



*Dumaresq-Barwon  
Border Rivers Commission*

*Annual Statistics  
2008-09*



## Dumaresq-Barwon Border Rivers Commission 2008-09 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 Environment and Resource Management and the New South Wales Department of Water and Energy 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 (m)	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
Glenarbon Weir	Dumaresq River	57.0	Yelarbon	Steel sheetpiling	2.7	353	1959
Goondiwindi Weir	Macintyre River	268.8	Goondiwindi	Timber crib (fishway added)	2.8	1,800	1942
Mungindi Weir	Barwon River	4.8	Mungindi	Steel sheetpiling	3.6	730	1936/65

## REGULATORS

Boomi Regulator	Boomi River		Boomi	Reinforced concrete with hardwood dropboards			1960
Newinga Regulator	Barwon to Weir River flood channel		Talwood	Reinforced concrete with aluminium dropboards			1993
Regulator No 1	Balonne Minor	163.5	Dirranbandi	Steel sheetpiling with rock protection			1974
	Culgoa River	162.6	Dirranbandi	Steel sheetpiling with rock protection			1974
Regulator No 2	Balonne Minor	128.9	Dirranbandi	Steel sheetpiling with rock protection			1974
	Donnegri River	14.9	Dirranbandi	Steel sheetpiling with rock protection			1974
Regulator No 3	Ballandool River	91.4	Dirranbandi	Steel sheetpiling with rock protection			1974
	Bokhara River	79.8	Dirranbandi	Steel sheetpiling with rock protection			1974
Regulator No 4	Birrie River	274.7	Goodooga	Steel sheetpiling with rock protection			1974
	Bokhara River	276.2	Goodooga	Steel sheetpiling with rock protection			1974

**Table 2 - Glenlyon Dam monthly storage volumes (megalitres)**

End of month	2007-08	2008-09
July	34,807	80,611
August	40,831	73,989
September	40,856	71,283
October	41,816	65,979
November	47,699	68,219
December	56,825	68,983
January	83,197	67,517
February	98,558	64,928
March	96,723	61,962
April	93,909	60,584
May	87,796	60,409
June	87,631	60,409

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

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

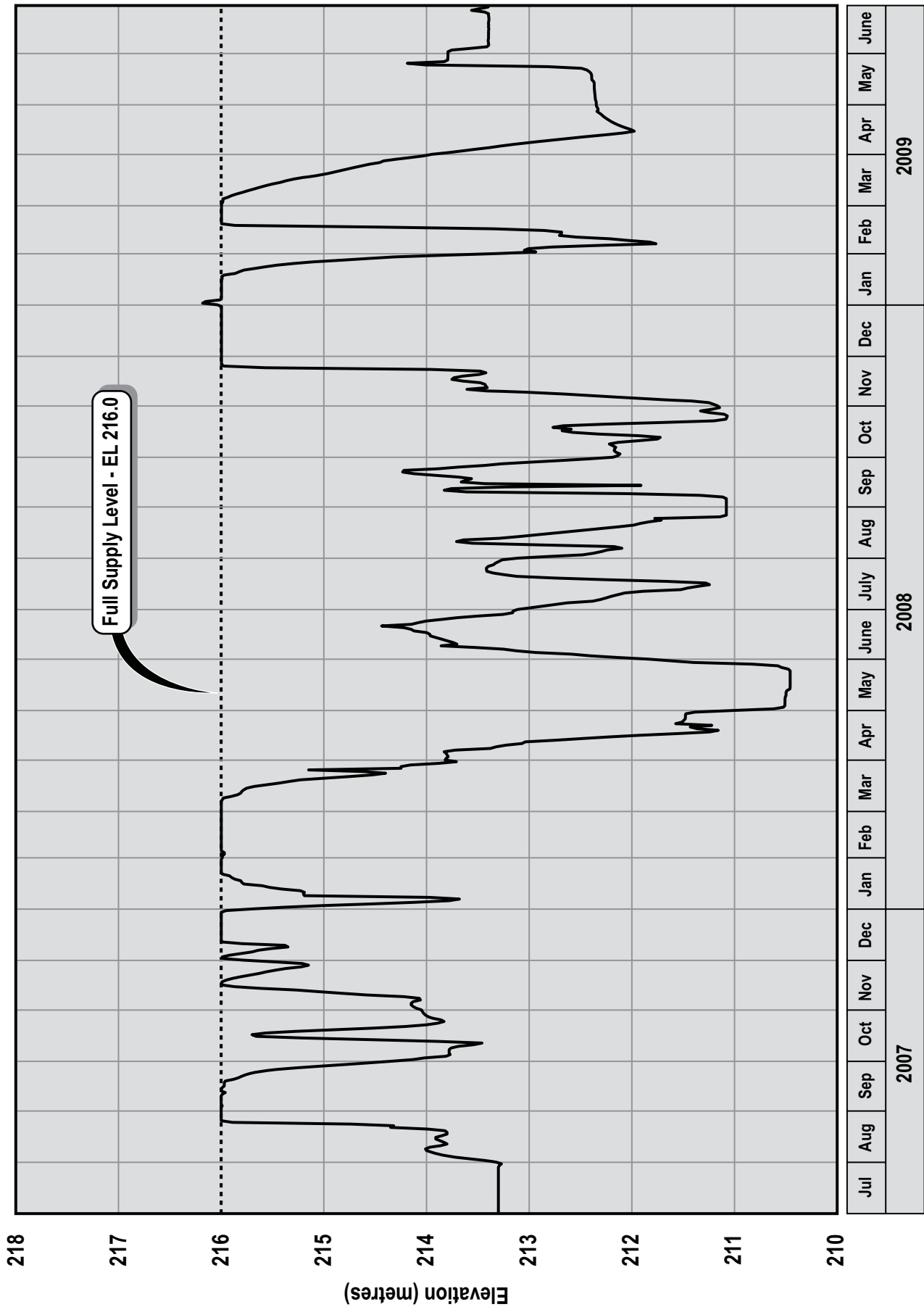
Month	2007-08		2008-09	
	Release	Spillway flows	Release	Spillway flows
July	0	0	7,598	0
August	0	0	6,784	0
September	0	0	2,711	0
October	654	0	4,792	0
November	374	0	974	0
December	286	0	0	0
January	0	0	235	0
February	0	0	2,079	0
March	817	0	2,160	0
April	1,731	0	838	0
May	5,365	0	792	0
June	174	0	0	0

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

**Table 4 - Glenlyon Dam recreation statistics**

1 July 07 - 30 June 08		1 July 08 - 30 June 09	
Visitors	Camp sites occupied	Visitors	Camp sites occupied
77,153	5,942	75,100	6,660

Figure 1 - Boggabilla Weir storage levels 2007-2009



# Resource allocation, sharing and use

**Table 5 - Supplemented/regulated and unsupplemented/supplementary water entitlements and off-stream storages - Border Rivers**

	Supplemented/ regulated (megalitres) <sup>(1)</sup>		Unsupplemented/ supplementary (megalitres)		Off-stream Storages (megalitres)	
	NSW	QLD	NSW <sup>(2)</sup>	QLD	NSW	QLD
Pike Creek and Dumaresq River from Glenlyon Dam to Bonshaw Weir	5,682	6,630		787		
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	6,874	6,046		626		
Texas Town		270				
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	2,192	5,828		4,613	400	6,300
Yelarbon Town		106				
Macintyre River from Dumaresq River junction to Goondiwindi Weir (excluding Goondiwindi & Boggabilla towns)	60,740	32,502		35,526	29,150	125,850
Boggabilla Town	200					
Goondiwindi Town		1,800				
Macintyre River from Goondiwindi Weir to Boomi Weir	121,393	9,258		15,146	86,000	25,210
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	51,057	22,226			60,600	119,370
Mungindi Town	300			42,490		
<b>Totals</b>	<b>248,438</b>	<b>84,666</b>		<b>99,188</b>	<b>176,150</b>	<b>276,730</b>

(1) The statistics for supplemented/regulated water entitlements in this table include all supplemented/regulated water entitlements including entitlements for irrigation, industrial, town water, high security, stock and domestic purposes but they not include authorities/permits issued for the taking of stock and domestic water under rights granted to riparian landholders.

(2) The NSW supplementary water entitlement statistics are incorporated in the NSW regulated water entitlement statistics.

**Table 6 - Water use from the Border Rivers 1 July 07 - 30 June 08 (megalitres)**

	Supplemented/regulated			Unsupplemented/ supplementary		
	NSW	QLD	Total	NSW	QLD	Total
Pike Creek and Dumaresq River from Glenlyon Dam to Bonshaw Weir	1,683	1,578	3,261	834	123	957
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	1,315	881	2,196	691	217	908
Texas Town		212	212			
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	565	2,124	2,689	315	3,389	3,704
Yelarbon Town		107	107			
Macintyre River from Dumaresq River junction to Goondiwindi Weir (excluding Goondiwindi & Boggabilla towns)	14,367	3,719	18,086	11,041	22,608	33,649
Boggabilla Town	165		165			
Goondiwindi Town		2,156	2,156			
Macintyre River from Goondiwindi Weir to Boomi Weir	28,146	739	28,885	23,527	13,432	36,959
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	6,464	1,168	7,632	15,560	33,011	48,571
Mungindi Town	254		254			
<b>Totals</b>	<b>52,959</b>	<b>12,684</b>	<b>65,643</b>	<b>51,968</b>	<b>72,780</b>	<b>124,748</b>

- (1) The above water use statistics only include water diverted from the Border Rivers under the authority of Border Rivers water entitlements. Water transferred from a tributary (eg the Macintyre Brook) to the Border Rivers and then diverted from the Border Rivers is not included in these statistics. Water temporarily transferred from one state to the other is reported as being use in the state of origin not the state of destination.
- (2) During 2007 08 Qld water users took 1,589 megalitres of unregulated water under the trial water sharing rules permitting small enterprises upstream of the Macintyre/Dumaresq junction to pump from small unregulated inflows for direct irrigation. That water is accounted for as regulated water use. NSW water users also took water under that same rule after the embargo was lifted at the end of December 2007. That water is accounted for as supplementary water use. As no differentiation is made between that water and other supplementary water taken a figure for NSW's use under that rule is not available.

**Table 7 - Water use from the Border Rivers 1 July 08 – 30 June 09 (megalitres)**

	Supplemented/regulated			Unsupplemented/ supplementary		
	NSW	QLD	Total	NSW	QLD	Total
Pike Creek and Dumaresq River from Glenlyon Dam to Bonshaw Weir	2,224	1,719	3,943	707	570	1,277
Dumaresq River from Bonshaw Weir to Cunningham Weir (excluding Texas town)	1,812	2,178	3,990	579	3,666	4,245
Texas Town		217	217			
Dumaresq River from Cunningham Weir to Macintyre River junction (excluding Yelarbon town)	605	1,166	1,771	217	6,529	6,746
Yelarbon Town		84	84			
Macintyre River from Dumaresq River junction to Goondiwindi Weir (excluding Goondiwindi & Boggabilla towns)	10,485	8,347	18,832	13,914	20,323	34,237
Boggabilla Town	140		140			
Goondiwindi Town		1,762	1,762			
Macintyre River from Goondiwindi Weir to Boomi Weir	25,318	1,654	26,972	30,733	8,152	38,885
Macintyre River and Barwon River from Boomi Weir to Mungindi Weir (excluding Mungindi town)	9,383	1,434	10,817	15,753	16,828	32,581
Mungindi Town	273		273			
<b>Totals</b>	<b>50,240</b>	<b>18,561</b>	<b>68,801</b>	<b>61,903</b>	<b>56,068</b>	<b>117,971</b>

- (1) The above water use statistics only include water diverted from the Border Rivers under the authority of Border Rivers water entitlements. Water transferred from a tributary (eg the Macintyre Brook) to the Border Rivers and then diverted from the Border Rivers is not included in these statistics. Water temporarily transferred from one state to the other is reported as being use in the state of origin not the state of destination.
- (2) Water taken by both Qld and NSW irrigators under the trial water sharing rules permitting small enterprises upstream of Goondiwindi Weir to pump from small unregulated inflows for direct irrigation, is included in the states' supplementary/unregulated water use statistics.

**Table 8 – Summary of resource assessments (Border Rivers) 1 July 07 – 30 June 08 (gigalitres)**

Bulk Accounts	Queensland				New South Wales			
	Account balance 1/7/07	Total use/loss for year	Total distribution for year	Account balance 1/7/08	Account balance 1/7/07	Total use/loss for year	Total distribution for year	Account balance 1/7/08
	(a)	(b)	(c)	(a)-(b)+(c)	(a)	(b)	(c)	(a)-(b)+(c)
Storage Loss (Glenlyon Dam)	2.58	6.71	8.94	4.81	1.76	5.06	7.13	3.83
Storage Loss (Pindari Dam)					7.68	7.98	9.31	9.01
Essential Supplies (minimum release)	1.00	0.00	-1.00	0.00	6.08	11.32	11.32	6.08
Essential Supplies (other)	7.20	2.01	1.76	6.95	24.71	2.57	2.57	24.71
Essential Supplies Delivery Loss	2.76	0.70	0.58	2.64	10.31	0.79	0.72	10.24
General Use	4.14	8.23	31.04	26.95	25.12	58.58	97.91	64.45
General Use Delivery Loss	1.24	2.46	7.93	6.71	7.54	17.56	27.65	17.63

**Table 9 – Summary of resource assessments (Border Rivers) 1 July 08 – 30 June 09 (gigalitres)**

Bulk Accounts	Queensland				New South Wales			
	Account balance 1/7/08	Total use/loss for year	Total distribution for year	Account balance 1/7/09	Account balance 1/7/08	Total use/loss for year	Total distribution for year	Account balance 1/7/09
	(a)	(b)	(c)	(a)-(b)+(c)	(a)	(b)	(c)	(a)-(b)+(c)
Storage Loss (Glenlyon Dam)	4.81	6.97	5.94	3.78	3.83	5.64	4.80	2.99
Storage Loss (Pindari Dam)					9.01	7.67	9.51	10.85
Essential Supplies (minimum release)	0.00	0.00	0.00	0.00	6.08	11.12	11.12	6.08
Essential Supplies (other)	6.95	1.90	1.62	6.67	24.71	4.49	4.49	24.71
Essential Supplies Delivery Loss	2.64	0.69	0.61	2.56	10.24	2.16	2.23	10.31
General Use	26.95	15.36	3.64	15.23	64.45	49.28	65.42	80.59
General Use Delivery Loss	6.71	4.61	2.47	4.57	17.63	14.80	21.35	24.18



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

Month	Number of days and hours (Qld) / Percent of allocation (NSW)			
	1 July 07 – 30 June 08		1 July 08 – 30 June 09	
	Glenlyon to Goondiwindi	Goondiwindi to Mungindi	Glenlyon to Goondiwindi	Goondiwindi to Mungindi
July				
August	1 day 4 hrs (Qld only)	1 day 4 hrs (Qld only)		
September				
October				
November			1 day 8 hrs / 8%	1 day 19 hrs / 8%
December	1 day (Qld only)	1 day (Qld only)	1 day 23 hrs / 9%	1 day 23 hrs / 9%
January	2 days 10 hrs / 8%	2 days 10 hrs / 8%		
February	3 days 8 hrs / 11%	3 days 8 hrs / 11% (1)		See note (2)
March				
April				
May			1 day 14 hrs / 7%	1 day 14 hrs / 7%
June				

- (1) Downstream of Newinga Qld water users were permitted to pump for 7 days 8 hours and NSW water users were permitted to take 23% of allocation.  
(2) Qld Irrigators between Terrewah and Newinga were permitted to pump for 21 hours and NSW irrigators were permitted to take 4%. Qld irrigators between Newinga and Mungindi were permitted to pump for 1 day and 18 hours and NSW irrigators were permitted to take 8%.

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

Crop	2007-08			2008-09		
	NSW	Qld	TOTAL	NSW	Qld	TOTAL
Cotton	4,492	6,820	11,312	6,693	6,000	12,693
Lucerne	589	387	976	520	350	870
Cereals	8,975	4,182	13,157	13,100	3,600	16,700
Peanuts	50	60	110	120	0	120
Fodder crops	580	282	862	490	300	790
Horticultural crops	55	35	90	50	50	100
Other	300	136	436	1,160	100	1,260
<b>Total</b>	<b>15,041</b>	<b>11,902</b>	<b>26,943</b>	<b>22,133</b>	<b>10,400</b>	<b>32,533</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 12 - Groundwater allocation/entitlements in the Border Rivers Groundwater Area**

	NSW <sup>(1)</sup>	Qld
Issued allocation/entitlement	15,402	14,421 <sup>(3)</sup>
Allocation/entitlement issued, bores constructed	15,402	14,421 <sup>(3)</sup>
Allocation/entitlement issued, bores not constructed	0	0
Number of entitlements	26	26
Number of bores constructed	44	38
Number of applications outstanding	5 <sup>(2)</sup>	8 <sup>(4)</sup>

- (1) The figures provided for NSW are for the area defined as the Border Rivers Alluvium GWMA 022 Glenlyon Dam to Keetah Bridge  
(2) Applications are for replacement bores. No additional allocation will be granted.  
(3) The Qld figures do not include the allocation issued in the shallow aquifer, which is about 3,500 ML.  
(4) Applications for proposed bores.

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

1 July 07 – 30 June 08		1 July 08 – 30 June 09	
NSW	Qld	NSW	Qld
5,958	7,375	5,536	6,168 <sup>(1)</sup>

- (1) Usage for the period 1 July 2008 to 31 March 2009 only (the Qld meters are now only read at the end of March and end of September each year).

# Resource management

**Table 14 - Beardmore Dam compensation inflow, storage and releases**

Month	2007-08			2008-09		
	Inflow (ML)	Release (ML)	Storage at end of month (ML)	Inflow (ML)	Release (ML)	Storage at end of month (ML)
June	0	0	300	0	0	0
July	4,600	0	4,800	0	0	0
August	700	200	5,100	0	0	0
September	7,300	7,500	4,100	3,890	3,790	0
October	1,000	3,600	1,300	1,730	0	1,700
November	6,800	2,300	5,300	6,450	2,820	5,310
December	22,200	27,400	0	22,020	21,670	5,130
January	16,600	16,500	0	6,110	10,940	0
February	20,900	20,800	0	8,760	860	8,050
March	4,600	3,900	0	3,860	11,650	0
April	0	0	0	0	0	0
May	0	0	0	5,110	0	5,120
June	0	0	0	1,800	6,860	0
<b>Totals</b>	<b>84,700</b>	<b>82,200</b>		<b>59,730</b>	<b>58,590</b>	

**Table 15 - 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 16 - Summary of water quality 2007-08**

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 at Clifton	12	170	237	300	12	0.04	0.13	0.19	12	0.66	0.75	1.27	12	4.5	7.8	22.6
	416310	Severn River at Farnbro	10	152	195	238	10	0.03	0.04	0.08	10	0.47	0.62	1.17	10	6.2	13.5	20.4
	416303	Pike Creek at U/S Glenlyon Dam	11	194	206	257	11	0.02	0.03	0.06	11	0.33	0.42	0.94	11	1.8	15.0	39.0
	416309	Pike Creek at Glenlyon Dam Tailwater	12	206	373	499	12	0.03	0.04	0.11	12	0.38	0.76	1.00	12	3.6	4.3	11.9
	416032	Mole River at Donaldson	12	103	188	271	12	0.03	0.04	0.12	12	0.37	0.43	0.96	12	5.6	16.5	65.8
	416008	Beady River at Haystack No. 4	12	142	168	189	12	0.02	0.03	0.09	12	0.31	0.40	0.83	12	5.1	14.0	57.8
	416312	Oaky Creek at Texas	5	284	373	451	5	0.04	0.09	0.11	5	0.38	0.60	0.73	5	9.2	17.0	230.4
	416415	Macintyre Brook at Booba Sands	12	165	276	504	12	0.02	0.04	0.12	12	0.59	0.70	0.85	12	3.9	14.5	119.8
Dumaresq River	416007	Bonshaw Weir	12	158	204	234	12	0.03	0.04	0.09	12	0.46	0.55	0.96	12	4.2	8.0	37.0
	416049	Mauro	12	167	203	251	12	0.03	0.04	0.09	12	0.54	0.62	0.81	12	5.4	10.5	39.9
Macintyre River	416012	Holdfast	12	211	278	347	12	0.06	0.10	0.27	12	0.46	0.60	1.00	12	8.3	24.5	198.0
	41610044	Salisbury Bridge (Boggabilla)	10	200	256	312	10	0.05	0.08	0.11	10	0.57	0.65	0.91	10	12.4	16.5	65.5
	416048	Kanowna	9	196	254	275	9	0.05	0.07	0.11	9	0.51	0.59	0.77	9	39.2	60.0	280.0
=Barwon River	416001	Mungindi	10	106	238	279	10	0.04	0.08	0.18	10	0.55	0.60	1.11	10	31.7	87.5	1,260.0
Weir River	416202	Talwood	7	99	174	190	7	0.14	0.16	0.20	7	0.95	1.00	1.14	7	370.0	500.0	1,220.0
Intersecting Streams	424002	Paroo River at Willara Crossing	4	71	84	108	4	0.11	0.17	0.22	4	0.55	0.75	0.97	4	289.0	575.0	840.0
	423002	Warrego River at Fords Bridge Bywash	3	126	184	267	3	0.17	0.19	0.33	3	0.71	0.83	2.17	3	560.0	800.0	5,680.0
	422015	Culgoa River at Brenda	4	86	163	191	4	0.15	0.23	0.33	4	0.54	0.65	0.79	4	450.0	475.0	1,130.0
	422014	Bokhara River at Goodooga	3	90	130	171	3	0.21	0.26	0.41	3	0.67	0.74	0.75	3	510.0	750.0	1,430.0
	422013	Birrie River at Near Goodooga	2	100	110	121	2	0.30	0.34	0.39	2	0.68	0.69	0.70	2	850.0	1,050.0	1,250.0
	422012	Narran River at New Angledool	4	132	225	1,289	4	0.21	0.32	0.43	4	0.78	1.44	2.67	4	159.8	600.0	910.0
Glenlyon Dam	416315	Glenlyon 1: Top	12	184	221	240	12	0.02	0.03	0.04	12	0.93	1.10	1.30	12	2.1	3.1	6.9
		Glenlyon 1: Middle	12	188	221	239	12	0.02	0.02	0.03	12	0.79	1.00	1.20	12	2.5	3.7	7.9
		Glenlyon 1: Bottom	12	196	239	243	12	0.02	0.04	0.07	12	0.95	1.10	1.30	12	3.9	4.8	9.9

(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). N=No. of samples collected and analysed.

**Table 17 - Summary of water quality 2008-09**

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 at Clifton	12	173	304	416	11	0.03	0.09	0.18	11	0.48	0.60	1.10	11	2.4	3.8	24.0
	416310	Severn River at Fambro	5	153	166	200	4	0.03	0.06	0.17	4	0.78	0.98	1.52	4	6.5	7.9	13.9
	416303	Pike Creek at U/S Glenlyon Dam	5	214	248	381	4	0.01	0.02	0.02	4	0.21	0.37	1.18	4	0.7	2.0	3.3
	416309	Pike Creek at Glenlyon Dam Tailwater	12	192	211	389	11	0.02	0.05	0.15	11	0.61	0.78	1.30	11	2.4	3.0	7.1
	416032	Mole River at Donaldson	12	155	230	319	11	0.03	0.04	0.06	11	0.34	0.45	0.86	11	4.2	7.1	30.0
	416008	Beady River at Haystack No. 4	12	135	179	203	11	0.03	0.04	0.07	11	0.24	0.36	0.85	11	5.0	8.2	40.0
	416312	Oaky Creek at Texas	0	n/a	n/a	n/a	0	n/a	n/a	n/a	0	n/a	n/a	n/a	0	n/a	n/a	n/a
	416415	Macintyre Brook at Booba Sands	12	228	331	370	11	0.03	0.04	0.14	11	0.59	0.69	1.10	12	2.2	6.6	90.0
Dumaresq River	416007	Bonshaw Weir	12	172	201	222	11	0.03	0.05	0.07	11	0.49	0.62	0.95	11	5.3	8.2	30.0
	416049	Mauro	12	150	203	236	11	0.03	0.05	0.10	11	0.56	0.63	1.00	11	6.0	11.0	40.0
Macintyre River	416012	Holdfast	12	216	243	303	11	0.04	0.07	0.14	11	0.47	0.66	0.77	11	6.0	20.0	90.0
	41610044	Salisbury Bridge (Boggabilla)	12	180	225	307	11	0.04	0.07	0.15	11	0.58	0.66	0.94	12	10.2	22.0	110.0
	416048	Kanowna	12	139	200	277	11	0.05	0.09	0.20	11	0.55	0.71	1.20	12	27.1	78.5	550.0
Barwon River	416001	Mungindi	12	172	186	293	11	0.03	0.08	0.12	11	0.43	0.71	0.87	12	20.2	104.0	138.0
Weir River	416202	Talwood	12	97	121	179	11	0.16	0.19	0.25	11	1.10	1.10	1.50	12	341.7	600.0	700.0
Intersecting Streams	424002	Paroo River at Willara Crossing	9	65	90	126	8	0.16	0.25	0.36	8	0.79	1.14	1.53	8	670.0	1,025.0	1,480.0
	423002	Warrego River at Fords Bridge Bywash	4	130	151	169	3	0.31	0.32	0.36	3	0.99	1.00	2.12	2	765.0	825.0	885.0
	422015	Culgoa River at Brenda	7	105	209	360	6	0.21	0.34	0.48	6	0.71	0.88	1.30	6	400.0	575.0	925.0
	422014	Bokhara River at Goodooga	5	140	207	245	4	0.18	0.33	0.39	4	0.70	0.98	1.24	4	326.0	550.0	690.0
	422013	Birrie River at Near Goodooga	1	236	236	236	1	0.25	0.25	0.25	1	0.96	0.96	0.96	1	220.0	220.0	220.0
	422012	Narran River at New Angledool	4	176	239	250	4	0.14	0.21	0.28	4	0.83	1.03	1.10	4	143.0	300.0	765.0
Glenlyon Dam		Glenlyon 1: Top	11	191	195	207	11	0.023	0.025	0.032	11	0.83	0.93	1.1	11	2.2	2.7	4.7
	416315	Glenlyon 1: Middle	11	188	196	215	11	0.019	0.022	0.024	11	0.63	0.86	0.96	11	2.3	3	4.3
		Glenlyon 1: Bottom	11	189	192	204	11	0.021	0.038	0.098	11	0.81	0.91	1.3	11	2.5	3.2	6.1

- (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). N=No. of samples collected and analysed.
- (2) At the time this table was compiled not all the results from the sampling season (2008-2009) had been analysed. Consequently, the values shown here may change when all the results for that sampling season have been analysed.

**Table 18 - Stream gauging stations (Border Rivers)**

AWRC No	Stream	Station	Equipment (see note)	Telemetry	Established date	Owned by	2007-08 Total Flow (MLx10 <sup>3</sup> )	2008-09 Total Flow (MLx10 <sup>3</sup> )	Historical Annual Totals & (Year) (MLx10 <sup>3</sup> )		
									Min	Max	Median
416001	Barwon River	Mungindi	AR	Yes	1889	DWE	140	107	21 (1994-95)	3,131 (1950-51)	433
416002	Macintyre River	Boggabilla	AR	Yes	1895	DWE	295	294	29 (1919-20)	4510 (1950-51)	622
416003	Tenterfield Creek	Clifton	AR	Yes	1921	DWE	31	42	1 (2002-03)	235 (1949-50)	38
416006	Severn River	Ashford	AR	Yes	1934	DWE	74	81	17 (1941-42)	1,389 (1950-51)	186
416007	Dumaresq River	Bonshaw Weir	AR	Yes	1934	DWE	182	208	54 (1993-94)	1,327 (1975-76)	280
416008	Beardy River	Haystack	AR	Yes	1934	DWE	15	12	5 (1941-42)	149 (1974-75)	31
416010	Macintyre River	Wallangra	AR	Yes	1937	DWE	87	26	6 (1941-42)	667 (1970-71)	80
416011	Dumaresq River	Roseneath	AR	Yes	1937	DWE	181	218	36 (1993-94)	1,603 (1955-56)	295
416012	Macintyre River	Holdfast	AR	Yes	1951	DWE	151	137	49 (1957-58)	1,682 (1955-56)	283
416020	Ottdleys Creek	Coolatai	AR	Yes	1967	DWE	1	3	1 (2006-07)	65 (2000-01)	10
416032	Mole River	Donaldson	AR	Yes	1969	DWE	46	88	13 (1993-94)	465 (1975-76)	72
416037	Boomi River	Offtake	AR	Yes	1973	DWE	20	18	3 (1994-95)	143 (1983-84)	35
416040	Dumaresq River	Glenarbon Weir	AR	Yes	1996	DWE	190	190	74 (2006-07)	871 (1998-99)	190
416043	Macintyre River	Boomi Weir	AR	Yes	1976	DWE	150	159	21 (1994-95)	460 (1998-99)	160
416047	Macintyre River	Terrewah	AR	Yes	1985	DWE	214	223	31 (1994-95)	1,144 (1998-99)	241
416048	Macintyre River	Kanowna	AR	Yes	1988	DWE	143	124	25 (1994-95)	727 (1998-99)	140
416201A	Macintyre River	Goondiwindi	AR	Yes	1950	DERM	282	290	61 (1994-95)	4,529 (1955-56)	757
416201B	Macintyre River	Goondiwindi Weir	AR	Yes	1997	DERM	249	262	158 (2004-05)	1,885 (1998-99)	279
416202A	Weir River	Talwood	AR	Yes	1949	DERM	101	43	0 (2006-07)	687 (1995-96)	60
416305B	Brush Creek	Beebo	AR	Yes	1950	DERM	6	0.3	0 (Several)	55 (1995-96)	3
416309B	Pike Creek	Glenlyon Dam Tailwater	AR	Yes	1973	DERM	9	29	4 (1976-77)	180 (1989-90)	56
416310A	Dumaresq River	Farnbro	AR	Yes	1962	DERM	71	32	0.9 (2002-03)	375 (1975-76)	53
416312A	Oakey Creek	Texas	AR	Yes	1969	DERM	15	1	0.01 (1973-74)	99 (1995-96)	6
416315A	Pike Creek	Glenlyon Dam Headwater	AR	Yes	1977	DERM	0	0	0 (Several)	100 (1984-85)	0
416402C	Macintyre Brook	Inglewood	AR	Yes	1953	DERM	37	40	6 (1994-95)	546 (1995-96)	40
416415A	Macintyre Brook	Booba Sands	AR	Yes	1987	DERM	31	35	4 (1994-95)	630 (1995-96)	37

(1) AR = automatic recorder; SG = staff gauge, Established date = HYDSYS period of record (from which all long term calculations are made).  
DWE = NSW Department of Water and Energy, NRW = Qld Department of Environment and Resource Management

**Table 19 - Stream gauging stations (Intersecting Streams)**

AWRC No	Stream	Station	Equipment (see note)	Telemetry	Established date	Owned by	2007-08 Total Flow (MLx10 <sup>3</sup> )	2008-09 Total Flow (MLx10 <sup>3</sup> )	Historical Annual Totals & (Year) (MLx10 <sup>3</sup> )		
									Min.	Max.	Median
417001	Moonie River	Gundablouie	AR	Yes	1945	DWE	136	59	0 (1951-52)	596 (1975-76)	61
417204A	Moonie River	Fenton	AR	Yes	1971	DERM	133	64	0.5	670 (1955-56)	69
422005	Bokhara River	Goodwin's	AR	Yes	1944	DWE	46	14	0 (Several)	652 (1955-56)	26
422006	Culgoa River	Downstream Collerina (Kenebree)	SG	No	1944	DWE	242	22	7 (2001-02)	2,341 (1989-90)	291
422010	Birrie River	Talawanta	SG	No	1964	DWE	21	5	0 (Several)	379 (1975-76)	26
422011	Culgoa River	Upstream Collerina (Mundiwa)	AR	Yes	1964	DWE	183	15	6 (2001-02)	1,002 (1970-71)	169
422012	Narran River	Angledool	SG	No	1959	DWE	54	1	0 (1992-93)	574 (1970-71)	106
422013	Birrie River	Near Goodooga	SG	No	1964	DWE	23	7	0 (1992-93)	441 (1982-83)	29
422014	Bokhara River	Goodooga	SG	No	1915	DWE	19	8	0 (Several)	306 (1982-83)	15
422015	Culgoa River	Brenda	AR	Yes	1960	DWE	101	11	0 (1992-93)	1,619 (1970-71)	135
422016	Narran River	Wilby Wilby	SG	No	1964	DWE	57	1	0 (2006-07)	519 (1983-84)	103
422017	Culgoa River	Weilmoringle	SG	No	1964	DWE	110	33	0 (1992-93)	999 (1983-84)	209
422204A	Culgoa River	Whyenbah	AR	Yes	1965	DERM	320	18	2.7 (1992-93)	1,614 (1970-71)	322
422206A	Narran River	Dirranbandi Hebel Road	AR	Yes	1965	DERM	87	6	0.2 (1992-93)	826 (1982-83)	105
422207A	Ballandool River	Hebel Bollon Road	AR	Yes	1965	DERM	15	2	0 (1992-93)	378 (1982-83)	15
422209A	Bokhara River	Hebel	AR	Yes	1967	DERM	20	6	0.5 (1992-93)	288 (1982-83)	21
422211A	Briarie Creek	Woolerbilla Hebel Road	AR	Yes	1992	DERM	9	0	0 (several)	489 (1982-83)	7
423001	Warrego River	Fords Bridge	AR	Yes	1921	DWE	121	.05	1 (Several)	344 (1989-90)	7
423002	Warrego River	Fords Bridge (Bywash)	AR	Yes	1921	DWE	121	9	0 (1957-58)	249 (1955-56)	36
423202C	Warrego River	Cunnamulla Weir	AR	Yes	1992	DERM	1,765	44	34 (1999-00)	1,779 (2007-08)	219
424002	Paroo River	Willara Crossing	AR	Yes	1975	DWE	1,096	72	26 (1979-80)	2,072 (1975-76)	179
424201A	Paroo River	Caiwarro	AR	Yes	1967	DERM	1,449	138	36 (2005-06)	2,028 (1989-90)	323
011202	Bulloo River	Autumnvale	AR	Yes	1967	DERM	793	182	19 (1976-77)	3,243 (1973-74)	411

(1) AR = automatic recorder; SG = staff gauge, Established date = HYDSYS period of record (from which all long term calculations are made).  
DWE = NSW Department of Water and Energy, DERM = Qld Department of Environment and Resource Management

**Table 20 - Groundwater monitoring network**

Bore number	Location	State	Piezometer	Depth (m)	Automatic WL Recorder (Yes/No)	Year Installed	Depth to WL 2007-08		Depth to WL 2008-09	
							Max (m)	Min (m)	Max (m)	Min (m)
41640001	Keelah Crossing	Q	A	87.3	No	1985	5.05	4.71	5.15	5.00
41640001	Keelah Crossing	Q	B	46.8	No	1985	6.45	6.27	6.50	6.33
41640002	Keelah Crossing	Q	A	17.8	No	1985	Dry	Dry	Dry	Dry
41640003	Yelarbon Desert	Q	A	92.4	No	1985	4.39	3.97	4.55	4.23
41640003	Yelarbon Desert	Q	B	47.9	No	1985	5.83	5.50	5.91	5.83
41630009	Glenarbon	Q	A	93	No	1996	Note (1)	Note (1)	35.30	27.67
41630042	David Muggleton	Q	A	13.3	No	1959	8.75	7.75	8.08	7.97
41630039	'Eldorado'	Q	A	16.7	No	1959	Note (1)	Note (1)	Note (1)	Note (1)
41630072	Cunningham Weir	Q	A	90.4	Yes	1985	47.88	37.22	47.65	37.57
41630072	Cunningham Weir	Q	B	41.4	Yes	1985	35.11	32.41	34.08	32.03
41630072	Cunningham Weir	Q	C	10.4	Yes	1985	6.22	5.49	6.29	6.01
41630064	Texas	Q	A	52.5	No	1985	21.68	17.16	21.10	18.27
41630064	Texas	Q	B	28.5	No	1985	16.96	14.59	17.48	15.04
41630066	Bill & Tater	Q	A	90.4	Yes	1985	35.85	23.00	39.08	23.69
41630066	Bill & Tater	Q	B	45.9	Yes	1985	30.25	23.25	32.51	25.04
41630067	Bill & Tater	Q	A	12.2	Yes	1985	5.98	5.80	6.09	5.90
41630063	Finlay's	Q	A	100.6	No	1983	22.22	14.55	31.77	14.20
41630063	Finlay's	Q	B	64.6	No	1983	21.27	14.42	32.8	13.96
41630062	Finlay's	Q	A	17.4	No	1985	9.71	7.03	8.12	7.62
41630071	Finlay's	Q	A	48.2	No	1985	11.14	8.25	15.54	10.41
41630071	Finlay's	Q	B	41.2	No	1985	10.67	8.03	14.47	10.14
41630059	John Moore	Q	A	101.7	No	1985	8.02	7.55	8.06	7.89
41630069	John Moore	Q	A	92	No	1985	21.53	12.89	19.82	10.62
41630069	John Moore	Q	B	35.9	No	1985	19.10	10.85	15.72	9.18
41630069	John Moore	Q	C	15.4	No	1985	8.35	7.46	8.11	7.20
41630060	John Moore	Q	A	12.1	No	1985	8.81	7.47	8.76	7.78
41630058	John Moore	Q	A	10.6	No	1985	8.80	7.69	8.81	7.38
41630070	Phillip Harpham	Q	A	9.2	No	1985	5.42	4.88	5.02	4.35
41630004	V and E Sattolo	Q	A	11.8	No	1960	Dry	Dry	Dry	Dry
41630003	V and E Sattolo	Q	A	27.1	No	1961	20.04	15.55	18.33	16.29
41630002	V and E Sattolo	Q	A	29.9	No	1961	16.21	13.95	15.23	13.92
GW036697	Keelah Bridge	NSW	1	20	Yes	1987	8.82	8.71	8.86	8.82
GW036697	Keelah Bridge	NSW	2	64	Yes	1987	6.62	5.73	6.70	6.63
GW036697	Keelah Bridge	NSW	3	83.5	Yes	1987	6.55	4.91	5.44	5.15
GW040635	Smithfield Section	NSW	1	15.9	No	1960	8.57	7.95	8.65	7.93
GW040636	Smithfield Section	NSW	1	11.3	No	1960	8.37	7.86	8.17	7.99
GW040637	Smithfield Section	NSW	1	7.9	No	1960	7.85	7.23	7.38	7.26
GW040638	Smithfield Section	NSW	1	11.9	No	1960	Dry	Dry	Dry	Dry
GW40771	Smithfield Section	NSW	1	30	Yes	1994	26.94	26.04	26.74	22.06
GW40771	Smithfield Section	NSW	2	37	Yes	1994	30.04	26.66	30.54	29.68
GW40771	Smithfield Section	NSW	3	50	Yes	1994	34.12	32.39	34.19	33.25
GW040641	Riverstone Section	NSW	1	35	No	1960	22.06	10.11	13.21	10.3
GW040644	Riverstone Section	NSW	1	9.5	No	1960	8.51	8.31	8.56	8.09
GW040646	Riverstone Section	NSW	1	7.7	No	1960	7.43	7.26	7.67	7.0
GW040647	Hopwood Section	NSW	1	12.8	No	1959	9.74	8.59	9.69	9.43
GW040649	Hopwood Section	NSW	1	28.9	No	1959	8.78	8.13	8.82	8.21
GW040652	Hopwood Section	NSW	1	12.2	No	1959	9.07	8.74	8.95	8.85
GW40829	Lochiel Section	NSW	1	12	No	1996	10.35	10.22	10.49	10.36
GW40829	Lochiel Section	NSW	2	42	No	1996	10.37	10.24	11.51	10.38
GW40830	Lochiel Section	NSW	1	27	No	1996	11.11	10.80	11.51	11.19
GW40831	Lochiel Section	NSW	1	44	Yes	1996	39.10	35.88	37.36	36.9
GW40831	Lochiel Section	NSW	2	96	Yes	1996	41.64	36.85	40.72	36.99

(1) Monitoring bore has no information available.