

Report card for the Warbro Brook Water Source

Water source context		River flows	
Area	11,672 hectares (48% forested)	Low flow index* (for November)	80th%ile = 2 ML/day (Source. Stressed Rivers Assessment Report 1999)
Average annual rainfall	1,503 mm	Flow records	Low flow index calculated from nearest suitable gauging station (outside of water source)
Inflowing water source	None	Stream type	Gaining
Receiving water source	Macleay Valley	* 80 per cent of the time average daily flow exceeds 2 ML/day and this represents low flows.	

Background Information		
Water Source Attributes	Rating	Justification
Relative Instream Value (within catchment)	LOW	- 6 threatened frog species. - 1 threatened bird species.
Hydrologic Stress	HIGH	- within water source = high.
Relative Economic Significance of Irrigation (within catchment)	MEDIUM	- medium economic dependence of the local community on water extracted for irrigation. - medium value of production from irrigation.
Risk to Instream Value (from extraction)	MEDIUM	- instream values are at moderate risk of being impacted by extractions within the water source.
Upriver alluvial aquifer		
The upriver alluvial aquifer consists of medium to coarse grained sand, silts and gravel deposits. Groundwater from the aquifer is typically highly connected to the surface water. As a result of this connection, coupled with the coarser sediments, water quality is typically good with high yields potentially obtainable in some areas. Lower reaches of these freshwater systems have proven water resources such as the Kempsey town water supply bore field at Sherwood.		
Groundwater Dependent Ecosystems	Nil.	
Licensed water entitlement		
Total surface water entitlement	304 ML/year*	
Licensed purpose	100% used for irrigation	
Proportion of extraction management unit	1% of total Extraction Management Unit entitlement.	
Total groundwater entitlement	0 ML/year**.	
Licensed purpose	N/A.	
Estimated at October 2012* and November 2013**.		

Existing access arrangements during dry conditions	
Pumping restrictions	12, 10, 8 and 6 hours/day between the 89th and 96th %iles.
Cease to pump	8 ML/day (98th %ile).
Reference point	Macleay River Gauge @ Turners Flat.
Water user association	None.

Recommendations

Draft access rules for surface waters	
Cease to pump	8ML/day at the reference point. Note: This rule applies to all extraction from rivers and creeks in this water source including natural in-river pools within the channels of rivers and creeks.
Pumping restrictions	Daily pumping restrictions similar to existing access arrangements as follows: <ul style="list-style-type: none"> - 10 hours/day at 60 ML/day or less (down to 40ML/day) at the reference point. - 6 hours/day at 40 ML/day or less (down to the cease to pump) at the reference point.
Reference point	Macleay River Gauge @ Turners Flat
Draft access rules for natural off-river pools	
Cease to pump	Pumping is not permitted when the water level in that natural off-river pool is lower than its full capacity. Note: 'Full capacity' can be approximated by the pool water level at the point where there is no visible flow into and out of that pool. Note: Natural off-river pools include those pools located on flood runners, floodplains and effluents e.g. lakes, lagoons and billabongs.
Reference point	Individual natural off-river pool.
Draft access rules for alluvial aquifers	
Cease to pump	Nil. Note: A restriction on the establishment of new works in close proximity to the water course applies (refer to Rules for the granting of new water supply work approvals in the upriver alluvials below).
Reference point	Not required.
<p>Note: Existing <i>Water Act 1912</i> licence conditions that are more stringent than these access rules will be carried forward.</p> <p>Note: These access rules do not apply to:</p> <ul style="list-style-type: none"> - Local water utility access licences - Town water supply access licences - Stock and domestic licences for the first three years of the plan (provided that extraction for stock purposes does not exceed 14 litres per hectare of grazeable area per day) - Water taken from existing dams. Any existing licence conditions associated with a dam will be carried over when the licence is converted under the <i>Water Management Act 2000</i>. 	

Distance rules	
Distance rules	<p>Standard suite of rules (with the exception of the proposal below).</p> <p>Note. The standard set of distance rules that are designed to minimise for example, the impact of extractions on other groundwater works, groundwater dependent ecosystems and groundwater dependent culturally significant sites apply. Exemptions to these rules (e.g. for replacement works) apply in specific circumstances.</p>
Rules for the granting of new water supply work approvals	<p>A new water supply work (groundwater work) approval:</p> <ul style="list-style-type: none"> • may not be granted, or amended, to authorise the construction of a new work to take water within 40m of the high bank of any third order or greater stream, • may be granted or amended to authorise the construction of a new work to take water beyond 40m of the high bank of any third order or greater stream (new works would be subject to standard groundwater distance rules). <p>Note. The restriction on new works does not apply to water supply works being used for basic landholder right purposes.</p>
Draft trading rules for surface and alluvial ground waters	
INTO water source	<p>Permitted, only if the total licensed entitlement in the water source does not increase (no net gain) from, Apsley Gorge, Apsley River, Bakers Creek, Blue Mountain Creek, Chandler Gorge, Chandler River, Christmas Creek, Coastal Macleay, Collombatti Creek, Commissioners Waters, Dungay Creek, Dyke Creek, Euroka Creek, Five Day Creek, Gara River, Georges River, Gills Bridge Creek, Green Gully, Hickeys Creek, Kunderang Creek, Macleay Gorges, Macleay Valley, Malpas Dam, Mungay Creek, Nulla Nulla Creek, Oaky River, Salisbury Waters, Stockyard Creek, Styx River, Tia River, Toorumbie Creek, Yarrowitch River.</p>
WITHIN water source	<p>Permitted, subject to assessment.</p>
Draft rules for granting access licences	
In-river dams	<p>Permitted, subject to assessment.</p> <p>Note: Dams require a licence if they are located on a permanent (spring fed) first or second order stream, a third order (or greater) stream, or if they exceed the maximum harvestable right dam capacity for the property.</p>
Aboriginal community development	<p>Not permitted due to the absence of a gauge.</p> <p>Note: Aboriginal community development entitlement is issued according to a state wide policy and provides access to high flow events. The policy requires that for entitlement to be issued a number of features are present in a water source including the presence of a gauge against which to manage access to high flows. Whilst the Macleay River Gauge @ Turners Flat is being used to set access rules in the water source it is not located in the water source and therefore not suitable to manage high flow access.</p>

Conversion to high flows	Not permitted due to the absence of a gauge. Note: High Flow Conversion (HFC) is permitted according to a state wide policy and provides access to high flow events. The policy requires that for conversions to be permitted a number of features must be present in a water source including the presence of a gauge against which to manage access to high flows. Whilst the Macleay River Gauge @ Turners Flat is being used to set access rules in the water source it is not located in the water source and therefore not suitable to manage high flow access.
Conversion to alluvial aquifer access licence	Permitted, subject to assessment.

Key factors for decisions

- Low instream value, high hydrologic stress, medium risk to instream value and medium economic dependence.
- It is noted that the existing pumping restrictions were designed to facilitate the sharing of water between competing interests including irrigators and the environment and such interests remained an issue. The Panel recommended a suite of pumping restrictions to alleviate competition for resources.
- It is recommended that a cease to pump rule not apply to bores in the upriver alluvial after noting the absence of entitlement, the continued and expanded restriction on the establishment of new works in close proximity to streams, and the negligible risk to the water source from extraction.

Public exhibition

Feedback is particularly sought on the suitability of the proposed access and trading rules.

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