

Water sharing rules - Hunter Regulated River Water Source

Water sharing plan	Water Sharing Plan for the Hunter Regulated River Water Source
Plan commencement	1 July 2016
Term of the plan	10 years

Rules summary

The following rules are a guide only. For more information about your actual licence conditions please call the DPI Water, Newcastle on (02) 4904 2500

Context

Water Source	The Hunter Regulated River Water Source is defined by Regulated River Order for the NSW Hunter Water Management Area Regulated Rivers 2016.
Management Zones	The water source is divided into five management zones (see map): Zone 1A: Hunter River from Glenbawn Dam to Goulburn River Junction Zone 1B: Hunter River from Goulburn River Junction to Glennies Creek Junction Zone 2A: Hunter Rive from Glennies Creek Junction to Wollombi Brook Junction Zone 2B: Hunter River from Wollombi Brook Junction to downstream extent of the Hunter Regulated River Zone 3A: Glennies Creek

Planned Environmental water

Planned Environmental Water	<p>Planned environmental water is the physical presence of water in this water source that results from:</p> <ul style="list-style-type: none"> the environmental daily flow rules for Glenbawn Dam and Glennies Creek Dam the 20,000 ML / year environmental water allowance and release rules for environmental purposes downstream of Glenbawn Dam and Glennies Creek Dam the limitations on access to uncontrolled flows for regulated river (high security) access licences and regulated river (general security) access licences, the limitations on access to uncontrolled flows for supplementary water access licences the long term annual average water that results from compliance with volume of water in excess of the long-term average annual extraction limit (LTAAEL). This equates to approximately 80% of the long-term average annual flow in this water source (1,040,000 ML/year). the water remaining in this water source after water has been taken under basic landholder rights and access licences (excluding the major utility (Barnard) access licence).
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System operation rules			
Environmental flow rules – minimum daily flows	Seasonally adjusted minimum daily flow targets are maintained at Greta and Liddell monitoring gauges.		
	Normal conditions daily flow targets		
	Column 1 Dates for which flow target applies	Column 2 Target environmental flow (ML/day)	Column 3 Flow reference point
	1 December to 28/29 February	17 ML/day	Hunter River at Liddell gauge (210083)
		36 ML/day	Hunter River at Greta gauge (210064)
	1 March to 31 May	18 ML/day	Hunter River at Liddell gauge (210083)
		40 ML/day	Hunter River at Greta gauge (210064)
	1 June to 31 August	56 ML/day	Hunter River at Liddell gauge (210083)
		73 ML/day	Hunter River at Greta gauge (210064)
	1 September to 30 November	38 ML/day	Hunter River at Liddell gauge (210083)
61 ML/day		Hunter River at Greta gauge (210064)	
If the flow at the Belltrees monitoring gauge falls below the seasonally adjusted flow thresholds set out in the plan for more than 2 weeks, then lower dry condition minimum daily flow targets apply.			
Dry flow conditions rule triggers			
Column 1 Dates for which dry flow condition trigger applies	Column 2 Flow (ML/day) at Hunter River at Belltrees gauge (210039)		
1 December to 28/29 February	10 ML/day		
1 March to 31 May	17 ML/day		
1 June to 31 August	50 ML/day		

	1 September to 30 November	37 ML/day	
	Dry conditions daily flow targets		
	Column 1 Dates for which flow target applies	Column 2 Target environmental flow (ML/day)	Column 3 Flow reference point
	1 December to 28/29 February	10 ML/day	Hunter River at Liddell gauge (210083)
		21 ML/day	Hunter River at Greta gauge (210064)
	1 March to 31 May	10 ML/day	Hunter River at Liddell gauge (210083)
		27 ML/day	Hunter River at Greta gauge (210064)
	1 June to 31 August	34 ML/day	Hunter River at Liddell gauge (210083)
		45 ML/day	Hunter River at Greta gauge (210064)
	1 September to 30 November	30 ML/day	Hunter River at Liddell gauge (210083)
39 ML/day		Hunter River at Greta gauge (210064)	
<p>An announcement of a supplementary event in any reach of the water source returns flow targets to the previous levels.</p> <p>Target environmental flows are regarded as having been met, in any month, if average daily flows are at least 75% of target for 7 consecutive days, or 10 days in total for that month. Shortfall is made up when practical to do so.</p>			
Environmental water allowance (EWA)	<p>At the commencement of the water year 20,000 megalitres is credited to the EWA account. Unused water is not carried over to the following year. When water is released from Glenbawn or Glennies Creek Dam, the volume is debited against the EWA account.</p> <p>The Minister may seek advice from the Environmental Water Advisory Group when determining EWA releases.</p>		
Maintenance of water supply (cl.30)	<p>The water supply is managed with sufficient reserves held in storage to ensure maintenance of water supply, annually, through a repeat of the worst period of low inflows into the water source recorded:</p> <ul style="list-style-type: none"> ● to provide for the EWA 		

	<ul style="list-style-type: none"> ● minimum daily flow targets ● to provide for basic landholder rights and native title rights ● to provide 100% of available water determinations for domestic and stock, local water utility and major water utility access licences ● to provide 0.75 ML/unit share for high security access licences <p>In effect this means providing water for the current and following water year.</p>
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Rules for managing access licences	
Domestic and Stock	<p>Maximum account volume at any time is 100% of share component</p> <p>No carry over of unused water for use in the following year</p>
Major Utility (Barnard)	<p>Maximum account volume at any time is 100% of share component</p> <p>Carry over of entire volume of unused water (net of losses) for use in the following year permitted.</p> <p>When Glenbawn Dam spills or water is released for flood mitigation or dam safety, water is withdrawn from these water allocation accounts first.</p> <p>AWDs triggered by physical transfer of water into Glenbawn Dam from the Lower Barnard River Water Source.</p> <p>Evaporation and transmission losses estimated by the Minister are accounted for when water is ordered against this licence.</p>
Major Utility	<p>Maximum account volume at any time is 100% of share component</p> <p>Carry over of up to 32,400 megalitres of unused water for use in the following year is permitted, provided Glenbawn Dam has more than 25% water in conservation storage.</p> <p>When Glenbawn Dam spills or water is released for flood mitigation or dam safety, water is withdrawn from these water allocation accounts if the volume of the spill exceeds the volume in the Major utility (Barnard) water allocation accounts, and carry over in the general security and high security water allocation accounts.</p>
Local Water Utility	<p>Maximum account volume at any time is 100% of share component</p> <p>No carry over of unused water for use in the following year</p>
High Security	<p>Maximum account volume at any time is 1 ML / unit share</p> <p>Carryover of no more than 0.25 ML / unit share into the next water year is permitted.</p> <p>Water may be taken from uncontrolled flows without debit to the water allocation account unless AWD reaches 1 ML/unit share. When this occurs water taken will be debited against the water allocation account.</p> <p>The sum of extractions from uncontrolled flows and AWDs in that year is limited to a maximum of 1 ML / share.</p>

	When Glenbawn Dam spills or water is released for flood mitigation or dam safety, the volume of unused carryover balances is withdrawn from these water allocation accounts if the volume of the spill exceeds the volume in the Major utility (Barnard) water allocation accounts and carry over in the general security water allocation accounts.											
General Security	<p>No maximum account volume.</p> <p>Carryover of no more than 0.25 ML / unit share into the next water year is permitted.</p> <p>Water may be taken from uncontrolled flows without debit to the water allocation account unless AWD reaches 1 ML/unit share. When this occurs water taken will be debited against the water allocation account.</p> <p>The sum of extractions from uncontrolled flows and AWDs in that year is limited to a maximum of 1 ML / share.</p> <p>When Glenbawn Dam spills or water is released for flood mitigation or dam safety, the volume of unused carryover balances is withdrawn from these water allocation accounts if the volume of the spill exceeds the volume in the Major utility (Barnard) water allocation accounts.</p>											
Supplementary Water	<p>No carryover of unused account water balance.</p> <p>Water extraction limited by a 5 year rolling average whereby the maximum volume of water that can be assigned or taken</p> <ul style="list-style-type: none"> in any one year is no more than 5 times the share component times 1ML / unit share net of water allocation assigned to the account. in any 5 consecutive years is no more than 5 times the share component times 1 ML/unit share, net of water allocation assigned to the account. <p>Up to 4 years of water allocation account data from the previous plan will be used to inform these limits.</p>											
Daily access rules												
Access to uncontrolled flows	<p>For controlling access to uncontrolled flows the water source is divided into five management zones 1A, 1B, 2A, 2B, 3A.</p> <p>Access is permitted following a supplementary announcement when flows at monitoring gauges exceed nominated thresholds for more than 12 hours after water is taken by basic landholder rights and all other water access licences. The event ends when flows drop below the flow reference sites thresholds.</p> <p style="text-align: center;">Uncontrolled flow access thresholds</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Column 1 Flow reference point number</th> <th style="text-align: center;">Column 2 Flow reference point</th> <th style="text-align: center;">Column 3 Dates for which flow target applies</th> <th style="text-align: center;">Column 4 Flow threshold (ML/day)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td rowspan="2" style="text-align: center;">Hunter River at Liddell gauge (210083)</td> <td style="text-align: center;">1 May to 30 September</td> <td style="text-align: center;">100</td> </tr> <tr> <td></td> <td style="text-align: center;">1 October to 30 April</td> <td style="text-align: center;">150</td> </tr> </tbody> </table>	Column 1 Flow reference point number	Column 2 Flow reference point	Column 3 Dates for which flow target applies	Column 4 Flow threshold (ML/day)	1	Hunter River at Liddell gauge (210083)	1 May to 30 September	100		1 October to 30 April	150
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	2	Hunter River at Singleton gauge (210001)	1 May to 30 September	120																											
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	3	Hunter River at Greta gauge (210064)	1 March to 31 May	80																											
			1 June to 31 August	146																											
			1 September to 30 November	122																											
			1 December to the 28/29 February	72																											
	<p>Announcements may be made if there are sufficient flows at the management gauge to maintain seasonal thresholds.</p> <p style="text-align: center;">Supplementary water access licences announcements</p> <table border="1"> <thead> <tr> <th>Column 1 Management zone</th> <th>Column 2 Management gauge</th> <th>Column 3 Flow reference point</th> </tr> </thead> <tbody> <tr> <td>1A</td> <td>Hunter River at Muswellbrook gauge (210002)</td> <td>1,2 and 3</td> </tr> <tr> <td>1B</td> <td>Hunter River at Liddell gauge (210083)</td> <td>1,2 and 3</td> </tr> <tr> <td>2A</td> <td>Hunter River at Liddell gauge (210083) and Glennies Creek at Middle Falbrook gauge (210044)</td> <td>2 and 3</td> </tr> <tr> <td>2B</td> <td>Hunter River at Singleton gauge (210001)</td> <td>2 and 3</td> </tr> <tr> <td>3A</td> <td>Glennies Creek at Middle Falbrook gauge (210044)</td> <td>2 and 3</td> </tr> </tbody> </table> <p>The volume of water made available for each event is determined with reference to the annual high flow tally which aims to limit total extractions from medium to high flows to 30%. The tally is incremented according to the following formula when seasonally adjusted threshold flows are exceeded:</p> <p style="text-align: center;">High flow tally flow thresholds</p> <table border="1"> <thead> <tr> <th>Column 1</th> <th>Column 2</th> <th>Column 3</th> <th>Column 4</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>					Column 1 Management zone	Column 2 Management gauge	Column 3 Flow reference point	1A	Hunter River at Muswellbrook gauge (210002)	1,2 and 3	1B	Hunter River at Liddell gauge (210083)	1,2 and 3	2A	Hunter River at Liddell gauge (210083) and Glennies Creek at Middle Falbrook gauge (210044)	2 and 3	2B	Hunter River at Singleton gauge (210001)	2 and 3	3A	Glennies Creek at Middle Falbrook gauge (210044)	2 and 3	Column 1	Column 2	Column 3	Column 4				
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	Flow reference point number	Flow reference point	Dates for which flow target applies	Flow (ML/day)
	3	Hunter River at Greta gauge (210064)	1 March to 31 May	80
			1 June to 31 August	146
			1 September to 30 November	122
			1 December to the 28/29 February	72
<p>Access to uncontrolled flows by high and general security access licences</p>	<p>The volume to be added to the tally is be the lesser of:</p> <p>(a) 7,200 ML, or</p> <p>(b) $A + B + C$</p> <p>where</p> <p>A is the forecast daily flow at the Hunter River at Greta gauge (210064),</p> <p>B is the volume of water extracted by supplementary water access licences on that day,</p> <p>C is the volume of water extracted by regulated river (general security) access licences and regulated river (high security) access licences on that day from uncontrolled flows without debit.</p> <p>Access to uncontrolled flows may be made available via announcement to high security access licences when allocations for high security access licences are less than 1 ML/unit share provided sufficient water is available to provide for environmental flow rules, basic landholder rights, and higher priority licence holders and transmission losses associated with their delivery, and</p> <ul style="list-style-type: none"> • general security allocations are less than 0.75 ML/unit share but flows are not sufficient to announce access by supplementary water access licences or • general security allocations are between 0.75 ML/unit share and 1 ML/ unit share when flows are sufficient to announce access by supplementary water access licences. <p>Access to uncontrolled flows may be made available via announcement to general security access licences when allocations for general security access licences are less than 0.75 ML/unit share provided sufficient water is available to provide for environmental flow rules, basic landholder rights, and higher priority licence holders and transmission losses associated with their delivery, and</p> <ul style="list-style-type: none"> • general security allocations are less than 0.75 ML/unit share but flows are not sufficient to announce access by supplementary water access licences or • general security allocations are between 0.75 ML/unit share and 1 ML/ unit share when flows are sufficient to announce access by supplementary 			

	<p>water access licences.</p> <p>Total uncontrolled flow extractions by general and high security access licences when supplementary access is permitted is limited to 11% of the annual high flow tally to ensure that take of water by high and general security and supplementary licences is no more than 30% of annual catchment inflow.</p> <p>Total extractions for basic landholder rights and all access licences must be less than 50% of total inflows into the reach on that day.</p>																				
Access to uncontrolled flows by Supplementary licences	<p>Access to uncontrolled flows in a management zone may be made available via announcement to supplementary access licences when the relevant reference gauges (see tables above) are in excess of threshold flows for 12 hours provided sufficient water is available to provide for environmental flow rules, basic landholder rights, and higher priority licence holders and transmission losses associated with their delivery have been met. The supplementary event ceases when river flows fall below threshold flows at the relevant reference gauges.</p> <p>Take of water is managed to ensure volume extracted under basic landholder rights and all licences is no more than 50% of the management zone inflow on any day.</p> <p>Take of water by supplementary licences is limited to 19% of the high flow tally to ensure that take of water by high and general security and supplementary licences is no more than 30% of annual catchment inflow.</p>																				
Access to uncontrolled flows by AGL Macquarie licences	<p>AGL Macquarie may take supplementary water without a supplementary announcement from the Minister provided that Water NSW customer service advice is not available at the time and no water orders have been made by AGL Macquarie under a different license category at the time.</p> <p>In order to exercise this right AGL Macquarie must ensure flows at all nominated monitoring gauges exceed seasonally adjusted flow thresholds for at least 12 hours and only after water has been taken by basic landholder rights and higher priority licences.</p> <p style="text-align: center;">Uncontrolled flow access thresholds for supplementary water access licences held by AGL Macquarie Pty Ltd in the absence of announcements</p> <table border="1"> <thead> <tr> <th>Column 1 Flow reference point number</th> <th>Column 2 Flow reference point</th> <th>Column 3 Dates for which flow target applies</th> <th>Column 4 Flow (ML/day)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">1</td> <td rowspan="2">Hunter River at Liddell gauge (210083)</td> <td>1 May to 30 September</td> <td>200</td> </tr> <tr> <td>1 October to 30 April</td> <td>500</td> </tr> <tr> <td rowspan="2">2</td> <td rowspan="2">Hunter River upstream at Singleton gauge (210129)</td> <td>1 May to 30 September</td> <td>120</td> </tr> <tr> <td>1 October to 30 April</td> <td>300</td> </tr> <tr> <td>3</td> <td>Hunter River at Greta</td> <td>1 March to 31 May</td> <td>80</td> </tr> </tbody> </table>	Column 1 Flow reference point number	Column 2 Flow reference point	Column 3 Dates for which flow target applies	Column 4 Flow (ML/day)	1	Hunter River at Liddell gauge (210083)	1 May to 30 September	200	1 October to 30 April	500	2	Hunter River upstream at Singleton gauge (210129)	1 May to 30 September	120	1 October to 30 April	300	3	Hunter River at Greta	1 March to 31 May	80
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			1 September to 30 November	122
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<p>Whilst extracting AGL Macquarie must ensure that daily flow at the Liddell monitoring gauge is at least 50% of flow upstream of the extraction point. AGL Macquarie must cease extracting water when the flow this gauge drops below this threshold or if Water NSW directs them to do so.</p>				

Access licence dealing rules	
Conversion of access licence	Permitted for general to high security conversion and high to general security
Assignment of rights dealings	<p>Trading zone extraction limits are set in the plan.</p> <p>Zone 1: 78,408 Zone 2: No limit Zone 3: 20,000</p> <p>Dealings are not permitted if they would result in</p> <ul style="list-style-type: none"> • the total sum of share components for all domestic and stock, major water utility, local water utility and high security access licences plus • the total sum of share components for all general security access licences divided by 3 <p>exceeding the extraction limit in the nominated trading zone.</p>
Assignment of water allocations dealings	<p>The same trading zone extraction limits to water allocation assignment dealings apply</p> <p>Trading is not permitted between water sources or with major utility (Barnard) access licences.</p>
Nomination of water supply works dealings	Dealings are prohibited if the dealing involves a water supply works in a different management zone.

For more information about the planning process for the Hunter Regulated River Water Source, refer to the website: www.water.nsw.gov.au

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