

Government response to the Natural Resources Commission recommendations for the Murray Unregulated River Water Sharing Plan

This document outlines how the department has responded to the independent review of the *Water Sharing Plan for the Murray Unregulated River Water Sources 2011* under S43A of the *Water Management Act 2000*.

Water Sharing Plans (plans) are statutory instruments under the *Water Management Act 2000* (the WM Act). They prescribe how water is managed to support sustainable environmental, social, cultural and economic outcomes. They intend to provide certainty regarding rules for water sharing for water users over the life of the plan, which is typically 10 years unless it is extended.

The *Water Sharing Plan for the Murray Unregulated River Water Sources 2011* (the initial plan) was due to expire on the 30 June 2022.

The Natural Resources Commission (NRC) has a role under Section 43A of the WM Act to review plans within five years of expiry and report to the minister on:

- the extent that the plan's water sharing provisions have materially contributed to the achievement of, or failure to achieve, environmental, social and economic outcomes
- if changes to plan provisions are warranted.

The [final review report](#) is available on the [NRCs website](#).

The NRC may recommend extending or replacing a water sharing plan, depending on its review findings. In this instance, the NRC recommended replacing the plan by no later than 30 June 2024.

Recommendations and suggested actions arising from the NRC review and how the Department of Climate Change, Energy, the Environment and Water (the department) have responded are outlined below.

NRC Recommendations

Recommendation 1

The plan should be:

- a. extended for a further two years until 30 June 2024, to allow time to complete data collection and analysis
- b. replaced by 1 July 2024, supported by the completion of the recommendations of this review.

Department response to 2021 review

The replacement plan is scheduled to commence on 1 July 2024.

Action taken to address NRC recommendation

A replacement plan, the *Water Sharing Plan for the Water Sharing Plan for the Murray Unregulated River Water Sources 2024* (the new plan), was made under section 50 of the *Water Management Act 2000* and commenced on 1 July 2024.

Recommendation 2

When remaking the plan, to ensure all extraction under the plan is managed to protect, preserve and maintain the water sources and dependant ecosystems, DPIE-Water¹ should:

- a. establish and publish sustainable, numeric LTAAELs, ensuring they are based on best available information, including ecological requirements, an accurate estimate of all forms of extraction and climate change
- b. ensure the LTAAEL includes all forms of interception and extraction.

Department response to 2021 review

- a. Partially agree. The Basin Plan sets an environmentally sustainable diversion limit for each water resource plan area. NSW water resource plans demonstrate that the Sustainable Diversion Limit (SDL) has been complied with and, where it has not, what action must occur to ensure extraction is reduced below the SDL. This is a requirement of the Basin Plan. Any

¹ Note: All references to the Department of Planning Industry and Environment – Water, DPIE-Water, the Department of Planning and Environment or DPE - Water refer to the NSW government Water Group, which is currently known as the Department of Climate Change, Energy, the Environment and Water – Water Group (DCCEEW - Water).

review of extraction limits would need to be undertaken within the framework of the Basin Plan review in 2026 and would likely coincide with a review of sustainable diversion limits for the NSW Murray and Lower Darling Water Resource Plan.

- b. Partially Agree. The Long Term Average Annual Extraction Limits (LTAAELs) were based on the best available information at the time the plan was developed. Reviewing the information used to calculate the LTAAELs for inland unregulated water sharing plans would require agreement that the work is a priority and can be resourced. As noted above any changes to the LTAAELs would need to be negotiated with the Commonwealth Government as it would have implications for the Basin Plan.

Action taken to address NRC recommendation

Basic Landholder Rights (BLR) estimates have been updated to more accurately reflect current BLR take. The plan provides up to date estimates of BLR and access licence share components.

The department has included a provision in the plan for publication of numeric LTAAELs. Based on this information the department may amend the plan to include the numeric LTAAEL.

Additionally, this numeric LTAAEL must be further considered to determine a sustainable level of take (required considerations set out in the plan). Input from the NRC will be sought in relation to review of adequacy of calculations and method application for this work.

Additionally, the department will consider the outcomes of a current work program informing maintenance of water supply in inland regulated river systems. This is a key piece of work in relation to climate considerations within plans.

Recommendation 3

When remaking the plan, to improve alignment with the priorities in the Act, DPIE-Water should:

- a. include economic dependence on town water supply when considering social and economic impacts of proposed changes to water sharing rules
- b. ensure that CTPs are established based on environmental sustainability and basic landholder needs
- c. specify what the post-augmentation CTPs for Snowy Valleys Council would be in the plan
- d. ensure that the plan rules encourage town water supply augmentation in line with the plan's objectives.

Department response to 2021 review

- a. The department considers the best available social and economic information where changes to rules are proposed. Future plan replacements will be informed by the Water Sharing Plan Evaluation Program currently in development.
- b. Agree. The department has processes in place to incorporate new scientific information into plan replacements including collaboration with NSW Fisheries as part of the development of the High Ecological Value Aquatic Ecosystems (HEVAE) and Risk Assessment for the plan areas. Review of Cease to Pump (CtP) thresholds considers a range of scientific information including Environmental Water Requirements (EWRs) described in the Long Term Water Plan (LTWP), where appropriate.
- c. Disagree. Review of town water supply arrangements, such as conditions on Town Water Supply (TWS) and Local Water Utilities (LWU) licences and linked water supply works approvals, is not part of the water sharing plan replacement process but is conducted under separate processes managed by the department.
- d. Partially Agree. Consideration will be given to including operating arrangements if TWS is augmented and new access conditions are required to be developed.

Action taken to address NRC recommendation

- a. Limited social and economic data was available at the time of the plan re-make. However, the potential implications of rule changes, including social and economic impacts, have been tested through the public consultation processes and considered by the department and an interagency Regional Working Group when developing options and agreeing on rules for the new plan.
- b. Collaboration with DPI Fisheries was part of the development of the HEVAE and Risk Assessment for the plan area. Review of CtP thresholds considered a range of scientific information, including BLR requirements and EWRs described in the Long Term Water Plan (LTWP).

Implementation of the Monitoring, Evaluation and Reporting (MER) program will commence in 2024. This will clarify the roles and responsibilities, reporting requirements, governance arrangements and timeframes associated with the program. Social, economic and environmental outcome evaluation methods have been developed and applied to pilot water sharing plans for surface water and reviewed by the NRC. Work has now commenced on expanding method statements to include groundwater specific components. NSW also undertook the first benchmarking survey to collect primary data that informs the evaluation of

social outcomes of water sharing plans. Data was collected from communities and water users across all water sharing plan areas.

Recommendation 4

When remaking the plan, DPIE-Water should ensure the plan facilitates equitable sharing of water by:

- a. determining the rate of growth in extraction and interception since timeframes set in the plan rules and estimate growth into the future
- b. revising plan provisions to clearly outline how allocations would be adjusted to respond to growth in various types of use where necessary to meet the LTAAELs, and ensuring these rules allocate reductions fairly
- c. ensuring that any options for reducing allocations where necessary are consistent with the Act and Basin plan.

Department response to 2021 review

- a. Partially agree. The Basin Plan requires NSW to undertake annual SDL reporting for all SDL resource units. The Murray Darling Basin Authority (MDBA) will provide transparent and timely accounts of all water take in the Basin through the establishment, maintenance and publication of the Register of Take. MDBA will report the status of SDL compliance in its annual water take reports.
- b. and c. Partially agree. It would be inappropriate to include provisions that fetter the Minister's discretion. The plan specifies what compliance action is to occur when extraction exceeds the plan limit, which is reducing Available Water Determinations (AWDs) for lower priority users (i.e., unregulated and/or high flow licence categories). However, the amount of the reduction is not specified in the plan as it varies depending on the amount of exceedance, the licence category driving the growth and results from hydrologic analysis which are peer reviewed. On this basis alone it would be inappropriate to specify set figures for AWD reductions. Updating share components in the plan is a standard part of the replacement process. The data is taken from the access licence register which is the source of licensing information.

Action taken to address NRC recommendation

No further action taken. The plan sets the rules for calculating extraction or interception, assessing compliance of this extraction or interception with the LTAAELs and the SDL, and responding if there is non-compliance.

Recommendation 5

By 2023, to improve environmental outcomes DPIE-Water should:

- a. ensure the replacement plan reflects the latest information on environmental water needs, including from the NSW Murray and Lower Darling LTWP and associated fish and flows advice from the Department of Primary Industries (DPI) – Fisheries
- b. revise provisions to address identified concerns for medium- to high-risk water sources, including:
 - i. a first flush rule for Tooma River
 - ii. strategies within the scope of the Plan that can help mitigate the extreme flow variability and provide more stability around base flows to better mimic more natural rates of rise and fall in the Swampy Plains and Upper Murray water sources
 - iii. opportunities to reduce extractive pressure in the Albury and Hume water sources
 - iv. reviewing the current gauging network to identify where new gauges may be warranted to reduce reliance on no visible flow rules in medium- to high-risk water sources.
- c. In consultation with environmental water managers, determine the best mechanism for protection of held environmental water and include those arrangements in the Plan to avoid reliance on temporary water restrictions
- d. work with DPIE-Environment, Energy and Science (EES)² and DPI-Fisheries to identify regionally significant wetlands/off-river pools where water access is currently permitted, assess the risks to these sites and the adequacy of current rules in protecting environmental values from extraction
- e. consider how plan provisions can help to ameliorate water quality issues, including those arising from the 2019-20 bushfires.

² Note: All references to the Department of Planning, Industry and Environment - Environment, Energy and Science, DPIE EES, the Department of Planning and Environment - Environment and Heritage Group or DPE EHG are referring to the NSW government Environment Group, which is currently known as DCCEEW Biodiversity, Conservation and Science Group.

Department response to 2021 review

- f. Partially agree. New information will be considered when reviewing the water sharing arrangements and EWRs will be an important part of the options development stage, where appropriate. The department has processes in place to incorporate new scientific information into plan replacements including collaboration with NSW Fisheries as part of the development of the High Ecological Value Aquatic Ecosystem (HEVAE) and risk assessment for the plan areas. Review of Cease to Pump (CtP) thresholds considers a range of scientific information including EWRs described in the LTWP, where appropriate. However, LTWPs aren't designed to develop water sharing rules, they are required under the Basin Plan to implement the Basin Watering strategy. They prioritise ecological assets and include targets which inform the management of water across the Basin. In many cases it is not appropriate to align access rules in unregulated water sources with EWRs as they are not achievable under 'baseline' conditions. There would likely be significant impacts on licence holders in unregulated systems where water has not been recovered and cannot be managed to achieve EWR targets. Often EWRs are either absent or defined in a manner that is not measurable in these areas. It is also difficult to align CtP rules with EWRs in unregulated systems as there is generally limited gauging and a lack of flow information. The department will continue to work closely with DPI Fisheries and the department's Biodiversity, Conservation and Science Group to develop access rules to improve environmental outcomes where required.
- g. Agree. Risk-based management assists water managers to prioritise and plan and direct resources to monitor, mitigate or respond to the highest overall risks. The risk assessment can be considered a 'red flag' process to provide guidance for where more detailed investigation may be required during plan replacement.
- i. First flush rules may be considered for Tooma River, when the access rules are reviewed.
 - ii. Water sharing rules for Swampy Plains and Upper Murray water sources will be reviewed during the replacement of the plan.
 - iii. Pressures on Albury and Hume water sources are noted in the risk assessment and will be considered when reviewing the water sharing rules for the water sources.
 - iv. A hydrometric review of the inland gauging network was undertaken in 2020 and will inform any future investment in infrastructure.
- h. Agree. The department will continue to work closely with the environmental water manager to determine the best mechanism to protect held environmental water and include these arrangements in the plan, where appropriate.

- i. Partially Agree. The department will continue to work with the Biodiversity, Conservation and Science Group and DPI Fisheries to identify regionally significant assets including wetlands at risk, to improve environmental outcomes.
- j. Disagree. The Murray and Lower Darling water quality management plan refers to the Local Land Services (LLS) Murray and Western Local Strategic Plan 2016-2021 as the appropriate plan for the implementation of land management actions that will assist in improving water quality. Potential options to respond to water quality issues may be considered but there is limited ability to resolve land management issues through the water sharing plan.

Action taken to address NRC recommendation

- a. See the department response.
- b.
 - i. First flush rules were considered for Tooma River when the access rules were reviewed. Further review of flagged risks in Tooma River was undertaken during the plan replacement. No actual risks were identified. A first flush rule is not required and the existing CtP rule has been retained.
 - ii. Water sharing rules for Swampy Plain and Upper Murray Water Sources were reviewed during the replacement of the plan. After review, no change to rules were made. Cooperative efforts to achieve more natural flows in the Swampy Plain and Upper Murray River Water Sources should occur through separate processes.
 - iii. Pressures on Albury and Hume water sources were noted in the Risk Assessment and considered when reviewing the water sharing rules for these water sources. Further review of the flagged risks in Albury and Hume water sources determined that the existing CtP rules are adequate to mitigate identified risks. No change to access rules were made.
 - iv. A hydrometric review of the inland gauging network was undertaken in 2020 and will inform any future investment in infrastructure. The plan area has relatively good gauges coverage and no proposals for new gauges were identified.
- c. No new mechanisms to protect environmental water were identified during plan replacement. In the mid-Murray, Section 324 orders will continue to be used to protect releases of environmental water from Murray Irrigation Limited's footprint. Work to protect environmental water in the unregulated Murrumbidgee plan area is ongoing and

may lead to new mechanisms that could be applied in the Murray plan during its term, if in the public interest to do so.

- d. After review, no new rules have been introduced in the replacement plan for off-river pools. However, new rules to better protect significant wetlands are included that prohibit new surface water works into and within 3 km upstream of internationally significant (Ramsar) wetlands and into significant wetlands. These rules do not apply to replacement water supply works. Trade into these wetlands is also prohibited.
- e. No new rules have been applied. The issue is more appropriately and effectively addressed through mechanisms outside of the water sharing plan.

Recommendation 6

In remaking the plan, revise the provisions to improve management of the Mannus Creek Water Source by:

- a. reviewing the environmental values for Mannus Creek Water Source and ensuring the flow requirements of threatened species and other environmental values are considered
- b. reviewing the CTP rules for Mannus Creek and replacing the height rule with a flow condition that references the current Mannus Creek gauge
- c. ensuring the plan reflects the changed location of the gauge and reviewing the location of water access licences to check they are in the appropriate water management zone
- d. including the Mannus Dam operating rules in the plan and review environmental flow requirements in light of recent studies (including the five-yearly assessment of environmental impacts), the impact from bushfires and the needs of water users.

Department response to 2021 review

- a. Partially Agree. During replacement of the plan, the best available information will be used when reviewing CtP rules. This information includes HEVAE assessments for the 2017 Risk Assessment for the Water Resource Plan (WRP) and studies by DPI Fisheries and Charles Sturt University/Murray LLS.
- b. Agree. As part of plan replacement the current height rule in Mannus Upstream Management Zone will be reviewed with the aim of introducing access rules linked to the flow reference gauge in the water source.

- c. Agree. When replacing the plan, the locations of water access licences will be checked in Mannus Water Source, with particular regard to the slight change in location of the reference gauge for the upstream management zone.
- d. Partially Agree. For unregulated rivers, environmental flow and access conditions are generally specified on the work approval or access licence held by the LWU. If the LWU infrastructure is augmented, the existing environmental flow conditions will be reviewed in light of the benefits and potential impacts of the proposed changes. These operational rules may be included in the plan if it is determined to be appropriate.

Action taken to address NRC recommendation

- a. Environmental values and flow requirements were considered when developing rules for the Mannus Water Source.
- b. The rules in the Mannus Upstream Management Zone were reviewed and new access rules have been introduced that link to the Mannus Creek at Glenroy No.2 gauge (401029). The new access rule is a CtP of 1 ML/day at the current Mannus Creek at Glenroy No.2 gauge (401029).
- c. The new plan map includes the location of the replacement gauge 401029. The department has reviewed the locations of water supply works and none are affected by the slight change in location of the reference gauge. No further action is required.
- d. After review, it was determined not to reference conditions on the water supply works approval for Mannus Lake in the plan. The release rules specified in the conditions on the water supply work approval for Mannus Lake have been distributed to relevant parties for increased transparency.

Recommendation 7

When remaking the plan, DPIE-Water should take into consideration the native title claims, Indigenous Land Use Agreements (ILUAs), IPAs, and other Aboriginal land agreements in the plan area – particularly the Bangerang Nation, Yorta Yorta Nation and the Werai IPA to identify cultural values and uses. Sufficient additional time should be allowed to undertake detailed engagement with Traditional Owners and other Aboriginal knowledge holders on options to support these values and uses and make any final amendments.

Department response to 2021 review

Agree. The amended plan will automatically recognise any native title determinations and Indigenous Land Use Agreements (ILUAs) that are made in the plan area. An amendment provision to specifically refer to the native title rights following the granting of a native title claim during the life of the plan will be included. This information would be specific to each determination.

The department liaises with Native Title claimants and determinants regarding water associated with their determination. No immediate update of the plan is required, and no amendments will be made prior to the 2024 replacement plan being made as the determination does not specify any specific volumes and no ILUAs have yet been established that are relevant to water.

The department will consider the issue of Indigenous Protected Areas (IPAs) and their relationship to the management of water resources.

Action taken to address NRC recommendation

The plan recognises the requirement for water that may be taken in the exercise of native title rights in accordance with the *Native Title Act 1993* of the Commonwealth, including any determination of native title, and any Indigenous Land Use Agreement. It can also be amended to reflect the outcome of any pending Native Title claims, once determined.

Recommendation 8

When remaking the plan, to better achieve Aboriginal water outcomes, DPIE-Water should:

- a. identify and protect known high value cultural sites in the replacement plan
- b. undertake further work with a range of Aboriginal Traditional Owners and knowledge holders, including Aboriginal women, to better understand water values and uses, identify the rules to protect them, and support water access and use
- c. ensure that where additional entitlement becomes available, that Aboriginal water needs are assessed as a priority
- d. undertake state-wide actions identified in Commission water sharing plan reviews to improve consideration and respect for native title and Aboriginal values in water sharing plans.

Department response to 2021 review

Agree. Through the Aboriginal Water Program (AWP) the department intends to work more closely with NTSCORP³ (the Native Title representative body for NSW) and Native Title holders.

Through the AWP the department proposes to stand up a team of 8 Aboriginal engagement officers to provide meaningful engagement with a range of Aboriginal Traditional Owners, groups and knowledge holders. The AWP has also proposed to establish 12 Regional Aboriginal Water Committees (RAWCs) across the state and to inform and assist the department.

The AWP is to develop an online keeping place for knowledge about Aboriginal water dependent cultural sites, where the existing and new information can be held.

Action taken to address NRC recommendation

The 2024 replacement plan recognises the requirement for water that may be taken in the exercise of native title rights in accordance with the *Native Title Act 1993* of the Commonwealth, including any determination of native title, and any indigenous land use agreement. It can also be amended to reflect the outcome of any pending Native Title claims, once determined. The pilot Cultural Watering Plan program has commenced which will enable the department to gain a better understanding the Cultural (and other) watering needs of Aboriginal communities and highlight opportunities and barriers to achieving the desired outcomes. Insights from the pilot plans will be used to better inform policy and planning decisions to make water more accessible for Aboriginal people.

The Regional Aboriginal Engagement Team is dedicated to improving consultation with Aboriginal stakeholders on water management and planning. The team has established 12 Regional Aboriginal Water Committees across NSW. The purpose of the committees is to give greater recognition to Aboriginal water rights and interests, ensuring Aboriginal people can contribute to water management. A committee has been established for the Murray area.

The department is committed to improving information provided to First Nations people about water management and access. Improved information and communication materials fosters informed participation in engagement processes and builds greater awareness of water access mechanisms. This is in line with the principles of free, prior and informed consent (FPIC) as outlined in the department's Indigenous Cultural and Intellectual Property (ICIP) Protocol.

³ NTSCORP Limited is the Native Title Service Provider for Aboriginal Traditional Owners in NSW and the ACT.

The Aboriginal Water Strategy is set to provide the strategic direction to the commitments made by the department. It is proposed to be guided by 4 key priorities which are to:

- strengthen the role of Aboriginal people in water planning and management
- provide Aboriginal ownership of and access to water for cultural and economic purposes
- work with Aboriginal people to maintain and preserve water-related cultural sites and landscapes
- work with Aboriginal people to improve shared water knowledge and build capacity.

The strategy will be co-designed with Regional Aboriginal Water Committees and Peak Aboriginal Organisations. There will be an opportunity for the public to provide input before its intended finalisation by the end of 2024.

Recommendation 9

When remaking the plan, to facilitate improved outcomes, DPIE-Water should include an amendment provision to allow the plan to be modified as needed in response to changes in the Snowy Scheme program that impact transfers and releases of water into the plan area.

Department response to 2021 review

Disagree. Open-ended amendment provisions which do not specify how rules will change and what the impacts will be are not supported. The plan can be amended at any time, if it is in the public interest to do so.

Action taken to address NRC recommendation

No action taken.

Recommendation 10

By June 2023, to improve plan-based MER, DPIE-Water should:

- a. refine and implement the NSW Murray and Lower Darling Surface Water WRP Monitoring, Evaluation and Reporting Plan and ensure that monitoring programs not currently identified in this plan are incorporated, for example Macquarie perch monitoring, Mannus Dam environmental monitoring and monitoring of the use of held environmental water in unregulated rivers

- b. expedite the finalisation and publication of DPIE-Water's water sharing plan evaluation framework and methods manuals and ensure there is multi-agency support and oversight of their implementation
- c. identify feasible and appropriate resourcing to support ongoing MER activities
- d. specify timely reporting requirements of the results of MER activities to support transparency, public awareness and adaptive management
- e. identify and address critical knowledge gaps to support adaptive management
- f. use the recently developed prioritisation framework to prioritise MER activities based on values and risk. Clearly communicate how this framework interacts with monitoring plans and publicly report on where and why effort is being targeted.

Department response to 2021 review

- a. Partially agree. The NSW Murray and Lower Darling Surface Water Water Resource Plan (WRP) MER Plan was developed specifically for WRPs to meet the requirements of the Basin Plan.
- b. Agree. The department is currently developing a NSW Water Sharing Plan Evaluation Program that includes;
 - Monitoring, Evaluation, Reporting and Improvement (MERI) framework
 - A prioritisation tool
 - Evaluation Methods Manuals, and
 - Evaluation and monitoring plans.

The department is working with NSW agencies including the NRC to ensure an agreed approach to water sharing plan Monitoring, Evaluation and Reporting (MER). Implementation of the framework will commence in 2024 beginning with evaluations for water sharing plans due to reach plan term in 2026/27.

- c. Noted. The implementation of any MER program is dependent on having a defined, long term budget. While every effort to maintain a MER program will be made, the ability to implement aspects in a MER plan is limited by resources.
- d. e. and f. See b.

Action taken to address NRC recommendation

Implementation of the MER program will commence in 2024. This will clarify the roles and responsibilities, reporting requirements, governance arrangements and timeframes associated with the program. Social, economic and environmental outcome evaluation methods have been

developed and applied to pilot surface water water sharing plans and reviewed by the NRC. Work has now commenced on expanding method statements to include groundwater specific components. NSW also undertook the first Benchmarking survey to collect primary data that informs evaluation of social outcomes of water sharing plans. Data was collected from communities and water users across all water sharing plan areas.

The department, as part of plan provisions, has added a requirement for the Minister to prepare a monitoring, evaluation and reporting (MER) plan. The MER plan is to be published by 30 June 2025 and each year the Minister is to publicly report on the implementation of the water sharing plan, including progress against the MER plan. Additionally, evaluation reporting is to be undertaken by year nine of the water sharing plan.

Suggested action 1

DPIE-Water should:

- a. undertake regular LTAAEL compliance assessments
- b. use AWDs to ensure extraction remains below LTAAELs as required by the plan rules.

Department response to 2021 review

- a. Partially agree. The department acknowledges LTAAEL assessments have not been undertaken for the plan area to date due to a lack of metered extraction information which has presented significant challenges. As part of the development of implementation programs for the unregulated water sharing plans, the department is considering methods for assessing compliance with extraction limits, including developing procedures. The implementation of the 2018 Non-Urban Metering Regulations will significantly improve the department's Unregulated LTAAEL and compliance regime.
- b. Agree. The water sharing plan specifies what compliance action is to occur when extraction exceeds the plan limit, which is reducing AWDs for lower priority users (i.e., unregulated and/or high flow licence categories).

Action taken to address NRC recommendation

The department is undertaking two pilot unregulated LTAAEL compliance assessments in the Lachlan and Richmond catchments. The method uses the best available information, including remote sensing data, and will be reviewed to include metering data when available. Pending the outcomes of the pilots, the method will be applied to other unregulated water sources. The

department has consulted with the NRC on the project plan and intends to consult further on the pilot results, when complete.

Suggested action 2

To facilitate improved environmental outcomes, DPIE-Water should work with Snowy Hydro Limited (Snowy Hydro) to assess and minimise the environmental impact of water release patterns from the Snowy Scheme on the plan area's water sources.

Department response to 2021 review

Agree. The department works closely with Snowy Hydro on a range of water management issues.

Action taken to address NRC recommendation

No further action taken.

Suggested action 3

When remaking the plan, the department should ensure that licences for miscellaneous alluvial aquifers are given daily access rules that align with any connected surface water sources managed under the plan. This would involve:

- a. reviewing bore logs to determine if any licences in the water sharing plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources are extracting from an alluvial aquifer rather than porous rock
- b. assessing the potential volumes of alluvial extraction relative to surface water extraction
- c. publishing the results and, if extraction potential from alluvial aquifers is significant, outline and consult on steps to manage risks.

Department response to 2021 review

Partially Agree. However, the alluvial water sources of the water sharing plan were removed as part of the 2020 plan amendment. Groundwater extraction is managed under the *Water Sharing Plan for the Murray Alluvial Groundwater Sources 2020* and this issue should be raised as part of the replacement process for that plan.

Action taken to address NRC recommendation

No further action taken.