

Report card for the Lower Nepean River Water Source

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Water source context

Water Sharing Plan:	Greater Metropolitan Region Unregulated River Water Sources
Extraction Management Unit:	Hawkesbury and Lower Nepean Rivers
Area:	27198.1 ha
Inflowing water source:	Mid Nepean Weirs Water Source Erskine Creek and Glenbrook Water Source
Receiving water source:	Upper Hawkesbury River Water Source

River flows

Low-flow index:	Dependent on inflows from dam releases and tributaries
Flow records:	Nepean River at Yarramundi gauge (2122001)

Basic landholder rights

Domestic and stock rights estimate:	401.5 ML/yr
Native title rights:	0 ML/yr

Licensed water entitlements

Total surface water entitlement:	28,154 ML/yr (72 ML/yr domestic and stock licences, 28,082 ML/yr unregulated river access licence)
Local water utilities entitlement:	0 ML/yr
Major utilities entitlement:	0 ML/yr
Proportion of extraction management unit:	20%

Rules

Managing access licences

Each water access licence has its own share component (volume of the licence) and a water allocation account that acts like a bank account where water is credited or debited.

- Water is credited to an account by an available water determination or if water is traded in (purchased) during the year from other licence holders
- Water is debited from the account when water is extracted or traded out (sold). Total extraction from a work (pump, bore, etc.) will be measured via metering or logbooks.

Carryover and individual account limits

For a major water utility access licence account – carryover is not permitted.

Domestic and stock, unregulated river and aquifer access licence accounts - carryover is permitted up to 1 ML per unit share or 100% of share component (where expressed in ML) at the end of each water year.

Domestic and stock, unregulated river and aquifer access licences - the maximum water account debit in any 3 consecutive water years is the volume of water allocated to the account over those 3 years from available water determinations plus any adjustments made for allocation assignments (trades) or water allocation re-credited into the account.

Table 1. Draft rules for granting access licences

Type	Current rules	Proposed rules
<p>There are limited purposes for which a new licence will be granted. It is anticipated that most water needs will be sourced from the market. One reason a licence may be granted is for Aboriginal cultural purposes. Other reasons are identified in Clause 10 of the Water Management Act General Regulation 2018.</p>		
Aboriginal cultural access licence	Permitted to a limit of 10 ML/yr.	No change.
Aboriginal community development access licence	Prohibited.	No change.

Table 2. Draft surface water access rules

Type	Current rules	Proposed rules
<p>River flow can be viewed on WaterNSW Real-time Data website. Search for a gauge under Rivers and Streams.</p>		
Cease to pump	<p>Cease to pump when no visible flow at the pump site.</p> <p>Cease to pump when flows are in the very low flow class.</p>	No change.

Type	Current rules	Proposed rules																
Flow classes	<p>Very low flow class: When flows are equal to or less than (A multiplied by 0.9 plus B multiplied by C plus 3.3 plus D.</p> <p>A = the volume of water released from Wallacia Weir over the previous 24-hour period</p> <p>B = the respective factor specified in Column 2 below when total inflows to Avon Dam, Cataract Dam, Cordeaux Dam and Nepean Dam are at the percentile specified in column 1.</p> <table border="1"> <thead> <tr> <th>Column 1</th> <th>Column 2</th> </tr> <tr> <th>Percentile of total inflows to dams</th> <th>Factor</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>0.00</td> </tr> <tr> <td>80</td> <td>0.20</td> </tr> <tr> <td>65</td> <td>0.56</td> </tr> <tr> <td>55</td> <td>0.79</td> </tr> <tr> <td>50</td> <td>0.90</td> </tr> <tr> <td>0</td> <td>1.00</td> </tr> </tbody> </table> <p>C = volume of water released from St Marys Water Recycling Plant to the Nepean River over the previous 24-hour period</p> <p>D = the lesser of gauged tributary inflows between Warragamba Dam and the confluence of the Nepean River and the Grose River or the 95th percentile for those gauged tributary inflows .</p>	Column 1	Column 2	Percentile of total inflows to dams	Factor	100	0.00	80	0.20	65	0.56	55	0.79	50	0.90	0	1.00	<p>Very low flow class: when flows are equal to or less than (X multiplied by 0.7) plus Y plus 3.3 ML</p> <p>A class: more than the very low flow class plus Z</p> <p>X = sum of environmental flow releases from Nepean, Avon, Cataract and Cordeaux dams</p> <p>0.7 = transmission loss to Nepean River @ Yarramundi gauge (2122001)</p> <p>Y = up to 33ML/d replacement flow (discharges from St Marys Water Treatment Plant)</p> <p>3.3ML = water recovery from Hawkesbury Nepean River Recovery program</p> <p>Z = Drinking water releases (25ML/d from 1 November to 31 March and 17ML/d from 1 April to 31 October)</p> <p>Flow classes in this water source are complex and are used to protect the variable daily environmental releases made from Avon, Cataract, Cordeaux and Nepean Dams allowing them to flow through the entire Lower Nepean River Water Source.</p> <p>A flow class notification system will be used to notify licence holders of daily flow conditions.</p>
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Percentile of total inflows to dams	Factor																	
100	0.00																	
80	0.20																	
65	0.56																	
55	0.79																	
50	0.90																	
0	1.00																	
Extraction from an in-river pool	Must cease pumping if the in-river pool is below full capacity.	No change.																
Extraction from an authorised in-river dam pool	Rules specified on the water supply work approval for the in-river dam.	No change																
Off-river pools (natural pools, lakes or lagoons)	Extraction from natural pools can only occur if the pool is 100% full.	No change.																

Table 3 Exemptions from surface water access rules

Type	Current rules	Proposed rules
Health and hygiene	<p>For an access licence specified in Schedule 2 of the plan, no more than 20 kl/day for the following reasons:</p> <ul style="list-style-type: none"> • fruit washing • cleaning of dairy plant and equipment for the purposes of hygiene • poultry watering and misting • cleaning of enclosures used for intensive animal production for the purposes of hygiene. 	Exemption now applies to both fruit and vegetable washing.
Survival Watering	<p>Could access the very low flows for cropping purposes during years 1 to 5 of the Plan. Purposes include:</p> <ul style="list-style-type: none"> • New plantings (15kL/ha per day) • Herbicide application to turf (minimum volume) • Vegetable and turf washing (20kL/day) • Watering turf in leadup to harvest (15kL/ha per day) <p>This rules has expired and was to be reviewed by the Minister by year 5 of the plan.</p>	Remove this exemption
Domestic use	For domestic consumption under a domestic and stock access licence, up to 1 kl/day.	No change.
Harvestable rights	From a run-off harvesting dam.	No change.
Specific purpose	For an access licence specified in Schedule 2 of the plan.	No change.

Table 4 Draft rules for constructing surface water supply works

Type	Current rules	Proposed rules
In-river dams	Prohibited.	No change.
Lagoons	A water supply work approval must not be issued to take water out of a lagoon.	No change

Type	Current rules	Proposed rules
Works near coastal wetlands listed under <i>State Environmental Planning Policy (Resilience and Hazards) 2021</i>	No current rule.	Prohibited within 3km upstream of a Ramsar wetland or 200m of a coastal wetland identified on the Coastal Wetlands and Littoral Rainforest Area Map available on the NSW Planning Portal at www.planningportal.nsw.gov.au .

Table 5 Draft water trading (dealing) rules

Type	Current rules	Proposed rules
<p>Trading covers conversion of access licence to a new category (for example from unregulated river to aquifer), assignment of rights dealings (trading of a licence), share component dealings between water sources (trading of entitlement between water sources), water allocation dealings (trading an annual allocation) and water supply works dealings (relocation of an extraction point).</p>		
INTO water source	Permitted, from: Upper Hawkesbury River Water Source if the total sum of share components in the Lower Nepean Management Zone does is not more than 3.65GL greater than at the commencement of the plan	Permitted, only from the Mid Nepean Weirs Water Source. Prohibited onto a lagoon.
WITHIN water source	Permitted except to a work taking from a lagoon.	No change
Surface water to groundwater	Prohibited	No change
Groundwater to surface water	Prohibited	No change
Convert to high flow	Prohibited	No change

Key factors for decisions

- Lower Nepean River Water Source has very high ecological values and high likelihood of extraction from low flows impacting the ecological values, with an overall high risk to low flows.
- The Lower Nepean River Water Source receives variable daily releases made for environmental purposes from Avon, Cataract, Cordeaux and Nepean Dam. As such, this water source is subject to complex access rules used to protect these releases. These rules will be

implemented through a system that announces the daily flow class. Licence holders can use the announcement to determine if they can access water.

- The current water sharing plan allows trade into the Lower Nepean River Water Source from the downstream Upper Hawkesbury River Water Source. It is proposed to restrict trade from downstream water sources due to the very high ecological values and high likelihood that extraction is impacting low flows in this area.
- It is proposed to allow trade into the water source from the Mid Nepean River Weirs Water Source. This considers the high likelihood in the water source with the downstream movement of entitlement maintaining or improving this metric.

Public exhibition

The Department of Planning and Environment seeks feedback from the public on the suitability of the proposed rules for this water source.

The draft Greater Metropolitan Region Unregulated River Water Sharing Plan and supporting fact sheets are available from the department's [Public Exhibition website](#).