

Report card for the Lower Macquarie River Water Source

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Water source context

Water Sharing Plan:	Macquarie/Wambuul Bogan Unregulated Rivers Water Source 2025
Area:	3,073 km ²
Inflowing water source:	Macquarie and Cudgegong Regulated River Water Source and Marthaguy Creek Water Source
Receiving water source:	Barwon-Darling Unregulated River Water Source

River flows

Flow records:	1987 to present at Macquarie River at Gibson Way (421116)
	1938 to present at Macquarie River at Bells Bridge (421012)
	2017 to present at Macquarie River at Brewon Bridge (421907)
	2001 to present at Castlereagh River at Gungahman (420020)
	1943 to present at Macquarie River at Oxley Station (421022)
	1999 to present at Barwon River at Boorooma (422026)
Stream type:	Non-perennial

Basic landholder rights

Domestic and stock rights estimate:	87 ML/year
Native title rights estimate:	Nil at commencement of plan

Licensed water entitlements

Total surface water entitlement:	45,288 ML/year	(27 licences)
Unregulated River:	42,142 ML/year	(15 licences)
Domestic and Stock:	68 ML/year	(10 licences)
Unregulated River (special additional high flow):	3,078 ML/year	(2 licences)

Table 1. Access rules by management zones

Management Zone	Type	Current rules	Proposed rules
Gum Cowal Management Zone	Cease to take	Take is not permitted when there is no visible flow at the pump site.	No change
Lower Macquarie River Upstream Management Zone	Cease to take	Take is not permitted when the flow at the Macquarie River at Oxley gauge (421022) is equal to or less than 500 ML/day.	Take is not permitted when the flow is equal to or less than 93 ML/day at the Macquarie River at Gibson Way gauge (421116).
Carinda Management Zone	Cease to take	Take is not permitted when there is no visible flow at the pump site.	Take is not permitted when flows are equal or less than 50 ML/d at Macquarie River at Bells Bridge gauge (421012).
Binghi Management Zone	Cease to take	Take is not permitted when there is no visible flow at the pump site.	Take is not permitted if ALL of the following conditions occur: Flows are less than or equal to 50 ML/d 3 days prior at the Macquarie River at Brewon gauge (421907), AND Flows are less than or equal to 50 ML/d 3 days prior at the Castlereagh River at Gungahman gauge (420020), AND Flows are less than or equal to 5,500 ML/d at the Barwon River at Boorooma gauge (422026).

Table 2. Access rules for whole water source

Type	Current rules	Proposed rules
Cease to take	Take is not permitted from replenishment flows made according to section 84 of the <i>Water Sharing Plan for the Macquarie Cudgegong Regulated Rivers Water Source 2016</i> , as notified by WaterNSW.	No change
Take from in-river pools	Take is not permitted when the in-river pool is less than full capacity.	Comply with the gauge-based access rule where there is one AND Take is not permitted when the in-river pool is less than full capacity.
Take from in-river dam pools	Take is not permitted unless it is consistent with the water supply work approval.	No change
Take from off-river pools	Take is not permitted when the off-river pool is less than full capacity.	No change
Exemptions	Some exemptions apply to specific access rules for the water source, including for: • health and hygiene • domestic use • take from a run-off harvesting dam • specific licences listed in Schedule 4 of the plan. The exemption for stock watering ceased to apply after year 5 of the 2012 plan.	No change, however specific licences with exemptions are now listed in Schedule 2 of the plan.

Table 3. Access rules – Active Management

Type	Current rules	Proposed rules
Active Management	Access rules are in place to protect held environment water and releases made from the Macquarie Environmental Water Allowance (active sub allowance 2) in this water source. Take of water may be prohibited or a volumetric limit set, to protect the active environmental water moving through each management zone, in accordance with the Active Management Procedures Manual. Announcements describing the temporary access conditions will be made by the Minister and published on the Water NSW website.	The definition of active environmental water has been updated to also include active environmental water in the Barwon-Darling River which flows into the Macquarie River through breakouts or backflow events.

Table 4. Access rules in relation to Unregulated River (special additional high flow) licences

Type	Current rules	Proposed rules
Cease to take	Individual special additional high flow licence conditions as listed in Schedule 3 of the plan.	Take is not permitted when flow at the Macquarie River at Carinda gauge (421012) is less than or equal to 245 ML/day.

Table 5. Rules for constructing surface water supply works

Type	Current rules	Proposed rules
In-river dams	Not permitted in third or higher order streams in this water source. Exemption for applications for town water supply purposes only.	No change
Protection for wetlands	N/A	No new or amended works permitted within or 3 km upstream of a Ramsar wetland. No new or amended works permitted within wetlands indicated on the WSP Prescribed

		Wetlands Map of the draft plan unless there will be no more than minimal harm to the wetland concerned. This rule does not apply to replacement works.
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Table 6. Water trading (dealing) rules for Gum Cowal Management Zone

Type	Current rules	Proposed rules
INTO management zone	Not permitted	No change
WITHIN management zone	Permitted in a downstream direction only.	No change

Table 7. Water trading (dealing) rules for Lower Macquarie Upstream Management Zone

Type	Current rules	Proposed rules
INTO management zone	Not permitted	No change
WITHIN management zone	Permitted in a downstream direction only.	No change

Table 8. Water trading (dealing) rules for Carinda Management Zone

Type	Current rules	Proposed rules
INTO management zone	Trades are permitted in from: • Marthaguy Creek water source • Gum Cowal management zone • Lower Macquarie River Upstream management zone. Subject to the higher access rule of 50 ML/day at the Macquarie River at Bells Bridge gauge.	Trades are permitted in from: • Marthaguy Creek Water Source • Gum Cowal Management Zone • Lower Macquarie River Upstream Management Zone • Binghi Management Zone.

Type	Current rules	Proposed rules
WITHIN management zone	Trades are permitted, subject to assessment.	No change

Table 9. Water trading (dealing) rules for Binghi Management Zone

Type	Current rules	Proposed rules
INTO management zone	Trades are permitted in from: • Marthaguy Creek water source • Gum Cowal management zone • Lower Macquarie River Upstream management zone. Subject to the higher access rule of • 50 ML/day at the Macquarie River at Bells Bridge gauge.	Trades are permitted in from: • Marthaguy Creek Water Source • Gum Cowal Management Zone • Lower Macquarie River Upstream Management Zone • Carinda Management Zone.
WITHIN management zone	Trades are permitted, subject to assessment.	No change

Table 10. Water trading (dealing) rules for Unregulated River (special additional high flow) licences

Type	Current rules	Proposed rules
INTO management zone	Not permitted	No change, noting new management zones have been established.
WITHIN management zone	Permitted, subject to assessment	No change

Table 11. Water trading (dealing) rules for whole water source

Type	Current rules	Proposed rules
Protection for wetlands	N/A	Not permitted into or within 3 km upstream of a Ramsar wetland.

Type	Current rules	Proposed rules
		Not permitted into WSP prescribed wetlands identified in the WSP Prescribed Wetlands Map. Trade between licences within the same WSP prescribed wetland is permitted.

Trading covers:

- 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)
- water supply works dealings (relocation of an extraction point).

Key factors for decisions

- The risk assessment indicated the water source has very high instream values and identified a high risk from extraction to zero flow periods and base/low flows.

Access Rules

Lower Macquarie Upstream Management zone

- The current access rule in the management zone prohibits pumping when flows are equal or less than 500 ML/d at the Macquarie River at Oxley gauge (421022).
- Licenced water users are located some distance downstream of the gauge which creates issues with travel times. There can be mismatch between the timing of events and daily access rules where flow is present at the gauge but not at the pump site and vice versa. It is proposed to change the flow reference point to a gauge closer to licenced water users and set an equivalent access rule.
- The Macquarie River at Gibson Way gauge (421116) was investigated as a potential alternate flow reference point. A review of gauge data for Macquarie River at Oxley and Macquarie River at Gibson Way concluded that their flow duration curves (a method of describing the frequency of different flow volumes in rivers) had similar characteristics and could be used to determine an equivalent flow.

- The proposed cease to pump is 93 ML/day at the Macquarie River at Gibson Way gauge (421116). An amendment provision has been included to enable a review of access conditions if change in the operation and/or infrastructure result in significant changes in hydrology.
- An amendment provision has been included in the draft plan to allow a review access conditions in the Lower Macquarie Upstream Management Zone if changes to the operation and/or infrastructure result in significant changes in hydrology.

Lower Macquarie Downstream Management Zone

- The Lower Macquarie Downstream Management Zone has been split into two management zones to enable specific access rules to be developed for these areas. The proposed Carinda Management Zone will extend from the end of the Lower Macquarie River Upstream Management Zone to the Macquarie River junction with Castlereagh River. The proposed Binghi Management Zone will extend from the Macquarie River junction with Castlereagh River downstream to the Barwon-Darling River.
- The proposed access rule in Carinda Management Zone is cease to pump when flows are equal or less than 50 ML/d at the Macquarie River at Bells Bridge gauge (421012). This access rule is the same as many existing conditions on licences. The proposed access rule balances the environmental benefits and water user needs, helps to reduce cease to flow periods, protect flows important for connectivity and instream biodiversity and improves supply for basic landholder rights.
- Analysis indicates the proposed access rule results in an increase in days with no access for those licences on no visible flow, but many of these licences are inactive, and the extraction volume potentially foregone is relatively small.
- The proposed access rule in Carinda Management Zone is the same as the current access rule applied to any entitlement traded into the management zone, so the access rule tied to trading is no longer required.
- The proposed access rules in Binghi Management Zone using multiple reference points is to recognise flows from the Macquarie River, the Castlereagh River and the Barwon River can all contribute to flows in this management zone. Rules have been developed to allow access to these different sources of water depending on local conditions. There is also a 3 day lag proposed to address the time it takes flows registering at the gauge to reach the extraction point.
- An amendment provision has been included in the draft plan to allow a review of access conditions in the Binghi Management Zone when sufficient flow records are established at Macquarie River at Binghi Bridge gauge (42100200).

- An amendment provision has been included in the draft plan to allow changes associated with the Connectivity Expert Panel's Final Report. The amendment will facilitate the implementation program developed to improve connectivity in the Northern Basin and may result in changes to rules in this water source.

Active Management

- The definition of active environmental water (AEW) has been updated in the draft plan to also include active environmental water from the Barwon-Darling River which flows into the Binghi and Carinda Management Zones through breakouts or backflow events. By recognising these flows as AEW, they will be considered and protected through future updates to the Macquarie-Bogan Unregulated Rivers Water Source active management procedures manual.

Improving protection of wetlands

- The Natural Resources Commission (NRC) have recommended the draft plan provide better protection for important wetlands. The department have developed criteria to identify specific wetlands in the plan area. It is proposed to include rules to improve their protection by prohibiting new water supply works and restricting trades into or upstream of these areas. The prohibition of new works will not apply to replacement works.
- Wetlands identified for improved protection were drawn from multiple datasets including the Long-Term Water Plan, Floodplain Management Plan, Ramsar listing, Directory of Important Wetlands of Australia and Endangered Ecological Communities.
- A map of the WSP prescribed wetlands identified for this plan is available on the department's website.
- More information on improving protection of wetlands is available in a fact sheet.

Other key rules – no change proposed

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 from a water source or traded out (sold). Total extraction from a work (pump, bore, etc.) will be measured through metering or logbooks.

Carryover and individual account limits

For domestic and stock and unregulated river access licence accounts, carryover of water remaining in an account 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.

For domestic and stock and unregulated river 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.

Rules for granting access licences

There are limited purposes for which a new licence will be granted. We anticipate that users who need more water will source it from the market. One reason a licence may be granted is for Aboriginal cultural purposes. Aboriginal Cultural Access Licences are permitted to be granted up to a maximum volume of 10 ML/year per licence, subject to assessment.

Other reasons are identified in Section 10 of the Water Management (General) Regulation 2018.

Public exhibition

The Department of Climate Change, Energy, the Environment and Water seeks feedback from the public on the suitability of the proposed rules for this water source.

In particular, we seek your feedback on:

- establishment of Carinda and Binghi Management Zones and proposed changes to access rules
- proposed rules for Unregulated River (special additional high flow) licences
- proposed rules to protect WSP prescribed wetlands.

A submission form is available on the department's website.

To read the draft *Water Sharing Plan for the Macquarie/Wambuul Bogan Unregulated Rivers Water Sources 2025* and supporting fact sheets, please visit the department's [Public Exhibition website](#).