Proposed NSW Murray-Darling Basin Porous Rock Water Resource Plan

Planned environmental water: Assessment of no net reduction (s10.28) in the level of protection

Executive Summary

Section 10.28 of the *Basin Plan 2012* (Cth) (Basin Plan) requires that there is no net reduction in the protection of planned environmental water (PEW) from the protection provided under state law immediately before the commencement of the Basin Plan in 2012.

New South Wales (NSW) has identified that the proposed water resource plan (WRP) for the NSW Murray-Darling Basin Porous Rock WRP area introduces changes to the state instruments and the arrangements that establish and maintain PEW.

The Murray-Darling Basin Authority (the Authority) has undertaken an assessment using multiple lines of evidence to analyse changes to the protection of PEW that would arise from the proposed WRP. The assessment found the proposed WRP will not result in a reduction in the protection of PEW in the NSW MDB Porous Rock WRP area when compared with the protection in place immediately before the commencement of the Basin Plan.

PEW in the groundwater context

Planned environmental water is explicitly defined in s. 6 of the *Water Act 2007* (Cth) (the Act), and s. 21(5) of that Act requires the Basin Plan to:

> ensure that there is no net reduction in the protection of planned environmental water from the protection provided for under the State water management law of a Basin State immediately before the Basin Plan first takes effect.

Basin Plan s. 10.28 states:

> a water resource plan must ensure that there is no net reduction in the protection of planned environmental water from the protection provided under State water management law immediately before the commencement of the Basin Plan.

WRP position statement 6A – Change in PEW protection, provides further guidance for Basin States on how a WRP can comply with Basin Plan s. 10.28:

> Where there are change(s) in PEW arrangements, supporting documentation will need to demonstrate:

a) that the level of legal protection given to PEW is at least maintained by the net effect of the WRP; and
b) that the quantity and effectiveness of PEW are at least maintained by the net effect of the WRP, including in terms of the range and frequency of different flow components.

The net protection of PEW must be determined based on the characteristics of the PEW, including what environmental outcomes it provides for. This may not include other matters such as offset(s) provided by non-flow-based measures.

As set out at s. 6 of the Act, PEW is water which meets the following criteria:

1. the water is committed by a plan made under a State water management law or any other instrument made under a law of a State, or is preserved by a law of a state or an instrument made under a law of a State; and
2. the water is committed or preserved for the purposes of achieving environmental outcomes or, in the case of committed water, other environmental purposes specified in the plan or instrument; and
3. the water cannot, to the extent to which it is committed or preserved for such purposes, be taken or used for any other purpose.

PEW can take many forms, such as flows released from storages, dam spills and inflows from tributaries or water in a river or groundwater source that is protected from extraction. The purpose of PEW is identified in the environmental objectives of the water sharing plans and may include specific environmental outcomes such as protecting or restoring part of a natural flow pattern in rivers and streams, taking into account the timing, frequency and variability of flows, and also to protect the health of groundwater systems and ecosystems that have a level of dependence on groundwater.

Groundwater and surface water are connected and must be jointly managed for river and Basin health. Some rivers and river ecosystems in the Murray–Darling Basin fully or partly rely on groundwater to survive. Some communities in the Basin rely on groundwater reserves for drinking water. Groundwater is often used to maintain water supply and keep fish and aquatic animals alive in times of drought.

PEW in groundwater systems may be specified as a proportion of the estimated groundwater recharge that has been reserved for the environment, or as rules that restrict groundwater take to achieve specified environmental outcomes. For water to be recognised as PEW there needs to be some formal acknowledgement that the water is reserved for environmental purposes.

Establishment and maintenance of groundwater PEW is important for minimising the risks associated with groundwater use. However, other rules and arrangements not directly related to PEW also contribute to environmental objectives and the management of associated risks. For groundwater, such rules include prohibitions on trade when needed to manage water levels, rules relating to the construction and placement of works (including setback distances), rules that manage significant hydrological connections between surface and groundwater and triggers for temporary restrictions when needed to protect water levels. These rules generally contribute to a range of objectives within NSW water management law.

Given the integrated nature of the WRP, the combined effect of PEW rules and these other rules included for accreditation in the proposed WRP is to provide comprehensive on-ground management that seeks to minimise adverse environmental impacts on groundwater resources and groundwater dependent eco-systems. Including these rules for accreditation means that they are recognised under the Basin Plan and the Act*,* this helps preserve the environmental benefits provided by their implementation.

Assessment overview

The Authority has undertaken an assessment of the changes to the PEW protection arrangements in accordance with the requirements set out in s. 10.28 of the Basin Plan. The assessment examines whether the protection of PEW is at least maintained compared to the level of protection in place under state water management law just prior to the commencement of the Basin Plan (ie that the WRP ensures there is no net reduction in the protection of PEW). The assessment includes a direct comparison of the protection of PEW provided under state water management law on 23 November 2012 with the protection of PEW in the proposed WRP, assisted by the criteria set out in Position Statement 6A.

This document is structured into a three part test, described in Position Statement 6A, and seeks to answer the following questions:

a) What are the changes to the level of legal protection of PEW and does the net effect of the changes in the WRP at least maintain the level of legal protection?
b) Is the long-term average volume of PEW maintained?
c) Is the net effect of the new rules at least as effective at meeting the original outcomes?

Multiple lines of evidence have been used to consider the net effect of changes to the protection of PEW. This includes consideration of matters such as:

- The level of environmental significance of groundwater dependent ecosystems (GDEs) that are dependent on the PEW established and protected under the baseline (protection provided under state law immediately before the commencement of the Basin Plan in 2012) and proposed PEW rules. This includes consideration of relevant threatened species/ecological communities listings, Ramsar and Directory of Important Wetlands of Australia listings.

- The area scale of any changes where this is relevant.

The Authority has drawn on the following material to assist in the assessment:

- *Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Sources 2011* (version for 6 July 2012 to 14 February 2013)
- Proposed NSW MDB Porous Rock Water Resource Plan (WRP) submitted to the Authority on 28 July 2022
- Proposed NSW MDB Porous Rock WRP Schedule D (Risk assessment)
- Proposed NSW MDB Porous Rock WRP Schedule A (*Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Rivers Groundwater Sources 2020).*

Summary of PEW rule changes

The water sharing plan that was in place for the NSW MDB Porous Rock WRP on 23 November 2012 was:

- *Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Sources 2011* (version for 6 July 2012 to 14 February 2013))

The proposed NSW MDB Porous Rock WRP incorporates for accreditation relevant clauses from WRP Schedule A *Water Sharing Plan for the NSW MDB Porous Rock Groundwater Sources 2020* (Schedule A).

There are changes to PEW rules and provisions detailed in s. 4.1.2 of the proposed NSW MDB Porous Rock WRP; these are summarised below. Appendix A provides a comparison of the wording of baseline and equivalent WSP provisions.

Changes to Water Management Act 2000 (NSW)

The *Water Management Act 2000* (NSW) (the WMA) was in force before the commencement of the Basin Plan and has been amended on a number of occasions between then and the date the proposed WRP was submitted to the MDBA for assessment. For the purposes of this assessment against s. 10.28 of the Basin Plan, the Authority notes that s. 8 of the WMA defines PEW and requires that NSW water sharing plans commit PEW in at least two ways and must contain provisions for the identification, establishment and maintenance of PEW. In addition, s. 8A provides that access licences held by the NSW Minister may be cancelled providing for an equivalent volume to be committed as PEW in accordance with the relevant water sharing plan. There has been a minor change to these provisions to broaden the types of water access licence (held by the NSW Minister) which may be cancelled and committed in this way.

The above amendments have been determined not to have a material impact on the protection of PEW. This assessment therefore focuses on:

1. changes to PEW rules and arrangements in Schedule A
2. whether or not those rules and arrangements are properly incorporated into the proposed WRP
3. how those arrangements affect the net impact on the protection of PEW.

Summary of water sharing plan rule changes

Rule Change 1 - Provisions relating to the way PEW is committed under the baseline WSP have been changed from the 'physical presence' to the 'long-term commitment' in Schedule A and Schedule A no longer includes a reference to the long-term average annual rainfall recharge.

Text for accreditation at s. 4.1.2 in the proposed WRP states:

> Clauses 16 and 17, no longer commit water as PEW by reference to the 'physical presence of water'.

Clause 16(2) of the baseline WSP also established the physical presence of water in the NSW MDB Porous Rock WRP area as equal to a specified percentage of the long-term average annual rainfall recharge in each groundwater source. The information relating to rainfall recharge was used as the basis

for determining the long-term average extraction limit at the commencement of the WSP. Schedule A does not establish PEW with reference to the long-term average annual rainfall recharge but continues to commit and maintain PEW through the application of the limits on take for consumptive use.

Appendix A provides textual details, including the specified percentage of the long-term average annual rainfall recharge for the groundwater sources within the baseline WSP.

Rule Change 2 - Provisions that describe how assessment against the long-term average annual extraction limits (LTAAELs) is calculated have changed between the baseline WSP and WSP and there are new provisions relating to actions following non-compliance in Schedule A.

The supporting material at s. 4.1.2 explains that the rules in Part 6 of Schedule A provide equivalent legal protection to the baseline WSP, noting that the LTAAELs have either stayed the same or have been reduced and that the volume in excess of the LTAAEL is still protected. However, there have been changes to the description of how the assessment of compliance with the LTAAEL limits is calculated. One of these changes is the assessment of compliance with LTAAELs which has changed for some of the groundwater resources from a 3-year rolling average to a 5-year rolling average. In addition, a new clause has been included (cl. 29) to allow the NSW Minister to make further available water determinations if the NSW Minister had previously reduced available water determinations if assessment demonstrated non-compliance with limits.

Rule change 3 – Reduction to LTAAELs

Text for accreditation at s. 4.1.2 of the proposed WRP indicates that the LTAAELs are changed in all NSW Murray Darling Basin Porous Rock Groundwater Sources to align these limits with the SDLs increasing the volume of PEW across the WRPA.

Rule change 4 – Changes to water allocation account rules

Supporting material at s. 4.1.2 of the proposed WRP indicates that the account rules have been rewritten to provide more clarity but that there is no change to the way the rules operate.

Assessment

The sections below set out the assessment of the protection of PEW following the three tests in Position Statement 6A.

Legal Protection

ASSESSMENT TEST 1: What are the changes to the level of legal protection of PEW and does the net effect of the changes in the WRP at least maintain the level of legal protection?

This test assesses whether the character or wording of the rule has changed and whether this (or other relevant considerations) reduces the likelihood of the rule being applied and observed, or whether the change in rule, or location of that rule in state instruments, introduces additional discretion.

Rule change 1 - Changed definition of planned environmental water

Text for accreditation at s. 4.1.2 of the proposed WRP indicates that the definition of PEW in Schedule A has been changed from the definition in place on 23 November 2012. It explains that cls 16 and 17 no longer commit PEW by reference to the physical presence of water as was the case in the baseline WSP but instead maintain the physical presence through the provisions in Division 1 of Part 6 and Part 8 of Schedule A. Additionally, the baseline WSP protected PEW by reference to the estimated recharge in the groundwater sources and this approach no longer applies.

Compared to the baseline WSP, the removal of text referring to 'the commitment of the physical presence of water in the water source' does not reduce protection because the 'physical presence' is included in the other parts of the definition and appropriate rules are included. Therefore, there is no reduction in physical protection as a result of this change.

The baseline WSP also established the physical presence of water in the WRP area as equal to a specified percentage of the long-term average annual rainfall recharge for each groundwater source. This information was used as the basis for determining the long-term average annual extraction limit at the commencement of the baseline WSP. Schedule A does not commit PEW in this way. This commitment has been replaced by a commitment to a fixed long-term average determined by reference to the limits to the availability of water in Part 6 of Schedule A.

The Authority notes that three of the SDL resource units in the NSW Murray-Darling Basin Porous Rock WRP area are buried aquifers that do not directly receive rainfall recharge. However, the Western Porous Rock SDL resource unit does receive rainfall recharge and as such, the MDBA has analysed the rainfall recharge for this area. As the Western Porous Rock covers a large area, the analysis considered data from three sites – Wentworth, Broken Hill and Balranald. There has been a decrease of less than 1% in the rainfall in the Western Porous Rock area between 1868 to 2010 (the rainfall period for the baseline WSP) and 1868 to 2019 (the rainfall period for that would have been used for Schedule A if the same approach to the commitment of PEW had been applied). Given that rainfall recharge is generally equal to 5-10% of the rainfall amount, the decrease in rainfall recharge is negligible. Therefore, the

elimination of a reference to rainfall recharge in the establishment of PEW in the proposed WRP is not considered a reduction in the protection of PEW.

Rule change 2 – Changes relating to LTAAEL compliance

Additional rules have been added to Division 1 of Part 6 of Schedule A to incorporate the SDL compliance obligations under the Basin Plan. The Authority considers that this results in equivalent or improved protection of PEW by including an additional mechanism to identify any potential growth in consumptive use.

The assessment of compliance has changed for some groundwater resources in the WRP area. In some regions, the baseline WSP assessed non-compliance if the 3 year average of extraction exceeded the extraction limit, while other regions which assessed non-compliance if the 5 year average of extraction exceeded the extraction limit. Schedule A, however, assesses all groundwater sources over a 5 year average.

There are some circumstances in which the move from a 3 year rolling average to a 5 year rolling average may represent a temporary reduction in protection for the relevant water sources. However, this must be balanced against the fact that Schedule A now incorporates a compliance regime for the SDL. As such, the proposed WRP, through incorporation of relevant clauses of Schedule A, provides that the NSW Minister with responsibility for water must also undertake an assessment of compliance with the SDL in accordance with the compliance regime set out in Chapter 6 of the Basin Plan. On balance, the Authority considers that any reduction in protection would be outweighed by the improvements and in detail and accountability included in the proposed WRP.

Section 4.1.2 of the proposed WRP notes that there has also been a provision added to cl 29 of Schedule A allowing the NSW Minister to enact available water determinations more than once within a water year if an assessment shows non-compliance with the LTAAEL. The proposed WRP states that this rule change clarifies previous practice and allows for consideration of data that would not have been available at the time of the original determination. This provides greater certainty for all water users while retaining the protection of PEW.

Rule change 3 – Reduction to LTAAELs

The LTAAELs for all groundwater sources in the NSW Murray-Darling Basin Porous Rock WRP area changed to align with the SDLs in the Basin Plan. This change to the LTAAELs has brought the limits to within sustainable limits and has resulted in an overall increase in the volume of PEW protected across the WRP area.

Rule change 4 – Changes to water allocation account rules

The expression of the water allocation account rules in Part 8 of Schedule A has changed from the way it was written in the baseline WSP. However, the change does not result in any difference in how the rules work, with the maximum available water determinations and carryover limits remaining the same.

The Authority is satisfied that the rules in Part 8 have not changed in any material way between the baseline WSP and Schedule A.

Given these matters, the Authority considers that there has been no reduction in the level of legal protection introduced by the change in state instruments.

Quantity of PEW

ASSESSMENT TEST 2: Is the long-term average volume of PEW maintained?

This test assesses whether the quantity of PEW will be maintained over the long-term by the WRP.

Rule change 1 - Changed definition of planned environmental water

Text for accreditation at s. 4.1.2 of the proposed WRP states that the physical presence of water is maintained by provisions in Division 1 of Part 6, and Part 8. The supporting text in the proposed WRP indicates that the rules in Part 6 of Schedule A provide for equivalent protection to the baseline WSP by protecting the volume in excess of the LTAAEL as PEW that cannot be used for any other purpose.

Rule change 2 – Changes relating to LTAEEL compliance

Additional rules have been added to Division 1 of Part 6 of Schedule A to incorporate the SDL compliance obligations under the Basin Plan. The Authority considers that this results in equivalent or improved protection of PEW by including an additional mechanism to identify any potential growth in consumptive use.

Analysis of available data on actual take from 2008-9 through 2018-19 for the NSW Murray-Darling Basin Porous Rock Groundwater Source shows that there were nil years out of 11 that would have been assessed as non-compliant under any of the compliance methods, including a 3 year rolling average or a 5-year rolling average. As noted above, the proposed WRP includes provisions to ensure compliance with the Basin Plan SDL. The Authority has also assessed expected compliance against the Basin Plan long-term average Sustainable Diversion Limit (SDL) using the available data on actual take as indicated above and, using this hypothetical situation, found this data would have identified non-compliance effectively regardless of the application of the 3 or 5 year rolling average. Therefore, with the inclusion of compliance against both the long-term average extraction limit and the long-term average SDL, it is likely not to result in a reduction of the volume of PEW.

Section 4.1.2 of the proposed WRP notes that there has also been a provision added to cl 29 of Schedule A allowing the NSW Minister to enact available water determinations more than once within a water year if an assessment shows non-compliance with the LTAAEL. The proposed WRP states that the baseline WSP was silent on this matter and that this rule change clarifies operational practice and is therefore not expected to change the level of protection of PEW. Confirming the use of additional available water determinations provides flexibility to consider new data and helps to ensure that the LTAAEL is not exceeded and as such, the Authority is satisfied that this rule will not decrease the quantity of PEW in the WRP area.

Rule change 3 – Reduction to LTAAELs

Section 4.1.2 of the proposed WRP notes that the LTAAELs have changed in all NSW Murray Darling Basin Porous Rock Groundwater Sources, increasing the volume of PEW across the WRP area. These LTAAELs were reduced to align with the SDL. Although it is noted that the level of extraction has not

reduced as a result of the changes to the LTAAEL and the limits were well above the extraction level, as such, the change to PEW volume is negligible.

Rule change 4 – Changes to water allocation account rules

Section 4.1.2 of the proposed WRP notes that the way the water allocation account rules in Part 8 are expressed has changed, however, the calculation of allocations has not changed. Therefore, this will not affect the quantity of PEW.

The Authority is satisfied that the rules in Part 8 have not changed in any material way between the baseline WSP and Schedule A.

Given these matters, the Authority considers that the long-term average volume of PEW should at least be maintained.

Effectiveness of PEW

ASSESSMENT TEST 3: Is the new rule as effective at meeting the original outcome?

This test assesses that the effectiveness of PEW is at least maintained by the net effect of the proposed WRP.

This test assesses that the effectiveness of PEW is at least maintained by the net effect of the proposed WRP.

As noted in Assessment Tests 1 and 2, changes to the rules which establish and maintain PEW at least maintain the legal protection of PEW and the quantity of PEW. None of the changes are considered to impact the effectiveness of PEW.

Overall, the rules and provisions providing for PEW remain largely unchanged from those that were in place under state water management arrangements on 23 November 2012, other than the rule changes identified.

Conclusion

The Authority has undertaken an assessment of the change in arrangements for PEW protection, quantities and effectiveness in the NSW MDB Porous Rock WRP area, supported by information provided by New South Wales on the operation of these rules.

On the basis of the Authority's assessment and the material provided by NSW, the Authority has determined that the proposed WRP ensures that there is no net reduction in the protection of PEW.

Appendix A

Rule Change 1: Change to definition of PEW

Table 1: Provisions relating to the way planned environmental water is committed under the baseline WSP have been changed from the 'physical presence' to the 'long-term commitment' in Schedule A

Baseline Text Reference	Baseline text	WSP Text Reference	WSP Text
Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources 2011, cl 15, 16	**15 Commitment and identification of planned environmental water** (1) Planned environmental water is committed and identified in these groundwater sources as set out in this clause. (2) Water is committed and identified as planned environmental water in these groundwater sources in the following ways: (a) by reference to the commitment of the physical presence of water in these groundwater source, (b) by reference to the long-term average annual commitment of water as planned environmental water, and (c) by reference to the water that is not committed after the commitments to basic landholder rights, and for sharing and extraction under any other rights, have been met. **16 Establishment and maintenance of planned environmental water**	*Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources 2020,* cl 16, 17	**16 Commitment and identification of planned environmental water** Water is committed and identified as planned environmental water by reference to the following: (a) the long-term average annual commitment of water as planned environmental water, (b) the water that is not committed after the commitments to basic landholder rights and for sharing and extraction under any other rights have been met. **17 Establishment and maintenance of planned environmental water** (1) Planned environmental water is established in each of the groundwater sources as follows: (a) the long-term average annual commitment of water as planned environmental water, resulting from compliance with the limits to the availability of water in accordance with the provisions specified in Part 6, Note. Groundwater sources generally store large volumes of water that may have accumulated over thousands of years. This stored water is also replenished from time to time by

Baseline Text Reference	Baseline text	WSP Text Reference	WSP Text
	(1) Planned environmental water is established and maintained in these groundwater sources as set out in this clause. (2) Planned environmental water in these groundwater sources is established as follows: (a) it is the physical presence of water: (i) in the Gunnedah–Oxley Basin MDB Groundwater Source that is equal to 50% of the long-term average annual rainfall recharge in those areas that are not high environmental value areas, 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan and 99.998% of the long-term groundwater storage, Note. At the commencement of this Plan the long-term average annual rainfall recharge for the Gunnedah–Oxley Basin MDB Groundwater Source is estimated to be 399,786 ML/year in those areas that are not high environmental value areas and 14,773 ML/year in high environmental value areas. (ii) in the Oaklands Basin Groundwater Source that is equal to 100% of the long-term average annual recharge and 99.998% of the long-term groundwater storage, Note. The Oaklands Basin Groundwater Source is completely buried and is not recharged by rainfall. (iii) in the Sydney Basin MDB Groundwater Source that is equal to 30% of the long-term average annual rainfall recharge in those areas that are not high environmental value areas, 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan and 99.998% of the long-term groundwater storage, and		rainfall, river and flood flows, and through flow from other groundwater sources. The provisions in Part 6 ensure that there will be water remaining in the groundwater sources over the long-term by maintaining compliance with the long-term extraction limits. The long-term extraction limits specified in Part 6 represent a small fraction of the water in the groundwater sources. The remaining water is planned environmental water. (b) the water remaining after water has been taken under basic landholder rights, access licences and any other rights under the Act, and the water that cannot be carried over from one water year to the next in accordance with the provisions specified in Part 6 and Part 8, Note. The provisions in Part 8 limit the amount of water allocation in a water allocation account for an access licence that can be taken from the groundwater sources in any one water year and, if permitted by Part 8, that can be carried over from one water year to the next water year. In addition to the water referred to in subclause (1) (a), subclause (1) (b) commits any unused water allocations that cannot be carried over in subsequent water years as planned environmental water. (2) The planned environmental water established under subclause (1) is maintained by the provisions in Part 6 and Part 8. Note. The rules in Part 9 also provide mechanisms to ensure that no more than minimal harm will be done to high priority groundwater-dependent ecosystems, groundwater-dependent culturally significant areas, groundwater quality and groundwater levels and pressures at a local scale as a result of the granting or amendment of a water supply work approval.

Baseline Text Reference	Baseline text	WSP Text Reference	WSP Text
	Note. At the commencement of this Plan the long-term average annual rainfall recharge for the Sydney Basin MDB Groundwater Source is estimated to be 86,347 ML/year in those areas that are not high environmental value areas and 4,640 ML/year in high environmental value areas. (iv) in the Western Murray Porous Rock Groundwater Source that is equal to 50% of the long-term average annual rainfall recharge in those areas that are not high environmental value areas, 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan and 100% of the long-term groundwater storage, Note. At the commencement of this Plan the long-term average annual rainfall recharge for the Western Murray Groundwater Source is estimated to be 1,060,971 ML/year in those areas that are not high environmental value areas and 42,994 ML/year in high environmental value areas. (b) it is the long-term average annual commitment of water as planned environmental water in: (i) the Gunnedah–Oxley Basin MDB Groundwater Source, which is equal to 50% of the long-term average annual rainfall recharge in areas that are not high environmental value areas, 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan and 99.998% of the long-term groundwater storage, (ii) the Oaklands Basin Groundwater Source, which is equal to 100% of the long-term average annual recharge and 99.998% of the long-term groundwater storage,		

Baseline Text Reference	Baseline text	WSP Text Reference	WSP Text
	(iii) the Sydney Basin MDB Groundwater Source, which is equal to 30% of the long-term average annual rainfall recharge in areas that are not high environmental value areas, 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan and 99.998% of the long-term groundwater storage, and (iv) the Western Murray Porous Rock Groundwater Source, which is equal to 50% of the long-term average annual rainfall recharge in areas that are not high environmental value areas, 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan and 100% of the long-term groundwater storage, and (c) it is the water remaining in these groundwater sources after water has been taken pursuant to basic landholder rights and access licences, in accordance with the rules specified in Part 6 and Part 8 of this Plan. (3) The planned environmental water established under subclause (2) (a) is maintained in these groundwater sources by the rules specified in Part 6 and Part 8 of this Plan. (4) The planned environmental water established under subclause (2) (b) is maintained in these groundwater sources by the rules specified in Part 6 of this Plan which limit the water available for extraction under access licences. (5) The planned environmental water established under subclause (2) (c) is maintained in these groundwater sources by the rules specified in Part 6 and Part 8 of this Plan.		

Baseline Text Reference	Baseline text	WSP Text Reference	WSP Text
	Note. The rules in Part 6 ensure that there will be water remaining in these water sources over the long term by maintaining compliance with the long-term average annual extraction limit. The rules in Part 6 provide for a reduction in available water determinations when the long-term average annual extraction limits have been assessed to have been exceeded.		

Rule Changes 2 and 3: Limits to the availability of water and reduction to LTAAELs

Table 2. Provisions that set out the long-term average annual extraction limits and describes how assessment against the long-term average annual extraction limits is calculated

Baseline Text Reference	Baseline text	WSP Text Reference	WSP Text
Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources 2011, Part 6 Division 1	**24 General** The availability of water for extraction in these groundwater sources on a long-term basis is to be managed in accordance with this Part. **25 Volume of the long-term average annual extraction limits** (1) This clause establishes long-term average annual extraction limits for these groundwater sources. (2) Subject to any variation under subclause (3), the long-term average annual extraction limit is: (a) 199,893 ML/year for the Gunnedah–Oxley Basin MDB Groundwater Source, (b) 0 ML/year for the Oaklands Basin Groundwater Source, (c) 60,443 ML/year for the Sydney Basin MDB Groundwater, and (d) 530,486 ML/year for the Western Murray Porous Rock Groundwater Source. (3) Following the surrender and cancellation of an access licence in these groundwater sources under section 77 and 77A of the Act, the Minister may vary the respective long-term average annual extraction limit. **Notes.** **1** The long-term average annual extraction limit for each groundwater source is equal to the long-term average	*Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources 2020, Part 6 Division 1*	**25 Long-term average annual extraction limits** (1) The long-term average annual extraction limit for the Gunnedah–Oxley Basin MDB Groundwater Source is 127,500 ML/year. Note. The long-term average annual extraction limit for the groundwater source specified in subclause (1) equates to the long-term average sustainable diversion limit for the Gunnedah-Oxley Basin MDB (GS17) Groundwater SDL Resource Unit specified in Schedule 4 of the Basin Plan. (2) The long-term average annual extraction limit for the Oaklands Basin Groundwater Source is 2,500 ML/year. Note. The long-term average annual extraction limit for the groundwater source specified in subclause (2) equates to the long-term average sustainable diversion limit for the Oaklands Basin (GS38) Groundwater SDL Resource Unit specified in Schedule 4 of the Basin Plan. (3) The long-term average annual extraction limit for the Sydney Basin MDB Groundwater Source is 19,100 ML/year. Note. The long-term average annual extraction limit for the groundwater source specified in subclause (3) equates to the long-term average sustainable diversion limit for the Sydney Basin MDB (GS41) Groundwater SDL Resource Unit specified in Schedule 4 of the Basin Plan. (4) The long-term average annual extraction limit for the Western Murray Porous Rock Groundwater Source is 226,000 ML/year.

Baseline Text Reference	Baseline text	WSP Text Reference	WSP Text
	annual rainfall recharge minus the amount of recharge reserved as planned environmental water under clause 16 (2). **2** The long-term average annual extraction limit is an average annual limit. **3** Under section 8F of the Act, the long-term extraction limit is taken to be varied by the amount of any change to the amount of water committed as licensed environmental water. Water committed as licensed environmental water is not to be accounted for as extraction. The variation in the long-term extraction limit isto be determined in accordance with a methodology approved by the Minister and published in the Gazette. (4) The groundwater storage extraction limit for supplementary water (subcategory "storage") access licences is: (a) 0.002% of the total storage capacity of the Gunnedah–Oxley Basin MDB Groundwater Source, (b) 0.002% of the total storage capacity of the Oaklands Basin Groundwater Source, (c) 0.002% of the total storage capacity of the Sydney Basin MDB Groundwater Source, and (d) 0% of the total storage capacity of the Western Murray Porous Rock Groundwater Source. **Notes.** **1** The groundwater storage extraction limit for each groundwater source is equal to the total storage capacity of the groundwater source over the long-term minus the percentage of the total storage capacity reserved as planned environmental water under clause 16 (2). **2** The groundwater storage extraction limit is a total cumulative limit. **Note.** Part 12 allows for amendments to be made to clause 25.		Note. The long-term average annual extraction limit for the groundwater source specified in subclause (4) equates to the long-term average sustainable diversion limit for the Western Porous Rock (GS50) Groundwater SDL Resource Unit specified in Schedule 4 of the Basin Plan. **26 Calculation of annual extraction** The Minister is to determine the volume of water taken during a water year for each of the groundwater sources under the following entitlements (the *annual extraction*): (a) all categories of access licences, (b) basic landholder rights. Note. The volume of water taken in any water year under basic landholder rights is assumed to be the volumes specified in Part 5. **27 Assessment of compliance with long-term average annual extraction limits** (1) The Minister is to undertake an assessment under this clause comparing the long-term average annual extraction limit for each of the groundwater sources against the average of annual extraction for the preceding five water years for the respective groundwater source. (2) There is non-compliance with a long-term average annual extraction limit if the average of annual extraction for a groundwater source in the preceding five water years exceeds the long-term average annual extraction limit for that groundwater source by 5% or more. **28 Assessment of compliance with Basin Plan long-term average sustainable diversion limits**

Baseline Text Reference	Baseline text	WSP Text Reference	WSP Text
	26 Calculation of current levels of annual extraction (1) After each water year, the total volume of water extracted during that water year under access licences and pursuant to domestic and stock rights and native title rights must be calculated for each groundwater source specified in clause 4 (1). (2) For the purpose of calculating the total volume of water extracted during a water year, the following must be taken into account: (a) all water taken by holders of all categories of access licence in the respective groundwater source, and (b) all water taken pursuant to domestic and stock rights and native title rights in the groundwater source. **27 Assessment of average annual extraction against the long-term average annual extraction limits** (1) An assessment of average annual extractions against the long term average annual extraction limit is to be conducted for access licences other than supplementary water (subcategory "storage") access licences in each groundwater source as set out in subclause (2). (2) Commencing in the fourth water year in which this Plan has effect, the assessments referred to in subclause (1) must compare the long-term average annual extraction limits established in clause 25 (2) against the annual extraction averaged over the preceding three water years except for extraction under supplementary water (subcategory "storage") access licences.		The Minister is to undertake an assessment of compliance with the Basin Plan long-term average sustainable diversion limits for the groundwater SDL resource units in accordance with the processes set out in Divisions 1 and 3 of Part 4 of Chapter 6 of the Basin Plan. **Notes.** 1 ***Groundwater SDL resource unit*** is defined in the Dictionary. The notes to clause 25 outline the relationship between the groundwater SDL resource units and groundwater sources to which this Plan applies. 2 ***Long-term average sustainable diversion limit*** is defined in the Dictionary. **29 Compliance with limits** (1) Pursuant to section 58 (3) of the Act, this Plan amends the relative priorities of the categories of the aquifer access licence and salinity and water table management access licence to the extent necessary to make the reductions to available water determinations as set out in this clause. (2) If an assessment for a groundwater source under either clause 27 or clause 28 demonstrates non-compliance with the long-term average annual extraction limit or the long-term average sustainable diversion limit, the Minister is to take, in relation to that groundwater source, any one or more of the following actions: (a) reduce the maximum water account debit for aquifer access licences access licences under clause 36, **Note.** ***Water account debit*** has the meaning set out in clause 36.

Baseline Text Reference	Baseline text	WSP Text Reference	WSP Text
	(3) An assessment of cumulative extractions against the groundwater storage extraction limit is to be conducted for supplementary water (subcategory "storage") access licences in each groundwater source as set out in subclause (4). (4) Commencing in the second water year after the first supplementary water (subcategory "storage") access licence is granted under clause 31, the assessment referred to in subclause (3) must compare the groundwater storage extraction limit established in clause 25 (4) against the extraction that has occurred since the granting of the first supplementary water (subcategory "storage") access licence. **28 Compliance with the long-term average annual extraction limits** (1) Pursuant to section 58 (4) of the Act, this Plan amends the relative priorities of the categories of the aquifer access licence and salinity and water table management access licence to the extent necessary to make the reductions to available water determinations as set out in this clause. (2) Compliance with the long-term average annual extraction limits established for access licences, other than supplementary water (subcategory "storage") access licences, and water taken pursuant to basic landholder rights in each groundwater source is to be managed in accordance with subclause (3). (3) Commencing in the fourth water year in which this Plan has effect, if in the Minister's opinion		(b) make an available water determination for aquifer access licences in accordance with clause 34 of less than 1 megalitre (***ML***) per unit share of access licence share component. (3) The Minister may take one or more of the actions in subclause (2) (a) and (2) (b) in a groundwater SDL resource unit if an assessment under clause 28 would have demonstrated non-compliance with the long-term average sustainable diversion limit but for there being a reasonable excuse, as provided for in Division 3 of Part 4 of Chapter 6 of the Basin Plan. (4) Any action under subclauses (2) or (3) is to be taken to the extent the Minister considers the following is necessary: (a) in the case of non-compliance with the long-term average annual extraction limit— to return average annual extractions in the relevant groundwater source to the long-term average annual extraction limit, (b) in the case of non-compliance with the long-term average sustainable diversion limit— to meet the requirements of Division 3 of Part 4 of Chapter 6 of the Basin Plan, (c) in the case where non-compliance with the long-term average sustainable diversion limit would have occurred but for there being a reasonable excuse— to meet the requirements of Division 3 of Part 4 of Chapter 6 of the Basin Plan. (5) If the Minister reduces a maximum water account debit under subclauses (2) (a) or (3), the Minister may increase the maximum water account debit later in the water year, up to the following limits:

Baseline Text Reference	Baseline text	WSP Text Reference	WSP Text
	the assessment under clause 27 (2) demonstrates that annual extractions except for extractions under supplementary water (subcategory "storage") access licences in the respective groundwater source averaged over the preceding three water years have exceeded the long-term average annual extraction limit specified in clause 25 (2) for that groundwater source by 5% or more, then the available water determinations for aquifer access licences in that groundwater source are to be reduced in the following water year in accordance with subclause (4). (4) The reduction under subclause (3) is to be of an amount that is, in the Minister's opinion, necessary to return average annual extractions in the respective groundwater source to the longterm average annual extraction limit established in clause 25 (2). (5) Compliance with the groundwater storage extraction limits established for supplementary water (subcategory "storage") access licences in each groundwater source is to be managed in accordance with subclause (6). (6) Commencing in the second water year after the first supplementary water (subcategory "storage") access licence is granted under clause 31, if in the Minister's opinion the assessment under clause 27 (4) demonstrates that total extractions under supplementary water (subcategory "storage") access licences in the respective groundwater source has exceeded the groundwater		(a) 1.25 ML per unit share of the access licence share component, (b) plus any water allocations assigned to the water allocation account for the aquifer access licence under section 71T of the Act in that water year, (c) plus any water allocations re-credited to the water allocation account for the aquifer access licence in accordance with section 76 of the Act in that water year. (6) If the Minister makes a reduced available water determination pursuant to subclauses (2) (b) or (3), the Minister may make further available water determinations in the water year subject to clause 30 (2).

Baseline Text Reference	Baseline text	WSP Text Reference	WSP Text
	storage extraction limit specified in clause 25 (4) for that groundwater source, then the available water determinations for supplementary water (subcategory “storage”) access licences in that groundwater source are to be reduced to 0% of the access licence share component for each water year thereafter. **Notes.** **1** Clause 31 (4) limits the granting of supplementary water (subcategory “storage”) access licences to within the groundwater storage extraction limit. The effect of this is that non-compliance with the long-term groundwater storage extraction limit is unlikely. **2** If the available water determination for supplementary water (subcategory “storage”) access licences is reduced to 0% of the access licence share component within a groundwater source, all supplementary water (subcategory “storage”) access licences in that groundwater source will be cancelled under section 77A of the Act.		

Rule Change 4: Allocation account rules

Table 3: The water account allocation rules have changed between the baseline WSP and WSP

Baseline Text Reference	Baseline text	WSP Text Reference	WSP Text
Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources 2011, Part 8	**33 General** The rules in this Part apply to the taking of water under an access licence with a share component that specifies one of these groundwater sources. Note. The Act provides for the keeping of water allocation accounts. The rules in this Part impose further restrictions on the volume of water that may be taken under an access licence over a specified period of time. These restrictions are in addition to any other limits for the taking of water contained in this Plan. For further clarification, these rules do not authorise the taking of more water than is credited to the respective water allocation accounts for the access licence at the time water is taken. It is an offence under the Act to take water otherwise than in accordance with the water allocation for the access licence. **34 Individual access licence account management rules** (1) In any water year, water taken under an aquifer access licence with a share component that specifies one of these groundwater sources must not exceed a volume equal to: (a) the sum of water allocations accrued to the water allocation account for the access licence from available water determinations in that water year, plus (b) the water allocations carried over from the water year prior to that water year under	*Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources 2020, Part 8*	**Notes.** 1 Section 85 of the Act provides for the keeping of water allocation accounts for access licences. The provisions in this Part restrict the water that may be taken under, or assigned from, an access licence over a specified period of time, and the unused water allocations in water allocation accounts that may be carried over from one water year to the next. These restrictions are in addition to any other limits on access licences for the taking or assignment of water. It is an offence under section 60C of the Act to take water under an access licence for which there is no or insufficient water allocation. 2 The provisions in this Part apply to the following persons: (a) the Minister in managing water allocation accounts, (b) the access licence holder, as required by mandatory conditions imposed on the access licence under Part 11. **36 Water allocation account debiting** (1) A ***water account debit*** means any water allocation that is taken, assigned under section 71T of the Act, or otherwise debited or withdrawn from a water allocation account. (2) For domestic and stock access licences, local water utility access licences and salinity and water table management access licences, the maximum water account debit in a water year must not exceed the following: (a) the sum of water allocations credited to the water allocation account for the access licence from available water determinations in that water year,

Baseline Text Reference	Baseline text	WSP Text Reference	WSP Text
	subclause (2), plus (c) the net amount of any water allocations assigned to or from the water allocation account for the access licence under section 71T of the Act in that water year, plus (d) any water allocations re-credited to the water allocation account for the access licence in accordance with section 76 of the Act in that water year. (2) The maximum water allocation that can be carried over in a water allocation account for an aquifer access licence in these groundwater sources from one water year to the next is equal to: (a) 25% of the access licence share component for access licences with share components expressed as ML/year, or (b) 0.25 ML per unit share of access licence share component for access licences with share components expressed as a number of unit shares. (3) In any water year, water taken under a domestic and stock access licence, salinity and water table management access licence, local water utility access licence or a supplementary water (subcategory "storage") access licence with a share component that specifies one of these groundwater sources must not exceed a volume equal to: (a) the sum of water allocations accrued to the water allocation account for the access licence from available water determinations in that water year, plus		(b) plus any water allocations assigned to the water allocation account for the access licence under section 71T of the Act in that water year, (c) plus any water allocations re-credited to the water allocation account for the access licence in accordance with section 76 of the Act in that water year. (3) For aquifer access licences, the maximum water account debit in a water year must not exceed the following: (a) 1.25 ML per unit share of the access licence share component or, if applicable, the lower amount made in accordance with clause 29, (b) plus any water allocations assigned to the water allocation account for the aquifer access licence under section 71T of the Act in that water year, (c) plus any water allocations re-credited to the water allocation account for the aquifer access licence in accordance with section 76 of the Act in that water year. **37 Limits on carryover** (1) For a domestic and stock access licence, a local water utility access licence or a salinity and water table management access licence, water allocations remaining in the water allocation account cannot be carried over from one water year to the next water year. (2) For an aquifer access licence, water allocations remaining in the water allocation account are to be carried over from one water year to the next water year, up to a maximum of 0.25 ML per unit share of the access licence share component.

Baseline Text Reference	Baseline text	WSP Text Reference	WSP Text
	(b) the net amount of any water allocations assigned to or from the water allocation account for the access licence under section 71T of the Act in that water year, plus (c) any water allocations re-credited to the water allocation account for the access licence in accordance with section 76 of the Act in that water year. (4) Water allocations remaining in the water allocation account for a domestic and stock access licence, salinity and water table management access licence, local water utility access licence or a supplementary water access licence (subcategory "storage") in these groundwater sources cannot be carried over from one water year to the next.		