



Wilcannia Weir Upgrade Environmental Impact Statement Public Exhibition August 2022

Commonwealth Environmental Water Office Submission

This submission is provided by the Commonwealth Environmental Water Office (CEWO) and is focussed on the potential impacts of planned operation of the weir on the delivery and protection of water for the environment. The submission does not constitute advice from the Commonwealth Department of Climate Change, Energy, the Environment and Water regarding assessments and decisions under the *Environment Protection and Biodiversity Conservation Act 1999*.

Weir Operation and Operational Plan

The operation of the weir will determine the scale of any impacts of the weir on the environment and how effective mitigation options such as releases and the fishway will be. The Environmental Impact Statement (EIS) indicates the operational plan has been developed in consultation with WaterNSW, and other key stakeholders, including the Department of Planning and Environment (DPE) – Water, DPE Environment and Heritage Group, Department of Primary Industries – Fisheries and the Murray Darling Basin Authority, and that the operating rules would be refined during commissioning of the new weir. As an environmental water licence holder, the CEWO would welcome the opportunity to be involved in the refinement of the operational plan.

Protection of water for the environment

The New South Wales Government has committed to protect environmental water instream under the *Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin*¹:

5.4 The Parties will work to facilitate the use of environmental water by protecting environmental water in-stream and on land, and in consideration of any associated third party impacts, where feasible and agreed by:

- a) implementing measures, to enable the delivery of held environmental water in-stream through arrangements such as water shepherding to facilitate environmental flows;
- b) enabling further use of environmental water at multiple locations along the river, such as through return flow provisions;
- c) enabling river operators to deliver specified flow rates at particular locations to meet environmental water requirements within capacity constraints and as efficiently and effectively as possible;
- d) working together to refine methods to accurately monitor, measure and account for environmental water use and return flows; and
- e) implementing measures to enable environmental water to be used to supplement unregulated flows, while addressing third party impacts.

It is imperative the operational plan gives effect to the NSW Government commitment to protect environmental water instream.

Connectivity

The Commonwealth manages unregulated entitlements in four management zones in the Barwon–Darling River as well as regulated and/or unregulated entitlements in many of the tributary catchments of the

¹ [Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin | Federation](#)

Barwon–Darling. Water for the environment in the Barwon–Darling is left in the river to help support native fish and refuge habitat, improve connectivity and water quality and support a range of other environmental outcomes. Depending on the source of water, the volumes used, antecedent conditions and other flows in the system water for the environment may flow past Wilcannia and into Menindee Lakes. During dry times, regulated Commonwealth water for the environment from tributary catchments has been used to support native fish, connectivity, and refuge habitat in the Barwon–Darling (in 2018², 2019³, and 2020–21⁴). A number of these events contributed flows beyond Wilcannia. In some of these events Commonwealth environmental water was the only source of water in the system. Under the proposed drought operations for the new structure, the northern connectivity event in 2018 would not have reached Menindee Lakes.

The EIS indicates the dual operating mode is designed to minimise upstream and downstream environmental impacts of the raised weir level through inclusion of progressive lowering, progressive closure, and translucency rules. However, the potential impacts of the operation of the structure on the delivery and protection of water for the environment in the Barwon–Darling are unclear. Since 2020, Active Management arrangements in NSW protect environmental water from tributaries and within the Barwon–Darling system from extraction and ensure water for the environment remains in the river for its intended environmental purposes. The operational plan should outline how the weir will be operated consistent with the [Active Management Procedures Manual](#).

During drought mode operation, the protocols indicate the weir and fishway will be closed during the filling phase. This operation could capture water for the environment and prevent it being passed through the weir to provide environmental outcomes downstream. The EIS proposes a translucency rule during drought mode operation when there are inflows into the new town weir pool and pool 1 and when the weir pool is between drought full supply (66.71m) and 65.54m AHD (drought FSL minus 1.17m). The EIS also indicates that a planned environmental water nominal minimum discharge of 350 ML/day would be able to be discharged over the top of the storage in drought operation mode coordinated with WaterNSW. This may mean planned environmental water at flow rates less than this are captured in the weir during drought operation mode preventing the release of very low flows that may replenish downstream refuges along the Barwon–Darling.

During dry times, there may be circumstances where water for the environment is the only source of water in the river and may be at flow rates that may not trigger the translucency rule and therefore may be captured in the weir. The drought mode protocols should enable water for the environment to pass through the structure and ensure consistent and transparent implementation of application of active management in the Barwon–Darling. One option would be to pass all active environmental water above 65.71m AHD to enable waterholes between Wilcannia and Menindee to be replenished (i.e. current practice). Again, the CEWO would welcome opportunities to be involved in future discussions to help refine the operational plan.

Resumption of flows

The first flow of water after a period of low or no flows has a range of ecologically significant and important social and cultural benefits and outcomes. In July 2020, the NSW Government introduced a Resumption of Flow Rule in the *Water Sharing Plan for the Barwon–Darling Unregulated River Water Source (2012)* (Barwon–Darling WSP) to protect the critical first flows after an extended low-flow or dry period until a range of flow targets along the Barwon–Darling are met including targets at Wilcannia. While the EIS indicates extraction of town water supply is exempt from the Resumption of Flow Rule, the

² [The Northern Rivers - DCCEEW; Final Report on the Northern Connectivity Event \(April – July 2018\) - DCCEEW](#)

³ [The Northern Rivers - Northern Fish Flow - DCCEEW](#)

⁴ [Northern Waterhole Top-up - DCCEEW](#)

operational plan should describe how the weir will be operated consistently with the Resumption of Flow Rule to ensure critical human and environmental needs downstream of Wilcannia will be met.

Fish passage

Providing effective fish passage for all life stages is critically important to improve native fish populations in the Basin. The EIS indicates the existing Wilcannia Weir prevents upstream fish passage except during high flow events and the new weir is designed to provide upstream and downstream fish passage when flows are greater than 60 ML/day. Addressing priority barriers to fish passage in the Barwon–Darling will improve the ability to achieve outcomes for native fish from all water sources including environmental water deliveries and other flows. The operational procedures for the new structure need to consider how to maximise upstream and downstream movement for native fish and other biota throughout the year in the suite of flow conditions. Ideally the fishway should be functional all the time or as much as possible. The operational plan notes the need to consider if the fishway should remain partly open and to further develop the sequencing of the fishway closure in consultation with stakeholders. It is encouraging the operational plan is being prepared in consultation with NSW DPI Fisheries.

Flow gauging

The mode of operation of the weir is determined by several reference gauges to consider flows passing Bourke, Wilcannia and downstream of Wilcannia Weir (425038, 425008, 425058). According to the draft operational plan activation of the drought mode/filling stage is driven by flows passing Myandetta gauging station 425038. *Myandetta' gauging station 425038* and *Moorabin gauging station (425058)* show on the NSW [Real-time data](#) site, however, they do not currently show on the NSW [WaterInsights](#) page where flow and water access announcements in the Barwon–Darling are provided. To increase transparency of operation it would be valuable if the gauges used in the operational protocol are included on the WaterInsights website as well.

Summary

The operating rules are an important determinant of the scale of any impacts from the weir and the effectiveness of mitigation options (releases and fish passage). The operational protocols should:

- ensure water for the environment is passed through the structure both during normal operations and drought operations to support environmental outcomes.
- consider how to operate the weir to minimise impacts to the hydrology and the whole of life-cycle issues for aquatic species - including physical, hydraulic and riparian habitat; food sources; movement, breeding and dispersal; and associations with other species.
- ensure the fishway is active as often as possible to maximise upstream and downstream movement of aquatic biota.
- clarify how the weir will be operated in accordance with the resumption of flows rules in the Barwon–Darling WSP.
- should be developed in a timely manner, adequately prescribed, be clear and be publicly available.
- include review periods to ensure operational protocols are effective and are meeting objectives (i.e. fish passage) and identify whether improvements can be made.
- ensure weirs and fishways are operated, regularly maintained in a timely manner.

The CEWO would welcome opportunities to be involved in refinement of the operational plan.