

## Active Management

### *Proposed amendments to the Water Sharing Plan for the Gwydir Unregulated and Alluvial Water Sources 2012 to facilitate active management*

We propose to put in place an increased level of management in the Gingham Watercourse Water Source and the Mallowa Creek (within the Mehi 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 Gwydir Unregulated and Alluvial Water Sources 2012* (the WSP).

## Proposed additional amendment for active management

The proposed changes for active management are in addition to the water sharing plan changes exhibited in October - November 2018. At that time, we were still developing the approach to active management.

Clause 71 (l) of the WSP allows access rules to be amended to implement active management.

Comment on the draft Gwydir Surface Water Resource Plan and other proposed amendments to the *Water Sharing Plan for the Gwydir Unregulated and Alluvial Water Sources 2012* has closed. We are currently considering the submissions we received on these.

We now welcome your comments on the *Active Management in unregulated rivers – Draft policy for public consultation, September 2019* and additional proposed amendments to the *Water Sharing Plan for the Gwydir Unregulated and Alluvial Water Sources 2012* to facilitate active management.

The draft policy has guided the proposed amendments to the water sharing plan rules and will guide the development of Active Management Procedure Manuals (procedures manual).

## Why the proposed change

The New South Wales (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 storage in the regulated Gwydir River when it flows into the unregulated Gingham Watercourse Water Source.

Temporary water restrictions are the only regulatory tool to control take by unregulated river access licences once the licence access conditions, including commence to pump thresholds, have been met.

Active management is a new operational tool that ensures that water released for the environment remains in-stream to be used for its intended environmental purpose.

## Proposed changes to the water sharing plan rules

Under the current WSP unregulated river access licence holders in the Gingham Creek Water Course Water Source must check flows at reference points to determine if flow is above commence /cease to pump (CtP) thresholds for their licence before pumping can commence. Each water access licence specifies the flow class under which water can be taken.

Licences in Mallowa Creek do not have CtP thresholds linked to a river flow gauge. They can currently take water provided there is visible flow at the pump site.

The proposed amendments take account of the circumstances in each water source or management zone.

### Upper Gingham

The proposed amendments allow the Minister to determine and announce the flow class that apply. The announcement will apply for 24 hours.

The CtP threshold defined in the water sharing plan will be adjusted by the amount necessary to protect the active environmental water present in-stream from extraction.

### Lower Gingham

The proposed amendments will prohibit access by unregulated river access licences if there is only active environmental water present. Otherwise the current CtP thresholds will apply.

### Mallowa Creek

We are proposing a new management zone for the Mallowa Creek to allow access rules for active management to apply only in that section of the Mehi River Water Source where active environmental water is delivered.

The proposed amendments prohibit access by unregulated river access licences if there is only active environmental water present.

The proposed amendments allow the Minister to announce a volumetric limit to be imposed on unregulated river access licences to protect active environmental water from extraction. The procedures manual will set out how the volume will be determined and shared among licences. The distribution could be based on a proportion of the shares or a combination of the shares 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.

All other access conditions will continue to apply.

### All areas

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 managed in-stream will be determined.

We are also adding provisions to allow unregulated river access licence holders 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.

An amendment provision will be included to allow access rules to be included or revised to protect active environmental water.

No changes are proposed to access rules for domestic and stock and local water utility access licences.

## What does this mean for licence holders

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

The Minister will announce the flow class that applies and any volumetric limit that applies.

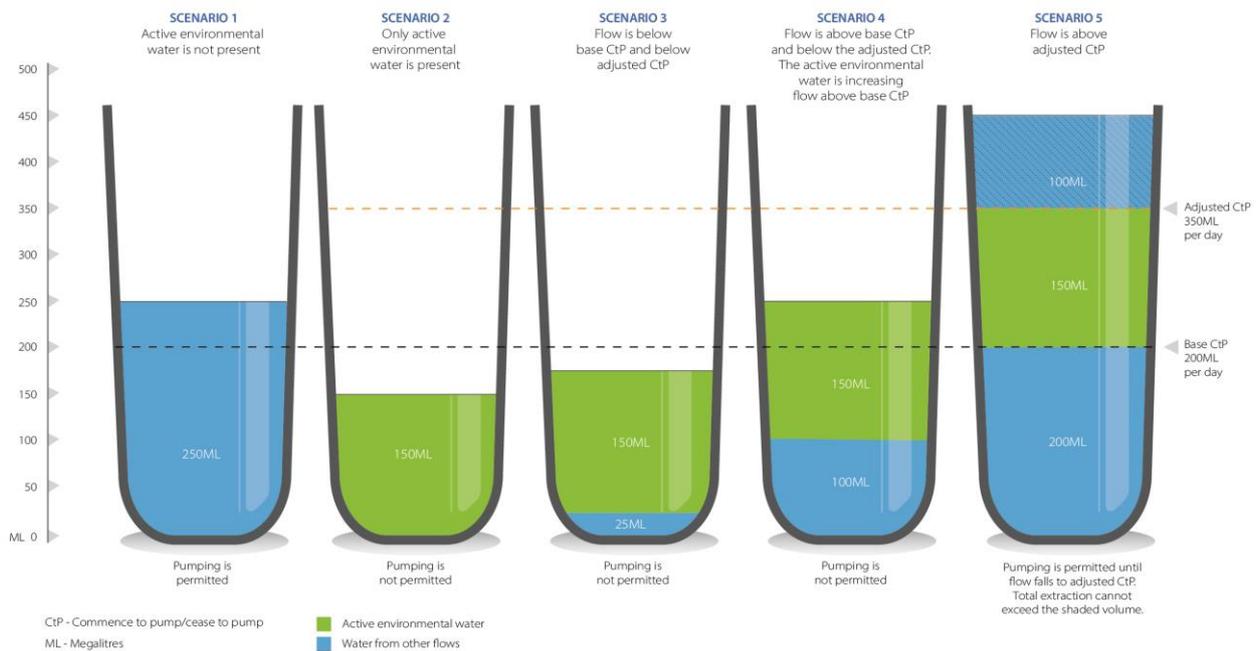
### For licences in the Upper Gingham Watercourse Management Zone

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 before the flow class is announced.

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 threshold in the water sharing plan is 200 ML/day.

## 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**

Access will be permitted if:

- there is no active environmental water in-stream and flows are above the base CtP threshold for the licence or accessible flow 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 or accessible flow 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 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.
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- flow is below the base CtP threshold, 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.

## **For licences in the Lower Gingham Watercourse Management Zone**

Access will be prohibited if only active environmental water is present otherwise the current CtP access rules will apply.

## **For licences in the Mallowa Creek**

Access will be prohibited if only active environmental water is present.

Access will be permitted if there is no active environmental water in-stream and there is visible flow at the pump site.

The Minister may announce a volumetric limit for each licence if there is flow arising from both active environmental water in-stream and other sources of flows in order to protect active environmental water used in-stream from extraction. Water must not be taken in excess of the maximum amount permitted to be taken as announced.

We will further investigate how a volumetric limit could be determined and applied to protect active environmental water while developing the procedures manual.

We seek your feedback on your preferred method for distributing the available water to unregulated river licence holders.

## **All licences**

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.

## 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 purposes
- making it clearer for licence holders to understand when they can take water
- increasing public understanding on when water can and cannot be taken.

Active management in the Gwydir will help maximise environmental outcomes from:

- regulated held environmental water released from upstream storages that flows through the Gingham Watercourse Water Source and Mallowa Creek (within the Mehi River Water Source).
- planned environmental water from the regulated Gwydir River that is assessed as additional to the inflows considered when the WSP commenced that established the bulk access regime for the Gwydir unregulated water sharing plan.

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 with 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 approved 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:

- Proposed amendments to the *Water Sharing Plan for the Gwydir Unregulated and Alluvial Water Sources 2012* to facilitate active management, September 2019 available from [https://www.industry.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0007/278998/proposed-amendments-gwydir-unreg-wsp-for-active-mgt.pdf](https://www.industry.nsw.gov.au/__data/assets/pdf_file/0007/278998/proposed-amendments-gwydir-unreg-wsp-for-active-mgt.pdf)
- Active Management in Unregulated Rivers – Draft policy for public consultation, September 2019 available from [https://www.industry.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0005/278996/active-mgt-unreg-rivers-draft-policy.pdf](https://www.industry.nsw.gov.au/__data/assets/pdf_file/0005/278996/active-mgt-unreg-rivers-draft-policy.pdf)

The draft policy has guided the proposed water sharing rule amendments and will guide the preparation of the Active Management Procedures Manual for the Gingham unregulated river water source and the Mallowa Creek.

Please note that comment on the draft Gwydir Surface Water Resource Plan and other proposed amendments to the *Water Sharing Plan for the Gwydir Unregulated and Alluvial Water Sources 2012* has closed and your submissions on these are currently being considered.

## Make a submission

Use our [online form](#) or send 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 Gingham Watercourse Water Source and Mallowa Creek is attached.

*Proposed amendments to the Gwydir unregulated water sharing plan for active management, September 2019* and the *Active Management in Unregulated Rivers – Draft policy for public consultation, September 2019* are available from <https://www.industry.nsw.gov.au/water-gwydir>.

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

## Gingham Watercourse and Mallowa Creek background information

This document outlines background information on the Gingham Watercourse and Mallowa Creek 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 these areas.

### Area where active management is to apply

We are proposing to put in place active management in the:

- Gingham Watercourse Water Source, including the Lower Gingham Watercourse Management Zone and the Upper Gingham Watercourse Management Zone, and
- Mallowa Creek trading zone located within the Mehi River Water Source.

Changes to the *Water Sharing Plan for the Gwydir Unregulated and Alluvial Water Sources 2012* are needed to implement active management in these areas.

A map showing the areas where active management will be applied in the Gwydir is at Figure 2.

### Description

#### Gingham

The Gingham watercourse receives flows from the regulated Gwydir River system at the Tyreel weir pool. During regulated flow periods in the Gwydir River, flows are excluded from the Gingham Watercourse, but during periods of uncontrolled flow in the Gwydir River, flows are shared with the Gingham Watercourse.

The main channel of the watercourse contains a number of deep open lagoons in the Upper Gingham Watercourse Management Zone, and its flow capacity slowly diminishes until there is no distinct watercourse, and water spreads out on floodplain in the Lower Gingham Watercourse Management Zone.

Historically, the Gingham Watercourse received domestic and stock replenishment flows from the regulated Gwydir River system, but domestic and stock flows are now delivered through a pipeline as part of a water savings project.

The only controlled flows now delivered from the Gwydir River to the Gingham Watercourse are of environmental water.

#### Mallowa Creek

There is an offtake regulator at the top of the Mallowa Creek that is used to exclude regulated flows in the Mehi River from entering Mallowa Creek. However, when high flows in the Mehi River occur, they are shared with Mallowa Creek as the regulator is opened.

Historically, Mallowa Creek received domestic and stock replenishment flows from the Mehi River, but Domestic and Stock flows are now delivered through a pipeline as part of a water savings project.

The only controlled flows now delivered from the Mehi River to Mallowa Creek via the offtake regulator are of environmental water.

### Licences

#### Gingham Watercourse Water Source

Access licence category	No. licences	Share component
Domestic and stock	1	5
Unregulated river	2 (one in Upper Gingham and one in Lower Gingham)	2,260

## Mallowa Creek

Access licence category	No. Licences	Share component
Domestic and stock	4	27.5 shares
Unregulated river	4	4,528 shares

Information from NSW Water Register, [www.waternsw.com.au/water-register-frame](http://www.waternsw.com.au/water-register-frame) as at June 2019.

## Current access rules for unregulated river access licences

### Upper Gingham Management Zone

Access is not permitted if:

- flows at Gingham channel at Tillaloo bridge gauge (418076) is 250 ML/day or less
- there is no visible flow in the water source at the location where water is to be taken; or if water is taken from an in-river pool or off-river pool, when the volume of water in that pool is less than at full capacity

Notes: 250 ML/day is the maximum flow rate that can be delivered into the Gingham Watercourse when crops are present.

### Lower Gingham Management Zone

The licence conditions state access is not permitted if:

- the depth of flow is less than 1.0 metre or less on the Gingham Bridge gauge (418079); or
- the flow is 4,000 ML or less on the Gingham Bridge gauge (418079); or
- there is no visible flow at the Gingham Watercourse at Morialta Road

### Mallowa Creek

Access licences prohibit take when there is no visible flow in the water source at the location where water is to be taken; or if water is taken from an in-river pool or off-river pool, when the volume of water in that pool is less than at full capacity.

## Unregulated held environmental water licences

There are no unregulated held environmental water licences held in these areas.

## Environmental flows

### Gingham Watercourse

Environmental water is frequently delivered to the Gingham Watercourse from the regulated Gwydir River system.

Environmental water may be delivered concurrently with other flows, but is often delivered to extend inflows following a natural flow event, or as a stand-alone watering of important wetlands along the watercourse.

Delivery of environmental water is intended to break out and inundate wetland areas but is constrained by unwanted inundation of private land that is now used for cropping – typically requiring flows into the Gingham Watercourse to be limited to 250ML/d when crops are present. Environmental water managers seek to deliver environmental water at higher rates than 250ML/day at Tillaloo bridge gauge.

### Mallowa Creek

The Mallowa Creek has historically receives environmental water when no other flows are present.

Infrastructure available to support active management	
Water source	Gauging station
Gingham	<p>Offtake regulator (at Tyreel weir pool) controls flows into the Gingham Watercourse from the regulated Gwydir River.</p> <p>Gingham watercourse @ Teralba (418072), close to offtake regulator.</p> <p>Gingham Watercourse @ Tillaloo (418076), upper Gingham water licence access conditions are set according to flows at this station.</p> <p>Gingham Watercourse @ Gingham Bridge (418079), lower Gingham water licence access conditions are set according to flows at this station.</p>
Mallowa Creek	<p>Offtake regulator controls flows into Mallowa Creek from the regulated Mehi River.</p> <p>Mallowa Creek @ regulator (418049), measures flows entering the Mallowa Creek after leaving the regulated Mehi River.</p>

## Issues to be considered

### Upper Gingham commence to pump/cease to pump conditions

The current CtP threshold protects environmental water flow events in the upper Gingham below 250 ML/day. There is benefit in raising the CtP thresholds above the current 250 ML/day if held environmental water is being delivered as part of a follow-on event after a larger natural flood aimed at maintaining water levels for bird breeding in wetlands.

Further investigation of issues associated with raising CtP thresholds is required when developing the Active Management Procedures Manual.

### Lower Gingham commence to pump/cease to pump conditions

There has been concern raised that the access conditions on the unregulated river access licence in the Lower Gingham Management Zone are incorrect. This is currently being considered by the Department. The outcome of this will be taken into account during the development of the procedures manual.

A simple prohibition on access can protect stand alone events where there is only environmental water in-stream. There are challenges in identifying active environmental water within a mixed flow event in the Lower Gingham.

Environmental water managers advise that follow-on type events after a larger natural flood are largely aimed at maintaining water levels for bird breeding in wetlands that are upstream of the current licence locations in the Lower Gingham. There may be limited practical benefit from attempting to apply active management in the Lower Gingham during mixed events. There are also challenges of identifying held environmental water separately to water from other sources. For these reason current access condition will apply during a mixed event and an amendment provision is proposed in the water sharing plan the facilitate changes if deemed necessary to protect held environmental water in the future.

## **Mallowa Creek - trading**

It has been raised during targeted consultation that the licence holders in this area are willing to trade their access licence shares out of Mallowa Creek. The *Water Sharing Plan for the Gwydir Unregulated and Alluvial Water Sources 2012* prohibits trade into the Mallowa Creek trading zone. The water sharing plan does not specify that trade out of Mallowa Creek is not permitted however trade out is not possible as none of the other Gwydir unregulated water sources allow trade in.

Revising trade rules will not guarantee that licences will move out of the Mallowa Creek so active management rules will need to be included to protect active environmental water used in-stream.

Should trade rules be reviewed and all shares are traded out then active management arrangements could be removed.

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## **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.

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## **Constraints management**

A constraints relaxation project has been proposed to undertake works along the floodplain to better delineate between wetland areas and farming areas for the Lower Gwydir Wetlands, the Gingham Watercourse and Mallowa Creek. This looks to develop a low-level flow path scheme that would allow environmental watering at higher rates (450 ML/day Gingham and 300 ML/day Mallowa) to reach more wetland areas without creating unwanted inundation along the way, and protect against unwanted inundation should a natural flow event occur during, or shortly after, an environmental watering event. If this project proceeds, there would be a more significant need to actively manage flows above the existing cease to pump levels.

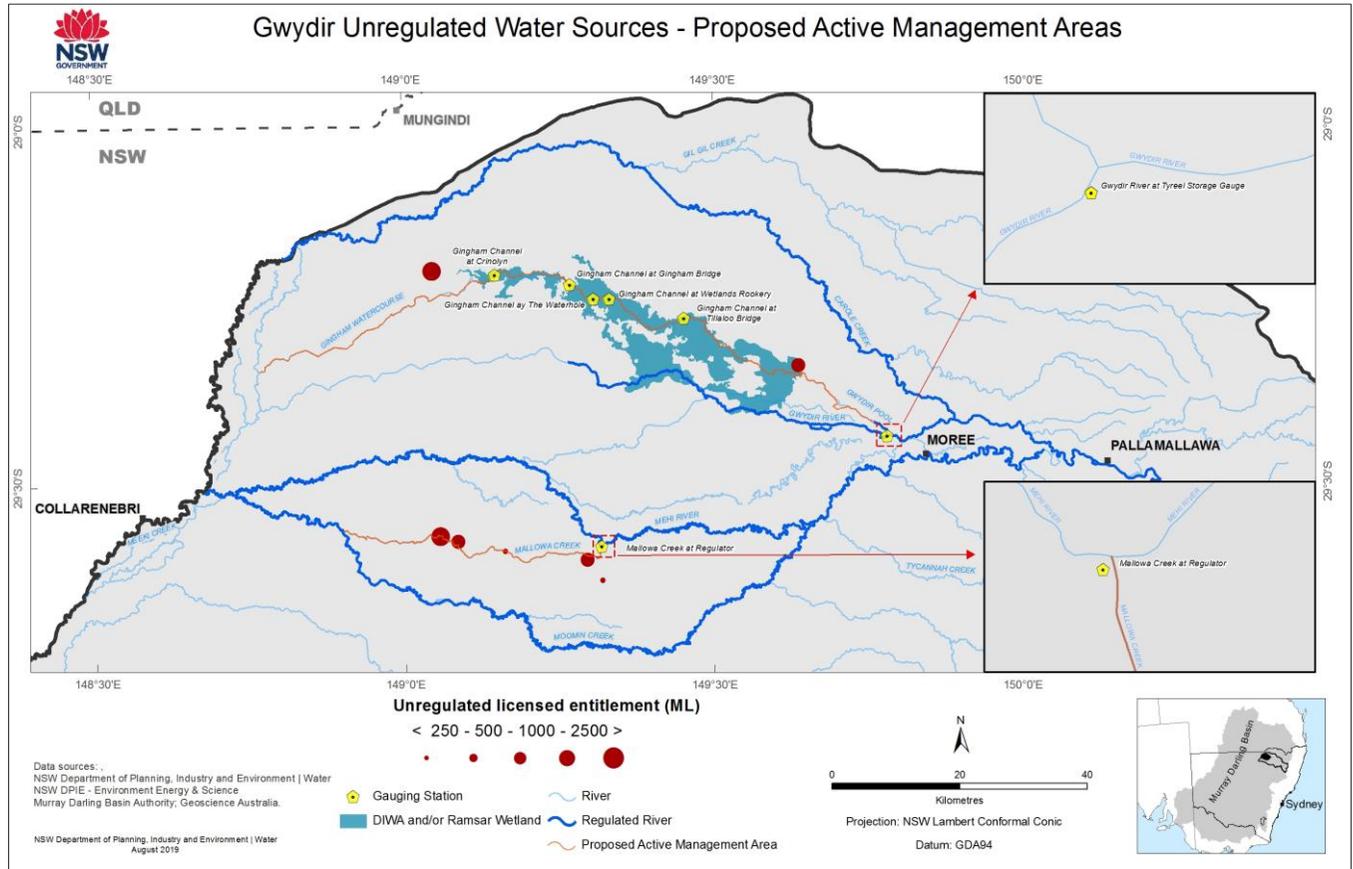
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# Gwydir Surface Water Resource Plan

Fact sheet – September 2019



## Map of areas where active management is to apply in the Gwydir unregulated water sources



**Figure 2: Map of proposed active management area in the Gwydir unregulated water sources**

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