

**Dumaresq-Barwon  
Border Rivers Commission  
Annual Statistics 2005-06**





## Dumaresq-Barwon Border Rivers Commission 2005-06 Annual Statistics

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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, Mines and Water and the New South Wales Department of 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	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	57.0	Yelarbon	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	2004-05	2005-06
July	56,480	61,212
August	55,149	60,458
September	55,212	50,448
October	53,418	60,112
November	57,225	64,769
December	75,394	70,566
January	75,086	73,603
February	72,474	74,235
March	68,642	72,742
April	65,698	72,316
May	62,177	72,170
June	61,335	71,120

(1) Storage volumes in this table are at 24:00 hrs on the last day of each month as recorded by GS 416315A (Provisional data only for May & June 2006)

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

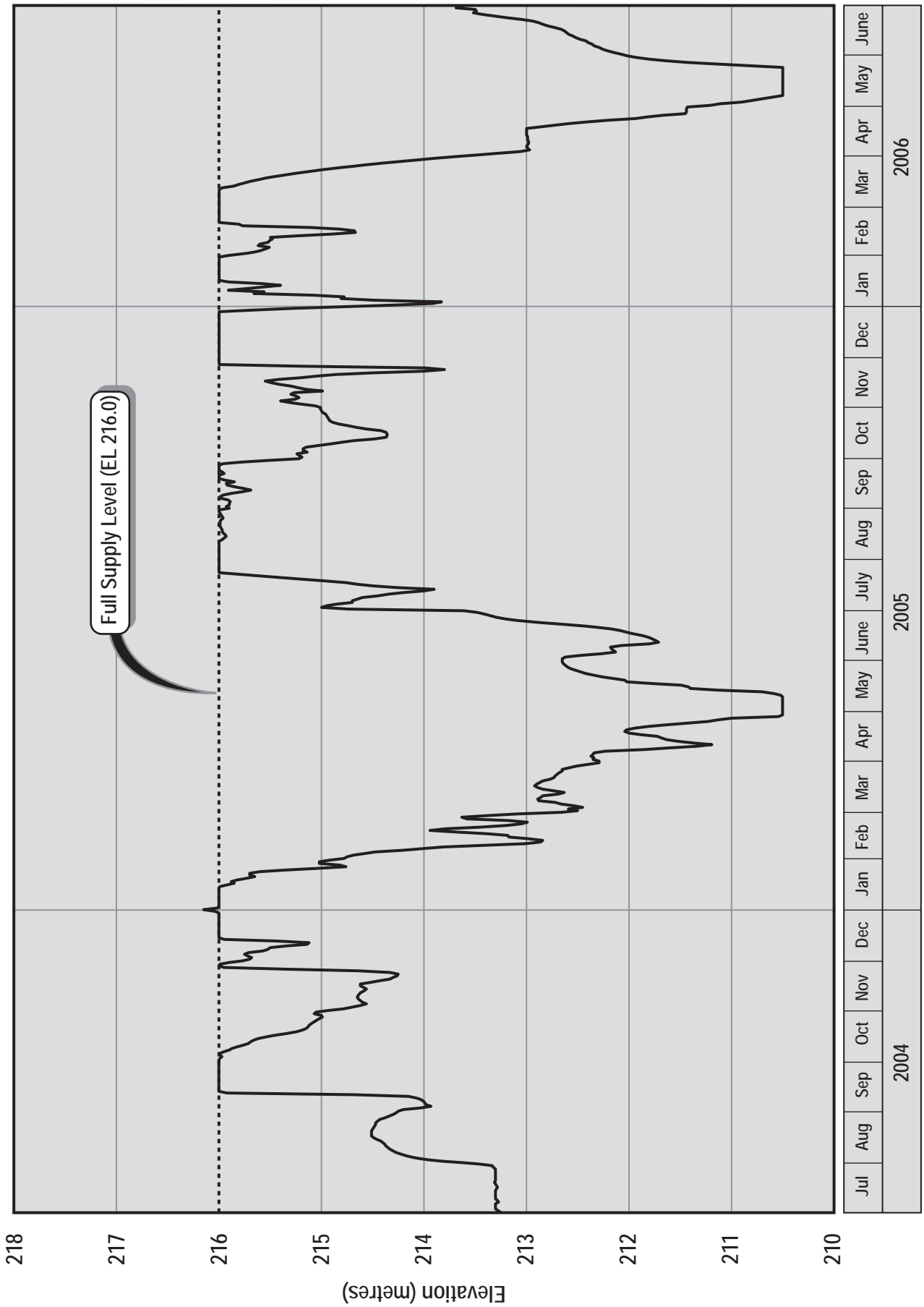
Month	2004-05		2005-06	
	Release	Spillway flows	Release	Spillway flows
July	1,016	0	0	0
August	1,136	0	574	0
September	48	0	968	0
October	1,360	0	2,024	0
November	385	0	49	0
December	228	0	13	0
January	0	0	2,236	0
February	2,027	0	0	0
March	3,043	0	563	0
April	2,459	0	23	0
May	2,668	0	930	0
June	1,145	0	1,169	0

(1) The monthly releases in this table are the flows as recorded at GS 416309B less any spillway flows. (Provisional data only for May & June 2006)

**Table 4 - Glenlyon Dam recreation statistics**

1 October 04 - 30 June 05		1 July 05 - 30 June 06	
Visitors	Camp sites occupied	Visitors	Camp sites occupied
41,752	4,593	55,730	4,352

Figure 1 - Boggabilla Weir Storage Levels 2004-2006



# 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	0	0
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	17	26	6,978	5,896	0	0
Texas Town	0	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	0	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	0	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			
<b>Totals</b>	<b>93</b>	<b>207</b>	<b>247,589</b>	<b>84,772</b>	<b>158,515</b>	<b>276,730</b>

**Table 7 - 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			
<b>Totals</b>	<b>44,369</b>	<b>14,511</b>	<b>58,880</b>	<b>51,524</b>	<b>54,396</b>	<b>105,920</b>

(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 05 – 30 June 06 (megalitres)**

	On-allocation			Off-allocation		
	NSW	QLD	Total	NSW	QLD	Total
Pike Creek and Dumaresq River from Glenlyon Dam to Bonshaw Weir	1,770	864	2,634	918	360	1,278
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	1,563	1,178	2,741	713	579	1,292
Texas Town		197	197			0
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	656	3,316	3,972	348	2,083	2,431
Yelarbon Town		72	72			0
Macintyre River from Dumaresq River junction to Goondiwindi Weir (excluding Goondiwindi & Boggabilla towns)	20,799	6,703	32,285	4,741	5,856	10,597
Boggabilla Town	146	0	146			0
Goondiwindi Town		2,133	2,133			0
Macintyre River from Goondiwindi Weir to Boomi Weir	55,641	1,198	62,409	9,148	4,291	13,439
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	27,004	12,821	42,037	6,254	15,311	21,565
Mungindi Town	248	0	248			0
<b>Totals</b>	<b>107,827</b>	<b>28,482</b>	<b>148,874</b>	<b>22,122</b>	<b>28,480</b>	<b>50,602</b>

(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 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 10 – Resource assessments for the Border Rivers 1 July 05 – 30 June 06 (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	3.72	1.00	6.32	2.38	23.49	6.37	43.28	1.88	13.90	4.63	22.77	9.18	129.82	37.03	219.21
1 September	3.24	1.00	6.18	2.34	23.29	6.31	42.36	1.88	13.89	4.26	23.39	9.17	129.40	36.90	218.89
1 October	5.05	1.00	7.05	2.70	21.91	5.90	43.61	1.64	14.00	6.08	24.71	10.31	125.32	37.60	219.66
1 November	5.00	1.00	7.20	2.65	21.15	6.35	43.35	1.77	13.96	6.08	24.71	10.31	125.30	37.60	219.73
1 December	5.85	1.00	7.20	2.76	27.14	8.14	52.09	1.28	14.01	6.08	24.71	10.31	123.64	37.10	217.13
1 January	6.44	1.00	7.20	2.76	32.33	9.69	59.42	1.14	14.20	6.08	24.71	10.31	126.82	38.05	221.31
1 February	7.27	1.00	7.20	2.76	38.60	11.58	68.41	0.57	13.54	6.08	24.71	10.31	110.42	33.12	198.75
1 March	7.13	1.00	7.20	2.76	37.88	11.36	67.33	0.74	14.02	6.08	24.71	10.31	120.79	36.23	212.88
1 April	7.22	1.00	7.20	2.76	38.05	11.41	67.64	0.55	14.06	6.08	24.71	10.31	120.26	36.07	212.04
1 May	7.19	1.00	7.20	2.76	36.54	10.95	65.64	0.76	14.41	6.08	24.71	10.31	121.55	36.46	214.28
1 June	6.59	1.00	7.03	2.71	36.32	10.88	64.53	0.66	14.00	4.59	24.71	10.31	120.98	36.29	211.54
1 July	6.11	1.00	6.90	2.67	35.71	10.70	63.09	0.68	14.01	5.54	24.70	10.30	120.62	36.18	212.03

(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 04 – 30 June 05		1 July 05 – 30 June 06	
	Glenlyon to Goondiwindi	Goondiwindi to Mungindi	Glenlyon to Goondiwindi	Goondiwindi to Mungindi
July				3½ (d/s Newinga only)
August				
September				
October				
November		1½ (d/s Mac/Weir junct only)		
December		(See Note 2)	1½	1½
January	8	1 (d/s Mac/Weir junct only)		
February			1	1
March				
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) 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	2004-05			2005-06		
	NSW	Qld	TOTAL	NSW	Qld	TOTAL
Cotton	29,373	25,486	54,859	21,884	22,835	44,719
Lucerne	615	367	982	805	433	1,238
Cereals	650	4,662	5,312	550	2,040	2,590
Peanuts	180	60	240	310	60	370
Fodder crops	960	66	1,026	710	81	791
Horticultural crops	15	43	58	55	105	160
Other	140	613	753	295	170	465
<b>Total</b>	<b>31,933</b>	<b>31,297</b>	<b>63,230</b>	<b>24,609</b>	<b>25,724</b>	<b>50,333</b>

- (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 <sup>(2)</sup>
Issued allocation	16,620 <sup>(1)</sup>	14,421
Issued allocation (100% surface water allocation)	10,688	
Issued allocation (0% surface water allocation)	16,620	
Allocation issued, bores constructed	16,620	14,421
Allocation issued, bores not constructed	0	0
Number of licences	44	26
Number of bores constructed	44	39
Number of applications outstanding	2 <sup>(3)</sup>	4

- (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 04 – 30 June 05		1 July 05 – 30 June 06	
NSW	Qld	NSW	Qld
6,046	6,252	5,377	5,260

# Resource management

**Table 15 - Beardmore Dam compensation inflow, storage and releases**

Month	2004-05			2005-06		
	Inflow (ML)	Release (ML)	Storage at end of month (ML)	Inflow (ML)	Release (ML)	Storage at end of month (ML)
June	920	0	3,240	4,240	0	13,900
July	0	0	3,100	3,480	16,660	650
August	0	0	3,000	990	1,600	0
September	730	0	3,450	0	0	0
October	0	0	3,200	2,970	0	2,940
November	4,600	0	8,350	13,140	13,450	1,690
December	17,100	24,500	650	17,420	16,750	5,260
January	8,500	3,100	5,950	3,570	6,850 <sup>(1)</sup>	3,520
February	1,900	0	5,600	1,960 <sup>(2)</sup>	0	890
March	0	0	5,250	8,210	8,450	0
April	0	0	4,950	780	0	770
May	5,200	0	10,000	0	0	740
June	3,800	0	13,900	0	0	720
<b>Totals</b>	<b>41,830</b>	<b>27,600</b>		<b>56,750</b>	<b>63,740</b>	

(1) Includes 1950ML of allocation water temporarily transferred to compensation flow.

(2) 1950ML deducted from inflow to repay allocation holders for temporary transfer.

**Table 16 - Guidelines for physical and chemical stressors - ANZECC (2000)**

Water quality indicator		Default trigger value <sup>(1)</sup>	Notes
Salinity ( $\mu\text{Scm}^{-1}$ )	Upland rivers <sup>(2)</sup>	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 <sup>(2)</sup>	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 ( $\text{mgL}^{-1}$ )	Upland rivers <sup>(2)</sup>	0.20	
	Lowland rivers	0.60	
	Lakes and reservoirs	0.35	
Total Phosphorus ( $\text{mgL}^{-1}$ )	Upland rivers <sup>(2)</sup>	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 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	1.0	8.0	32.0
	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	10.0
	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	24.0
	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	3.0	8.3	60.0
	416312	Oaky Creek at Texas	3	315	453	638	3	0.061	0.145	0.244	3	0.530	0.620	1.300	2	8.0	16.0	24.0
	416415	Macintyre Brook, Booba Sands	12	195	343	520	10	0.038	0.051	0.139	10	0.515	0.740	1.150	8	3.0	12.0	170.0
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	11.0	60.0
	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	110.0
Macintyre	416012	Holdfast	12	214	288	420	10	0.047	0.066	0.157	10	0.405	0.520	0.990	8	7.6	15.0	190.0
	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	160.0
Barwon	416048	Kanowna	11	227	275	380	9	0.049	0.062	0.188	10	0.370	0.510	0.910	8	34.0	75.0	500.0
	416001	Mungindi	22*	153	255	366	18	0.039	0.050	0.150	20	0.405	0.475	0.765	16	21.0	50.0	700.0
Weir	416202	Talwood	8	117	160	184	6	0.119	0.166	0.325	7	0.400	1.300	1.500	6	494.0	600.0	1,900.0
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		1		0.543		1		1.3		0			
	422013	Birrie River near Goodooga	1		163		1		0.40		1		0.94		0			
	422012	Narran River at New Angledool	2		205		2		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 10<sup>th</sup> percentile (10% of the samples are below this value) and the 90<sup>th</sup> 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 18 - Summary of water quality 2005-06**

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	175	325	496	9	0.027	0.066	0.136	8	0.387	0.585	0.880	9	1.3	2.2	9.1
	416310	Severn River at Farnbro	8	163	194	227	8	0.018	0.033	0.057	8	0.516	0.695	1.105	8	3.0	5.1	12
	416303	Pike Creek U/S Glenlyon Dam	8	177	216	385	8	0.021	0.034	0.048	7	0.191	0.530	0.668	7	1.7	6.8	23
	416309	Pike Creek at Glenlyon Dam Tailwater	10	215	299	470	10	0.034	0.045	0.066	10	0.441	0.54	0.733	10	2.2	4.0	9.0
	416032	Mole River, Donaldson	9	106	177	210	9	0.028	0.036	0.058	8	0.198	0.35	0.565	9	7.8	15	24.8
	416008	Beardy River, Haystack No. 4	9	87	127	194	9	0.017	0.043	0.073	8	0.205	0.455	0.816	9	7.5	25	42
	416312	Oaky Creek at Texas	3	364	368	470	3	0.054	0.055	0.106	2	0.368	0.440	0.512	3	8.6	21	56.2
	416415	Macintyre Brook, Booba Sands	9	180	288	410	9	0.031	0.039	0.117	8	0.432	0.605	1.23	9	10	17	180
Dumaresq	416007	Bonshaw Weir	9	109	187	238	9	0.029	0.038	0.067	8	0.333	0.560	0.703	9	5.6	8	43
	416049	Mauro	9	125	193	270	9	0.020	0.049	0.087	8	0.287	0.500	0.786	9	3.1	11	76
Macintyre	416012	Holdfast	9	193	308	414	9	0.043	0.058	0.122	8	0.297	0.465	0.822	9	10.8	16	184
	41610044	Salisbury Bridge (Boggabilla)	7	151	284	345	7	0.037	0.042	0.143	7	0.318	0.740	0.870	7	7.0	24	138
Barwon	416048	Kanowna	9	174	202	347	9	0.052	0.102	0.133	9	0.362	0.590	0.804	9	39.4	102	305
	416001	Mungindi	10	164	216	311	10	0.038	0.099	0.156	10	0.348	0.660	1.110	10	41.6	195	398
Weir	416202	Talwood	6	92	99	114	6	0.125	0.197	0.267	6	0.770	1.050	1.350	6	305	680	1,495
Intersecting Streams	424002	Willara Crossing on Paroo																
	423002	Fords Bridge Bywash on Warrego																
	422015	Culgoa River at Brenda																
	422014	Bokhara River at Goodooga																
	422013	Birrie River near Goodooga																
	422012	Narran River at New Angledool																
Storages	416315	Glenlyon 1: Top	10	200	212	217	10	0.018	0.026	0.033	10	0.370	0.690	0.843	10	2.0	2.3	3.9
		Glenlyon 1: Middle	10	208	217	222	10	0.012	0.026	0.034	10	0.570	0.650	0.783	10	2	3.3	4.9
		Glenlyon 1: Bottom	10	209	218	229	10	0.014	0.043	0.0137	10	0.660	0.770	1.200	10	1.9	205	4.1

- 1 The table provides information on the median value (middle value), the 10<sup>th</sup> percentile (10% of the samples are below this value) and the 90<sup>th</sup> percentile (90% of the samples are below this value; v.v. 10% of the samples are greater than this value)
- 2 Because sample analysis data was not available for the latter part of the year at the time of preparing this table the water quality statistics presented above may not be representative of the statistics for the full year when they are available.
- 3 Insufficient samples were taken from the Intersecting Streams during the year to enable the data obtained to be statistically analysed.

**Table 19 - Stream gauging stations (Border Rivers)**

AWRC No	Stream	Station	Equipment (see note)	Telemetry	Established Date	Maintained By	2004-05 Total Flow (MLx10 <sup>3</sup> )	2005-06 Total Flow (MLx10 <sup>3</sup> )	Historical Annual Totals & (Year) (MLx10 <sup>3</sup> )		
									Min	Max	Median
416001	Barwon River	Mungindi	AR	Yes	1889	DNR	121	107	21 (1994-95)	3131 (1950-51)	437
416002	Macintyre River	Boggabilla	AR	Yes	1894	DNR	189	288	29 (1919-20)	5228 (1989-90)	634
416003	Tenterfield Creek	Clifton	AR	Yes	1921	DNR	6	7	1 (2002-03)	235 (1949-50)	38
416006	Severn River	Ashford	AR	Yes	1933	DNR	70	101	17 (1941-42)	1389 (1950-51)	222
416007	Dumaresq River	Bonshaw Weir	AR	Yes	1934	DNR	92	117	54 (1993-94)	1327 (1975-76)	292
416008	Beardy River	Haystack	AR	Yes	1934	DNR	26	55	5 (1941-42)	149 (1974-75)	31
416010	Macintyre River	Wallangra	AR	Yes	1936	DNR	51	55	6 (1941-42)	667 (1970-71)	80
416011	Dumaresq River	Roseneath	AR	Yes	1937	DNR	78	54	36 (1993-94)	1603 (1955-56)	313
416012	Macintyre River	Holdfast	AR	Yes	1950	DNR	131	164	49 (1957-58)	1682 (1955-56)	311
416020	Otteleys Creek	Coolatai	AR	Yes	1967	DNR	6	4	1 (1992-93)	65 (2000-01)	10
416032	Mole River	Donaldson	AR	Yes	1969	DNR	26	26	13 (1993-94)	465 (1975-76)	72
416037	Boomi River	Offlake	AR	Yes	1973	DNR	11	11	3 (1994-95)	143 (1983-84)	46
416040	Dumaresq River	Glenarbon Weir	AR	Yes	1996	DNR	93	116	93 (2004-05)	871 (1998-99)	185
416043	Macintyre River	Boomi Weir	AR	Yes	1976	DNR	73	151	21 (1994-95)	460 (1998-99)	160
416047	Macintyre River	Terrewah	AR	Yes	1984	DNR	108	211	31 (1994-95)	1144 (1998-99)	275
416048	Macintyre River	Kanowna	AR	Yes	1984	DNR	50	133	25 (1994-95)	727 (1998-99)	168
416201A	Macintyre River	Goondiwindi	AR	Yes	1917	NRMW	175	237	61 (1994-95)	4,488 (1955-56)	479
416201B	Macintyre River	Goondiwindi Weir	AR	Yes	1997	NRMW	166	267	166 (2004-05)	1,885 (1998-99)	398
416202A	Weir River	Talwood	AR	Yes	1949	NRMW	17	60	1 (1979-80)	688 (1995-96)	57
416305B	Brush Creek	Beebo	AR	Yes	1950	NRMW	2	4	0 (Several)	55 (1995-96)	3
416309B	Pike Creek	Glenlyon Dam Tailwater	AR	Yes	1973	NRMW	14	9	4 (1976-77)	180 (1989-90)	63
416310A	Dumaresq River	Farnbro	AR	Yes	1962	NRMW	9.9	17	0.8 (2002-03)	375 (1975-76)	55
416312A	Oakey Creek	Texas	AR	Yes	1969	NRMW	7.1	8	7 (1973-74)	99 (1995-96)	7
416315A	Pike Creek	Glenlyon Dam Headwater	AR	Yes	1977	NRMW	0	0	0 (Several)	100 (1984-85)	0
416402C	Macintyre Brook	Inglewood	AR	Yes	1953	NRMW	30	56	6 (1994-95)	546 (1995-96)	36
416415A	Macintyre Brook	Booba Sands	AR	Yes	1987	NRMW	27	56	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, DNR = NSW Department of Natural Resources, NRMW = Qld Department of Natural Resources, Mines and Water.

(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	2004-05 Total Flow (MLx10 <sup>3</sup> )	2005-06 Total Flow (MLx10 <sup>3</sup> )	Historical Annual Totals & (Year) (MLx10 <sup>3</sup> )		
									Min.	Max.	Median
417001	Moonie River	Gundablouie	AR	Yes	1944	DNR	103	28	0 (1951-52)	596 (1975-76)	61
417204A	Moonie River	Fenton	AR	Yes	1971	NRMW	118	33	0 (Several)	652 (1955-56)	68
422005	Bokhara River	Goodwin's	AR	Yes	1944	DNR	1	1	0 (Several)	652 (1955-56)	26
422006	Culgoa River	Downstream Collierina (Kenebree)	SG	No	1944	DNR	10	14	7 (2001-02)	2341 (1989-90)	300
422010	Birrie River	Talawanta	SG	No	1964	DNR	0	1	0 (Several)	379 (1975-76)	26
422011	Culgoa River	Upstream Collierina (Mundiwa)	AR	Yes	1964	DNR	8	15	6 (2001-02)	1002 (1970-71)	178
422012	Narran River	Angledool	SG	No	1932	DNR	1	4	0 (1992-93)	574 (1970-71)	110
422013	Birrie River	Near Goodooga	SG	No	1964	DNR	1	3	0 (1992-93)	441 (1982-83)	32
422014	Bokhara River	Goodooga	SG	No	1915	DNR	1	6	0 (Several)	306 (1982-83)	15
422015	Culgoa River	Brenda	AR	Yes	1926	DNR	7	21	0 (1992-93)	1619 (1970-71)	278
422016	Narran River	Wilby Wilby	SG	No	1964	DNR	1	1	1 (1979-80)	519 (1983-84)	105
422017	Culgoa River	Weilmoringle	SG	No	1964	DNR	6	21	0 (1992-93)	999 (1983-84)	236
422204A	Culgoa River	Whyenbah	AR	Yes	1965	NRMW	20	64	2.6 (1992-93)	1,614 (1970-71)	336
422206A	Narran River	Dirranbandi-Hebel Road	AR	Yes	1965	NRMW	2.7	14	0.2 (1992-93)	826 (1982-83)	108
422207A	Ballandool River	Hebel-Bollon Road	AR	Yes	1965	NRMW	0.9	3	0 (1992-93)	378 (1982-83)	17
422209A	Bokhara River	Hebel	AR	Yes	1967	NRMW	2	10	1 (1992-93)	288 (1982-83)	22
422211A	Briarie Creek	Woolerbilla-Hebel Road	AR	Yes	1992	NRMW	0	0	0 (several)	489 (1982-83)	12
423001	Warrego River	Fords Bridge	AR	No	1921	DNR	1	2	1 (Several)	344 (1989-90)	8
423002	Warrego River	Fords Bridge (Bywash)	AR	No	1921	DNR	8	15	0 (1957-58)	249 (1955-56)	38
423202C	Warrego River	Cunnamulla Weir	AR	Yes	1992	NRM	142	60	34 (1999-00)	1,589 (1996-97)	219
424002	Paroo River	Willara Crossing	AR	No	1975	DNR	31	28	26 (1979-80)	2072 (1975-76)	168
424201A	Paroo River	Caiwarro	AR	Yes	1967	NRMW	74	35	41 (1977-78)	2,028 (1989-90)	323
011202	Bulloo River	Autumnvale	AR	Yes	1967	NRMW	132	117	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)

DNR = NSW Department of Natural Resources, NRMW = Old Department of Natural Resources, Mines and Water..

(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 2004-05		Depth to WL 2005-06	
							Max (m)	Min (m)	Max (m)	Min (m)
41640001	Keetah Crossing	Q	A	87.3	No	1985	-4.16	-3.97	-4.30	-4.25
41640001	Keetah Crossing	Q	B	46.8	No	1985	-5.82	-5.70	-5.96	-5.85
41640002	Keetah Crossing	Q	A	17.8	No	1985	-8.74	-8.71	-8.81	-8.75
41640003	Yelarbon Desert	Q	A	92.4	No	1985	-3.61	-3.44	-3.74	-3.63
41640003	Yelarbon Desert	Q	B	47.9	No	1985	-5.81	-5.09	-5.29	-5.26
41630009	Glenarbon	Q	A	93	No	1996	-32.12	-27.71	-13.03	-11.70
41630042	David Muggleton	Q	A	13.3	No	1959	-7.41	-7.31	-7.60	-7.46
41630039	'Eldorado' - Harley Girdle	Q	A	16.7	No	1959	-6.40	-6.28	-6.40	-6.40
41630072	Cunningham Weir	Q	A	90.4	Yes	1985	-45.38	-37.92	-47.58	-42.03
41630072	Cunningham Weir	Q	B	41.4	Yes	1985	-35.19	-33.78	-37.54	-34.64
41630072	Cunningham Weir	Q	C	10.4	Yes	1985	-6.12	-6.06	-6.24	-5.97
41630064	Texas	Q	A	52.5	No	1985	-21.26	-18.92	-20.16	-16.95
41630064	Texas	Q	B	28.5	No	1985	-17.49	-16.66	-17.09	-14.14
41630066	Bill & Tater	Q	A	90.4	Yes	1985	-30.50	-22.07	-29.78	-21.49
41630066	Bill & Tater	Q	B	45.9	Yes	1985	-27.72	-23.51	-28.30	-19.64
41630067	Bill & Tater	Q	A	12.2	Yes	1985	-5.51	-5.44	-5.58	-5.42
41630063	Finlay's	Q	A	100.6	No	1983	-28.26	-10.81	-23.84	-11.98
41630063	Finlay's	Q	B	64.6	No	1983	-28.76	-12.86	-27.36	-14.81
41630062	Finlay's	Q	A	17.4	No	1985	-7.31	-6.32	-7.44	-6.59
41630071	Finlay's	Q	A	48.2	No	1985	-15.04	-9.36	-12.17	-8.75
41630071	Finlay's	Q	B	41.2	No	1985	-14.28	-9.15	-13.14	-8.56
41630059	John Moore	Q	A	101.7	No	1985	-9.12	-7.17	-7.98	-7.09
41630069	John Moore	Q	A	92	No	1985	-17.97	-6.89	-15.80	-10.83
41630069	John Moore	Q	B	35.9	No	1985	-13.73	-9.94	-12.93	-9.36
41630069	John Moore	Q	C	15.4	No	1985	-11.78	-7.30	-7.24	-6.84
41630060	John Moore	Q	A	12.1	No	1985	-10.60	-8.58	-8.81	-8.48
41630058	John Moore	Q	A	10.6	No	1985	-7.58	-7.53	-7.71	-7.46
41630070	Phillip Harpham	Q	A	9.2	No	1985	-6.75	-4.76	-5.36	-5.02
41630004	V and E Sattolo	Q	A	11.8	No	1960	-11.83	-11.83	-11.75	-11.20
41630003	V and E Sattolo	Q	A	27.1	No	1961	-15.13	-13.72	-12.68	-10.92
41630002	V and E Sattolo	Q	A	29.9	No	1961	-12.63	-12.32	-11.02	-10.60
GW036697	Keetah Bridge	NSW	1	20	Yes	1987	-8.7	-8.48	-8.78	-8.52
GW036697	Keetah Bridge	NSW	2	64	Yes	1987	-6.36	-6.02	-6.52	-6.17
GW036697	Keetah Bridge	NSW	3	83.5	Yes	1987	-4.66	-4.10	-4.61	-4.48
GW040635	Smithfield Section	NSW	1	15.9	No	1960	-8.20	-8.71	-8.91	-8.02
GW040636	Smithfield Section	NSW	1	11.3	No	1960	-8.26	-8.04	-8.37	-8.08
GW040637	Smithfield Section	NSW	1	7.9	No	1960	-7.32	-7.00	-7.50	-7.21
GW040638	Smithfield Section	NSW	1	11.9	No	1960	Dry	Dry	Dry	Dry
GW40771	Smithfield Section	NSW	1	30	Yes	1994	-26.60	-25.83	-25.82	-24.38
GW40771	Smithfield Section	NSW	2	37	Yes	1994	-29.20	-28.06	-28.23	-27.24
GW40771	Smithfield Section	NSW	3	50	Yes	1994	-33.30	-30.92	-31.93	-29.41
GW040641	Riverstone Section	NSW	1	35	No	1960	-21.59	-10.31	-9.25	-8.81
GW040644	Riverstone Section	NSW	1	9.5	No	1960	-8.31	-8.06	-8.65	-8.05
GW040646	Riverstone Section	NSW	1	7.7	No	1960	-6.72	-6.16	-6.88	-6.13
GW040647	Hopwood Section	NSW	1	12.8	No	1959	-9.9	-9.6	-9.79	-8.72
GW040649	Hopwood Section	NSW	1	28.9	No	1959	-8.41	-8.16	-9.26	-8.01
GW040652	Hopwood Section	NSW	1	12.2	No	1959	-8.83	-8.64	-8.88	-8.60
GW40829	Lochiel Section	NSW	1	12	No	1996	-9.89	-9.51	-9.95	-9.76
GW40829	Lochiel Section	NSW	2	42	No	1996	-9.95	-9.68	-9.98	-9.56
GW40830	Lochiel Section	NSW	1	27	No	1996	-10.13	-9.75	-10.29	-9.73
GW40831	Lochiel Section	NSW	1	44	Yes	1996	-37.99	-34.49	-37.06	-32.43
GW40831	Lochiel Section	NSW	2	96	Yes	1996	-40.69	-35.50	-39.27	-33.33

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