



Floodplain harvesting in Gwydir valley water sharing plans

What we heard report

July 2021



Published by NSW Department of Planning, Industry and Environment

dpie.nsw.gov.au

Title: Floodplain harvesting in Gwydir valley water sharing plans

Subtitle: What we heard report

First published: July 2021

Department reference number: PUB21/240

© State of New South Wales through Department of Planning, Industry and Environment 2021 You may copy, distribute, display, download and otherwise freely deal with this publication for any purpose, provided that you attribute the Department of Planning, Industry and Environment as the owner. However, you must obtain permission if you wish to charge others for access to the publication (other than at cost); include the publication in advertising or a product for sale; modify the publication; or republish the publication on a website. You may freely link to the publication on a departmental website.

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (May 2021) and may not be accurate, current or complete. The State of New South Wales (including the NSW Department of Planning, Industry and Environment), the author and the publisher take no responsibility, and will accept no liability, for the accuracy, currency, reliability or correctness of any information included in the document (including material provided by third parties). Readers should make their own inquiries and rely on their own advice when making decisions related to material contained in this publication.

Contents

Introduction	1
Consultation	1
About this report.....	2
Engagement methodology	2
Information provided.....	2
Public consultation	3
Consultation purpose.....	3
Targeted stakeholder engagement.....	4
Final rules	5
What we heard – stakeholder responses	14
General	14
In response to proposed rules for floodplain harvesting licences (regulated)	16
Available water determinations	16
Account management rules	19
Trade rules	21
Active management	23
Amendment provisions	25
In response to proposed rules for floodplain harvesting licences (unregulated)	26
Available water determinations	27
Account management rules	28
Trade rules	30
Active Management	32
Amendment provisions	33
Default and other rules	34
Next steps	36
Appendix 1 – Broader issues	37
Appendix 2 – Trading zone map	40

Introduction

The NSW Government, through the Floodplain Harvesting Action Plan, is committed to regulating and measuring floodplain harvesting by bringing floodplain harvesting into the water licensing system. Floodplain harvesting is the last significant way of taking water yet to be licensed in the Murray–Darling Basin (the Basin). The government is managing this process in a way that is intended to improve trust, confidence and transparency with stakeholders.

In 2008, the NSW Government announced that water users taking water directly from floodplains would need a licence and a water supply work approval. Licences will specify the volume of water users can continue to legally take from floodplains.

Bringing floodplain harvesting into the licensing system will improve accounting for water use and compliance with water laws in NSW, making sure the volume of water taken stays within legal limits set by the Murray Darling Basin Plan and NSW Water Sharing Plans. As floodplain harvesting in the Gwydir valley has grown beyond legal limits, licensing will reduce floodplain harvesting diversions and make more water available across the floodplain and to waterbodies.

To make the rollout of licensing possible, the Department of Planning, Industry and Environment developed the NSW Floodplain Harvesting Policy, which provides a framework for licensing floodplain harvesting extractions. The policy, first introduced in 2013, is now being put into action across the northern Basin. The rules for floodplain harvesting licences will be set out in water sharing plans.

Water sharing plans are a statutory obligation under the NSW *Water Management Act 2000*. They set out rules for a water source or group of water sources, as well as the rules by which water is distributed to various users. These will include limits on the volume of water that water users can take under a floodplain harvesting licence.

Consultation

The department has consulted on the proposed rules to be included in water sharing plans in each of the 5 northern inland valleys. We began the consultation process with the Border Rivers on 20 October 2020 and continued with the Gwydir on 12 February 2021.

The 5 key rules in the water sharing plans on which we asked for stakeholder feedback are:

- available water determinations
- account management rules
- permanent trade rules
- access rules
- amendment provisions.

The department acknowledges that it is important for the community and stakeholders to raise issues and concerns about the proposed rules for floodplain harvesting licences through a transparent public submission process. The department encourages members of the community to have their say.

Many complex and varied viewpoints were represented in the submissions about floodplain harvesting in the Gwydir valley.

Because of the complexity of submissions, the department has used a qualitative approach to assess submissions and justify any changes we make to the proposed rules for floodplain harvesting licences. The qualitative assessment approach ensures we consider all stakeholder feedback during the development of the final rules. It also allows the department to consider the underlying complexities of each submission and cater for examples where people have not understood the proposed rules, or where pre-filled submission forms highlight the same issues.

To ensure a balanced and comprehensive approach to consultation, the department is focused on the scope of issues and concerns raised rather than the number of submissions received. It is important that the department understands the reasoning for supporting or not supporting a proposed rule and responds to that.

About this report

This report summarises the feedback the NSW Government received during the public consultation sessions and from written submissions for the Gwydir valley. The report also outlines the proposed final rules that will appear in water sharing plans and the reasons for these. Additional feedback we received that is outside the scope of rules consulted on is in Appendix 1.

Engagement methodology

The methodology we used to engage with stakeholders about floodplain harvesting in the Gwydir valley aligned with the department's principles. Public consultation must be:

- purposeful – undertaken with a clear understanding of what was to be achieved, and delivering on NSW Government priorities and the department's corporate goals
- inclusive – identifying and enabling the participation of all relevant stakeholders
- timely – allowing enough time for meaningful consultation, outlining timeframes up front and conducting engagement activities in an efficient manner
- transparent – explaining the engagement process, providing information to allow meaningful participation and setting clear expectations around how participants' input would inform outcomes
- respectful – acknowledging the needs, experience, perspective and expertise of participants.

Public exhibition of the proposed rules began in the Gwydir valley on 12 February and ended 12 March 2021. In February 2021, the department held a public webinar and a series of 6 targeted stakeholder meetings via electronic platforms. We held face-to-face meetings in Moree on Wednesday 24 and Thursday 25 February 2021.

Information provided

The content covered in presentations included:

- a detailed overview of the development of the river system model for the Gwydir valley and how the model was used
- the predicted environmental outcomes of implementing the policy in the Gwydir valley
- a summary of the downstream effects of licensing floodplain harvesting in the Gwydir valley
- the proposed rules for floodplain harvesting access licences to be included in the *Water Sharing Plan for the Gwydir Regulated River Water Source* and the *Water Sharing Plan for the Gwydir Unregulated River Water Sources 2012*.

We also gave information on the public exhibition period and how stakeholders could make a submission.

Four days before the public exhibition and formal start of consultation, the department published a series of technical reports on its website:

- *Gwydir: Floodplain harvesting in water sharing plans – Report to assist community consultation*
- *Building the river system model for the Gwydir Valley regulated river system*
- *Floodplain Harvesting Entitlements for the Gwydir Regulated River System: Model Scenarios Report*
- *Environmental outcomes of implementing the Floodplain Harvesting Policy in the Gwydir Valley*
- *Modelled downstream effects of licensing floodplain harvesting in the Gwydir Valley report.*

These reports give the technical detail to support the implementation of the policy in the Gwydir. They include the modelling results used to determine entitlements, modelled environmental effects and outcomes for downstream communities.

The *Report to assist community consultation* explains the proposed types of rules for floodplain harvesting access licences in the Gwydir Valley. This report is crucial for stakeholders who want to make an informed submission.

Public consultation

The department emailed stakeholders to notify them of the availability of these reports.

We invited these stakeholders to public consultation events:

- proposed floodplain harvesting licence holders
- farmers
- irrigators
- water user groups
- special interest groups
- Aboriginal community groups
- environmental groups
- the general public.

We did this through targeted emails, direct invitations through the department's contact database, local advertising, social media and website information.

Consultation purpose

The purpose of consultation was to:

- communicate the proposed rules for floodplain harvesting licences to be included in the *Water Sharing Plan for the Gwydir Regulated River Water Source* and the *Water Sharing Plan for the Gwydir Unregulated River Water Sources 2012*.
- seek public feedback on these proposed rules
- ensure all stakeholders were given the opportunity to comment on the proposed rules before they were finalised
- provide a forum for stakeholders to communicate issues and assist with the effective implementation of the floodplain harvesting licensing framework
- enable the department to respond to stakeholders' concerns and, where appropriate, make changes to the rules before finalising them.

Targeted stakeholder engagement

To ensure broad and equitable engagement, we extended invitations to the webinar and targeted sessions to representative groups for:

- irrigators and other peak water users
- Indigenous nations
- environmental interests
- business interests
- Australian Government, NSW Government and other state government agencies
- individuals who had made previous submissions or had attended previous engagement sessions
- regional councils
- local, state and federal politicians.

The department held targeted stakeholder meetings that included representatives from:

- southern Basin
- environmental groups
- floodplain graziers
- northern Basin industry groups
- Australian and Basin state governments
- Aboriginal groups.

The information we presented was consistent for all targeted stakeholder group meetings.

Table 1 gives stakeholder and submission numbers.

Table 1. Number of stakeholders engaged

Engagement platform	Number
Webinar	103
Targeted meetings	64
Face-to-face meeting Moree (24 February)	20
Face-to-face meeting Moree (25 February)	34
Submissions received	209

Final rules

We have developed the final set of rules for floodplain harvesting licences in the Gwydir based on the feedback from targeted consultation, submissions received and intended outcomes of licensing floodplain harvesting. Table 2 lists the final set of rules for floodplain harvesting (regulated river), along with their justification. Table 3 lists the final set of rules for floodplain harvesting (unregulated river) access licences along with their justification.

Table 2. Final water sharing plan rules and their justification for floodplain harvesting (regulated river) access licences

Rule	Justification
Initial available water determination (AWD) of 1 ML per unit share	<p>The department considered a series of factors when finalising the initial AWD value. The primary drivers for the initial AWD of 1 ML per unit share are below.</p> <p>Growth above legal limits</p> <p>Floodplain harvesting has grown above legal limits in the Gwydir valley. While a 5 ML per unit share initial allocation with the proposed entitlements will achieve compliance with legal limits in the future, it does not recognise the impact on the environment and downstream users that has already been realised as a result of floodplain harvesting growing above legal limits in past years. In contrast, an initial allocation of less than 5ML per unit share would offset in the short term, to some extent, any impacts of growth that have already accrued.</p> <p>This analysis supports a small initial AWD.</p> <p>Modelled estimates of account balances</p> <p>The department conducted a modelling exercise to assess the account balances that would exist if the licensing framework had been in place for the entire climatic period.</p> <p>This assessment shows licences accruing account balances throughout the recent drought, leading to a full 500% account balance at the end of the 2019–20 water year. The recent flooding event and opportunity for floodplain harvesting shows account balances reducing to 163% at 30 June 2021 (just before the rollout of the licensing framework).</p> <p>This analysis supports a small initial AWD.</p>

Rule	Justification
	<p>Drought recovery (environment)</p> <p>Initial allocations for floodplain harvesting access licences have the potential to impact within-valley and downstream environmental outcomes in the short term. Providing floodplain harvesters with the desired long-term access to flood flows coming out of the recent drought had the potential to affect the ability to provide a ‘first flush’ style event and to meet downstream outcomes, including critical human and environmental needs. Stakeholders flagged the importance of considering the environment while determining initial allocations.</p> <p>Since the department consulted in the Gwydir during February 2021 the region has received significant rainfall. This event created overland flows and widespread flooding. This large volume of water has provided a post-drought first flush and contributed to downstream flow targets in the Barwon–Darling for fish passage, suppression of blue-green algae and to meeting basic landholder rights requirements.</p> <p>Economic impact</p> <p>Licence holders are recovering from the worst drought on record and while conditions in NSW are generally improving, there is variation between regions. The <i>Water Management Act 2000</i> balances the needs of all stakeholders within the context of environmental sustainability. The department must consider the economic needs of these users when determining an initial allocation for floodplain harvesting licences.</p> <p>The department analysed indicators of potential economic recovery following the extended period of drought. This analysis is based on the announcement of supplementary water access during the 2020–21 water year.</p> <p>There have been several announcements for supplementary water access in the Gwydir Regulated River following the recent floods.</p> <p>This is an indicator of economic recovery for water users in this valley. This analysis contributes towards an initial allocation of less than 5 ML per unit share.</p>
<p>Ongoing AWD of 1 ML per unit share.</p> <p>The use of AWDs of greater or less than 1 ML per unit share as required to adaptively manage floodplain harvesting.</p>	<p>An ongoing AWD of 1 ML per unit share is consistent with other licence categories.</p> <p>To allow us to respond flexibly if water use increases or the accuracy of calculating the extraction limit improves, no fixed limit will be specified for AWDs for floodplain harvesting (regulated river) access licences in the Gwydir Regulated River Water Source after the first water year.</p> <p>This means that the department may apply an AWD of less than 1 ML per unit share to ensure users comply with the extraction limit. The department may apply an AWD of greater or less than 1 ML per unit share if the accuracy of calculating the extraction limit improves.</p> <p>This adaptive management approach was supported by stakeholders during public consultation and through submissions.</p>

Rule	Justification
Account limit of 5 ML per unit share	<p>The department will apply a 5-year accounting framework to floodplain harvesting (regulated river) access licences in the Gwydir Regulated River Water Source.</p> <p>The size of modelled entitlements for floodplain harvesting (regulated river) access licences is directly linked to the length of the accounting period. An annual accounting framework, with no ability to carry over water between years, will result in large entitlements. Conversely, a 5-year accounting framework would average out the water taken between years, resulting in comparatively smaller entitlements.</p> <p>Stakeholders supported the proposed accounting rules, indicating that they were balanced against the highly variable nature of floodplain harvesting events and mimicked the frequency of events.</p>
Permanent trade – within the declared floodplain	<p>Permanent trade of floodplain harvesting (regulated river) access licences is restricted to within the extent of the Gwydir Valley Floodplain.</p>
Permanent trade – trading zones	<p>Establishment of trading zones that largely reflect unregulated river water sources</p> <p>Permanent trade of floodplain harvesting (regulated river) access licences is restricted to within a trading zone.</p> <p>The proposed trading zones have been designed in a way that prevents the concentration of entitlement that could impact sensitive environmental areas. These rules will contribute to the protection of the Gwydir wetlands as well as other sensitive environmental water delivery sites in the Mehi Water Source.</p> <p>Stakeholders largely supported rules that restrict the trade of floodplain harvesting (regulated river) entitlements. Issues were raised around properties spanning a number of zones and how restrictive the proposed zones would be.</p>
Permanent trade – no new nomination of works used for floodplain harvesting if located within management zones A and D established under the <i>Floodplain Management Plan for the Gwydir Valley Floodplain 2016</i>	<p>In developing trade rules, the department has considered identified areas with high environmental value and/or cultural values. These identified areas have been defined in the <i>Floodplain Management Plan for the Gwydir Valley Floodplain 2016</i> as Management Zones A & D.</p> <p>The department will apply a trade rule to floodplain harvesting (regulated river) access licences in the Gwydir Regulated River Water Source. This will restrict the nomination of new works if the work is located within management zone A or D.</p> <p>The intended outcome of this rule is to limit to current levels the capability of existing works used for floodplain harvesting that are located within management zones A or D.</p>

Rule	Justification
Granting or amending water supply work approvals nominated by a floodplain harvesting (regulated river) access licence	<p>The following rules will be applied to applications for water supply work approvals that are, or are proposed to be, nominated by a floodplain harvesting (regulated river) access licences in the Gwydir Regulated River Water Source. These rules are designed to support the trade rules.</p> <p>The department will not grant or amend a water supply work approval that is, or is proposed to be, nominated by a floodplain harvesting (regulated river) access licence if the water supply work is located or proposed to be located:</p> <ul style="list-style-type: none">• outside the Gwydir Valley Floodplain, or• for new works – within management zones A or D, or• for existing works – within management zones A or D and the modification would result in an increased capacity for that work, or• outside management zones A or D and would result in an increase in the rate of take for an existing work located within management zones A or D.

Active management

We are implementing a new suite of access rules called 'active management' to protect water identified as *active environmental water* (AEW) from extraction in unregulated rivers so that it can remain in the water source for environmental purposes. Active management in the Gwydir is currently applied in the:

- a) Gingham Watercourse Water Source:
 - a. Upper Gingham Watercourse Water Source
 - b. Lower Gingham Watercourse Water Source
- b) Mehi River Water Source - Mallowa Creek Management Zone.

There is an intersection between active management and floodplain harvesting where AEW creates overbank flows and opportunity for floodplain harvesting. At public consultation, the department proposed access rules that restrict take when active management is being used to create overbank flows.

These rules were widely supported, and stakeholders were positive about protecting environmental water deliveries on the floodplain. A series of implementation issues were brought up during the consultation period and the department has refined its approach to the application of active management to floodplain harvesting based on the following:

Apportioning flows on the floodplain

During an actively managed event, AEW may only make up a proportion of the total volume. In-stream river models can accurately track the AEW as it moves through the system, calculating how much it contributes to extraction opportunity. Active management then adjusts access as appropriate to protect this water. Current models do not have the capability to reflect this on the floodplain. They do not have the ability to accurately assess the portion of AEW that contributes to overbank flow and then travels to a specific floodplain harvesting property.

The impact of this limitation is that we cannot accurately assess how AEW is contributing to floodplain harvesting access. We cannot determine the volume of AEW that goes over bank and then how much of that AEW makes it to a property, subject to losses that occur as water travels across the floodplain.

As current models do not have the appropriate capabilities, we now propose that floodplain harvesting access licences be restricted only **when 100% of flows are AEW**. In this circumstance, we can be sure that all floodplain harvesting access is attributable to AEW and restrictions are justified.

Water sources assessment of AEW delivery

The department assessed AEW delivery in the Gwydir to determine the presence of days when 100% of flows in an actively managed water source were AEW.

1. AEW in the Gingham Watercourse

Rule	Justification
	<p>Flows into the Gingham Watercourse for environmental purposes are usually delivered separately to natural flows. Multiple sources of environmental water enter the Upper Gingham through Tyreel Regulator, including water from the Gwydir Environmental Contingency Account, 3T environmental water and AEW from the regulated system (including supplementary water access licences) held by both the Commonwealth Environmental Water Holder and the NSW Department of Planning, Industry, and Environment – Environment, Energy & Science.</p> <p>Analysis of environmental water delivery data across the recent timeline shows that there is no known circumstance where AEW is the only source of water in the Gingham Watercourse and is making up 100% of flows.</p> <p>For this reason, we do not propose to implement active management for floodplain harvesting licences in the Gingham Watercourse.</p> <p>2. AEW in Mallowa Creek Management Zone</p> <p>Flows into the Mallowa Creek Management Zone are controlled by the Gundare and Mallowa Creek regulators. The Mallowa Creek regulator is closed during normal river operations, preventing flows from entering from the regulated Mehi River. The system is opened only during high flow/flood events and for the delivery of environmental flows.</p> <p>Replenishment flows were previously delivered for stock and domestic access, but this water is now piped. Since the pipeline was completed in 2012, AEW has been the only water delivered to Mallowa Creek.</p> <p>Analysis of environmental water delivery data across the recent timeline shows that there are multiple circumstances where AEW is the only source of water in Mallowa Creek Management Zone and is making up 100% of flows.</p> <p>For this reason, we propose to implement active management for floodplain harvesting licences in Mallowa Creek Management Zone.</p> <p>The final proposed implementation of active management on floodplain harvesting access licences is restricted to:</p> <p>Mallowa Creek Management Zone when:</p> <ul style="list-style-type: none"> • AEW is being used to create overbank flows • 100% of water in the water source is attributable to AEW. <p>There are no floodplain harvesting (unregulated river) access licences being issued in Mallowa Creek Management Zone.</p> <p>This timeframe is being established and will be communicated with the commencement of the Water Sharing Plan for the Gwydir Regulated River Water Source.</p>

Rule	Justification
<p>Amendment provisions to allow us to introduce access rules when more information is available</p>	<p>Current modelling practices do not adequately represent the return of floodplain flows to the river. Without this information, the department cannot accurately calculate the floodplain's additional contribution to end-of-system flows. This information is critical for the development of access rules for floodplain harvesting (regulated river) access licences.</p> <p>Because of the current difficulty in developing and implementing access rules for floodplain harvesting (regulated river) access licences in the Gwydir Regulated River Water Source, the department will include amendment provisions that allow us to include access rules in the future when the appropriate information base and management tools are available.</p>
<p>Amendment provisions to allow us to introduce access rules to improve connectivity</p>	<p>In March 2021, the department made a public commitment to do the work required to develop and implement access rules that aim to improve connectivity in the northern inland basin. This will involve:</p> <ul style="list-style-type: none"> • publication of new draft connectivity triggers • review of existing targets within the North-west Unregulated Flow Management Plan • public consultation by 1 January 2022. <p>This departmental commitment has the potential to impact multiple licence categories. We will include an amendment provision in all water sharing plans, regardless of whether floodplain harvesting licences are being issued or not, that allows us to include connectivity rules.</p>
<p>Amendment provisions to allow us to modify trade rules in the future</p>	<p>The department will include amendment provisions to allow us to modify existing trade rules or to include new trade rules based on improved information.</p>
<p>Amendment provisions to allow the use of AWDs to adaptively manage floodplain harvesting.</p>	<p>The department will include amendment provisions to allow AWDs of greater than 1 ML per unit share. This provision can be used if the accuracy of calculating the extraction limit improves.</p>

The process for determining floodplain harvesting (unregulated river) access licences is the same as that used to determine unregulated river access licences. The entitlement determination process is also the same and existing unregulated river access licences inherently include a significant volume of water harvested from floodplains. Because of this, we propose to apply the same rules to floodplain harvesting (unregulated river) access licences as currently exist for unregulated river access licences in the relevant water source and/or management zone, where appropriate. This will ensure consistency, equality of rights and access to the water source while avoiding any unintended consequences such as restricting the take of localised rainfall.

We will not apply rules that are specifically designed to protect water flowing within rivers and streams to floodplain harvesting (unregulated river) access licences.

Table 3. Final water sharing plan rules and their justification for floodplain harvesting (unregulated river) access licences

Rule	Justification
Initial available water determination (AWD) of 1 ML per unit share	The entitlement determination process for floodplain harvesting (unregulated river) access licences results in maximum style entitlements and so an AWD of greater than 1 ML per unit share is not justified.
Ongoing AWD of 1 ML per unit share. The use of AWDs less than 1 ML per unit share as required to adaptively manage floodplain harvesting.	An ongoing AWD of 1 ML per unit share is consistent with unregulated river access licences in the Gwydir. To allow us to respond flexibly if water use increases, AWDs for floodplain harvesting (unregulated river) access licences in the Gwydir Unregulated River Water Sources 2012 will be able to go less than 1 ML per unit share after the first water year. This means that the department may apply an AWD of less than 1 ML per unit share to ensure users comply with the extraction limit.
Take limit: 3 ML per unit share over 3 consecutive water years Account limit: 3 ML per unit share at any time	The department will apply a 3-year accounting framework to floodplain harvesting (unregulated river) access licences in the Gwydir Unregulated River Water Sources 2012. This is consistent with unregulated river access licences in the Gwydir.
Permanent trade – in alignment with trade rules on unregulated river access licences	The department will apply the trade rules that currently exist for unregulated river access licences to floodplain harvesting (unregulated river) access licences. This will ensure consistency, equality of rights and access to the water source.
Permanent trade – within the designated floodplain	Permanent trade of floodplain harvesting (unregulated river) access licences is restricted to within the extent of the Gwydir Valley Floodplain.
Permanent trade – no new nomination of works used for floodplain harvesting if located within management zones A and D established under the <i>Floodplain Management Plan for the Gwydir Valley Floodplain 2016</i>	In developing trade rules, the department has considered identified areas with high environmental value and/or cultural values. These identified areas have been defined in the <i>Floodplain Management Plan for the Gwydir Valley Floodplain 2016</i> as Management Zones A & D. The department will apply a trade rule to floodplain harvesting (unregulated river) access licences in the Gwydir Regulated River Water Source that restricts the nomination of new works if the work is located within management zone A or D. The intended outcome of this rule is to limit the capability of works used for floodplain harvesting that are located within management zones A or D to current levels.

Rule	Justification
<p>Granting or amending water supply work approvals nominated by a floodplain harvesting (unregulated river) access licence</p>	<p>The following rules will be applied to applications for water supply works nominations that relate to floodplain harvesting (unregulated river) access licences in the Gwydir Unregulated River Water Sources. These rules are designed to support the trade rules.</p> <p>The department will not grant or amend an application for a water supply work approval nomination that is related to a floodplain harvesting (unregulated river) access licence if it is located or proposed to be located:</p> <ul style="list-style-type: none"> • outside the Gwydir Valley Floodplain, or • for new works – within management zones A or D, or • for existing works – within management zones A or D and the modification would result in an increased capacity for that work, or • outside management zones A or D and would result in an increase in the rate of take for a work located within management zones A or D.
<p>Amendment provisions to allow us to introduce access rules when more information is available</p>	<p>Current modelling practices do not adequately represent the return of floodplain flows to the river. Without this information, the department cannot accurately calculate the floodplain’s additional contribution to end-of-system flows. This information is critical for the development of access rules for floodplain harvesting (unregulated river) access licences.</p> <p>Because of the current difficulty in developing and implementing access rules for floodplain harvesting (unregulated river) access licences in the Gwydir Unregulated River Water Sources, the department will include amendment provisions that allow us to include access rules in the future when the appropriate information base and management tools are available.</p>
<p>Amendment provisions to allow us to introduce access rules to improve connectivity</p>	<p>In March 2021, the department made a public commitment to do the work required to develop and implement access rules that aim to improve connectivity in the northern inland basin. This will involve:</p> <ul style="list-style-type: none"> • publication of new draft connectivity triggers • review of existing targets within the North-west Unregulated Flow Management Plan • public consultation by 1 January 2022. <p>This departmental commitment has the potential to impact multiple licence categories. We will include an amendment provision in all water sharing plans, regardless of whether floodplain harvesting licences are being issued or not, that allows us to include connectivity rules.</p>
<p>Amendment provisions to allow us to modify trade rules in the future</p>	<p>The department will include amendment provisions to allow us to modify existing trade rules, or to include new trade rules, based on improved information.</p>

What we heard – stakeholder responses

General

Table 4 outlines feedback the department received across multiple consultation sessions and throughout submissions about the proposed rules. Some of the concerns that were raised in the Border Rivers submission process were raised again in the Gwydir.

Table 4. Recurring themes raised about the proposed rules

Theme	Description	Department response
Modelling	<p>Stakeholders raised concerns about data deficiencies and model uncertainty. Stakeholder asked a lot of questions about the modelling and sought clarification relating to the reliability and accuracy of specific datasets.</p> <p>Some stakeholders believed there is insufficient data to provide confidence in the proposed rules.</p> <p>Stakeholders were also interested to know the process for updating the models to include better information as it becomes available.</p>	<p>Water management in NSW (and globally) relies on models to provide robust and reliable estimates of what water is available, how much is needed, and how the resource can be equitably shared.</p> <p>The Healthy Floodplains team has invested significant resources to upgrade river models to reflect floodplain harvesting. Models have been upgraded using the best available information, multiple sources of data and then subject to an independent review process. The department has published the results of the Gwydir model independent review on our website.</p> <p>The department can confirm that models are being continually updated as better information becomes available. This is part of a program of continual improvement for our river system models.</p>
Trade	<p>Stakeholders showed considerable interest in the proposed trade rules, including the process for developing the rules and the factors the department considered. There was also interest in what will happen for properties that span multiple trading zones.</p>	<p>Wherever you draw a line, there will always be people that have an asset or property that falls on both sides of that line. For example, this has already occurred in the Gwydir during the original delineation of the unregulated river water sources.</p> <p>Properties that span 2 trading zones will be designated a single trade zone based on the location of most of their eligible works, specifically those that are taking or storing floodplain water.</p>

Theme	Description	Department response
Connectivity	<p>Some stakeholders believed the proposed rules for managing floodplain harvesting in the Gwydir Valley will not protect enough flows to help the recovery of the environment and downstream connectivity flows required to repair long-term impacts.</p> <p>Other stakeholders believed that the potential economic and social costs to the community as a result of floodplain harvesting licence rules is disproportionate to the negligible impact of the rules downstream.</p>	<p>The department has heard the need for connectivity rules that recognise the interdependent nature of northern Basin water sources. This need has been recognised across valleys and through consultation on multiple components of water management.</p> <p>As a response to this, in March 2021 the department made a public commitment to do the work required to develop and/or implement access rules that aim to improve connectivity in the northern inland basin.</p> <p>We will include an amendment provision in all water sharing plans, regardless of whether floodplain harvesting licences are being issued or not, that allows us to include connectivity rules.</p> <p>Visit www.industry.nsw.gov.au/water/allocations-availability/temporary-water-restrictions for a summary of the commitments and associated timing.</p> <ul style="list-style-type: none"> • By 1 July 2021 – publish draft new triggers for critical environmental needs to be considered when imposing temporary restrictions. • By 1 July 2022 – publish draft new triggers for critical human needs to be considered when imposing temporary restrictions.

Theme	Description	Department response
		<ul style="list-style-type: none"> • By 1 September 2021 – review the existing targets and develop a draft implementation program for the targets under the North-west Unregulated Flow Management Plan. • By 1 January 2022 – consult on the North-west Unregulated Flow Management Plan targets and their implementation. <p>Further, the Draft Western Regional Water Strategy, due for release at the end of 2021, will include:</p> <ul style="list-style-type: none"> • a proposed definition of connectivity • hydrological modelling to assess how effective actions already undertaken to improve connectivity have been • additional connectivity options for discussion, such as proposed flow targets for the Menindee Lakes and/or at the confluence with the Murray River • initial results of modelling incorporating new climate data. <p>Concerns about ‘connectivity’ were one of the key reasons leading to the disallowance of the floodplain harvesting regulations in May 2021. Further stakeholder consultation on rules that prevent floodplain harvesting when there is downstream critical human and environmental needs is proposed.</p>

In response to proposed rules for floodplain harvesting licences (regulated)

Available water determinations

At the beginning of the water year, the Minister for Water, Property and Housing determines the volume of water that is to be credited to each licence category through what is known as an allocation or available water determination (AWD). The AWD varies from year to year and between licence categories and is dependent on a range of factors including dam storage levels, river flows and catchment conditions.

Initial available water determination

Historically, an AWD greater than 1 ML per unit share has been applied to some access licence categories in the first year following the start of a water sharing plan. This recognises the potential carryover from previous years, use of long-term averages in determining the access licence entitlement and the associated need to take more in some years and less in others.

The department did not propose a value for the initial AWD for floodplain harvesting (regulated river) licences in the Gwydir. Instead, we invited feedback on 1 ML per unit share or more than 1 ML per unit share.

There was general support for an initial AWD of 1 ML per unit share in submissions for floodplain harvesting (regulated river) licences. Table 5 and Table 6 list the main reasons stakeholders gave for supporting or opposing the proposed initial AWD.

Table 5. Reasons for supporting the proposed initial available water determination of 1 ML per unit share

Feedback	Department response
Stakeholders noted an initial AWD of 1 ML per unit share would be the most effective way to manage floodplain harvesting for flood-dependent ecosystems, downstream communities, and groundwater recharge. It was thought to be a more environmentally sensible approach and better aligned with the sustainable use of water.	The department considers an initial AWD of 1 ML per unit share to be a balanced approach that considers the needs of the environment as well as social and economic considerations in the Gwydir valley.
An initial AWD of 1 ML per unit share was thought to be simple and will help assess how the floodplain harvesting licensing framework will work.	Noted.
There was support for an initial AWD of 1 ML per unit share. This was thought to be consistent with other water sharing plans. Stakeholders requested consistent initial AWDs across the 5 northern valleys where the floodplain harvesting licensing framework is being rolled out.	The department will apply the same decision-making process in determining the value of initial AWDs across the northern valleys. Consideration of drought recovery and principles around restricting floodplain harvesting to within legal limits will be consistent. However, we are developing rules on a valley-by-valley basis and as a result may have different outcomes and rules applied that relate to local circumstances.

Table 6. Reasons for supporting the proposed initial available water determination of more than 1 ML per unit share

Feedback	Department response
Stakeholders indicated a need to access water as we come out of an extended drought period. Access would assist with regional economic recovery.	This concern is considered to have been effectively mitigated by the extensive flooding experienced during March 2021.
An initial AWD of 5 ML per unit share would provide irrigators with time to adapt to the new regulatory framework and would be a pragmatic approach to ensure compliance from the outset.	As above

Feedback	Department response
<p>Stakeholders felt the department should provide a larger AWD so that they can access any floodplain harvesting events that might occur in the first few years of the licensing framework.</p> <p>Not allowing full access to an event was thought to cause detrimental impacts to regional communities especially considering the recent droughts.</p>	<p>An initial AWD of greater than 1 ML per unit share has been provided for other licence categories in the past. This has been to allow access to events and to reflect potential carryover from the earlier management/licensing framework.</p> <p>Over the last 2 decades, floodplain harvesting has grown above legal limits. With the higher level of recent take, the department cannot justify an initial AWD of greater than 1 ML per unit share.</p> <p>The detrimental impacts of a smaller initial AWD have been reduced with consideration of the floodplain harvesting opportunity provided by the March 2021 flooding event in the Gwydir.</p>

Ongoing available water determinations

Most licence categories specify an AWD of 1 ML per unit share for each year after the first water year (or a lower amount if required to ensure users comply with extraction limits).

The department needs to respond flexibly if water use increases or if the accuracy of calculating extraction limits improves. To allow for this, we propose no limit for AWDs for floodplain harvesting (regulated river) access licences in the Gwydir Regulated River Water Source after the first water year.

Many stakeholders supported a flexible ongoing AWD as a valuable management tool, which is essential considering the variable nature of floodplain harvesting, and in keeping with the precautionary principle.

Other feedback suggested there was a lack of understanding of how the adaptive management rules would work and that specific rules for the use of AWDs would increase certainty. Table 7 and Table 8 list the main reasons stakeholders gave for supporting or opposing the proposed ongoing AWDs.

Table 7. Reasons for supporting the proposed ongoing available water determinations

Feedback	Department response
<p>Stakeholders supported an adaptive management approach.</p> <p>Adaptive management was seen to be important as it enables the department to react to changing climatic and hydrological conditions. This was seen to be particularly appropriate in the absence of thorough, long-term floodplain harvesting data.</p>	<p>The proposed AWD framework allows the department to respond flexibly if water use increases or if the accuracy of calculating the extraction limit improves.</p> <p>An available water determination of 1 ML per unit share can be applied to ensure users comply with any extraction limits and, conversely, the department can apply an available water determination of greater or less than 1 ML per unit share if the accuracy of calculating the extraction limit improves. Consultation with the Minister for the Environment will be required to apply an AWD of greater than 1 ML per unit share.</p>
<p>Flexibility and responsiveness are critical to manage growth in water use and enable compliance with sustainable limits.</p>	<p>As above.</p>

Feedback	Department response
Until full uptake of floodplain harvesting metering the diversion volumes will not be accurately known. Adaptive management was considered important so there is room to amend water determinations as our understanding and data improves.	Improved metering and measurement of floodplain harvesting extractions will give the department important data. The department will incorporate the new metering data into floodplain harvesting models, improving those models to better manage floodplain harvesting to within legal limits.

Table 8. Reasons for opposing the proposed ongoing available water determinations

Feedback	Department response
The proposed flexible AWD provisions undermine the certainty provided by establishing a clear set of rules by making them subject to change.	We have included the proposed flexible AWD provisions not to create uncertainty but so we can adapt and make changes in response to new information.

Account management rules

Account management rules vary across NSW and between categories of access licences. However, they generally consist of a combination of limits on the amount of water that may be:

- taken annually or over a number of consecutive years, or both, or
- held in an allocation account at any time, or
- carried over from one year to the next.

The department proposed the following account management rules for floodplain harvesting (regulated river) access licences in the Gwydir Regulated River Water Source:

1. Account limit: 5 ML per unit share
2. Carryover: unlimited, subject to the account limit.

The department proposed 5-year account management arrangements because they:

- control current growth
- provide the optimum level of protection against future growth
- deliver a range of positive environmental benefits
- give licence holders flexibility.

Through feedback received during stakeholder engagement sessions and in formal written submissions received for the Border Rivers, the department recognised that there was a general lack of understanding about the account management rules, in particularly the important linkage between the accounting period and the size of entitlements.

The department aimed to make this clearer for the Gwydir valley. Of those stakeholders who made a submission, 93% said they understood the linkage and from this group there was strong support for the proposed 5-year account management rule.

Stakeholders who did not support the proposed rule thought it would allow higher access to water over time. This perception is incorrect. Annual and 5-year accounting produce the same long-term outcomes. A 5-year accounting framework, however, allows for better risk management related to growth above plan limits.

Table 9 and Table 10 list the main reasons stakeholders gave for supporting or opposing the proposed account management rules.

Table 9. Reasons for supporting the proposed account management rules

Feedback	Department response
Stakeholders thought that 5-year account management rules will ensure that future access remains within legal limits while balancing this against the highly variable nature of floodplain harvesting events.	The department agrees. Five-year accounting rules will produce smaller entitlements that represent an average style of take. These entitlements return floodplain harvesting to within legal limits while providing significant environmental benefits and the optimal level of protection against the effects of future growth.
Stakeholders stated that 5-year account management rules provide balance between entitlement size and carryover that aligns well with the frequency of floodplain harvesting events.	Five-year accounting rules provides a high level of flexibility for landholders who can carry over any unused allocation between years. Water can be carried over until the account is 'full'. The 5-year period mimics the availability of water on the floodplain.
The proposed rule was supported as it is believed to allow for peak use during rare flood events and to provide the region and its economy the opportunity to access water, when it is most abundant and to store that water for future use.	As above.

Table 10. Reasons for opposing the proposed account management rules

Feedback	Department response
There were some concerns that 5-year account management favours large irrigators at the expense of other water users in the Basin.	Five-year accounting results in smaller entitlements that reflect an average form of take. Modelled entitlements will be produced through a transparent, equitable process in accordance with established legislation. There is no scope for favouritism or inequity between water users.

Feedback	Department response
<p>Some stakeholders did not support the proposed account management rules as they believed that this framework would result in the taking of 500% of a licensed entitlement in one year.</p> <p>They believed that this does not comply with the principles of the <i>Water Management Act 2000</i>.</p>	<p>Unregulated river access licences in the northern Basin can currently take up to 300% of their licenced entitlement in one year. However, for this to happen a licence holder must not have taken water for the preceding 2 years.</p> <p>Similarly, under the proposed floodplain harvesting (regulated river) accounting framework, an annual take of up to 500% is possible. For this to happen, a landholder must have taken no water for the preceding 5 years and have built their account balance through this unused water and carryover rules.</p> <p>This is consistent with existing rules for other categories of access licence in the northern basin and principles of the <i>Water Management Act 2000</i>.</p> <p>Entitlement size is also directly related to the accounting period. Licences issued under 5-year accounting are approximately 3 times smaller than those issued under an annual accounting framework.</p>
<p>The principles of intergenerational equity require that management rules be flexible, especially given the current conditions of great climate variability. To allow such significant 'carryover' can only be to the detriment of the environment and future generations.</p>	<p>As above.</p>

Trade rules

There are rules that govern the permanent trade of water entitlements. These rules vary from valley to valley, depending on the unique ecological and hydrological characteristics that need protection. In the Gwydir valley, the Gwydir wetlands as well as other sensitive environmental water delivery sites in the Mehi Water Source have been identified and targeted for protection through the proposed trade rules.

The department proposed to establish rules that restrict the permanent trade of floodplain harvesting (regulated river) access licences and largely reflect the trade rules for unregulated river access licences. This will ensure consistency, equality of rights and access to the water source.

The department has identified areas of high environmental, cultural, and hydrological value as part of the designation of floodplain management zones A and D in the *Floodplain Management Plan for the Gwydir Valley Floodplain 2016*. Based on these identified areas of value, the department had proposed to establish a trading zone that reflects management zones A and D in the *Floodplain Management Plan for the Gwydir Valley Floodplain 2016* and to restrict permanent trade of entitlement onto works that are located in those zones.

Stakeholders largely supported the proposed trade rules and recognized the need for protection of environmentally and culturally important areas. Some stakeholders supported trade of floodplain harvesting (regulated river) entitlements but regarded the proposed trading zones as too restrictive, believing they will result in inequitable outcomes for landholders. Very few stakeholders did not support the trade of floodplain harvesting licences.

Table 11 and Table 12 list the main reasons stakeholders gave for supporting or opposing the proposed trade rules.

Table 11. Reasons for supporting the proposed trade rules

Feedback	Department response
<p>Feedback received indicated support for water trading in general.</p> <p>Stakeholders noted that all zones are not equal; those with high environmental and cultural value should be protected.</p>	<p>Permanent trade of floodplain harvesting licences will be permitted, subject to some limitations.</p> <p>In the Gwydir, these include trade zones and rules to cap extraction rates in areas containing flood-dependent ecological and cultural assets.</p>
<p>Trading zones and prohibition of trade between zones was supported by stakeholders. Trading zones were believed to better regulate extraction and provide more surety when it comes to provision of water for the environment.</p>	<p>Noted. Trade rules are established in water sharing plans to protect sensitive areas from extraction.</p>
<p>Permanent trade was supported, but only after the start of the floodplain harvesting licensing framework, including metering and monitoring and updated modelling.</p>	<p>The licensing and measurement frameworks are being rolled out simultaneously with proposed water sharing rules to guide trade. Amendment provisions will allow the department to make changes in response to improved data or updated modelling.</p>

Table 12. Reasons for opposing the proposed trade rules

Feedback	Department response
<p>Several stakeholders do not support the trade of floodplain harvesting licences; however, they understand that trade of water entitlements is required under the Basin Plan.</p>	<p>Noted. The Basin Plan water trading rules contribute to achieving the Basin water market and trading objectives set out in Schedule 3 of the <i>Water Act 2007</i>. Free trade of surface water is required except where establishing a restriction is required because of a physical constraint, lack of connectivity, or because the environment may be harmed.</p> <p>While free trade is a desired outcome, the establishment of trade rules is particularly important in water sources with sensitive environmental areas. Valleys such as the Gwydir and Macquarie contain highly sensitive, internationally recognized Ramsar wetlands. Trade of entitlement that results in concentration upstream of these locations could decrease inflows and impact environmental outcomes.</p> <p>The proposed trading zones will ensure that the Gwydir wetlands as well as other sensitive environmental water delivery sites in the Mehi Water Source are protected from overextraction that occurs as a result of entitlement concentration.</p>

Feedback	Department response
	<p>The rules also ensure that floodplain harvesting (regulated river) access licences only take water within the Gwydir valley floodplain. This is consistent with the implementation of the NSW Floodplain Harvesting Policy.</p>
<p>There was support for trade by stakeholders but lack of support for the proposed trading zones.</p> <p>There was confusion about properties that are located across multiple trading zones.</p>	<p>The proposed trading zones largely reflect the unregulated river water source boundaries. The zones have been established in a way that provides opportunity for trade while also protecting sensitive environmental areas.</p> <p>Wherever you draw a line, there will be people that have an asset or property that falls on both sides of that line. For example, this has already occurred in the Gwydir during the original delineation of the unregulated river water sources.</p> <p>Properties that span 2 trading zones will be designated a single trade zone based on the location of the majority of their works, specifically those that are taking or storing floodplain water.</p>
<p>Stakeholders perceive the proposed trade rules as too restrictive. They were not thought to allow for an equitable allocation of available water.</p>	<p>Noted. Trading zones have been established in a way that provides opportunity for trade while also protecting sensitive environmental areas.</p>

Active management

Active management is used to protect active environmental water as it flows through an unregulated river water source. Active environmental water is different between water sharing plans but generally consists of held environmental water access licences administered by the Commonwealth Environmental Water Holder and NSW Department of Planning, Industry, and Environment – Environment, Energy & Science. The department proposed to restrict take under a floodplain harvesting (regulated river) access licence if:

- the take occurs through works that located in a management zone where active management applies
- active management is being used to purposely created overbank flow.

These rules will be implemented as mandatory conditions on floodplain harvesting (regulated river) access licences.

Recurring feedback received from stakeholders on the proposed active management rule is that the effective management of environmental water is a requirement under the Basin Plan. Stakeholders who did not support the proposed rule generally believed that it adds another layer of complexity to an already complex system. They also believed there is not enough data available to implement this equitably.

Since public consultation, the proposed scope of active management implementation in the Gwydir **has changed**. This is based on the provision of more data on environmental water releases through actively managed areas. Please see the ‘Final rules’ section for more information.

Table 15 13 and Table 14 list the main reasons stakeholders gave for supporting or opposing active management.

Table 13. Reasons for supporting active management as proposed

Feedback	Department response
<p>There was broad support for rules that protect both held environmental water and planned environmental water.</p> <p>Stakeholders noted that protecting this water is a requirement under the toolkit measures agreed to in the Northern Basin Review of the Basin Plan.</p>	Noted.
<p>Active management rules were supported as long they are embedded in access licence conditions and supported by a compliance framework. This will ensure that adequate water is provided for the system and protected for environmental purposes and human needs.</p>	<p>Mandatory conditions will be placed on floodplain harvesting access licences to implement active management.</p> <p>The Natural Resources Access Regulator is responsible for ensuring water users comply with the conditions of floodplain harvesting licences. This function includes monitoring compliance with active management rules.</p>
<p>Active management was regarded as essential for the flexible delivery of take that is sustainable, accountable and equitable.</p>	Noted.

Table 14. Reasons for opposing active management as proposed

Feedback	Department response
<p>Although clear rules to protect environmental water were supported, stakeholders believe active management adds another layer of complexity in managing water in highly variable systems.</p> <p>The impact of this rule on those being restricted, and on the valley compliance limit, has not be determined or considered.</p>	<p>Noted. Active management is only being implemented in a small portion of the Gwydir. Restrictions that occur because of active management are not anticipated to significantly impact the level of floodplain harvesting take or the valley compliance limit.</p>
<p>Some stakeholders did not support active management due to the limited information available or lack of systems in place to implement a fair and equitable approach to active management for floodplain harvesting.</p>	<p>Noted. The department will implement active management in a timeframe that allows for the development of appropriate systems and process.</p> <p>This timeframe is being established and will be communicated with the commencement of the Water Sharing Plans.</p>
<p>Stakeholders felt that active management, as a new concept for the department, requires more time to be developed and assessed and more evidence on long-term outcomes is required.</p>	As above.

Amendment provisions

Section 45 of the *Water Management Act 2000* allows the department to amend water sharing plans. To improve transparency and increase confidence amongst stakeholders, we propose including specific amendment provisions that allow us to introduce access rules:

- a) to allow flexibility, should environmental flows be targeted to create overbank flow, or
- b) in response to monitoring, evaluation and reporting outcomes of environmental benefits from licensing floodplain harvesting, or
- c) in response to improved understanding of the influence of floodplain harvesting on downstream flows, or
- d) in response to work done as part of the departmental commitment to improve connectivity in the northern Basin.

Stakeholders who supported the proposed amendment provisions regarded them as essential to ensure the department can make changes as improved data becomes available. Those who did not support the proposed amendment provisions believe they create uncertainty about the rules. Table 15 and Table 16 list the main reasons stakeholders gave for supporting or opposing the proposed amendment provisions.

Table 15. Reasons for supporting the proposed amendment provisions

Feedback	Department response
Stakeholders generally supported the principle of continuous improvement and the department amending water sharing plans as better information becomes available. Stakeholders requested the opportunity to provide feedback via consultation on any amendments that are proposed in the future.	The department is committed to a process of continuous improvement as well as ongoing engagement with stakeholders. We value community feedback and want to continue giving stakeholders the opportunity to have their say.
Stakeholders noted that amendment provisions will allow more flexibility and responsiveness once monitoring, measurement and floodplain harvesting data is improved.	Noted.

Table 16. Reasons for opposing the proposed amendment provisions

Feedback	Department response
<p>Stakeholders believe that the proposed amendment provisions undermine the certainty provided by establishing a clear set of rules that are not subject to change. The uncertainty makes forward planning difficult while eroding commercial and community viability.</p>	<p>All water sharing plans may be amended under Section 45 of the <i>Water Management Act 2000</i>.</p> <p>We have included the proposed amendment provisions to make the future direction of floodplain harvesting rules clear. The department will consider including access rules for floodplain harvesting when return flows can be accurately modelled and we better understand how these rules could influence environmental and downstream outcomes.</p> <p>Examples of improved information include that coming out of the department's monitoring, evaluation and reporting program, or broader departmental actions, such as work we are doing in response to the First Flush Report or the implementation of the Unregulated Flow Management Plan for the North West.</p>
<p>Some stakeholders indicated that their support of water reform processes is eroded by amendment provisions. Amending plans was thought to be against the <i>Water Management Act 2000</i> principle of implementing balanced outcomes.</p> <p>The uncertainty created by amendment provisions causes business uncertainty rather than business confidence.</p>	<p>As above.</p>

In response to proposed rules for floodplain harvesting licences (unregulated)

The process for determining floodplain harvesting (unregulated river) access licences is the same as that used to determine unregulated river access licences. As the entitlement determination process is the same, we propose to apply the same rules to floodplain harvesting (unregulated river) access licences as currently exist for unregulated river access licences in the relevant water source and/or management zone, where appropriate.

We will not apply rules that are specifically designed to protect water flowing within rivers and streams, rather than flows on the floodplain, to floodplain harvesting (unregulated river) access licences.

Available water determinations

For floodplain harvesting (unregulated river) licences in the Gwydir, the department invited feedback on:

- an initial AWD of 1 ML per unit share
- an ongoing AWD of 1 ML per unit share every year (or a lesser amount to ensure compliance with the extraction limit).

There was overwhelming support for an initial AWD of 1 ML per unit share in submissions, for floodplain harvesting (unregulated river) licences.

Table 17 and Table 18 list the main reasons stakeholders gave for supporting initial AWDs of 1 ML per unit share.

Table 17. Reasons for supporting the proposed available water determinations

Feedback	Department response
Stakeholders noted an initial AWD of 1 ML per unit share would be the most effective way to manage floodplain harvesting for flood-dependent ecosystems, downstream communities, and groundwater recharge. It was thought to be a more environmentally sensible approach and better aligned with the sustainable use of water.	The entitlement determination process for floodplain harvesting (unregulated river) access licences results in maximum style entitlements and so an AWD of greater than 1 ML/ unit share is not justified.
Bringing floodplain harvesting take in the Gwydir Valley under the Plan Limit can only be achieved through a conservative initial AWD.	As above.
There was support for an initial AWD of 1 ML per unit share. This was thought to be consistent with other water sharing plans. Stakeholders requested consistent initial AWDs across all 5 northern valleys where the floodplain harvesting licensing framework is being rolled out.	As above

Table 18. Reasons for opposing the proposed available water determinations

Feedback	Department response
Stakeholders indicated a need to access water as we come out of an extended drought period. Access would assist with regional economic recovery.	The entitlement determination process for floodplain harvesting (unregulated river) access licences results in maximum style entitlements and so an AWD of greater than 1 ML/ unit share is not justified.
An initial AWD of greater than 1 ML per unit share would ensure smooth transition into the new regulatory framework without unfairly and unintentionally impacting businesses and communities.	As above.

Feedback	Department response
<p>Stakeholders felt the department should provide a larger AWD so that they can access any floodplain harvesting events that may occur in the first few years of the licensing framework. Not allowing full access to an event was thought to cause detrimental impacts to regional communities especially, considering the recent droughts.</p>	<p>As above.</p>

Account management rules

Account management rules vary across NSW and between categories of access licences. However, they generally consist of a combination of limits on the amount of water that may be:

- taken annually or over a number of consecutive years, or both, or
- held in an allocation account at any time, or
- carried over from one year to the next.

The department proposed to replicate the unregulated river account management rules on floodplain harvesting (unregulated river) access licences in the Gwydir Unregulated River Water Source:

1. Take limit: 3 ML per unit share over 3 consecutive years
2. Account limit: 3 ML per unit share at any time

In stakeholder submissions, there was a recurring call for consistency in account management rules across the Gwydir valley. This was thought to provide equity. Table 19 and Table 20 list the main reasons stakeholders gave for supporting or opposing the account management rules.

Table 19. Reasons for supporting the proposed account management rules

Feedback	Department response
<p>There was support for account management rules; however, stakeholders did not understand the need for different rules between unregulated and regulated floodplain harvesting licences. Stakeholders believed the rules should be the same to ensure consistency and equity.</p>	<p>Noted.</p> <p>Different processes are used to determine floodplain harvesting (regulated river) and floodplain harvesting (unregulated river) access licences. The difference in determination process drives a difference in rules.</p> <p>The process for determining floodplain harvesting (unregulated river) access licences is the same as that used to determine unregulated river access licences. As the entitlement determination process is the same, we propose to apply the same rules to floodplain harvesting (unregulated river) access licences as currently exist for unregulated river access licences. These rules include a 3-year rolling account period.</p> <p>The department will aim to make the difference between the licence types clear in future consultation.</p>

Feedback	Department response
Stakeholders supported the proposed rules of replicating the unregulated river account management rules as they believed they maintain consistency with existing rules.	Noted.

Table 20. Reasons for opposing the proposed account management rules

Feedback	Department response
Stakeholders believed 5-year account management rules would better reflect the flooding cycles and weather patterns in the Gwydir.	Noted. The proposed accounting rules are based on what currently exists in the Gwydir for unregulated river access licences. The licence determination process for floodplain harvesting (unregulated river) access licences results in a maximum style entitlement product that aligns with unregulated river access licences – 5-year accounting is not justified for these licences.
Some stakeholders could not support the proposed replication of the 3-year rolling unregulated river account management rules. They believed account rules for floodplain harvesting in unregulated rivers should be performed on an annual basis to maintain consistency with rules across all river systems in the Gwydir and due to the extreme climatic variability.	As above.
Stakeholders couldn't support the unregulated river account management rules as they believed they should be consistent with floodplain harvesting (regulated) licence entitlements and that the same rules should apply across the Gwydir Valley river systems.	Noted. Different processes are used to determine floodplain harvesting (regulated river) and floodplain harvesting (unregulated river) access licences. The difference in determination process drives a difference in rules. The process for determining floodplain harvesting (unregulated river) access licences is the same as that used to determine unregulated river access licences. As the entitlement determination process is the same, we propose to apply the same rules to floodplain harvesting (unregulated river) access licences as currently exist for unregulated river access licences. These rules include a 3-year rolling account period.

Trade rules

There are rules that govern the permanent trade of water entitlements. These rules vary from valley to valley, depending on existing trade rules in the relevant water sharing plan and identified areas that need protection.

The department proposed to apply the trade rules that currently exist for unregulated river access licences to floodplain harvesting (unregulated river) access licences. This will ensure consistency, equality of rights and access to the water source.

In addition, the department has identified areas of high environmental, cultural, and hydrological value as part of the designation of floodplain management zones A and D in the *Floodplain Management Plan for the Gwydir Valley Floodplain 2016*. Based on these identified areas of value, the department had proposed to establish a trading zone that reflects management zones A and D in the *Floodplain Management Plan for the Gwydir Valley Floodplain 2016* and to restrict permanent trade of entitlement onto works that are located in those zones.

Table 20 and Table 21 list the main reasons stakeholders gave for supporting or opposing trade rules.

Table 21. Reasons for supporting the proposed trade rules

Feedback	Department response
Trading zones and prohibition of trade between zones was supported by stakeholders as it is a good mechanism to protect areas of important environmental and cultural value from the effect of increased water extraction.	Noted. Trade rules are established in water sharing plans to protect sensitive areas from extraction.
Stakeholders believe constraints on trading are needed to limit the risks of excessive trading harming the environment. Use of existing zones is better than no zones.	As above.
Permanent trade was supported, but only after the start of the floodplain harvesting licensing framework, including metering and monitoring and updated modelling.	The licensing and measurement frameworks are being rolled out simultaneously with proposed water sharing rules to guide trade. Amendment provisions will allow the department to make changes in response to improved data or updated modelling.

Table 22. Reasons for opposing the proposed trade rules

Feedback	Department response
<p>Several stakeholders do not support the trade of floodplain harvesting licences; however, they understand that trade of water entitlements is required under the Basin Plan.</p>	<p>Noted. The Basin Plan water trading rules contribute to achieving the Basin water market and trading objectives set out in Schedule 3 of the <i>Water Act 2007</i>. Free trade of surface water is required except where establishing a restriction is required because of a physical constraint, lack of connectivity, or because the environment may be harmed.</p> <p>While free trade is a desired outcome, the establishment of trade rules is particularly important in water sources with sensitive environmental areas. Valleys such as the Gwydir and Macquarie contain highly sensitive, internationally recognized Ramsar wetlands. Trade of entitlement that results in concentration upstream of these locations could decrease inflows and impact environmental outcomes.</p> <p>The proposed trading rules zones will ensure that the Gwydir wetlands as well as other sensitive environmental water delivery sites in the Mehi Water Source are protected from overextraction that occurs because of entitlement concentration. The rules also ensure that floodplain harvesting (unregulated river) access licences only take water within the Gwydir valley floodplain. This is consistent with the implementation of the NSW Floodplain Harvesting Policy.</p>
<p>Stakeholders did not support the proposed trade rules and thought trade should be individually assessed. Zones create lines and restrictions that don't always make sense and result in inequitable outcomes between zones.</p>	<p>Trades are individually assessed by WaterNSW for compliance with a set of access licence dealings principles. These principles include rules around 'minimum harm'.</p>
<p>The proposed trade rules seem to be restrictive and not allow for an equitable allocation of available water.</p>	<p>Trading zones have been established in a way that provides opportunity for trade while also protecting sensitive environmental areas.</p>

Active Management

Active management is used to protect water that is identified as active environmental water as it flows through an unregulated river water source. The department proposed to restrict take under a floodplain harvesting (unregulated river) access licence if:

- the take occurs through works that located in a management zone where active management applies
- active management is being used to purposely created overbank flow.

These rules will be implemented as mandatory conditions on floodplain harvesting (unregulated river) access licences.

Recurring feedback received from stakeholders on the proposed active management rule is that the effective management of environmental water is a requirement under the Basin Plan. Stakeholders who did not support the proposed rule generally believed that it adds another layer of complexity to an already complex system. They also believed there is not enough data available to implement this equitably.

Since public consultation, the proposed scope of active management implementation in the Gwydir **has changed**. This is based on the provision of more data on environmental water releases through actively managed areas. There are no floodplain harvesting (unregulated river) access licences being issued in the location for which active management is being proposed (Mallowa Creek Management Zone). Because of this, we no longer propose the rule for this licence category in the Gwydir. Please see the 'Final rules' section for more information.

Table 23 and Table 24 list the main reasons stakeholders gave for supporting or opposing active management as proposed.

Table 23. Reasons for supporting active management as proposed

Feedback	Department response
<p>There was broad support for rules that protect both held environmental water and planned environmental water.</p> <p>Stakeholders noted that protecting this water is a requirement under the toolkit measures agreed to in the Northern Basin Review of the Basin Plan.</p>	<p>Noted.</p>
<p>Active management rules were supported as long they are embedded in access licence conditions and supported by a compliance framework. This will ensure that adequate water is provided for the system and protected for environmental purposes and human needs.</p>	<p>Mandatory conditions will be placed on floodplain harvesting access licences to implement active management.</p> <p>The Natural Resources Access Regulator is responsible for ensuring water users comply with the conditions of floodplain harvesting licences. This function includes monitoring compliance with active management rules.</p>

Table 24. Reasons for opposing active management as proposed

Feedback	Department response
Some stakeholders opposed the proposed active management rule as they regarded the aim of the policy as to meeting compliance within legal limits, not to overcomplicate the framework with unnecessary restrictive rules.	Noted.
Other stakeholders did not support the proposed rules, as they believe a floodplain harvesting event and a low flow event do not, by their very natures, coincide.	Active management operates across all flow conditions as necessary to protect active environmental water.

Amendment provisions

Section 45 of the *Water Management Act 2000* allows the department to amend water sharing plans. To improve transparency and increase confidence amongst stakeholders, we propose including specific amendment provisions to allow us to introduce access rules:

- a) to allow flexibility, should environmental flows be targeted to create overbank flow, or
- b) in response to monitoring, evaluation and reporting outcomes of environmental benefits from licensing floodplain harvesting, or
- c) in response to improved understanding of the influence of floodplain harvesting on downstream flows,
- d) in response to work done as part of the departmental commitment to improve connectivity in the northern Basin.

Many stakeholders indicated that they believe amendment provisions create an uncertain environment for stakeholders. This recurring theme was often coupled with a desire for further, meaningful engagement with the department.

Table 25 and Table 26 list the main reasons stakeholders gave for supporting or opposing the proposed account management rules.

Table 25. Reasons for supporting the proposed amendment provisions

Feedback	Department response
Stakeholders generally supported the principle of continuous improvement and the department amending water sharing plans as better information becomes available. Stakeholders requested the opportunity to provide feedback via consultation on any amendments that are proposed in the future.	The department is committed to a process of continuous improvement as well as ongoing engagement with stakeholders. We value community feedback and want to continue giving stakeholders the opportunity to have their say.

Feedback	Department response
The amendment provisions were supported as they enable adaptation for expected climate variation and surface runoff. They also acknowledge the current limitations in monitoring and measuring.	We have included the proposed amendment provisions to make the future direction of floodplain harvesting rules clear. They will allow the department to make changes as improved information becomes available. Examples of improved information include that coming out of the department's monitoring, evaluation and reporting program, or broader departmental actions, such as work we are doing in response to the First Flush Report or the implementation of the Unregulated Flow Management Plan for the North West.
Stakeholders supported the amendment provisions but noted that the process of enabling an amendment needs to be outlined. Stakeholders requested the opportunity to provide feedback via consultation on any amendments that are proposed in the future.	Noted. The department is committed to ongoing engagement with stakeholders. We value community feedback and want to continue giving stakeholders the opportunity to have their say.
Stakeholders noted that amendment provisions will allow more flexibility and responsiveness to change to reflect different conditions.	Noted.

Table 26. Reasons for opposing the proposed amendment provisions

Feedback	Department response
Stakeholders believe that the proposed amendment provisions undermine the certainty provided by establishing a clear set of rules that are not subject to change. The uncertainty makes forward planning difficult while eroding commercial and community viability.	All water sharing plans may be amended under Section 45 of the <i>Water Management Act 2000</i> . We have included the proposed amendment provisions to make the future direction of floodplain harvesting rules clear. The department will consider including access rules for floodplain harvesting when return flows can be accurately modelled and we better understand how these rules could influence environmental and downstream outcomes.
Some stakeholders felt that the proposed amendment provisions create uncertainty, and the amendments need to be more clearly defined. Stakeholders requested more clarification and consultation once the licensing framework begins.	Noted. The department is committed to ongoing engagement with stakeholders. We value community feedback and want to continue giving stakeholders the opportunity to have their say.

Default and other rules

The department detailed a series of default rules that are required in water sharing plans. We gave these rules for context; they were not subject to the outcomes of consultation.

Table 27 outlines the final default rules and others, as well as their justification.

Table 27. Final default rules and others, and their justification

Rule	Justification
Application of the plan	Ensure the water sharing plan applies to floodplain harvesting (regulated river) access licence
Compliance with the extraction limit	This rule will allow the department to reduce allocations for floodplain harvesting (regulated river) access licences if those licences have exceeded limits.
Compliance with the extraction limit	This rule will allow the department to reduce allocations for floodplain harvesting (unregulated river) access licences in accordance with unregulated river access licences.
No temporary trade	Consistent with the <i>NSW Floodplain Harvesting Policy</i>
Mandatory condition on floodplain harvesting access licences	Floodplain harvesting (regulated river) and floodplain harvesting (unregulated river) access licences can only take water from overland flow.

Next steps

The department will amend the relevant water sharing plans to ensure the rules for access licences are included and can be applied. An amendment order or remake for the relevant water sharing plan will be made. Any amendments or remake will require approval by the NSW Minister for Water, Property and Housing and concurrence from the NSW Minister for the Environment.

As a result of the inclusions to the water sharing plans for floodplain harvesting, the department will need to amend the relevant water resource plan. The department must then submit the amended water resource plan to the Murray–Darling Basin Authority for reaccreditation.

Appendix 1 – Broader issues

Table 28. Broader issues raised during public consultation on the rules for floodplain harvesting in the Gwydir

Issue	Department response
Stakeholders were concerned about the socio-economic impacts that floodplain harvesting regulation would have on water users and communities.	<p>The department acknowledges the feedback received; however, the regulation of floodplain harvesting is about constraining growth and returning take to legal limits.</p> <p>Valleys that have growth above legal limits will see reductions in take under the new licensing regime.</p>
Stakeholders raised the issue of the perceived divide between Northern Basin and Southern Basin water users, expressing a perception that the expectations placed on the 2 groups was different and, thus, inequitable.	Noted.
Stakeholders noted the difficulties water users face in accommodating frequent changes to water management policy and regulation.	Noted. The department aims to implement water reform in a way that is simple and easy for water users to adapt to.
There was general stakeholder concern about the modelling approach and a general lack of understanding about or confidence in the data used.	<p>The department acknowledges that there is a significant amount of interest in the models used in implementing the NSW Floodplain Harvesting Policy.</p> <p>For more information on how the Gwydir model was built, the information used and level of accuracy, refer to the Building the Gwydir Valley River System Model Report, which is available on our website, www.industry.nsw.gov.au/water</p>
As raised in the Border Rivers submission process, some stakeholders also in the Gwydir believe that the proposed rules are biased towards irrigators.	<p>The department disagrees with this sentiment. The proposed rules will significantly reduce floodplain harvesting in the Gwydir valley, resulting in more water returning to floodplains, rivers and creeks. We predict that this additional water returning to the floodplain, rivers and creeks will result in significant environmental improvements.</p> <p>Water sharing rules have been developed in accordance with the water management principles contained in the <i>Water Management Act 2000</i>. The department is running a transparent, equitable consultation process in accordance with established processes. There is no scope for favouritism or inequity between water users.</p>

Issue	Department response
Where will floodplain harvesting licences sit in the hierarchy under the <i>Water Management Act 2000</i> ?	<p>Floodplain harvesting licences will sit in the 'other' licence category under the <i>Water Management Act 2000</i>.</p> <p>Floodplain harvesting licences are treated equally with other categories of consumptive licences in terms of priority of access.</p> <p>Access to floodplain harvesting differs significantly from take under other licences. Other licence categories access water from the river, which is generally more secure and reliable. Take under floodplain harvesting licences is event-based, being reliant on flood conditions that create overland flow. This occurs on average once in every 5 years.</p>
Floodplain harvesting access must be restricted until end-of-system flow targets are met.	<p>The department has heard the need for connectivity rules that recognise the interdependent nature of northern Basin water sources. This need has been recognised across valleys and through consultation on multiple components of water management.</p> <p>As a response to this, in March 2021 the department made a public commitment to do the work required to develop and implement access rules that aim to improve connectivity in the northern inland basin. This work will include updates to the models to reflect flows returning from the floodplain to rivers and creeks.</p> <p>Concerns about 'connectivity' were one of the key reasons leading to the disallowance of the floodplain harvesting regulations in May 2021. Further stakeholder consultation on rules that prevent floodplain harvesting when there is downstream critical human and environmental needs is proposed.</p> <p>We will include an amendment provision in all water sharing plans, regardless of whether floodplain harvesting licences are being issued or not, that allows for connectivity rules to be included.</p> <p>Visit www.industry.nsw.gov.au/water/allocations-availability/temporary-water-restrictions-for-a-summary-of-the-commitments-and-associated-timing.</p>

Issue	Department response
<p>Stakeholders referred to ICAC (Independent Commission Against Corruption) and felt that actions that led to the findings of the ICAC report are being repeated in the licensing of floodplain harvesting.</p>	<p>The department's response to the <i>Investigation into Complaints of Corruption in the Management of Water in NSW and Systemic Non-Compliance with the Water Management Act 2000</i> is available on the ICAC site, and addresses the issues raised by outlining actions that the department has already implemented and those that it will take.</p>
<p>Many stakeholders believe that there should be an embargo on floodplain harvesting until infrastructure to monitor and measure the amount of water extracted can be installed.</p>	<p>The department is rolling out an accurate, robust and tamper-proof measurement system for floodplain harvesting. This is timed in parallel with the implementation of the licensing framework. Water cannot be taken under a floodplain harvesting access licence unless it is appropriately measured.</p>
<p>Better communication is required for consultation with First Nations people.</p>	<p>The department has engaged the Northern Basin Aboriginal Nations (NBAN) to lead consultation with Traditional Owners about floodplain harvesting in the northern Basin and on the rule framework for floodplain harvesting licences. The department will pass this recommendation onto NBAN.</p>
<p>First Nations communities are disadvantaged under the current policy setting. First Nations people must be consulted.</p>	<p>The department has engaged the Northern Basin Aboriginal Nations (NBAN) to consult and engage with First Nations people on the draft floodplain harvesting rules that we propose to include in the water sharing plans across all 5 northern basin valleys. The department will publish the <i>Floodplain harvesting and Indigenous Nations in the Northern Murray-Darling Basin: Community consultation outcomes</i> on our website. The report will outline the predicted outcomes from licensing floodplain harvesting from a First Nations' perspective. It will also detail how cultural values, assets and uses can be better protected.</p>
<p>The floodplain harvesting policy and draft rules have been discussed in different iterations for the last 25 years. What is the department doing now to ensure the new rules have the flexibility to adapt in future?</p>	<p>The department is including amendment provisions in water sharing plans to ensure that the rule framework is flexible.</p> <p>Adaptive management principles have been used in developing the rules for active management and ongoing allocations.</p>

Appendix 2 – Trading zone map



Proposed Gwydir Valley Trading Zones

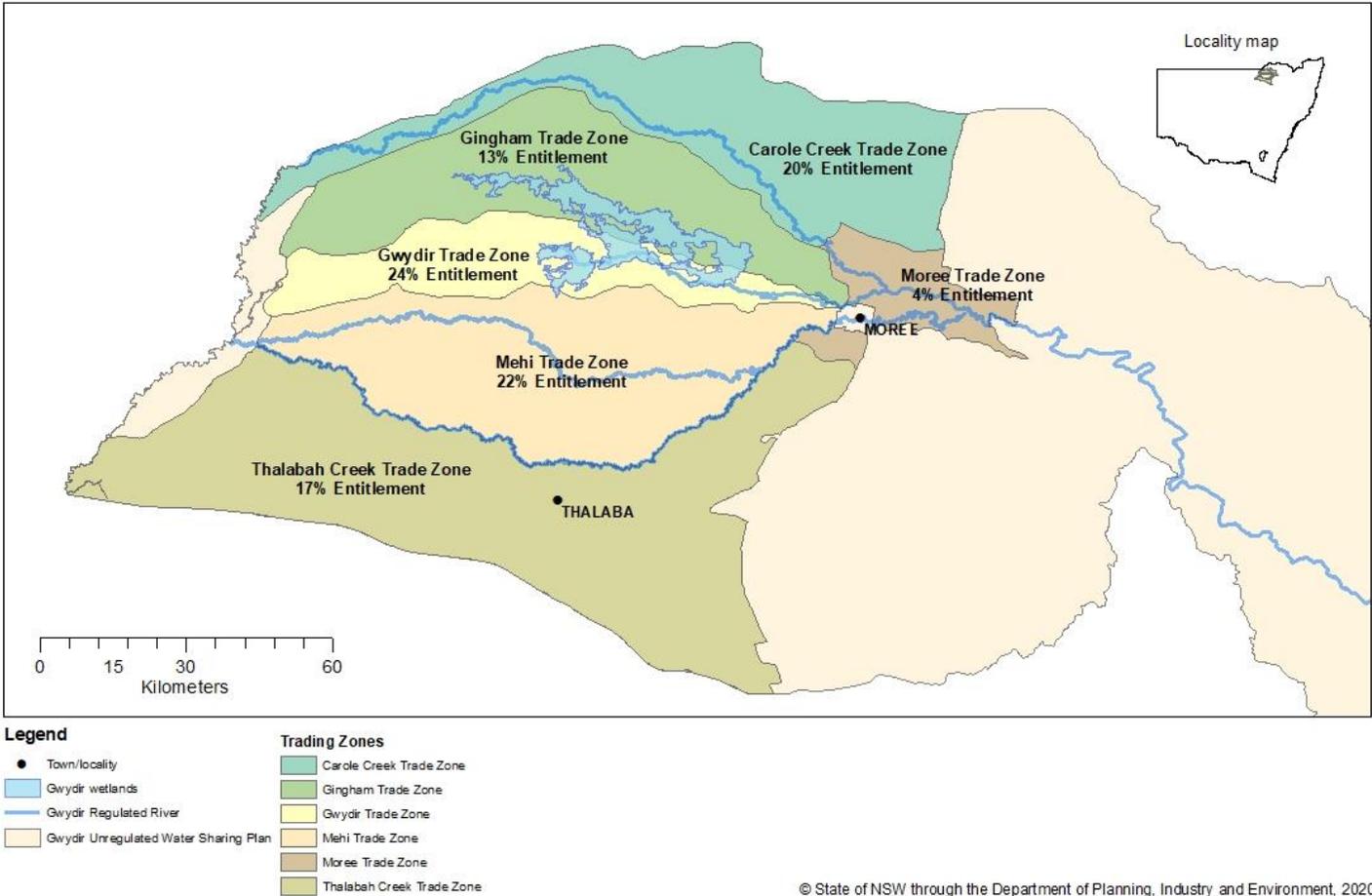


Figure 1. Proposed Gwydir valley trading zones