

Active Management

Proposed amendments to Water Sharing Plan for the Barwon-Darling Unregulated Sources 2012 to facilitate active management

We propose to put in place an increased level of management in the Barwon-Darling Unregulated River Water Source. Known as active management, this will allow environmental water used in-stream for environmental purposes, referred to as active environmental water, to be protected from extraction.

To implement active management, change is required to water sharing rules that regulate access in the *Water Sharing Plan for the Barwon-Darling Unregulated River and Alluvial Water Sources 2012* (the WSP).

Why the proposed change

The NSW Government is committed to improving the way we manage water for the environment in the NSW northern Murray–Darling Basin to maximise environmental outcomes that improve the health of the Basin.

The NSW and Commonwealth Governments have made significant investments to recover water for the environment across the Murray–Darling Basin. Water held under these recovered licences is referred to as held environmental water.

Water sharing plans do not currently protect this water from extraction in unregulated rivers if it is used in-stream for environmental purposes. For example the WSP does not protect held environmental water released from storages in the Gwydir River system when it flows into the Barwon-Darling Unregulated River Water Source.

Temporary water restrictions made under section 324 of the *Water Management Act 2000* are currently the only regulatory tool to control take by unregulated river access licences if commence to pump thresholds have been met.

Active management is a new operational tool that ensures that water released for the environment will remain in-stream for its intended environmental purpose.

Clause 78 (j) of the WSP allows access rules to be amended to implement active management.

Proposed changes to the water sharing plan rules

Under the current WSP, unregulated river access licence holders must check flows at two reference points to determine if flow is above the commence to pump (CtP) thresholds for their flow class before pumping can commence. The water access licence specifies the flow class that water can be taken from.

The proposed amendments allow the Minister to determine and announce the flow class (for example, A, B or C class) that applies in each management zone. The announcement will apply for 24 hours.

The Minister will adjust the CtP threshold set out in the water sharing plan for each flow class by the amount needed to protect the active environmental water present in-stream from being extracted.

The access thresholds for licences listed in Schedules 2 and 2A of the water sharing plan will also be adjusted by the amount needed to protect active environmental water.

The proposed amendments also allow the volume of water available in each flow class to be distributed among unregulated river access licences. The distribution could be based on a proportion of the Individual Daily Extraction Limit (IDEL) or a combination of the IDEL and an expression of interest. We are seeking feedback from stakeholders on the preferred method for distributing the available water to unregulated river licence holders.

We are also adding provisions to allow unregulated river access licence holders in the Barwon-Darling Unregulated River Water Source to leave some or all of the water permitted to be taken under their licences in-stream for environmental purposes. The water allocation account will be debited by the volume to be managed in-stream.

The proposed amendments require the Department of Planning, Industry and Environment to develop an active management procedures manual to be published on the department's website. These procedures will set out operational details for implementing active management, including how the volume of active environmental water in-stream will be determined.

No changes are proposed to access rules for domestic and stock licences and local water utility licences and supplementary water (subcategory Aboriginal Environmental) access licences.

What does this mean for licence holders

Licence holders will no longer need to check flows at gauges each day to determine if they can pump.

The Minister will announce the flow class that applies and if the volume permitted to be extracted is less than 1 ML per daily flow share (the daily flow share is defined by the IDEL).

The CtP thresholds for each flow class detailed in the water sharing plan will be adjusted by the volume of active environmental water to be protected.

The concept is illustrated by an example in Figure 1, where 150 ML/day of active environmental water is present in Scenarios 2 – 5 and the base CtP in the water sharing plan is 200 ML/day.

Access will be permitted if:

- there is no active environmental water in-stream and flows are above the base CtP threshold for the licence class, provided all other access conditions and account management requirements are met, as illustrated in scenario 1 in Figure 1, or
- there is active environmental water in-stream and flows are above the adjusted CtP thresholds for the licence class, provided all other access conditions and account management requirements are met, as illustrated in scenario 5 in Figure 1.

Access will be prohibited if:

- only active environmental water is in-stream, as illustrated in scenario 2 in Figure 1
- flow is below the base CtP thresholds for the flow class, as illustrated in scenario 3 in Figure 1, or
- flow is above the base CtP threshold due to the presence of active environmental water but below the adjusted CtP threshold, as illustrated in scenario 4 in Figure 1

The maximum volume of water that can be taken by an access licence on any day will be the lesser of the volume permitted to be taken in accordance with the announcement or 1 ML per daily flow share (the daily flow share is defined by the IDEL).

The volume available to an individual will be less than 1 ML per daily flow share if there is active environmental water in the system and the total volume available to licences is less than the sum

of the daily flow shares times 1 ML for that flow class and management zone. We are seeking feedback from licence holders on your preferred method for distributing the available water to unregulated river licence holders.

The river operator will need to forecast flows to determine the volume of active environmental water in-stream. There are some uncertainties in forecasting river flows and transmission losses given the inherent variability in natural river systems and environmental watering activities.

Strategies, such as adaptively adjusting river transmission loss forecasts based on observations, will be used to manage risks to licence holders and active environmental water associated with forecasting uncertainty. The detail of how this is done will be documented in the procedures manual.

Licence holders who want to leave their water in-stream for environmental purposes

Licence holders (such as environmental water holders) wanting to leave their water in-stream for environmental purposes will need to notify the Minister and their water allocation account will be debited by the volume to be actively managed through downstream zones. This allows unregulated held environmental water to be active managed in the unregulated water source.

Active Management Concept

In this example, when active environment water is not present, licence holders can commence to pump when flows exceed 200ML/day (base CtP) and must cease to pump if flow drops to 200ML/day or less.
 When 150ML/day of active environmental water is present (scenarios 2-5) licence holders can commence to pump when flows exceed 350ML/day (the adjusted CtP) and must cease to pump if flows drop to 350ML/day or less.

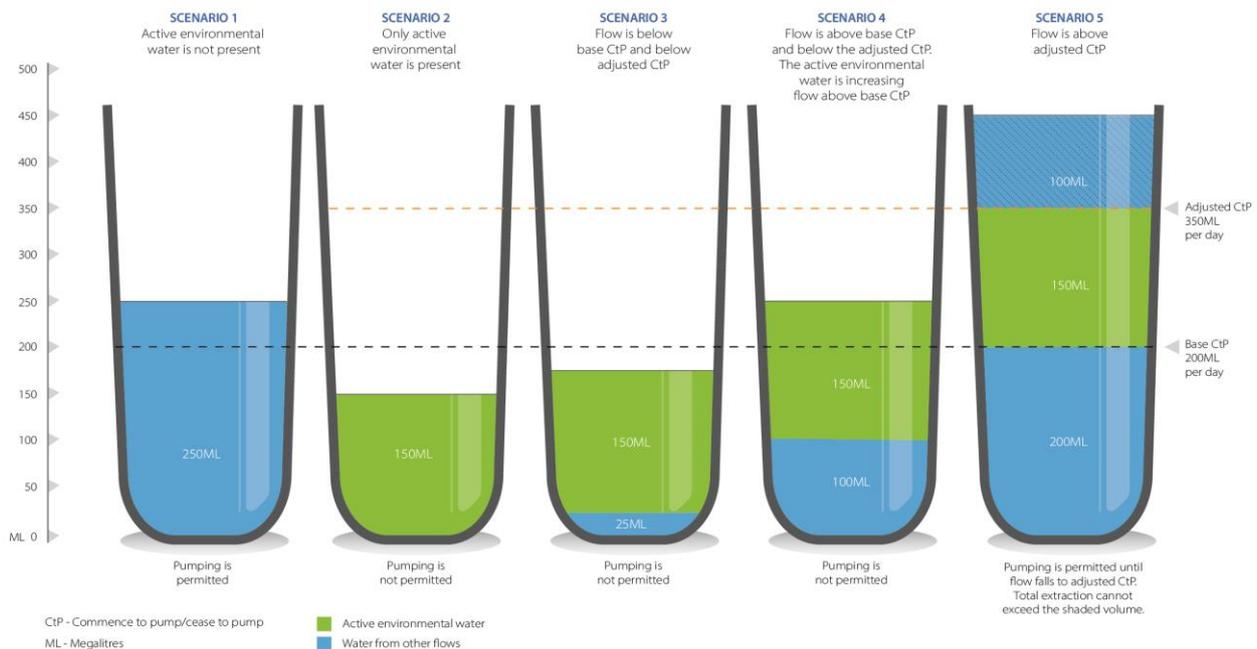


Figure 1: Active management concept

To demonstrate the concept of active management, the Active Management Case Study fact sheet outlines the analysis of two flow events in March and April–June 2018. It shows the environmental benefits of having active management in place. You can see the case study on our website.

The benefits of active management

Active management will reduce the need to use temporary water restrictions to manage active environmental water used in-stream and help improve water sharing, compliance and transparency by:

- protecting active environmental water used in stream for environmental
- sharing access between licence holders during a unregulated flow event when flows are above CtP thresholds and demand exceeds available flow
- making it clearer for licence holders to understand when they can take water
- increasing public understanding of when water can and cannot be taken.

Active management in the Barwon-Darling will help maximise environmental outcomes from:

- regulated held environmental water released from upstream storages that flows through the Barwon–Darling Unregulated River Water Source
- planned environmental water from upstream water sources that is assessed as additional to the inflows considered when the WSP commenced that established the bulk access regime for the Barwon – Darling unregulated water sharing plan.
- unregulated held environmental water licences located in the Barwon-Darling Unregulated River Water Source being used in-stream.

This will help to reach the intended outcomes from the Murray Darling Basin Plan.

Active Management Procedures Manual

Access to flows will be determined as per the procedures manual. The procedures manual will be developed in accordance with the Active Management Policy and will outline:

- where the Procedures Manual applies
- what water will be protected from extraction (active environmental water)
- how flows are forecast
- how losses are calculated and shared
- how operational uncertainty is managed (for example, adjustments to flow forecasts)
- how the volume of active environmental water is determined
- how the adjusted flow class, CtP thresholds and/or volumetric limits are determined
- the form of an announcement and what information announcements must contain
- what unregulated licence holders who want to leave their water in-stream will need to do and how their water allocation account will be debited for water managed in-stream
- reporting requirements
- timeframes, circumstances, procedures and responsibilities for review of the procedure manual
- who approves the procedures manual and when

The *Active Management in Unregulated Rivers – Draft policy for public consultation, September 2019* has been written to guide the preparation of the procedures manual.

We are currently seeking your comments to finalise this draft policy before a procedure manual is developed.

The department will consult on the development of the procedures manual before active management is implemented.

Have your say

We seek your comments on the:

- Draft *Water Sharing Plan for the Barwon-Darling Unregulated River Water Source 2012 (Proposed Amendments 2020)* available from <https://www.industry.nsw.gov.au/barwon-darling-wrp>
- *Active Management in Unregulated Rivers – Draft policy for public consultation, September 2019* available from <https://www.industry.nsw.gov.au/barwon-darling-wrp>

The draft policy has guided the proposed water sharing rule amendments and will also guide the preparation of the Active Management Procedures Manual for the Barwon–Darling Unregulated River Water Source.

Make a submission

Use our [online form](#) or an [email](#) to make a submission. All submissions will be considered when finalising the plan. **Submissions close at 5 pm on Tuesday 29 October 2019.**

More information

Background information on the Barwon-Darling Unregulated River Water Source relevant to active management is attached.

The draft Barwon-Darling Watercourse Water Resource Plan and other fact sheets are available from <https://www.industry.nsw.gov.au/barwon-darling-wrp>

If you want to be kept informed about all of the departments upcoming engagement activities please visit our [website](#) or join our [newsletter](#).

Barwon-Darling Unregulated River Water Source background information

This document outlines background information on the Barwon-Darling Unregulated River Water Source that was considered when developing the approach to active management in this area. It also outlines issues to be considered while developing the Active Management Procedures Manual for this area.

Area where active management is to apply

We are proposing to put in place active management for the entire Barwon-Darling Unregulated River Water Source.

Changes to the *Water Sharing Plan for the Barwon-Darling Unregulated River and Alluvial Water Sources 2012* are needed to implement active management in the Barwon-Darling Unregulated River Water Source.

A map showing the Barwon-Darling Unregulated River Water Source where active management will be applied is at Figure 2.

Description

The Barwon-Darling Unregulated River Water Source extends from Mungindi on the NSW-Queensland border to Menindee Lakes in south-west NSW.

Upstream of Bourke, inflows are received from all of the major river valleys in the northern Murray-Darling Basin, including from the Intersecting Streams, Border Rivers, Gwydir, Namoi and Macquarie and Castlereagh rivers. Below Bourke, tributaries include the Paroo and Warrego Rivers.

The Barwon-Darling Water Source is split into four river sections developed for trading purposes and 14 management zones where access rules apply. Management zones are generally based on the occurrence of a weir or the confluence of a major tributary.

Licences

Access Licence Category	No. Licences	Share Component
Domestic and Stock	20	968
Local Water Utility	7	5,373
Unregulated river	1	1,488
Unregulated river (A class)	110	9,856
Unregulated river (B class)	84	133,069
Unregulated river (C class)	15	45,746
TOTAL	237	196,499

Information from NSW Water Register, www.waternsw.com.au/water-register-frame, as at June 2019

Current access rules for unregulated river access licences

Access for each class of access licence is defined by a flow class with CtP thresholds established in the water sharing plan. The CtP thresholds are lower for the highest priority licence categories such as domestic and stock licences and town water supply. CtP thresholds rise as the priority of licence category goes down.

These CtP thresholds also vary across the management zones for each class.

Unregulated river access licences may access water when flows at the nominated flow reference point (that is, the gauge) are at or above their flow class threshold provided all other licence access conditions and account management requirements are met. For example, A class unregulated river access licences can access A, B and C class flows while B class can only access during B and C class flows, and C class licences can only access during C class flows. Licence holders must cease to pump when flow at the flow reference point is at or below the CtP thresholds for their licence class or licence conditions.

In the Barwon-Darling licence holders must check flow levels at two gauges, making sure flows at both gauges are above CtP thresholds for their licence before pumping.

Current access rules are summarised here

https://www.industry.nsw.gov.au/__data/assets/pdf_file/0007/148966/Barwon-Darling-Rules.pdf

Unregulated held environmental water licences

Management Zone	Management Zone No.	No. Licences	Licence category	Share components
Boomi River Confluence to Upstream Mogil Mogil Weir Pool	2	1	B Class	3,731
Collarenebri to Upstream Walgett Weir Pool	5	2	A Class	80
Downstream Mogil Mogil to Collarenebri	4	1	B Class	9,252
Downstream Mogil Mogil to Collarenebri	4	1	C Class	6,963
Boorooma to Brewarrina	8	1	No class	1,488
Boorooma to Brewarrina	8	1	B Class	323
Bourke to Louth	11	2	A Class	73
Bourke to Louth	11	2	B Class	2,754
Bourke to Louth	11	1	C Class	5,535
Tilpa to Wilcannia	13	1	A Class	109
TOTAL		13		30,308

Information from NSW Environmental Water Register, <https://ewp.water.dpi.nsw.gov.au/ewr/main/erShSearchEWL>, as at June 2019

Environmental flows – past and future

The Basin Plan has recovered large volumes of water entitlements across the northern Murray-Darling Basin, including within the Barwon-Darling Unregulated River Water Source to improve environmental outcomes.

During 2018 and 2019, the NSW Government used temporary water restriction orders to manage access along the Barwon-Darling during the Northern Connectivity and Northern Fish Flow Events. This allowed environmental water released from upstream regulated storages to flow along the Barwon – Darling Unregulated River Water Source.

Infrastructure available to support active management

There are flow gauging stations at each end of the 14 management zones set out in the water sharing plan. Most major tributary rivers have a flow gauging station near their confluence with the Barwon-Darling Unregulated River Water Source.

Water source/management zone	Gauging station
Barwon-Darling River	Barwon River at Mungindi (416001)
	Barwon River upstream of Presbury (416050)
	Barwon River at Mogil Mogil (422004)
	Barwon River at Collarenebri Main Channel (422003)
	Barwon River at Tara (422025)
	Barwon River at Dangar Bridge (422001)
	Barwon River at Boorooma (422026)
	Barwon River at Geera (422027)
	Barwon River at Brewarrina (422002)
	Barwon River at Beemery (422028)
	Darling River at Warraweena (425029)
	Darling River at Bourke Town (425003)
	Darling River at Louth (425004)
	Darling River at Tilpa (425900)
Darling River at Wilcannia Main Channel (425008)	

Issues to be further considered

Method to distribute water available for unregulated river access licences

The draft plan allows the water available to unregulated river access licences to be shared based on Individual Daily Extraction Limits, whether or not the licence holder intends to extract water.

The Department is considering an option to allow licence holders to submit an expression of interest in extracting water. This would allow the Minister to adjust these announcements. This would optimise access to water for those who intend to use the water at that time, whilst protecting Active Environmental Water. Under this option only those that submitted an expression of interest would be permitted to extract water.

We are seeking feedback on a preferred method for sharing available consumptive water.

Operational details

The operational details, including the frequency of water access announcements in each management zone will be further investigated before we develop the Active Management Procedure Manual.

Environmental flows – past and future

Additional gauging

The review of flow gauging stations across the northern Basin will consider whether it is useful to install additional flow gauging stations on tributary rivers that are currently ungauged, or have no flow gauging near the Barwon-Darling Unregulated River Water Source. New gauging stations will only be considered where there is potential to improve flow forecasting capabilities.

Floodplain harvesting

The Healthy Floodplain Project is developing a licensing and management framework for floodplain harvesting, which may require some harvesting licences to be actively managed in the future.

Map of Barwon-Darling Unregulated River Water Source where active management is to apply

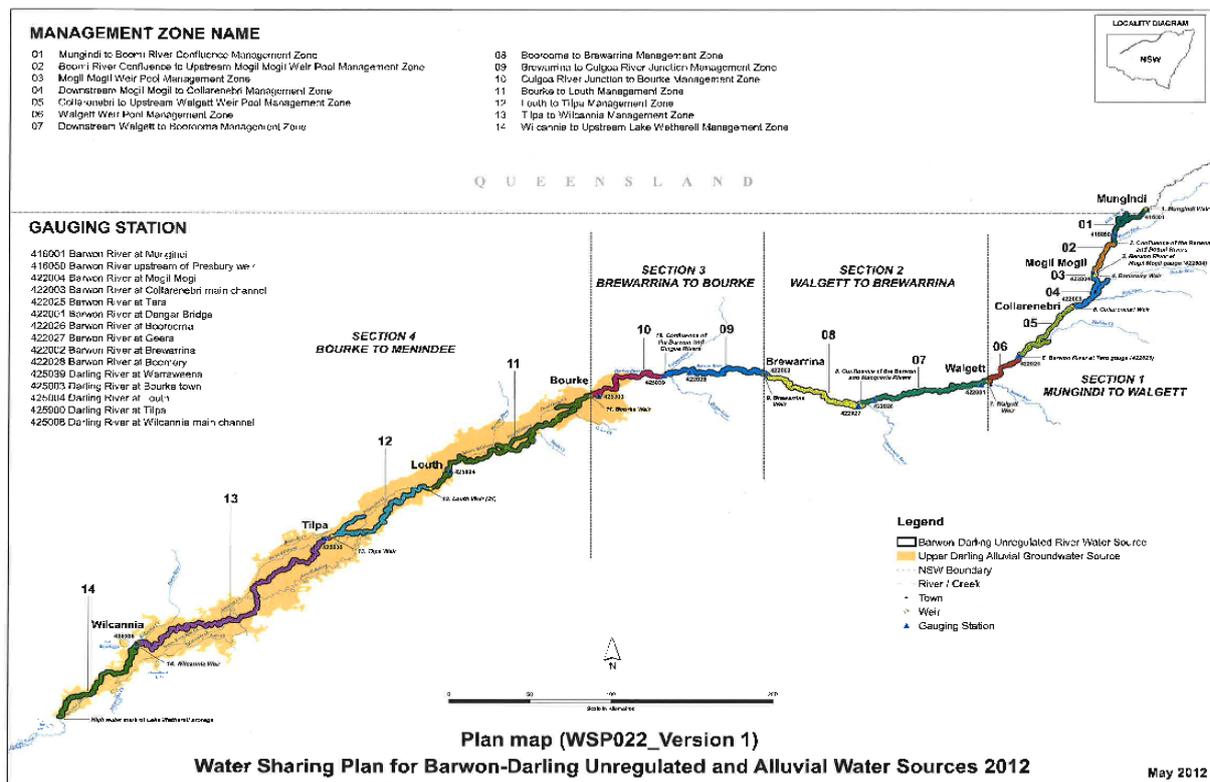


Figure 2: Map of Barwon-Darling Unregulated River Water Source where active management is to apply

© State of New South Wales through Department of Planning, Industry and Environment 2019. The information contained in this publication is based on knowledge and understanding at the time of writing (September 2019). However, because of advances in knowledge, users are reminded of the need to ensure that the information upon which they rely is up to date and to check the currency of the information with the appropriate officer of the Department of Planning, Industry and Environment or the user's independent adviser.