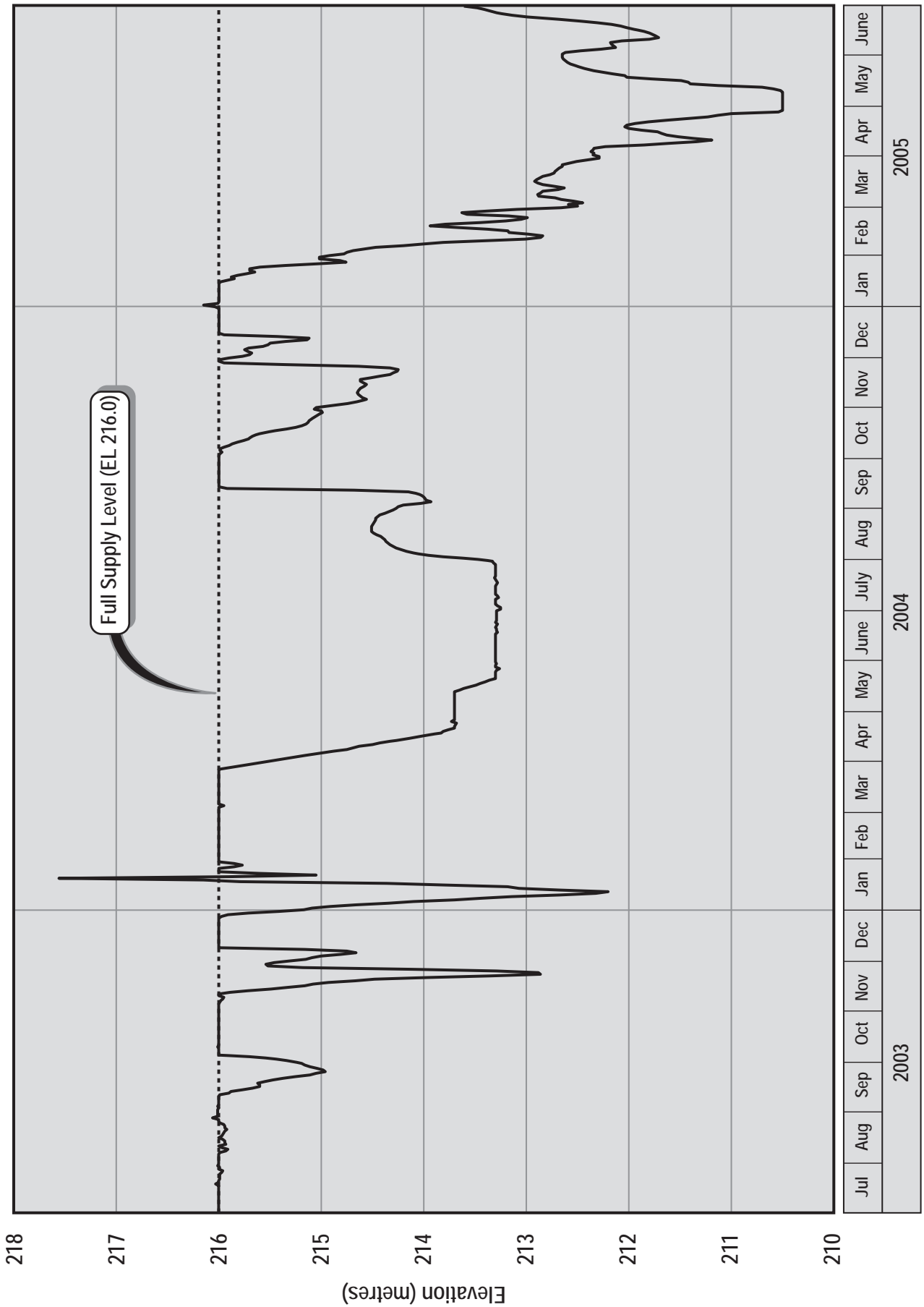
Month	2003-04		2004-05	
	Release	Spillway flows	Release	Spillway flows
July	142	0	1,016	0
August	146	0	1,136	0
September	2,666	0	48	0
October	186	0	1,360	0
November	527	0	385	0
December	128	0	228	0
January	1,726	0	0	0
February	121	0	2,027	0
March	125	0	2,972	0
April	1,463	0	2,195	0
May	801	0	2,871	0
June	685	0	1,172	0

(1) The monthly releases in this table are the flows as recorded at GS 4163109B less any spillway flows.

Table 4 - Glenlyon Dam recreation statistics

1 October 03 - 30 June 04		1 July 04 - 30 June 05	
Visitors	Camp sites occupied	Visitors	Camp sites occupied
41,645	4,721	41,752	4,593

Figure 1 - Boggabilla Weir Storage Levels 2003-2005



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)	83	329	412

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 (Megalitres)	
	NSW	QLD	NSW	QLD	NSW	QLD
Pike Creek and Dumaresq River from Glenlyon Dam to Bonshaw Weir	21	32	5,782	6,628		
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	17	26	6,978	5,896		
Texas Town		1		270		
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	12	36	2,831	6,486	400	6,300
Yelarbon Town		1		106		
Macintyre River from Dumaresq River junction to Goondiwindi Weir (excluding Goondiwindi & Boggabilla towns)	12	48	61,366	32,776	28,800	125,850
Boggabilla Town	1		200			
Goondiwindi Town		1		1,800		
Macintyre River from Goondiwindi Weir to Boomi Weir	17	21	121,478	9,240	79,915	25,210
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	11	41	48,654	21,570	49,400	119,370
Mungindi Town	2		300			
Totals	93	207	247,589	84,772	158,515	276,730

Table 7 - Water use from the Border Rivers 1 July 03 - 30 June 04 (megalitres)

	On-allocation			Off-allocation		
	NSW	QLD	Total	NSW	QLD	Total
Pike Creek and Dumaresq River from Glenlyon Dam to Bonshaw Weir	1,412	178	1,590	637	408	1,045
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	2,299	151	2,450	758	505	1,263
Texas Town		155	155			
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	237	213	450	182	5,832	6,014
Yelarbon Town		71	71			
Macintyre River from Dumaresq River junction to Goondiwindi Weir (excluding Goondiwindi & Boggabilla towns)	8,536	223	8,759	14,514	23,282	37,796
Boggabilla Town	148		148			
Goondiwindi Town		1,786	1,786			
Macintyre River from Goondiwindi Weir to Boomi Weir	22,597	299	22,896	20,122	16,275	36,397
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	9,381	1,642	11,023	15,386	35,354	50,740
Mungindi Town	256		256			
Totals	44,866	4,718	49,584	51,599	81,656	133,255

(1) The above water use statistics include the use of water released into the Border Rivers from Pindari Dam which is owned and operated by 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 8 - Water use from the Border Rivers 1 July 04 – 30 June 05 (megalitres)

	On-allocation			Off-allocation		
	NSW	QLD	Total	NSW	QLD	Total
Pike Creek and Dumaresq River from Glenlyon Dam to Bonshaw Weir	2,436	783	3,219	433	202	635
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	2,079	945	3,024	358	528	886
Texas Town		109	109			
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	284	1,038	1,322	103	4,843	4,946
Yelarbon Town		66	66			
Macintyre River from Dumaresq River junction to Goondiwindi Weir (excluding Goondiwindi & Boggabilla towns)	16,726	6,870	23,596	13,982	19,815	33,797
Boggabilla Town	157		157			
Goondiwindi Town		2,133	2,133			
Macintyre River from Goondiwindi Weir to Boomi Weir	21,251	439	21,690	27,264	13,569	40,833
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	1,168	2,128	3,296	9,384	15,439	24,823
Mungindi Town	268		268			
Totals	44,369	14,511	58,880	51,524	54,396	105,920

(1) The above water use statistics include the use of water released into the Border Rivers from Pindari Dam which is owned and operated by 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 1 July 03 - 30 June 04 (gigalitres)

Date of assessment	Queensland accounts						New South Wales accounts						
	Storage loss	Essential supplies	Essential supplies delivery loss	General use	General use delivery loss	Total	Storage loss (Glenlyon Dam)	Storage loss (Pindari Dam)	Essential supplies	Essential supplies delivery loss	General use	General use delivery loss	Total
1 August	2.36	7.98	2.69	3.41	1.03	17.47	1.18	8.47	45.64	15.60	18.57	5.59	95.05
1 September	2.23	7.85	2.65	3.33	1.01	17.07	1.19	8.51	30.79	10.31	34.67	10.42	95.89
1 October	1.92	7.64	2.59	2.79	-0.43	14.51	1.17	8.50	30.79	10.31	34.35	10.33	95.45
1 November	2.20	7.98	2.69	2.62	0.00	15.49	1.44	10.25	30.79	10.31	61.11	18.36	132.25
1 December	2.61	8.20	2.76	3.65	1.10	18.32	0.94	10.21	30.79	10.31	58.15	17.47	127.87
1 January	3.68	8.20	2.76	9.22	2.77	26.63	0.41	10.36	30.79	10.31	57.85	17.37	127.10
1 February	4.43	8.20	2.76	16.92	5.09	37.40	1.96	14.24	30.79	10.31	131.54	39.48	228.32
1 March	4.86	8.20	2.76	20.72	6.23	42.77	2.09	14.25	30.79	10.31	133.07	39.94	230.45
1 April	4.30	8.03	2.71	20.55	6.18	41.77	2.09	14.24	30.79	10.31	132.69	39.82	229.95
1 May	3.98	7.83	2.65	19.99	6.01	40.46	1.96	13.86	28.50	10.30	132.10	39.64	226.36
1 June	3.61	7.67	2.61	19.97	6.00	39.87	1.78	13.44	27.45	10.29	131.80	39.55	224.31
1 July	3.32	7.48	2.57	19.95	5.99	39.31	1.87	13.75	26.54	10.27	131.37	39.42	223.23

(1) 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 – Resource assessments for the Border Rivers 1 July 04 – 30 June 05 (gigalitres)

Date of assessment	Queensland accounts							New South Wales accounts							
	Storage loss	Essential supplies (minimum release)	Essential supplies (other)	Essential supplies delivery loss	General use	General use delivery loss	Total	Storage loss (Glenlyon Dam)	Storage loss (Pindari Dam)	Essential supplies (minimum release)	Essential supplies (other)	Essential supplies delivery loss	General use	General use delivery loss	Total
1 August	3.12	0.77	6.50	2.53	19.63	5.89	38.84	1.88	13.99	2.18	22.77	10.27	130.98	39.30	221.36
1 September	2.68	0.71	6.35	2.49	19.41	5.82	37.46	1.89	14.02	2.89	22.74	10.26	130.78	39.24	221.81
1 October	3.72	0.68	6.22	2.45	18.86	5.65	37.58	1.89	14.64	6.08	24.71	10.31	138.51	41.55	237.68
1 November	3.18	0.63	6.05	2.40	18.76	5.62	36.64	1.64	14.61	6.08	24.71	10.31	137.51	41.24	236.09
1 December	4.68	1.00	7.20	2.76	18.73	5.62	39.99	1.84	14.44	6.08	24.71	10.31	134.61	40.37	232.36
1 January	5.09	1.00	7.20	2.76	24.50	7.35	47.90	2.76	15.10	6.08	24.71	10.31	154.06	46.21	259.22
1 February	5.36	1.00	7.20	2.76	26.16	7.85	50.33	2.45	15.10	6.08	24.71	10.31	151.87	45.55	256.06
1 March	5.27	1.00	7.20	2.76	25.07	7.52	48.81	2.36	14.24	6.08	24.71	10.31	135.33	40.60	233.64
1 April	4.98	1.00	6.93	2.68	24.14	7.24	46.97	2.19	14.11	5.59	24.66	10.29	131.77	39.53	228.14
1 May	4.34	1.00	6.72	2.55	24.00	7.11	45.72	1.92	13.31	5.13	23.02	9.31	130.73	38.23	221.65
1 June	3.83	1.00	6.55	2.45	23.95	6.51	44.29	1.72	12.84	4.51	22.86	9.21	130.27	37.16	218.57
1 July	3.69	1.00	6.43	2.41	23.75	6.45	43.73	1.81	13.79	3.83	22.80	9.19	129.82	37.03	218.28

(1) 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 11 - Access opportunities to unregulated flows from the Border Rivers

Month	Number of days			
	1 July 03 – 30 June 04		1 July 04 – 30 June 05	
	Glenlyon to Goondiwindi	Goondiwindi to Mungindi	Glenlyon to Goondiwindi	Goondiwindi to Mungindi
July				
August				
September				
October	1 (Old only)	1 (Old only)		
November				1½ (d/s Mac/Weir junct only)
December	1 (Old only)	(See Note 2)		(See Note 4)
January	9	(See Note 3)	8	1 (d/s Mac/Weir junct only)
February				
March		11 (Newinga-Mungindi only)		
April				
May				
June				

- (1) Generally NSW irrigators are granted 3 percent off-allocation pumping for each 1 day that access is permitted to unregulated flows.
 (2) 1 day for Qld irrigators only (Goondiwindi-Newinga); 4 days for Qld irrigators only (Newinga-Macintyre/Weir R junction); 5 days for Qld irrigators only (Macintyre/Weir River junction-Mungindi).
 (3) 9 days for irrigators (Goondiwindi-Newinga); 12 days for irrigators (Newinga-Mungindi).
 (4) 8 days for irrigators upstream of the Weir/Macintyre junction and 14 days for irrigators d/s of the Weir/Macintyre junction.

Table 12 – Irrigated production in the Border Rivers (hectares)

Crop	2003-04			2004-05		
	NSW	Qld	TOTAL	NSW	Qld	TOTAL
Cotton	10,800	5,808	16,608	29,373	25,486	54,859
Lucerne	650	613	1,263	615	367	982
Cereals	455	3,548	4,003	650	4,662	5,312
Peanuts	156	0	156	180	60	240
Fodder crops	490	513	1,003	960	66	1,026
Horticultural crops	20	137	157	15	43	58
Other	130	938	1,068	140	613	753
Total	12,701	11,557	24,258	31,933	31,297	63,230

- (1) The irrigated production statistics in this table include the crops grown on properties which take regulated/supplemented water 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 13 - Groundwater licences in the Border Rivers Groundwater Area

	NSW	Qld ⁽²⁾
Issued allocation	16,620 ⁽¹⁾	14,601
Issued allocation (100% surface water allocation)	10,688	
Issued allocation (0% surface water allocation)	16,620	
Allocation issued, bores constructed	16,620	14,601
Allocation issued, bores not constructed	0	0
Number of licences	44	37
Number of bores constructed	44	37
Number of applications outstanding	2 ⁽³⁾	12

- (1) This amount refers to the groundwater only entitlement and the allocation available at 0% surface water for the area known as Zone 1 defined as the Border Rivers alluvium upstream of Keelah.
 (2) The Queensland figures do not include the allocation issued in the shallow aquifer, which is about 3,500 ML.
 (3) Two licenses are under review regarding their assignment of groundwater in this system

Table 14 - Groundwater use in the Border Rivers Groundwater Area (megalitres)

1 July 03 – 30 June 04		1 July 04 – 30 June 05	
NSW	Qld	NSW	Qld
7,126	5,339	6,046	6,252

Resource management

Table 15 - Beardmore Dam compensation inflow, storage and releases

Month	2003-04			2004-05		
	Inflow (ML)	Release (ML)	Storage at end of month (ML)	Inflow (ML)	Release (ML)	Storage at end of month (ML)
June	3,714		3,705			
July	4,730	0	6,250 ⁽¹⁾	0	0	3,100
August	0	0	6,025	0	0	3,000
September	0	0	4,125 ⁽¹⁾	730	0	3,450
October	0	0	2,210 ⁽¹⁾	0	0	3,200
November	0	0	1,965	4,600	0	8,350
December	12,180	13,960	0	17,100	24,500	650
January	12,990	12,790	0	8,500	3,100	5,950
February	20,170	19,970	0	1,900	0	5,600
March	17,200	16,720	280	0	0	5,250
April	2,570	480	2,250	0	0	4,950
May	7,640	7,260	2,450	5,200	0	10,000
June	920	0	3,240	3,800	0	13,900
Totals	82,114	71,180		41,830	27,600	

(1) In July-03, Sep-03 & Oct-03 the amounts of 1986 ML, 1673 ML & 1711 ML, respectively, were deducted from the compensation storage to repay the allocation holders who contributed water to the 2002-03 compensation release.

Table 16 - 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 17 - Summary of water quality 2003-04

Basin	Site no	Location	Electrical Conductivity $\mu\text{S/cm}$				Total Phosphorus (mg/L)				Total Nitrogen (mg/L)				Turbidity (NTU)			
			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	11	215	381	506	11	0.016	0.091	0.171	11	0.790	0.560	1.200	11	4.2	1.3	13
	416310	Severn River at Farnbro	9	133	159	178	9	0.031	0.048	0.464	9	0.550	0.860	4.400	9	5.0	9.1	24.0
	416303	Pike Creek U/S Glenlyon Dam	7	161	252	300	7	0.023	0.039	0.076	7	0.300	0.460	1.100	7	1.2	1.9	27.0
	416309	Pike Creek at Glenlyon Dam Tailwater	12	233	273	289	12	0.020	0.030	0.116	12	0.750	0.850	1.200	12	2.0	2.9	6.3
	416032	Mole River, Donaldson	12	139	189	244	11	0.031	0.052	0.082	11	0.310	0.570	0.740	11	6.7	20.0	23.0
	416008	Beardy River, Haystack No. 4	12	139	175	194	12	0.018	0.033	0.062	12	0.220	0.365	0.640	12	5.2	7.6	30.0
	416312	Oaky Creek at Texas	2	438	516	594	2	0.070	0.114	0.157	2	0.410	0.805	1.200	2	7.4	7.8	8.2
	416415	Macintyre Brook, Booba Sands	12	221	389	552	11	0.046	0.058	0.164	11	0.530	0.850	1.300	11	11.0	20.0	65.0
Dumaresq	416007	Bonshaw Weir	12	166	216	284	12	0.026	0.045	0.059	12	0.380	0.600	0.800	12	4.9	6.4	25.0
	416049	Mauro	12	150	210	254	11	0.025	0.050	0.071	11	0.420	0.570	7.90	11	6.7	10.0	23.0
Macintyre	416012	Holdfast	12	238	308	360	11	0.064	0.106	0.150	11	0.440	0.550	0.720	11	11.0	24.0	60.0
	41610044	Salisbury Bridge (Boggabilla)	12	179	245	330	11	0.036	0.092	0.151	11	0.430	0.740	0.830	11	7.7	24.0	38.0
	416048	Kanowna	12	195	268	340	12	0.050	0.091	0.134	12	0.420	0.610	0.870	12	26.0	60.0	150.0
	416001	Mungindi	12	187	268	330	12	0.040	0.080	0.126	11	0.380	0.690	1.000	12	31.0	62.5	120.0
Weir	416202	Talwood	11	136	162	190	10	0.108	0.127	0.198	10	1.150	1.200	1.500	10	102.0	450.0	875.0
Intersecting Streams	424002	Willara Crossing on Paroo	6	50.00	58.50	107.80	6	0.146	0.188	0.477	6	0.71	0.96	1.95	6	544	705	1450
	423002	Fords Bridge Bywash on Warrego	268	115.95	174.55	244.70	4	0.073	0.212	0.352	4	0.67	0.76	1.02	3	165	202	524
	422015	Culgoa River at Brenda	299	144.00	155.99	203.60	1	0.322	0.322	0.322	1	1.1	1.1	1.1	2	468	627	786
	422014	Bokhara River at Goodooga	4	156.60	159.50	165.20	4	0.300	0.342	0.371	4	0.88	1.1	1.17	4	490	571	796
	422013	Birie River near Goodooga	3	116.00	128.00	154.40	3	0.293	0.308	0.342	3	0.75	0.91	1.06	3	517	607	915
	422012	Narran River at New Angledool	313	117.58	143.59	188.56	4	0.273	0.294	0.304	4	0.84	0.99	1.00	4	319	611	1663
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
- 3 Data not available for Glenlyon Dam

Table 18 - Summary of water quality 2004-05

Basin	Site no	Location	Electrical Conductivity $\mu\text{S/cm}$				Total Phosphorus (mg/L)				Total Nitrogen (mg/L)				Turbidity (NTU)			
			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	9	169	393	560	9	0.018	0.034	0.189	9	0.490	0.540	1.500	7	1.8	3.4	102
	416310	Severn River at Farnbro																
	416303	Pike Creek U/S Glenlyon Dam	4	164	227	250	4	0.033	0.052	0.064	4	0.260	0.475	0.780	3	1	8	32
	416309	Pike Creek at Glenlyon Dam Tailwater	11	214	221	317	10	0.017	0.039	0.168	10	0.445	0.795	1.150	8	2.2	3.9	10
	416032	Mole River, Donaldson	11	191	252	290	9	0.031	0.037	0.073	9	0.340	0.430	0.800	7	4.9	8.2	24
	416008	Beardy River, Haystack No. 4	11	167	184	195	9	0.021	0.047	0.073	9	0.260	0.370	0.750	7	3	8.3	60
	416312	Oaky Creek at Texas	3	315	453	638	3	0.061	0.145	0.244	3	0.530	0.620	1.300	2	8	16	24
	416415	Macintyre Brook, Booba Sands	12	195	343	520	10	0.038	0.051	0.139	10	0.515	0.740	1.150	8	3	12	170
Dumaresq	416007	Bonshaw Weir	24*	180	238	263	20	0.025	0.048	0.083	19	0.390	0.510	0.900	16	6.2	11	60
	416049	Mauro	12	171	227	287	10	0.020	0.056	0.107	10	0.425	0.595	1.040	8	2.2	8.5	110
Macintyre	416012	Holdfast	12	214	288	420	10	0.047	0.066	0.157	10	0.405	0.520	0.990	8	7.6	15	190
	41610044	Salisbury Bridge (Boggabilla)	11	174	257	336	9	0.036	0.059	0.237	10	0.390	0.610	1.200	8	7.7	10.2	160
	416048	Kanowna	11	227	275	380	9	0.049	0.062	0.188	10	0.370	0.510	0.910	8	34	75.0	500
	416001	Mungindi	22*	153	255	366	18	0.039	0.050	0.150	20	0.405	0.475	0.765	16	21.0	50	700
Weir	416202	Talwood	8	117	160	184	6	0.119	0.166	0.325	7	0.400	1.300	1.500	6	494	600	1900
Intersecting Streams	424002	Willara Crossing on Paroo	3		106		3		0.205		3		1.1		1		861	
	423002	Fords Bridge Bywash on Warrego	1		168		1		0.337		1		1.1		0			
	422015	Culgoa River at Brenda	2		157		2		0.264		2		0.805		0			
	422014	Bokhara River at Goodooga	1		167				0.543		1		1.3		0			
	422013	Birrie River near Goodooga	1		163				0.40		1		0.94		0			
	422012	Narran River at New Angledool	2		205				0.199		2		0.58		0			
Storages	416315	Glenlyon 1: Top	11	194	202	212	9	0.023	0.034	0.043	9	0.778	0.890	1.152	8	2.4	5.2	7.6
		Glenlyon 1: Middle	10	201	204	220	9	0.014	0.028	0.034	9	0.528	0.850	0.916	8	2.1	3.4	5.8
		Glenlyon 1: Bottom	10	203	211	223	8	0.24	0.038	0.118	8	0.835	0.940	1.300	8	2.8	4.7	5.5

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. Some analysis data was not available for samples taken during 2004-05 at the time of preparation of this table.
3. The * indicates that replicate data was collected at the site and has been included in the statistics.

Table 19 - Stream gauging stations (Border Rivers)

AWRC No	Stream	Station	Equipment (see note)	Telemetry	Established Date	Maintained By	2003-04 Total Flow (MLx10 ³)	2004-05 Total Flow (MLx10 ³)	Historical Annual Totals & (Year) (MLx10 ³)		
									Min	Max	Median
416001	Barwon River	Mungindi	AR	Yes	1889	DLWC	389	121	21 (1994-95)	3131 (1950-51)	446
416002	Macintyre River	Boggabilla	AR	Yes	1895	DLWC	428	189	29 (1901-02)	5228 (1989-90)	643
416003	Tenterfield Creek	Clifton	AR	Yes	1921	DLWC	15	6	1 (2002-03)	235 (1949-50)	38
416006	Severn River	Ashford	AR	Yes	1970	DLWC	164	70	17 (1941-42)	1389 (1950-51)	222
416007	Dumaresq River	Bonshaw Weir	AR	Yes	1934	DLWC	158	92	54 (1993-94)	1327 (1975-76)	292
416008	Beardy River	Haystack	AR	Yes	1970	DLWC	35	26	5 (1941-42)	149 (1974-75)	31
416010	Macintyre River	Wallangra	AR	Yes	1973	DLWC	115	51	6 (1941-42)	667 (1970-71)	80
416011	Dumaresq River	Roseneath	AR	Yes	1972	DLWC	124	78	36 (1993-94)	1603 (1955-56)	313
416012	Macintyre River	Holdfast	AR	Yes	1951	DLWC	286	131	49 (1957-58)	1682 (1955-56)	343
416020	Otteleys Creek	Coolatai	AR	Yes	1967	DLWC	11	6	1 (1992-93)	65 (2000-01)	15
416032	Mole River	Donaldson	AR	Yes	1969	DLWC	52	26	13 (1993-94)	465 (1975-76)	74
416037	Boomi River	Offlake	AR	Yes	1973	DLWC	22	11	3 (1994-95)	143 (1983-84)	49
416040	Dumaresq River	Glenarbon Weir	AR	Yes	1996	DLWC	151	93	93 (2004-05)	871 (1998-99)	218
416043	Macintyre River	Boomi Weir	AR	Yes	1976	DLWC	146	73	21 (1994-95)	460 (1998-99)	160
416047	Macintyre River	Terrewah	AR	Yes	1985	DLWC	226	108	31 (1994-95)	1144 (1998-99)	278
416048	Macintyre River	Kanowna	AR	Yes	1988	DLWC	204	50	25 (1994-95)	724 (1998-99)	190
416201A	Macintyre River	Goondiwindi	AR	Yes	1917	NRM	413	175	61 (1994-95)	4,488 (1955-56)	479
416201B	Macintyre River	Goondiwindi Weir	AR	Yes	1997	NRM	374	166	166 (2004-05)	1,885 (1998-99)	398
416202A	Weir River	Talwood	AR	Yes	1949	NRM	275	17	1 (1979-80)	688 (1995-96)	57
416305B	Brush Creek	Beebo	AR	Yes	1950	NRM	1.7	2	0 (Several)	55 (1995-96)	3
416309B	Pike Creek	Glenlyon Dam Tailwater	AR	Yes	1973	NRM	8.7	14	4 (1976-77)	180 (1989-90)	63
416310A	Dumaresq River	Farnbro	AR	Yes	1962	NRM	41	9.9	0.8 (2002-03)	375 (1975-76)	55
416312A	Oakey Creek	Texas	AR	Yes	1969	NRM	6.2	7.1	7 (1973-74)	99 (1995-96)	7
416315A	Pike Creek	Glenlyon Dam Headwater	AR	Yes	1977	NRM	0	0	0 (Several)	100 (1984-85)	0
416402C	Macintyre Brook	Inglewood	AR	Yes	1953	NRM	35	30	6 (1994-95)	546 (1995-96)	36
416415A	Macintyre Brook	Booba Sands	AR	Yes	1987	NRM	38	27	4 (1994-95)	630 (1995-96)	38

(1) AR = automatic recorder; SG = staff gauge, Established date = HYDSYS period of record (from which all long term calculations are made).

(2) The annual statistics provided in this table are for the financial year, i.e. 1 July to 30 June.

Table 20 - Stream gauging stations (Intersecting Streams)

AWRC No	Stream	Station	Equipment (see note)	Telemetry	Established Date	Maintained By	2003-04 Total Flow (MLx10 ³)	2004-05 Total Flow (MLx10 ³)	Historical Annual Totals & (Year) (MLx10 ³)		
									Min.	Max.	Median
417001	Moonie River	Gundablouie	AR	Yes	1945	DIPNR	203	103	0 (1951-52)	596 (1975-76)	61
417204A	Moonie River	Fenton	AR	Yes	1971	NRM	38	118	0 (Several)	652 (1955-56)	68
422005	Bokhara River	Goodwin's	AR	Yes	1944	DIPNR	38	1	0 (Several)	652 (1955-56)	26
422006	Culgoa River	Downstream Collierina (Kenebree)	SG	No	1944	DIPNR	146	10	7 (2001-02)	2341 (1989-90)	304
422010	Birrie River	Talawanta	SG	No	1964	DIPNR	26	0	0 (Several)	379 (1975-76)	26
422011	Culgoa River	Upstream Collierina (Mundiwa)	AR	Yes	1964	DIPNR	107	8	6 (2001-02)	1002 (1970-71)	188
422012	Narran River	Angledool	SG	No	1959	DIPNR	50	1	0 (1992-93)	574 (1970-71)	112
422013	Birrie River	Near Goodooga	SG	No	1964	DIPNR	29	1	0 (1992-93)	441 (1982-83)	32
422014	Bokhara River	Goodooga	SG	No	1915	DIPNR	23	1	0 (Several)	306 (1982-83)	15
422015	Culgoa River	Brenda	AR	Yes	1960	DIPNR	79	7	0 (1992-93)	1619 (1970-71)	278
422016	Narran River	Wilby Wilby	SG	No	1964	DIPNR	49	1	1 (1979-80)	519 (1983-84)	105
422017	Culgoa River	Weilmoringle	SG	No	1964	DIPNR	77	6	0 (1992-93)	999 (1983-84)	244
422204A	Culgoa River	Whyenbah	AR	Yes	1965	NRM	273	20	2.6 (1992-93)	1,614 (1970-71)	336
422206A	Narran River	Dirranbandi-Hebel Road	AR	Yes	1965	NRM	64	2.7	0.2 (1992-93)	826 (1982-83)	108
422207A	Ballandool River	Hebel-Bollon Road	AR	Yes	1965	NRM	15	0.9	0 (1992-93)	378 (1982-83)	17
422209A	Bokhara River	Hebel	AR	Yes	1967	NRM	21	2	1 (1992-93)	288 (1982-83)	22
422211A	Briarie Creek	Woolerbilla-Hebel Road	AR	Yes	1992	NRM	17	0	0 (several)	489 (1982-83)	12
423001	Warrego River	Fords Bridge	AR	No	1921	DIPNR	6	1	1 (Several)	344 (1989-90)	8
423002	Warrego River	Fords Bridge (Bywash)	AR	No	1921	DIPNR	31	8	0 (1957-58)	249 (1955-56)	38
423202C	Warrego River	Cunnamulla Weir	AR	Yes	1992	NRM	343	142	34 (1999-00)	1,589 (1996-97)	219
424002	Paroo River	Willara Crossing	AR	No	1975	DIPNR	472	31	26 (1979-80)	2072 (1975-76)	168
424201A	Paroo River	Caiwarro	AR	Yes	1967	NRM	587	74	41 (1977-78)	2,028 (1989-90)	323
011202	Bulloo River	Autumnvale	AR	Yes	1967	NRM	936	132	19 (1976-77)	3,215 (1973-74)	402

(1) AR = automatic recorder; SG = staff gauge, Established date = HYDSYS period of record (from which all long term calculations are made).

(2) The annual statistics provided in this table are for the financial year, i.e. 1 July to 30 June.

Table 21 - Groundwater monitoring network

Bore number	Location	State	Piezometer	Depth (m)	Automatic WL Recorder (Yes/No)	Year Installed	Depth to WL 2003-04		Depth to WL 2004-05	
							Max (m)	Min (m)	Max (m)	Min (m)
41640001	Keetah Crossing	Q	A	87.3	No	1985	-3.97	-3.79	-4.16	-3.97
41640001	Keetah Crossing	Q	B	46.8	No	1985	-5.64	-5.57	-5.82	-5.70
41640002	Keetah Crossing	Q	A	17.8	No	1985	-8.62	-8.56	-8.74	-8.71
41640003	Yelarbon Desert	Q	A	92.4	No	1985	-3.52	-3.23	-3.61	-3.44
41640003	Yelarbon Desert	Q	B	47.9	No	1985	-5.07	-4.92	-5.81	-5.09
41630009	Glenarbon	Q	A	93	No	1996	-33.51	-24.8	-32.12	-27.71
41630042	David Muggleton	Q	A	13.3	No	1959	-7.21	-7.14	-7.41	-7.31
41630039	'Eldorado' - Harley Girle	Q	A	16.7	No	1959	-6.39	-6.20	-6.40	-6.28
41630072	Cunningham Weir	Q	A	90.4	Yes	1985	-45.58	-41.93	-45.38	-37.92
41630072	Cunningham Weir	Q	B	41.4	Yes	1985	-39.37	-39.22	-35.19	-33.78
41630072	Cunningham Weir	Q	C	10.4	Yes	1985	-5.90	-5.90	-6.12	-6.06
41630064	Texas	Q	A	52.5	No	1985	-23.72	-22.90	-21.26	-18.92
41630064	Texas	Q	B	28.5	No	1985	-18.02	-16.90	-17.49	-16.66
41630066	Bill & Tater	Q	A	90.4	Yes	1985	-27.20	-22.21	-30.50	-22.07
41630066	Bill & Tater	Q	B	45.9	Yes	1985	-25.90	-24.30	-27.72	-23.51
41630067	Bill & Tater	Q	A	12.2	Yes	1985	-5.34	-5.28	-5.51	-5.44
41630063	Finlay's	Q	A	100.6	No	1983	-22.90	-12.56	-28.26	-10.81
41630063	Finlay's	Q	B	64.6	No	1983	-23.55	-12.27	-28.76	-12.86
41630062	Finlay's	Q	A	17.4	No	1985	-6.52	-5.88	-7.31	-6.32
41630071	Finlay's	Q	A	48.2	No	1985	-11.60	-8.08	-15.04	-9.36
41630071	Finlay's	Q	B	41.2	No	1985	-11.20	-7.85	-14.28	-9.15
41630059	John Moore	Q	A	101.7	No	1985	-7.81	-7.11	-9.12	-7.17
41630069	John Moore	Q	A	92	No	1985	-16.06	-10.86	-17.97	-6.89
41630069	John Moore	Q	B	35.9	No	1985	-16.19	-9.66	-13.73	-9.94
41630069	John Moore	Q	C	15.4	No	1985	-7.30	-6.71	-11.78	-7.30
41630060	John Moore	Q	A	12.1	No	1985	-8.47	-8.30	-10.60	-8.58
41630058	John Moore	Q	A	10.6	No	1985	-7.49	-7.40	-7.58	-7.53
41630070	Phillip Harpham	Q	A	9.2	No	1985	-4.63	-4.60	-6.75	-4.76
41630004	V and E Sattolo	Q	A	11.8	No	1960	-11.85	-10.84	-11.83	-11.83
41630003	V and E Sattolo	Q	A	27.1	No	1961	14.69	-12.47	-15.13	-13.72
41630002	V and E Sattolo	Q	A	29.9	No	1961	12.53	-10.75	-12.63	-12.32
GW036697	Keetah Bridge	NSW	1	20	Yes	1987	-8.67	-8.56	-8.7	-8.48
GW036697	Keetah Bridge	NSW	2	64	Yes	1987	-6.23	-8.04	-6.36	-6.02
GW036697	Keetah Bridge	NSW	3	83.5	Yes	1987	-4.51	-4.1	-4.66	-4.10
GW040635	Smithfield Section	NSW	1	15.9	No	1960	-8.73	-8.04	-8.20	-8.71
GW040636	Smithfield Section	NSW	1	11.3	No	1960	-8.14	-7.78	-8.26	-8.04
GW040637	Smithfield Section	NSW	1	7.9	No	1960	-6.94	-6.67	-7.32	-7.00
GW040638	Smithfield Section	NSW	1	11.9	No	1960	-11.69	-11.67	dry	dry
GW40771	Smithfield Section	NSW	1	30	Yes	1994	-27.93	-23.93	-26.60	-25.83
GW40771	Smithfield Section	NSW	2	37	Yes	1994	-29.64	-26.69	-29.20	-28.06
GW40771	Smithfield Section	NSW	3	50	Yes	1994	-33.18	-28.93	-33.30	-30.92
GW040641	Riverstone Section	NSW	1	35	No	1960	-16.02	-8.62	-21.59	-10.31
GW040644	Riverstone Section	NSW	1	9.5	No	1960	-8.41	-8	-8.31	-8.06
GW040646	Riverstone Section	NSW	1	7.7	No	1960	-8.08	-6.11	-6.72	-6.16
GW040647	Hopwood Section	NSW	1	12.8	No	1959	-9.74	-9.13	-9.9	-9.6
GW040649	Hopwood Section	NSW	1	28.9	No	1959	-8.16	-7.9	-8.41	-8.16
GW040652	Hopwood Section	NSW	1	12.2	No	1959	-8.73	-8.4	-8.83	-8.64
GW40829	Lochiel Section	NSW	1	12	No	1996	-9.56	-9.1	-9.89	-9.51
GW40829	Lochiel Section	NSW	2	42	No	1996	-9.74	-9.06	-9.95	-9.68
GW40830	Lochiel Section	NSW	1	27	No	1996	-9.66	-9.34	-10.13	-9.75
GW40831	Lochiel Section	NSW	1	44	Yes	1996	-38.4	-31.71	-37.99	-34.49
GW40831	Lochiel Section	NSW	2	96	Yes	1996	-39.16	-32.23	-40.69	-35.50

(1) The annual statistics provided in this table are for the financial year, i.e. 1 July to 30 June.