Proposed Darling Alluvium 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 Darling Alluvium 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 Darling Alluvium 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 (i.e. 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:

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?
2. Is the long-term average volume of PEW maintained?
3. 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 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 Barwon–Darling Unregulated and Alluvial Water Sources 2012 (version for 4 October 2012 to 4 July 2013)*
- *Water Sharing Plan for the Lower Murray-Darling Unregulated and Alluvial Water Sources 2011 (version for 6 July 2012 to 30 June 2020)*
- *Water Sharing Plan for the Intersecting Streams Unregulated and Alluvial Water Sources 2011 (version for 6 July 2012 to 30 June 2020)*
- Proposed Darling Alluvium Water Resource Plan (WRP) submitted to the Authority on 9 December 2022
- Proposed Darling Alluvium WRP Schedule D (Risk assessment)
- Proposed Darling Alluvium WRP Schedule A *(Water Sharing Plan for the Darling Alluvial Groundwater Sources 2020).*

Summary of PEW rule changes

The baseline WSPs that were in place for the Darling Alluvium WRP area on 23 November 2012 were:

- *Water Sharing Plan for the Barwon–Darling Unregulated and Alluvial Water Sources 2012* (version for 4 October 2012 to 4 July 2013) – abbreviated as Barwon-Darling 2012 WSP
- *Water Sharing Plan for the Lower Murray-Darling Unregulated and Alluvial Water Sources 2011* (version for 6 July 2012 to 30 June 2020) – abbreviated as Lower Murray 2011 WSP
- *Water Sharing Plan for the Intersecting Streams Unregulated and Alluvial Water Sources 2011* (version for 6 July 2012 to 30 June 2020*)* – abbreviated as Intersecting Streams 2011 WSP

The proposed Darling Alluvium WRP incorporates for accreditation relevant clauses from WRP Schedule A *Water Sharing Plan for the Darling Alluvial Groundwater Sources 2020* (Schedule A).

There are changes to PEW rules and provisions detailed in s. 4.1.2 of the Darling Alluvium 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 Authority 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 the WSP
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 WSPs 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 15 and 16 no longer commit water as PEW by reference to the 'physical presence of water'.

The baseline WSPs also established the physical presence of water in the Darling Alluvium 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 Schedule A. 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 WSPs.

Rule change 2 – Changes to LTAAELs

The LTAAELs for the Paroo Alluvial, Warrego Alluvial and Upper Darling Alluvial groundwater sources have been reduced to align with the SDL for the Upper Darling Alluvium SDL resource unit.

The LTAAEL for the Lower Darling Alluvial groundwater source is now expressed as a specific volume, incorporating estimated shares for the ongoing extraction for salinity and water table management purposes. The LTAAEL aligns with the SDL for the Lower Darling Alluvium SDL resource unit.

Rule Change 3- Provisions that describe how assessment against the long-term average annual extraction limits is calculated have changed between the baseline WSPs and Schedule A 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 WSPs, 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 LTAAELs is calculated. One of these changes is the assessment of compliance with LTAAELs which has changed for the Warrego, Paroo and Upper Darling Alluvial Groundwater Sources from a 3-year rolling average to a 5-year rolling average. In addition, a new clause has been included (cl 28) that allows the NSW Minister to make further available water determinations if assessment demonstrated non-compliance with limits.

Rule change 4 – Changes to water allocation account rules

The supporting information 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 15 and 16 no longer commit PEW by reference to the physical presence of water as it did in the baseline WSPs but instead maintains the physical presence through the provisions in Division 1 of Part 6 and Division 1 of Part 8 of Schedule A. Additionally, the baseline WSPs protected PEW by reference to the estimated recharge in the groundwater sources and this approach no longer applies.

Compared to the baseline WSPs, 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 WSPs 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 extraction limit at the commencement of the relevant baseline WSPs. 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, there has been a 1% decrease in the rainfall between 1889 to 2011 (the rainfall period for the baseline WSPs) and 1889 to 2019 (the rainfall period that would have applied for Schedule A if the same approach to the commitment of PEW had been applied). Therefore, the elimination of a reference to rainfall recharge in the establishment of PEW in the proposed WRP does not reduce protection of PEW.

As a result of the changes to the way that PEW is identified in the Lower Murray 2011 WSP, Schedule A no longer reduces the volume of PEW by reference to salinity and water table access rights. However, these rights are accounted for within the LTAAEL and thus the protection of PEW is at least maintained.

Rule change 2 – Changes to LTAAELs

Text for accreditation at s. 4.1.2 of the proposed WRP describes changes to the LTAAELs pointing to reductions for the Paroo Alluvial, Warrego Alluvial and Upper Darling Alluvial groundwater sources have been reduced and outlining changes relating to the Lower Darling Alluvial groundwater source.

The volumetric changes are shown through the comparison of WSP clauses set out in Appendix 1.

It is noted that the LTAAEL for the Lower Darling Alluvial groundwater source is now expressed as a specific volume, incorporating estimated shares for the ongoing extraction for salinity and water table management purposes as reflected in the BDL for the Lower Darling Alluvium SDL resource unit.

The LTAAELs align with the SDLs for the respective SDL resource units and the protection of PEW is at least maintained by these changes and may be considered an improvement in protection over the long-term by limiting further growth to sustainable limits.

Rule change 3 – 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 the Warrego, Paroo and Upper Darling Alluvial Groundwater Sources in the WRP area. For these groundwater sources, the baseline WSPs (Barwon-Darling 2012 and Intersecting Streams 2011) assessed non-compliance if the 3 year average of extraction exceeded the extraction limit, while for the Lower Darling groundwater source non-compliance was assessed by reference to the 5 year average of extraction. 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 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 28 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 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 in the baseline and WSPs.

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 Division 1 of 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 to LTAAELs

The combined LTAAELs for the Paroo Alluvial, Warrego Alluvial and Upper Darling Alluvial groundwater sources has decreased. The most significant change is for the Upper Darling Alluvial groundwater source where the LTAAEL has reduced from 17,120 ML/year in the Barwon-Darling 2012 WSP (cl 33) to 6,009 ML/year in Schedule A (cl 24) reflecting historical levels of use from the groundwater source and within the SDL for the Upper Darling Alluvium SDL resource unit.

The LTAAEL for the Lower Darling Alluvial groundwater source is now expressed as a volume, incorporating the estimate for salinity and water table access rights that applied at the time the Basin Plan was first made. The LTAAEL reflects the BDL and SDL for the Lower Darling Alluvium SDL resource unit.

Overall, these changes maintain the quantity of PEW and may provide improved protection into the future by limiting further growth.

Rule change 3 – 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 and manage any potential growth in consumptive use.

There are some circumstances in which the move from a 3 year rolling average to a 5 year rolling average for the assessment of compliance may represent a temporary reduction in protection for the relevant water sources. However, this must be considered alongside the new provisions included to ensure compliance with the long-term average SDL, as well as with the LTAAEL. As such, rule change 3 is not expected to result in a reduction in protection of the volume of PEW.

Section 4.1.2 of the proposed WRP notes that there has also been a provision added to cl 28 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. This provision also allows 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 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 4 – Changes to water allocation account rules

Section 4.1.2 of the proposed WRP notes that the water allocation account rules in Part 8 have 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.

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 Darling Alluvium 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	Proposed WRP Text Reference	Proposed WRP Text
Water Sharing Plan for the Lower Murray-Darling Unregulated and Alluvial Water Sources 2011 (version for 6 July 2012 to 30 June 2020) cls 14(2)(a), 15(2)(a)(ii) and (iii)	**14 Commitment and identification of planned environmental water** (2) Water is committed and identified as planned environmental water in these water sources, in the following ways: (a) by reference to the commitment of the physical presence of water in these water sources. **15 Establishment and maintenance of planned environmental water** (2) Planned environmental water in these water sources is established as follows: (a) it is the physical presence of water: (ii) in the Lower Darling Alluvial Groundwater Source that is equal to 80% of the long term average annual rainfall recharge to the Lower Darling Alluvial Groundwater Source minus the share components of all salinity and water table	*Water Sharing Plan for the Darling Alluvial Groundwater Sources 2020* cls 15, 16	**15 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. **16 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,

Baseline Text Reference	Baseline text	Proposed WRP Text Reference	Proposed WRP Text
	management access licences in the Lower Darling Alluvial Groundwater Source granted under clause 35 of this Plan, and **Note.** At the commencement of this Plan the long term average annual rainfall recharge for the Lower Darling Alluvial Groundwater Source is estimated to be 10,963 ML/yr. (iii) in the Lower Darling Alluvial Groundwater Source that is within the groundwater storage of the Lower Darling Alluvial Groundwater Source over the long term,		**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 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 for use 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.**

Baseline Text Reference	Baseline text	Proposed WRP Text Reference	Proposed WRP Text
			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.
Water Sharing Plan for the Intersecting Streams Unregulated and Alluvial Water Sources 2011 (version for 6 July 2012 to 30 June 2020) cls 15(2)(a), 16(2)(a)(ii)-(iv), 16(2)(b)(ii)-(iv)	**15 Commitment and identification of planned environmental water** (2) Water is committed and identified as planned environmental water in these water sources in the following ways: (a) by reference to the commitment of the physical presence of water in these water sources, **16 Establishment and maintenance of planned environmental water** (2) Planned environmental water in these water sources is established as follows: (a) the physical presence of water: (ii) in the Warrego Alluvial Groundwater Source, that is equal to 75% of the long-term average annual rainfall recharge in areas that are not high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan, **Note.** At the commencement of this Plan the long-term average annual rainfall recharge for the Warrego Alluvial		

Baseline Text Reference	Baseline text	Proposed WRP Text Reference	Proposed WRP Text
	Groundwater Source is estimated to be 3,904 ML/year in those areas that are not high environmental areas and 493 megalitres per year in high environmental areas. (iii) in the Paroo Alluvial Groundwater Source, that is equal to 75% of the long-term average annual rainfall recharge in areas that are not high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas at the commencement of this Plan, and **Note.** At the commencement of this Plan the long-term average annual rainfall recharge for the Paroo Alluvial Groundwater Source is estimated to be 4,104 ML/year in those areas that are not high environmental areas and 319 megalitres per year in high environmental areas. (iv) in the Intersecting Streams Alluvial Groundwater Sources, is within the groundwater storage over the long term, (b) the long-term average annual commitment of water as planned environmental water in: (ii) the Warrego Alluvial Groundwater Source which is equal to 75% of the long-term average annual rainfall recharge, (iii) the Paroo Alluvial Groundwater Source which is equal to 75% of the long-term average annual rainfall recharge, and (iv) the Intersecting Streams Alluvial Groundwater Sources which is equal to the volume of water within the groundwater storage over the long-term,		

Baseline Text Reference	Baseline text	Proposed WRP Text Reference	Proposed WRP Text
Water Sharing Plan for the Barwon-Darling Unregulated and Alluvial Water Sources 2012 (version for 4 October 2012 to 4 July 2013) cls 16(a), 17(1)(a)(ii)&(iii), 17(1)(b)(ii)&(iii)	**16 Commitment and identification of planned environmental water** Water is committed and identified as planned environmental water in these water sources in the following ways: (a) by reference to the commitment of the physical presence of water in these water sources, **17 Establishment and maintenance of planned environmental water** (1) Planned environmental water is established in these water sources as follows: (a) it is the physical presence of water: (ii) in the Upper Darling Alluvial Groundwater Source that is equal to 50% of the long-term average annual rainfall recharge in areas that are not high environmental value areas and 100% of the long-term average annual rainfall recharge in high environmental value areas, and **Notes.** 1 At the commencement of this Plan the long-term average annual rainfall recharge for the Upper Darling Alluvial Groundwater Source is estimated to be 34,240 megalitres per year (hereafter ML/year) in those areas that are not high environmental value areas and 4,598 ML/year in high environmental value areas. 2 Recharge and high environmental value areas are defined in the Dictionary. (iii) in the Upper Darling Alluvial Groundwater Source that is within the groundwater storage of		

Baseline Text Reference	Baseline text	Proposed WRP Text Reference	Proposed WRP Text
	the Upper Darling Alluvial Groundwater Source over the long term, **Note.** Groundwater sources generally store large volumes of water, often accumulated over thousands or even tens of thousands of years. The amount of annual recharge is often very small compared to this stored volume. The average annual volume of water permitted to be extracted under the rules in this Plan is less than the average annual recharge of the Vegetable Alluvial Groundwater Sources over the long term, ensuring that water within the groundwater storage of the Vegetable Alluvial Groundwater Sources is protected from extraction. (b) it is the long-term average annual commitment of water as planned environmental water in: (ii) the Upper Darling Alluvial 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 and 100% of the long-term average annual rainfall recharge in high environmental value areas, and (iii) the Upper Darling Alluvial Groundwater Source that is within the groundwater storage of the Upper Darling Alluvial Groundwater Source over the long term,		

Rule Change 2: Changes to identification of LTAAELs

Table 2. – Provisions relating to changes to the identification of LTAAELs

Baseline Text Reference	Baseline text	Proposed WRP Text Reference	Proposed WRP Text
Water Sharing Plan for the Lower Murray-Darling Unregulated and Alluvial Water Sources 2011 (version for 6 July 2012 to 30 June 2020) cl 26(3)	**26 Volume of the long-term average annual extraction limits** (3) Subject to subclause (4), the long-term average annual extraction limit for the Lower Darling Alluvial Groundwater Source is: (a) 1,529 ML/year, plus (b) the share components of any salinity and water table management access licences in the Lower Darling Alluvial Groundwater Source granted under clause 35 of this Plan. **Note.** The long term average annual extraction limit for the Lower Darling Alluvial Groundwater Source consists of: (a) the sum of entitlements issued under Part 5 of the Water Act 1912 in this water source, plus (b) an estimate of annual water requirements for domestic and stock rights and native title rights in this water source, plus (c) the sum of all salinity and water table management access licences in the Lower Darling Alluvial Groundwater Source granted under clause 35 of this Plan.	*Water Sharing Plan for the Darling Alluvial Groundwater Sources 2020* cl 24	**24 Long-term average annual extraction limits** (1) The long-term average annual extraction limit for the Lower Darling Alluvial Groundwater Source is 2,230 ML/year. (2) The long-term average annual extraction limit for the Paroo Alluvial Groundwater Source is 292 ML/year. (3) The long-term average annual extraction limit for the Upper Darling Alluvial Groundwater Source is 6,009 ML/year. (4) The long-term average annual extraction limit for the Warrego Alluvial Groundwater Source is 289 ML/year. **Notes.** 1 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 Lower Darling Alluvium (GS23) groundwater SDL resource unit specified in Schedule 4 to the Basin Plan. 2 The sum of the long-term average annual extraction limits for the groundwater sources specified in subclauses (2), (3) and (4) equates to the long-term average sustainable diversion limit for the Upper Darling Alluvium (GS42) groundwater SDL resource unit specified in Schedule 4 to the Basin Plan.
Water Sharing Plan for the Intersecting Streams Unregulated and	**27 Volume of the long-term average annual extraction limits**		

Baseline Text Reference	Baseline text	Proposed WRP Text Reference	Proposed WRP Text
Alluvial Water Sources 2011 (version for 6 July 2012 to 30 June 2020) cls 27(3)&(4)	(3) The long-term average annual extraction limit for the Warrego Alluvial Groundwater Source is 976 megalitres (hereafter ML). **Note.** The long-term average annual extraction limit for the Warrego Alluvial Groundwater Source is equal to the long-term average annual rainfall recharge minus the amount of recharge reserved as planned environmental water under clause 16 (2) (a) (ii). (4) The long-term average annual extraction limit for the Paroo Alluvial Groundwater Source is 1,026 ML. **Note.** The long-term average annual extraction limit for the Paroo Alluvial Groundwater Source is equal to the long-term average annual rainfall recharge minus the amount of recharge reserved as planned environmental water under clause 16 (2) (a) (iii).		
Water Sharing Plan for the Barwon-Darling Unregulated and Alluvial Water Sources 2012 (version for 4 October 2012 to 4 July 2013) cl 33(3)	**33 Volume of the long-term average annual extraction limits** (3) Subject to any variation under subclause (4), the long-term average annual extraction limit for the Upper Darling Alluvial Groundwater Source is 17,120 ML/year. **Notes.** 1 The long-term average annual extraction limit for the Upper Darling Alluvial Groundwater Source is equal to the estimated long-term average annual rainfall recharge minus the amount of rainfall recharge reserved as planned environmental water under clause 17 (1) (b) (ii). 2 The long-term average annual extraction limit for the Upper Darling Alluvial Groundwater Source results in		

Baseline Text Reference	Baseline text	Proposed WRP Text Reference	Proposed WRP Text
	unassigned water estimated to be 11,319 ML at the commencement of this Plan.		

Rule Change 3: Changes to LTAEEL compliance

Table 3. Provisions that describe how the assessment against the long-term average annual extraction limits is calculated

Baseline Text Reference	Baseline text	Proposed WRP Text Reference	Proposed WRP Text
Water Sharing Plan for the Lower Murray-Darling Unregulated and Alluvial Water Sources 2011 (version for 6 July 2012 to 30 June 2020) cls 30(3)&(4)	**30 Compliance with the long-term average annual extraction limit for the Lower Darling Alluvial Groundwater Source** (3) Commencing in the sixth water year in which this Plan has effect, if, in the Minister's opinion, the assessment under clause 28 demonstrates that annual extractions in the Lower Darling Alluvial Groundwater Source averaged over the preceding five water years have exceeded the long-term average annual extraction limit for that water source by 10% or more, then the available water determination for aquifer access licences in that water source is to be reduced in the following water year in accordance with subclause (4). (4) The reduction under subclause (3) must be of an amount that is, in the Minister's opinion, necessary to return average annual extractions in the respective water source to the long-term average annual extraction limit established in this Part.	*Water Sharing Plan for the Darling Alluvial Groundwater Sources 2020* cls 26(2), 28(6)	**26 Assessment of compliance with long-term average annual extraction limits** (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 the following— (a) 10% or more for the Lower Darling Alluvial Groundwater Source, (b) 5% or more for the Paroo Alluvial Groundwater Source, (c) 5% or more for the Upper Darling Alluvial Groundwater Source, (d) 5% or more for the Warrego Alluvial Groundwater Source. **28 Compliance with limits** (6) If the Minister makes a reduced available water determination pursuant to subclauses (2) or (3), the Minister may make further available water determinations in the water year subject to clause 29 (2).

Baseline Text Reference	Baseline text	Proposed WRP Text Reference	Proposed WRP Text
Water Sharing Plan for the Intersecting Streams Unregulated and Alluvial Water Sources 2011 (version for 6 July 2012 to 30 June 2020) cls 32(2)&(3)	**32 Compliance with the long-term average annual extraction limits for the Intersecting Streams Alluvial Groundwater Sources** (2) Commencing in the fourth water year in which this Plan has effect, if in the Minister's opinion the assessment under clause 30 demonstrates that annual extractions in the respective water source averaged over the preceding three water years has exceeded the long-term average annual extraction limit for that water source by 5% or more, then the available water determinations for aquifer access licences in that water source are to be reduced in the following water year in accordance with subclause (3). (3) The reduction under subclause (2) is to be of an amount that is, in the Minister's opinion, necessary to return average annual extractions in the respective water source to the long-term average annual extraction limit established in this Part.		
Water Sharing Plan for the Barwon-Darling Unregulated and Alluvial Water Sources 2012 (version for 4 October 2012 to 4 July 2013) cls 37(3)&(4)	**37 Compliance with the long-term average annual extraction limit for the Upper Darling Alluvial Groundwater Source** (3) Commencing in the fourth water year in which this Plan has effect, if, in the Minister's opinion, the assessment under clause 35 (3) demonstrates that the average of the annual extractions in the Upper Darling Alluvial Groundwater Source in the preceding three water years has exceeded the long-term average annual extraction limit established under clause 33 (3) for the Upper Darling Alluvial Groundwater Source by 5% or more, then available water determinations for aquifer		

Baseline Text Reference	Baseline text	Proposed WRP Text Reference	Proposed WRP Text
	access licences in that water source are to be reduced for 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 the long-term average annual extractions in the Upper Darling Alluvial Groundwater Source to the long-term average annual extraction limit established in this Part.		

Rule Change 4: Changes to water allocation account rules

Table 4. Provisions that describe how water account allocation rules have changed between the baseline WSP and WSP.

Baseline Text Reference	Baseline text	Proposed WRP Text Reference	Proposed WRP Text
Water Sharing Plan for the Lower Murray-Darling Unregulated and Alluvial Water Sources 2011 (version for 6 July 2012 to 30 June 2020) cl 39(2)	**39 Individual access licence account management rules for access licences in the Lower Darling Alluvial Groundwater Source** (2) In any water year, the maximum volume of water that may be taken under an access licence to which this clause applies 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 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	*Water Sharing Plan for the Darling Alluvial Groundwater Sources 2020* cl 35	**35 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, salinity and water table management access licences or aquifer 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	Proposed WRP Text Reference	Proposed WRP Text
	(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.		(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.
Water Sharing Plan for the Intersecting Streams Unregulated and Alluvial Water Sources 2011 (version for 6 July 2012 to 30 June 2020) Clause 43(2)	**43 Individual access licence account management rules for the Intersecting Streams Alluvial Groundwater Sources** (2) In any water year, the water taken under an access licence with a share component that specifies the Intersecting Streams Alluvial 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 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.		
Water Sharing Plan for the Barwon-Darling Unregulated and Alluvial Water Sources 2012 (version for 4	**43 Individual access licence account management rules for the Upper Darling Alluvial Groundwater Source** (2) In any water year in which this Plan has effect, water taken under an access licence must not exceed a volume equal to:		

Baseline Text Reference	Baseline text	Proposed WRP Text Reference	Proposed WRP Text
October 2012 to 4 July 2013) cl 43(2)	(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 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 recredited to the water allocation account for the access licence in accordance with section 76 of the Act in that water year.		