



WATER MANAGEMENT

Managing groundwater extraction to extraction limits

What we heard

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Acknowledgment of Country

The Department of Planning, Industry and Environment acknowledges the Traditional Owners and Custodians of the land on which we live and work and pays respect to Elders past, present and future.

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Background to the consultation

Water sharing plans set long-term average annual extraction limits and Basin Plan sustainable diversion limits to manage the amount of groundwater that can be extracted. While the total amount extracted by all water users varies each year, on average it cannot exceed the extraction limits.

Before July each water year, the Department of Planning Industry and Environment (hereafter the department) assesses the level of extraction in each groundwater source. If average extraction by all water users exceeds the limits set out in the water sharing plan, the department may need to reduce access in the following year/s to return average extraction to the limit.

Since replacement of the inland groundwater sharing plans in July 2020, this can be done by:

- reducing the amount of water going into accounts (known as an available water determination)
- reducing the amount of water that can be taken or traded from accounts (known as a maximum water account debit), or
- a combination of these methods.

Previously only a reduced available water determination could be used.

What we did

Between November 2020 and March 2021, the department consulted with stakeholders and sought their views on the method or combination of methods for managing groundwater extraction to extraction limits that would best suit their area.

We sought feedback in the seven areas that were identified as the most likely to exceed groundwater extraction limits if usage in the 2020–21 water year is comparable to the level extracted in 2019–20. These areas include:

- Great Artesian Basin Eastern Recharge
- Lower Murrumbidgee Deep
- Upper Macquarie
- Lower Lachlan
- Upper Namoi Zone 3
- Upper Namoi Zone 5
- Upper Murray.

We will seek feedback from other areas in the future if they are likely to exceed their extraction limits and the relevant water sharing plan allows for both types of management response.

How we engaged with stakeholders

Stakeholders have told us that they prefer face-to-face engagement activities. However, because of the COVID-19 pandemic we needed to adapt consultation so that it was safe and followed all Health Department guidelines.

We informed stakeholders about the consultation process from late November 2020 via direct mail (to 1,112 recipients), email (471 recipients) and through peak stakeholder groups.

Dedicated webpage

We launched a dedicated [managing groundwater extraction webpage](#)¹ on the department's website in December 2020. This allowed stakeholders to access information safely and at their convenience. It also provided an alternative way of communicating with stakeholders if we couldn't proceed with face-to face meetings.

The department created video presentations for each groundwater area. The videos explored:

- what extraction limits apply in the area
- water and user extraction and trade behaviour
- how extraction compares to the limits
- how we manage extraction and the methods available
- the options to consider.

We used examples to show how the methods worked.

Face-to-face information sessions

We held 7 COVID-safe, face-to-face stakeholder meetings during the first 2 weeks of February 2021 at 7 locations. We played the video presentations and had regular breaks to pause for clarification, questions, and discussion.

Table 1 and Table 2 provide summaries of the participation levels for each component of the consultation process.

Table 1. Access to website

Website	Page views*	Unique page views*	Average time (mins)*
Managing-access-to-groundwater	3,366	1,783	8.01**

* As of 6/5/2021

** [More information and local information sessions](#)² page

Table 2. Attendance at face to face meetings

Groundwater source	Location	Date	Attendance
Upper Murray	Howlong	2 February 2021 at 10.30am	19
Lower Lachlan	Hillston	3 February 2021 at 1.30pm	21
Lower Murrumbidgee Deep	Darlington Point	4 February 2021 at 12.30pm	27
		4 February 2021 at 3.30pm	30
Upper Macquarie Alluvial	Dubbo	9 February 2021 at 10.30am	26
Upper Namoi (Zones 3 & 5)	Gunnedah	10 February 2021 at 10.30am	9
GAB (Great Artesian Basin) Eastern Recharge	North Star	11 February 2021 at 10.30am	18
Total	-	-	150

¹ www.dpie.nsw.gov.au/managing-access-to-groundwater

² www.industry.nsw.gov.au/water/allocations-availability/managing-access-to-groundwater/information

Submissions

We encouraged stakeholders to provide feedback directly and through written submissions. The closing date for submissions was 5 March 2021. The website included a [Have your say page](#)³ that detailed the various ways to make a submission, including through a downloadable feedback form.

In addition to feedback provided by those who attended the face-to face sessions, we received 80 written submissions.

Table 3. Submissions received in each area

Groundwater source	Submissions received
Upper Murray	6
Lower Murrumbidgee Deep	19
Lower Lachlan	6
Upper Macquarie Alluvial	6
Upper Namoi (Zones 3 & 5)	37
GAB (Great Artesian Basin) Eastern Recharge	3
Covering all areas	3

What we asked

Views on methods

We sought stakeholder views on what method or combination of methods (permitted under the current water sharing plans) we should use to manage groundwater extractions to extraction limits.

Groundwater sources other than the Upper Macquarie

For 6 of the 7 groundwater sources, the video presentations outlined four options available to reduce extraction to within the extraction limits that used one or a combination of methods. These options were:

- A. reduce water into accounts only by reducing the available water determination
- B. reduce water out of accounts only by reducing the maximum water account debit
- C. combine A and B and reduce water into accounts and out of accounts
- D. reduce the available water determination so that total volume in all accounts (total carryover plus allocations) does not exceed the extraction limit less the volume of basic land holder rights. Reduce the maximum water account debit only if the volume of carryover available in accounts exceeds the extraction limit.

Options A, B and C make assumptions about future extraction and trade of individual water users based on historical practice to determine an available water determination or maximum water account debit that will be effective at returning extraction to limits while maximising water available to users.

Option D does not make assumptions about what a water user is likely to use or trade in the future. This option reduces available water determinations and only changes the maximum water account debit if necessary.

³ www.industry.nsw.gov.au/water/allocations-availability/managing-access-to-groundwater/have-your-say

Upper Macquarie Alluvial Groundwater Source

We can reduce the maximum water account debit in all groundwater sources in inland NSW for the purpose of managing access to groundwater if extraction limits are exceeded. In water sources with no carryover such as the Upper Macquarie Alluvial, the maximum water account debit reduces as the available water determination reduces.

Therefore, it is unlikely we would need to reduce the maximum water account debit further.

As a result, in the Upper Macquarie Alluvial Groundwater Sources reducing the volume going into accounts by announcing an available water determination less than 1 ML/unit share (Option A or Option D) is the only method practically available to manage extraction to the extraction limits.

Options B and C therefore do not apply in the Upper Macquarie Alluvial Groundwater Source.

Views on assumptions and timing

We also sought stakeholder views on:

- whether we should continue to apply the current assumptions for predicting future use or if we should use different assumptions in determining an available water determination or maximum water account debit
- the timeframe for returning extraction to extraction limits if limits were exceeded (suggesting a maximum of 3 years)
- what implications there are for introducing a new procedure to manage extraction to the limits in the next water year (1 July 2021) and if a transition period is supported before a new procedure is introduced.

What we heard

Across all groundwater sources

Implementing a new procedure

A clear message from the feedback received was that stakeholders needed information on any proposed change well in advance and that implementing a new procedure on 1 July 2021, when feedback was being still being sought in March, was not feasible.

There was wide recognition that a lead time/transition period was appropriate in areas where we are considering a new approach.

Early advice

A common theme across all areas was that early advice on water availability is important given business planning is complete and forward contracts are locked in before the start of the water year (1 July).

There was agreement across all areas that the new '[dashboard](#)' for tracking groundwater extraction⁴ against extraction limits is a step in the right direction.

The dashboard offers early information to help licence holders manage their risk of reduced groundwater access.

⁴ www.dpie.nsw.gov.au/tracking-groundwater

For each inland groundwater source for the current water year, the dashboard shows the:

- volume that if extracted will reach the compliance trigger (in megalitres, calculated annually)
- volume remaining for extraction before reaching the compliance trigger (in megalitres, calculated throughout the year)
- likelihood that access to groundwater may be reduced in the next water year.

How licence holders can help

The dashboard uses the best information available at the time including basic landholder rights estimates, meter readings and information on extraction entered by licence holder into WaterNSW's Water Accounting System (iWAS).

The dashboard will better predict the likelihood of extraction exceeding limits if more licence holders enter their extraction into iWAS. Licence holders should enter extraction information into the iWAS as soon as possible to allow the dashboard to identify a risk of extraction by all water users exceeding the limit as early as possible.

Alternative methods put forward by stakeholders

The purpose of this consultation was to seek stakeholder views on how we implement the methods currently available under water sharing plans to manage groundwater extractions to extraction limits.

Water sharing plans allow the NSW Government to reduce the available water determination or the maximum water account debit or a combination of extractions by all water users exceeds limits. Other methods are not permitted under the water sharing plans.

Options the department will investigate further

Some alternative options put forward by stakeholders may be possible by reducing available water determinations or the maximum water account debit or a combination. Examples include the 'delivery entitlements' option put forward by stakeholders in the Lower Lachlan and the 'Option E' put forward by Lower Murrumbidgee Deep stakeholders to limit the maximum water account debit over a 5-year period. We will explore these further with stakeholders in the groundwater sources in which they were proposed to confirm if they can be implemented using the methods permitted under the current water sharing plans.

Options the department will not investigate further under this initiative

Some stakeholders suggested options that are not permitted under the water sharing plans to manage extraction to extraction limits. This includes reducing entitlements or buying back entitlements, removing 'inactive' licences, limiting trade.

These suggestions and the department's response to them and reasoning are documented in Appendix 1 of this report.

Changing extraction limits and carryover

Some stakeholders suggested reducing the amount of water that can be carried over or prohibiting carryover all together as a means of managing extraction to extraction limits. Some also suggested reducing extraction limits.

These suggestions and the department's response to them and reasoning are documented in Appendix 1 of this report.

While the department may consider changes to carryover or possibly extraction limits in the future, we still need a method to manage extraction to extraction limits now.

For this reason, the department will continue to develop a procedure that specifies how extraction will be managed to extraction limits that uses one or a combination of the methods permitted under the water sharing plans.

Upper Murray Groundwater Source

At the face-to-face meeting in Howlong, attendees asked clarifying questions on:

- carryover patterns
- zero share licences accounts
- the maximum water account debit
- assumptions
- effects of assumptions and options
- the new dashboard showing extraction against limits
- effects on the market and the likelihood of extraction exceeding limits.

Some attendees asked questions outside the direct scope of the consultation. These related to:

- metering and telemetry
- how the extraction limit was determined
- managing town water supply needs
- consultation when the original plan was established.

Licence holders were interested in how carryover affects future risk and expressed interest in exploring changes to carryover provisions to reduce the risk of extraction exceeding limits.

Attendees suggested that the department could do more to inform new entrants of risk factors influencing access in the water source.

Some licence holders indicated they didn't think they could identify a preference at this point. We encouraged them to express their views/concerns in written submissions.

Table 4. Summary of written submissions for the Upper Murray Groundwater Source

Theme	Feedback provided
Suitability and impact of the different options	<p>Most submissions preferred to manage extraction to extraction limits by reducing the amount of water going into accounts using the available water determination (AWD). There was mixed support for Option A (with assumptions) and Option D (no assumptions).</p> <p>There was some support for managing extraction to extraction limits by reducing the amount of water that can be taken or traded from accounts (Option B). Other submissions viewed Option B as an ‘unfair’ approach and likened it to reduced access based on ‘history of use’. Some submissions saw Option B as reducing access to carryover, which they relied on. Others saw it as allowing account balances to accrue further above extraction limits.</p> <p>Some stakeholders indicated they could absorb the impact of a reduced annual allocation based on ‘conservative use’ of their entitlement and access to carryover. Others advised that any reduction in access to groundwater would impact on the viability of their business.</p>
Principles underpinning management decisions	<p>Many submissions supported ‘equal access’ to available water and carryover provided by the principle of each licence holder being allocated their share of the extraction limit (i.e. an available water determination equivalent to the extraction limit divided by shares).</p> <p>There was also some support for the principle that the maximum water account debit is not reduced below 1 ML/share.</p> <p>Some submissions supported using a ‘precautionary principle’ approach.</p>
Time taken to return to extraction limits	<p>There was some support for returning extraction to within extraction limits within one year (‘don’t prolong the pain’; ‘annual cropping should not continue’ until extraction is back within the limit). Other submissions preferred taking up to 3 years (‘less impact’ on business).</p>
Assumptions used to predict future water use	<p>There was some support for the current assumptions used to predict future use.</p> <p>There were suggestions that improvements could be made by:</p> <ul style="list-style-type: none"> • looking to the future, rather than the past • recognising farmers act more conservatively than market forces.
When to implement new procedures	<p>There was some support for immediate action (‘agriculture is quick to adapt’; ‘water availability is only one consideration’).</p> <p>Others advised that planning is done a minimum of 12 months in advance and immediate action would impact on activities already in progress, so a transition period was appropriate.</p>
Other comments	<p>Submissions suggested:</p> <ul style="list-style-type: none"> • carryover should not allow account balances to exceed limits • reduce carryover limits • limiting development for sleeper licences • limiting trade above property entitlement • limiting further irrigation growth • maintaining property rights • considering if existing limits are over-optimistic • implementing water sharing plan rules strictly.

Lower Lachlan Groundwater Source

At the face-to-face meeting in Hillston, attendees asked clarifying questions on:

- share profile
- basic landholder rights allowance
- dashboard details
- extraction levels recorded through iWAS
- assumptions
- the maximum water account debit
- effects of assumptions and options
- effects on the market and the likelihood of extraction exceeding limits.

Some attendees asked questions regarding water table management, which was outside the scope of the consultation.

Attendees were of the view that it was essential to implement a method that was appropriate for the Lower Lachlan and not a 'one-size fits all' approach across the state. Attendees indicated a preference for managing extractions themselves ('be in charge of own destiny') so that extraction limits were not exceeded. They advised they have met regularly to discuss this issue and are proactively liaising with each other.

Some attendees said they did not want to face a sudden reduction ('cliff face') and that an available water determination below 0.9 ML/share would be a 'significant' reduction.

There was some support for all licence holders being able to access 100% of their shares as a minimum each year ('why should a 90% user be penalised by those using 150%'). Attendees expressed concern about new entrants and changing land use that will potentially increase water demand.

Suggested alternative approaches put forward included:

- basing predicted behaviour on a 10-year period rather than 5 years
- longer periods (e.g. 5 years) for adjusting access back to limits
- establishing individual controls referred to by attendees as an 'individual delivery entitlement'.

There appeared to be agreement by attendees that time should be taken to understand the effects of options and alternatives, especially in terms of flexibility, security, asset value and market changes.

We encouraged stakeholders to express these views/concerns in written submissions.

Table 5. Summary of written submissions for the Lachlan Groundwater Source

Theme	Feedback provided
Suitability and impact of the different options	<p>Most submissions were supportive in principle of managing extraction to extraction limits by reducing the amount of water that can be taken or traded from accounts (Option B). Reducing the amount of water going into accounts was seen to undermine the value of the licence as an asset and the profitability of businesses that rely on groundwater. Option B was considered to have less impact and be more manageable as 'it does not reduce the water allocated to the licence'.</p> <p>There was some support for a combination approach (Option C). Some supported continuing to manage extraction to extraction limits by reducing the amount of water going into accounts using the available water determination with mixed support for Option A (with assumptions) and Option D (no assumptions).</p> <p>However, the preference of most submissions was to spend 12 months developing an alternative option referred to as 'delivery entitlements', which was described as equalling the extraction limit set as a percentage of the licence entitlement. This would then restrict what can be extracted regardless of the available water determination made or carryover held in accounts.</p>
Principles underpinning management decisions	<p>In line with the preference for an alternative 'delivery entitlement' option, submissions supported the principle that each licence holder can extract their share of the extraction limit (i.e. the maximum water account debit is equivalent to the extraction limit divided by shares).</p> <p>There was some support for not reducing the maximum water account debit below 1 ML/share and a preference for the available water determination to never drop below 0.9 ML/share.</p> <p>Some submissions supported using a 'precautionary principle' approach.</p>
Time taken to return to extraction limits	<p>There was some support for returning the extraction to the extraction limits within one year ('annual cropping should not continue') until extraction is back within the limit. Most submissions preferred taking multiple years (3 to 5) to return to extraction limits as it 'lessens impact'.</p>
Assumptions used to predict future water use	<p>Suggested improvements were to:</p> <ul style="list-style-type: none"> • include other influences (weather, prices, river allocations) • reconsider how maximum trade is estimated (being over-estimated).
When to implement new procedures	<p>There was support for providing 'time to more thoroughly work through options and potential implementation'. It was considered 'too soon' to commence a new procedure on 1 July 2021.</p> <p>There was some support for immediate action.</p>
Other comments	<p>Submissions suggested:</p> <ul style="list-style-type: none"> • carryover should not allow account balances to exceed limits • considering carryover in establishing target reduction figures.

Lower Murrumbidgee Deep Groundwater Source

At the face-to-face meetings held in Darlington Point, attendees asked clarifying questions on:

- dashboard details
- current extraction levels recorded through iWAS
- available water determinations
- the maximum water account debit
- carryover in accounts and spill from that
- assumptions and options
- market effects
- default and transitional arrangements as well as process, procedures, and timing around changes to management options.

Some attendees indicated that:

- the current reduced available water determination in the Lower Murrumbidgee Deep Groundwater Source meant the plan had 'failed' and needed to be 'fixed'
- licence holders wanted to manage extractions themselves, as opposed to the water sharing plan rules at a groundwater source level, so they are not affected by the 'overuse of others when they only use to their entitlement'
- new entrants/zero water access licence holders were the ones driving increased extraction levels and that the issue should be addressed there
- the volume of carry over allowed under the water sharing plan was a contributing issue.

Suggested alternatives put forward by attendees included:

- managing limits at an account level, not at a groundwater source level
- potential 'Option E' that is described as setting a maximum water account debit of 500% (including use and trade out) over a 5-year period.

We encouraged stakeholders to provide details around these alternate options in their submission.

Table 6. Summary of written submissions for the Lower Murrumbidgee Deep Groundwater Source

Theme	Feedback provided
Suitability and impact of the different options	<p>There were diverse views in the Lower Murrumbidgee Deep Groundwater Source, with some support for all four proposed options.</p> <p>The diversity of opinions reflected the different operating requirements and business preferences of the submitters. Preferences included:</p> <ul style="list-style-type: none"> • ‘relying on a constant volume being available each year’ • seeking to ‘protect water assets’ • preferring the flexibility of ‘utilising carryover’ • a need to directly ‘address the risk of water already in accounts.’ <p>Alternate options advocated were:</p> <ul style="list-style-type: none"> • a ‘delivery entitlement’ option described as equalling the extraction limit set as a percentage of the licence entitlement • an ‘Option E’ described as a maximum water account debit of 500% over a 5--year period (including trade outs as use).
Principles underpinning management decisions	<p>Reflecting the diverse range of opinions on preferred options, there was also support for the variety of principles put forward in the video presentations:</p> <ul style="list-style-type: none"> • each licence holder is allocated their share of the extraction limit • each licence holder can extract their share of the extraction • available water determinations don’t drop below 0.5 ML/share in the first year • maximum water account debit is not reduced below 1 ML/share. <p>Some submissions supported using a ‘precautionary principle’ approach.</p>
Time taken to return to extraction limits	<p>There was general support for returning extraction to the extraction limits within 3 years.</p> <p>Some submission advocated a return over one year (‘annual cropping should not continue’ until extraction is back within the limit and ‘carryover allows inherent flexibility’). Others suggested 2 to 3 years because it ‘allows for changes in surface water allocations’ and ‘don’t want to take too long’.</p>
Assumptions used to predict future water use	<p>There was some support for the current assumptions used to predict future use. There were suggestions that improvements could be made by:</p> <ul style="list-style-type: none"> • including other influences (weather, prices, surface water availability) • recognising not all water is available to the market • considering correlations between rainfall, surface water, water prices and reliance on groundwater • removing assumptions and using real data (survey) • accounting for changes in crop mix across the regions. <p>Some submissions supported using a ‘precautionary principle’ approach.</p>
When to implement new procedures	<p>There was general support for having a transition period as ‘businesses have made business management and investment decisions based upon the current procedures’.</p> <p>There was some support for immediate action.</p>

Theme	Feedback provided
Other comments	<p>Submissions suggested:</p> <ul style="list-style-type: none"> • carryover should not allow account balances to exceed limits • remove generous carryover limits • reconfiguring trading zones (local management areas) and rules • universal telemetered bore metering • capping extractions based on crop types • ensuring markets signals are timely and leave to individual to manage • reviewing water management plan rules • limiting trade out from accounts of carryover water and work with local stakeholders on all aspects of management.

Upper Macquarie Alluvial Groundwater Source

In this groundwater source the only method practically available to manage extraction to the extraction limit is to reduce the volume going into accounts by announcing an available water determination less than 1 ML/unit share (Option A or Option D).

At the face-to-face meeting in Dubbo, attendees asked clarifying questions on:

- how we determine the extraction limit
- recharge
- trading
- available water determinations
- the maximum water account debit
- assumptions and options (including why some were not relevant to this groundwater source).

Some attendees suggested limiting trade in the water source as an alternative management approach. While others indicated that their business relies solely on being able to trade.

Attendees indicated that current use was well down on previous years, and they expected that limits would not be breached in the coming water year.

Attendees raised concerns about water use by council. There was a call for council to access alternative supplies.

Attendees felt that the department should consult more often, including holding technical meetings with local hydrogeologists. Water users also expressed a desire to have a presence on water committees.

We encouraged stakeholders to express their views/concerns in written submissions.

Table 7. Summary of written submissions for the Upper Macquarie Alluvial Groundwater Source

Theme	Feedback provided
Suitability and impact of the different options	<p>Most submissions preferred continuing to manage extraction to extraction limits by reducing the amount of water going into accounts using the available water determination while making assumptions (Option A). This is a known approach and provides some flexibility. There was also some support for using Option D (no assumptions).</p> <p>A proposal was forwarded for using a ‘ramp down’ or ‘phased in’ approach to reductions in the available water determination (e.g. year 1 and year 2, no less than 0.8 ML/share; year 3, 0.5 ML/share). This would be coupled with a review at end of each year to determine the effectiveness of the approach.</p> <p>Some submissions stated that an available water determination of less than 0.8 ML/share would be ‘diabolical’ and don’t want it to drop lower than 0.5 ML/share indicating a lower figure would seriously affect the profitability and ongoing viability of farming enterprises.</p>
Principles underpinning management decisions	<p>Some submissions supported the principle of each licence holder being allocated their share of the extraction limit (i.e., an available water determination equivalent to the extraction limit divided by shares).</p> <p>There was some support for the principle that the maximum water account debit is not reduced below 1 ML/share.</p> <p>Some submissions supported using a ‘precautionary principle’ approach.</p>
Time taken to return to extraction limits	<p>There was support for returning the extraction to the extraction limits over a 3-year period as it is a smoother transition and ‘allows for business planning’.</p> <p>There was a suggestion that the timing should be fluid and ‘in drought time over 3 to 5 years and in flood time one year’.</p> <p>Some submission advocated a return over one year (‘annual cropping should not continue’ until extraction is back within the limit).</p>
Assumptions used to predict future water use	<p>There was some support for the current assumptions used to predict future use but with a suggestion that it be accompanied by regular monitoring and consultation, which will allow for the assumptions to be more ‘dynamic’.</p>
When to implement new procedures	<p>There was support for immediate action, with the caveats of providing full and timely information (to allow for planning) and being agreeable to a ‘ramp down approach’ over say 3 years.</p>
Other comments	<p>Submissions suggested:</p> <ul style="list-style-type: none"> • reviewing the extraction limit based on a scientific approach • limiting development/remove sleeper licences from the system with appropriate compensation • improving management of water and communications (government-wide) • implementing water sharing plan rules strictly • use a phase-in approach by restricting allocations to 80% of the 5-year average in first year. And restrict all water allocation assignments (temporary trade) across the water source to 80% of the 5-year rolling average with a review after 12 months. Further, if a user hasn’t traded water into their account within the previous 5 years, they are unable to buy in temporary water. Both rules to apply until the extraction limit is returned to average.

Upper Namoi Groundwater Source (Zones 3 & 5)

At the face-to-face meeting in Gunnedah, attendees asked clarifying questions on:

- assumptions
- available water determinations
- the maximum water account debit
- carryover in accounts assumptions and options
- trading and market effects
- rolling average
- over-extraction
- price of water
- how feedback was to be handled and what consultation was going to take place in other zones.

Attendees asked questions about whether future climate was considered in the modelling and whether the recent dry seasons were included in the modelling, as they were likely to be repeated.

Some attendees raised concerns about the trading market, the cost of water and inequity of some options (in relation to inactive users and levels of account water).

A suggestion was put forward to manage extraction using principles, rather than being locked into a method or option.

Those who attended the meeting discussed how different approaches may suit different circumstances.

We encouraged all attendees to express their views/concerns in written submissions.

Table 8. Summary of written submissions for the Upper Namoi Groundwater Source (Zones 3 & 5)

Theme	Feedback provided
Suitability and impact of the different options	<p>Most submissions indicated a preference for continuing to manage extraction to extraction limits by reducing the amount of water going into accounts using the available water determination while making assumptions (Option A). This was preferred because it ‘supports users who make conscious decisions about their groundwater management’ and is seen as ‘the most equitable method in sharing the resource fairly between licence holders’.</p> <p>Submissions indicated that other options would ‘lead to a change in irrigator behaviour with irrigators pressured into pumping their entire entitlement every year to ensure they do not miss out on account water’ and would ‘encourage a use it or lose it’ situation.</p> <p>Many considered Option B to be ‘removing a core principle of groundwater reform, that users would be able to manage their individual account within sustainable limits’. Further, submissions suggested that ‘the standard practice of forward marketing of commodities would no longer be an option’ due to ‘massive uncertainty’ and that it ‘distorts’ the trading market.</p> <p>Submissions highlighted the use of carryover as a tool to manage business risk. There was also some support for using Option D.</p>
Principles underpinning management decisions	<p>Many submissions supported the principle of each licence holder being allocated their share of the extraction limit (i.e. available water determination equivalent to the extraction limit divided by shares).</p> <p>Some submissions supported using a ‘precautionary principle’ approach.</p>
Time taken to return to extraction limits	<p>Most submissions showed support for returning extraction to the extraction limits over a 2- to 3-year period.</p> <p>Some submissions advocated a return over one year and that ‘annual cropping should not continue’ until extraction is back within the limit.</p>
Assumptions used to predict future water use	<p>A common comment was that there is a lack of transparency about assumptions used. Submissions suggested the department needs to provide the climate prediction used, a realistic carry over use (there is now enough data on the trade register) and updated groundwater hydrogeological reporting (status update) to water users.</p> <p>Submissions suggested including:</p> <ul style="list-style-type: none"> • ‘water users’ input into forecast use’ • information on ‘seasonal patterns, soil moisture and aquifer responses’. • realistic trade and carryover data into assumptions.
When to implement new procedures	<p>There was support for immediate action (noting that the current procedures were the most preferred option) but with the provision of early and transparent information.</p>
Other comments	<p>Submissions suggested carryover should not allow account balances to exceed limits</p> <p>Submissions indicated:</p> <ul style="list-style-type: none"> • ‘Much of what is occurring elsewhere is because of a lack of communication and understanding of the extraction limits. We feel for those farmers affected and understand these reductions are hard to implement but this does not mean the available water determination is not a good tool.’ • the work of local hydrogeologists helps keep the community well informed.

GAB Eastern Recharge Groundwater Source

At the face-to-face meeting in North Star, attendees asked clarifying questions on:

- how we determine the extraction limit
- trading
- available water determinations
- the maximum water account debit
- assumptions and options
- metering
- the slides presented
- carryover.

Stakeholders expressed concerns over the resource being over allocated and how the purchase of sleeper licences may assist with this. Attendees also suggested limiting trade.

Attendees expressed concern around the timing of available water determinations (1 July). Given seasonal practicalities, it would be more helpful if the water year (and therefore announcements) began in March. This would align any restrictions with planning cycles. Given the current misalignment, attendees highlighted the importance of carryover in planning and providing certainty for the start of their season.

The preference of attendees was to leave things as they were and continue to manage extraction to extraction limits by reducing the amount of water going into accounts using the available water determination while making assumptions (Option A).

We encouraged attendees to confirm and further express their views/concerns in written submissions.

Table 9. Summary of written submissions for the Great Artesian Basin Eastern Recharge Groundwater Source

Theme	Feedback provided
Suitability and impact of the different options	<p>All submissions supported continuing to manage extraction to extraction limits by reducing the amount of water going into accounts using the available water determination (AWD). There was mixed support for Option A (with assumptions) and Option D (no assumptions).</p> <p>Those advocating for Option A argued that they 'rely on carryover' and they did 'not want to see any changes now' as the approach was just starting to work. They reported that Option B would not allow them to forward-manage business for the next 12 months.</p>
Principles underpinning management decisions	<p>There was support for the principle of allocating each licence holder their share of the extraction limit (i.e. available water determination equivalent to the extraction limit divided by shares).</p> <p>Some submissions supported using a 'precautionary principle' approach.</p>
Time taken to return to extraction limits	<p>There was support for returning extraction to the extraction limits over a 3-year period. Other submissions preferred only one year and stated 'annual cropping should not continue' until extraction is back within the limit.</p>
Assumptions used to predict future water use	<p>Comments were made regarding the need to recognise that:</p> <ul style="list-style-type: none"> • not all water is offered for sale • the last five years (drought) are not indicative of normal conditions. <p>It was suggested that different assumptions should be made regarding inactive users to assess total carryover volumes that should be set aside when determining potential remaining water available for allocation.</p>
When to implement new procedures	<p>There was some support for immediate action.</p> <p>Others advised that planning is done a minimum of 12 months in advance and immediate action would impact on activities already in progress, so a transition period was appropriate.</p>
Other comments	<p>Submissions suggested carryover should not allow account balances to exceed limits.</p> <p>Stakeholders indicated they want:</p> <ul style="list-style-type: none"> • an indication earlier than July 1 • acknowledgement of improved groundwater levels • to be listened to • over-allocation to be addressed. <p>Stakeholders indicated that the water year does not match with seasons in this area.</p>

Next steps

Based on what we heard, the department will do the following:

- On 1 July 2021, in groundwater sources where extraction limits are exceeded in 2020–21 and action is needed to return extraction to the limit, we will reduce available water determinations for the 2021–22 water year.
- By 1 July 2022, we will further consider stakeholder feedback and undertake additional consultation before preparing and publishing the method the department will use to manage extraction to limits in inland groundwater sources from 1 July 2022 onwards. The method that applies may differ between groundwater sources.

In preparing the procedure to manage extraction within extraction limits by 1 July 2022 we will:

- follow up on stakeholder feedback and consult further to improve stakeholder understanding
- consider alternative approaches proposed (where they are permitted under the current water sharing plans)
- work with Water NSW to develop implementation systems including recording and communication systems
- give adequate lead time to any change in method applied to assist licence holders in their business planning.

Status of groundwater extraction

Earlier this year, the department launched an [online dashboard](#)⁵ that provides early information to water users on the likelihood of reduced groundwater access

We encourage licence holders and interested stakeholders to monitor the [status of groundwater extraction dashboard](#) available on our website. Licence holders should enter extraction information into the WaterNSW's Water Accounting System (iWAS) as soon as possible to allow the dashboard to give a timely indication of the risk of total extraction in a groundwater source, by all water users, exceeding the limit.

⁵ www.dpie.nsw.gov.au/tracking-groundwater

Appendix 1: Alternative options proposed by stakeholders outside the focus of this consultation

The focus of this consultation was on how we implement the methods currently available in water sharing plans to manage groundwater extractions to extraction limits.

Water sharing plans allow the NSW Government to manage extraction to extraction limits by reducing the available water determination (allocations put into accounts) or the maximum water account debit (allocations debited from accounts) or a combination of extractions by all water users exceeds limits. Other options are not currently available under the water sharing plans.

Below is a list of alternative methods raised in submissions that cannot be implemented under the current water sharing plans and the department's response to these.

Reducing carryover

The amount of water that can be carried over from one water year to the next is specified in the relevant water sharing plan.

Some stakeholders suggested reducing the amount of water that can be carried over or prohibiting carryover all together as a means on managing extraction to extraction limits.

While there was support for revising carryover rules in some groundwater sources, there was also several submissions that indicated they rely on carryover to manage their business risks and do not want carryover rules to change.

Water sharing plans specify if carryover rules can be amended during in the term of the plan. Subject to approval from the Minister responsible for Water and with the concurrence of the Minister for the Environment, carryover limits can be reduced in:

- Great Artesian Basin Eastern Recharge
- Lower Lachlan
- Lower Murrumbidgee Deep
- Upper Murray.
- Upper Namoi Zone 3
- Upper Namoi Zone 5

Changes to carryover are not provided for in the Upper Macquarie Alluvial Groundwater Source under the relevant water sharing plan. However, changes to any water sharing plan (including to carryover rules) can be made by the Minister responsible for Water if satisfied it is in the public interest to do so and provided the Minister for the Environment supports the changes.

While reducing carryover may reduce the risk of exceeding the extraction limit, it doesn't remove the risk entirely, particularly in water sources where water licence shares exceed the extraction limit.

While the department may consider changes to carryover in the future, we still need a method to manage extraction to extraction limits.

For this reason, the department will continue to develop a procedure that specifies how extraction will be managed to extraction limits that uses one or a combination of the methods permitted under the water sharing plans.

Entitlement reduction and entitlement buyback

Entitlements are a share in the available resource.

Regardless of the level of entitlement, or number of shares in the groundwater source, the department still needs a method to manage extraction to extraction limits in accordance with the water sharing plan.

For these reasons, the department will not investigate this option further as a means of managing extraction to extraction limits if limits are exceeded.

Removing inactive licences

We assume that stakeholders referring to 'inactive' licences means licences that do not use any allocation.

Under the *Water Management Act 2000*, a licence holder is free to take water subject to available water allocations and the conditions on the access licence and works approval. Any action to restrict a licence holder's ability to do this because the licence holder has historically not fully extracted their licence may be seen by some as inequitable.

Inactive licences and licences that use only a portion of their allocation provide a source of water into the trading market for more active users. Removing inactive licences may therefore impact on business flexibility and risk management tools available to all users.

Regardless of the level of 'inactive' licences the department still needs a method to manage extraction to extraction limits in accordance with the water sharing plan.

For these reasons, the department will not investigate this option further as a means of managing extraction to extraction limits if limits are exceeded.

Limiting trade

NSW is committed to ensuring our water markets facilitate economic and social benefits while protecting our water resources, water users and the environment. Trading helps water users manage their water requirements to suit their needs. Trading is critical to driving improvements in productivity and efficiency in communities and the NSW economy.

Regardless of the trade rules the department still needs a method to manage extraction to extraction limits in accordance with the water sharing plan.

For these reasons, the department will not investigate this option further as a means of managing extraction to extraction limits if limits are exceeded.

Changing extraction limits

NSW must manage extraction to the extraction limits (including the long-term average annual extraction limits and sustainable diversion limits) established in the water sharing plans.

Regardless of the value of the extraction limit the department still needs a method to manage extraction to extraction limits in accordance with the water sharing plan.

For this reason, the department will not investigate this option further as a means of managing extraction to extraction limits if limits are exceeded.

The limits in groundwater sources within the Murray Darling Basin will be reviewed in 2026 in accordance with the Murray Darling Basin Plan.