

## Connectivity Stakeholder Reference Group – submissions summary

The Connectivity Stakeholder Reference Group was established to provide a range of diverse perspectives to the Department of Planning and Environment on the proposed approach to river connectivity. This was ahead of broader public consultation on connectivity as part of the draft Western Regional Water Strategy.

The group consists of representatives from Aboriginal nations, water user groups, conservation groups, local government, the Murray–Darling Basin Authority and the Commonwealth Environmental Water Office.

### Scope of submissions

We asked the group to provide feedback on the draft ‘Critical dry condition triggers to reduce risk to environmental and human water needs’ discussion paper and the material discussed during 3 online stakeholder meetings:

- NSW Regional Water Strategies: Draft Connectivity Options – November 2021
- Connectivity analysis methods for observed data in the Barwon–Darling and Lower Darling – 26 November 2021
- Critical needs analysis – 7 October 2021
- Analysis to support low flow connectivity discussions – 25 August 2021.

Links to these resources can be found on the [Connectivity Stakeholder Reference group pages](#) of the department’s website.

### Submissions overview

We received 8 submissions in total from the following organisations within the group:

- Australian Floodplain Association
- Commonwealth Environmental Water Holder
- Inland Rivers Network
- Menindee Stakeholder Group
- Murray River Strategy Group
- Nature Conservation Council
- NSW Irrigators Council
- Southwest Water Users Association.

In general, stakeholders supported opportunities to simplify rule sets and improve river health and resilience. Downstream stakeholders were concerned that there was less water flowing along the Barwon–Darling and into Menindee Lakes. Ideally, these stakeholders would like to see changes to the water sharing plans to prohibit upstream water take if downstream needs haven’t been met.

Water user stakeholders are concerned that there has been incremental restrictions on their water use and would like to see a cumulative impact assessment of water reforms.

Environmental stakeholders would like to see greater commitments to reforming the way that water is used in the Northern Basin to provide improved environmental outcomes.

Most of the issues raised by the submissions could be divided into 2 broad categories:

- Interim Unregulated Flow Management Plan for The North-West (North-West Flow Plan)
- Section 324 triggers.

An overview of these 2 focus areas can be found below. Other comments were also raised more generally about the department's connectivity work and water management issues.

## North-West Flow Plan

### General matters

- Targets should be linked to the best contemporary information available and subject to appropriate scientific rigor. This information should be shared in a transparent way.
- The government should consider which parts of NSW and QLD should be subject to the North-West Flow Plan. Some stakeholders suggested that the Macquarie catchment should continue to be excluded from the application of the plan.
- The plan's performance and success should be reported on.

### Department's response

- The department is considering the Barwon–Darling Long Term Water Plan as well as other contemporary knowledge about basic landholder and town water needs as part of the review of the connectivity targets in the North West Flow Plan.
- There is limited benefit in applying the North-West Flow Plan to the Intersecting Streams and Macquarie catchments because:
  - restricting supplementary licence access in the Macquarie valley is unlikely to provide a measurable benefit to the end of the system flows or to flow targets in the Barwon–Darling because there are comparatively small amounts of these categories of entitlement in the valley and major contributions from the Macquarie–Waambur River into the Barwon–Darling occur primarily during larger flow events. For example, under a hypothetical example, even if all supplementary water use was restricted in the Macquarie valley, it will only provide an end-of-system flow increase of 3.4 GL/yr with less water flowing further downstream.
  - there is limited water taken in the Intersecting Streams and extraction of water is mainly for stock and domestic purposes.
- NSW has no statutory powers to compel Queensland to change its water resource management. However, we recognise that engaging with the Queensland Government to progress these reforms is a critical part of the connectivity work.
- The North-West Flow Plan includes a commitment to regularly review the plan's performance. At the very least, if the plan is implemented, its performance would be reviewed as part of the water sharing plan evaluation.

### Riparian targets

- There was some support for updating the targets to reflect contemporary science.
- Some stakeholders suggested that the riparian targets should be aligned to meet environmental objectives (such as to enable fish spawning, decrease salinity and maintain non-woody vegetation communities).

### Department's response

- The current objective of the riparian targets in the North-West Flow Plan is to meet a human need (riparian basic landholder right rather than outcomes for riparian zones within the river system). Changing this to an environmental objective would be a significant change to the intent of the target. There are alternative targets in the North West Flow Plan that aim to meet water quality and fish movement objectives.

### Algal suppression targets

- There was limited support for retaining the existing algal suppression targets.
- There was support for updating the targets to align with long-term water plan objectives and other contemporary science.

### Department's response

- This preference has been noted and is being considered in the review of the North West Flow Plan fish targets
- There was support for updated and expanded flow targets in combination with other fish health mechanisms to ensure optimum fish outcomes.
- Some stakeholders suggested expanding the purpose of the target to include fish spawning and migration.

### Department's response

- Spawning and migration are considered types of fish movement. As such, we do not propose to amend the purpose in the plan.
- Fishway infrastructure requires flows to work effectively in enabling fish passage. Fishways also reduce the magnitude of flows that are needed for successful fish passage.
- Other options being considered that would have beneficial outcomes for fish include:
  - The Better Baaka proposal which is looking at options to install fishways on weirs along the Barwon–Darling River.
  - The Northern Basin Toolkit which is providing funding for the Fish for the Future: Fish-friendly Water Extraction Project, which will involve screening the intakes of small to large water extraction pumps in the Barwon–Darling to ensure fish are not removed from targeted areas, improving the resilience of native fish populations in relevant catchments. The project aims to protect juvenile native fish.

## Section 324 triggers

### General matters

- More work is needed to understand cultural water requirements.
- Some stakeholders were concerned that there has been no assessment of the cumulative impacts of water reforms on water users.
- One stakeholder stated that the natural ephemeral state of the Darling and Northern Basin rivers must be recognised, clearly communicated, and factored into decision-making.
- Proposed triggers are reactive and need to be implemented earlier. A better approach should prevent the need for Section 324 orders by protecting natural pulses and medium to low flows from tributaries before critical dry conditions occur.

- Some stakeholders suggested that triggers for lifting restrictions should take into consideration the conditions in the local valley and local environmental sites.

### Department's response

- We are working through the most appropriate engagement pathway to understand how to incorporate estimates of water for native title rights and cultural water requirements into the proposed triggers.
- We acknowledge that cease-to-flow periods occur frequently in the Northern Basin and this was the basis of the modelling presented at the first Connectivity Stakeholder Reference Group meeting in August 2021. The proposed triggers are based on longer cease-to-flow events that create the most risk for critical human and environmental needs.
- We propose to update the draft triggers for initiating and lifting s324 temporary water restrictions. The updated proposal includes:

Proposed Trigger for implementing temporary water restriction	Proposed Trigger for lifting temporary water restriction
When there is a high confidence forecast cease-to-flow period of 120 days at Wilcannia (20ML/day at Darling River at Wilcannia 425008)	Forecast 400 ML/day for 10 days (or 4,000 ML)
When there is a high confidence forecast cease-to-flow for 60 days at Bourke (0ML/day at Darling River at Bourke 425003)	Forecast 972 ML/day for 10 days (or 9,720 ML)
Menindee Lakes storage <sup>1</sup> forecast to fall below 195 GL capacity <sup>2</sup> . Once this trigger is reached there would be no releases beyond the minimum flow requirements from lakes Wetherell, Pamamaroo Menindee, Cawndilla and Tandure	<p>If releases have ceased below the Menindee Lakes, restrictions would not be lifted until the Lakes were forecast to have enough water to provide up to 12 months supply for human needs and allow the river to be restarted in a way that reduces the risk to water quality issues downstream and fish deaths.</p> <p>This will depend on conditions at the time and any operating constraints. For example:</p> <ul style="list-style-type: none"> <li>- If the Lower Darling river hasn't ceased to flow, triggers could be lifted once the Lakes are above 195GL</li> <li>- If the Lower Darling River has ceased to flow, additional water above the 195GL, such as 60GL, may be required to restart the river<sup>3</sup></li> </ul>

<sup>1</sup> Menindee Lakes Storage has the same meaning as it does under the Murray-Darling Basin Agreement

<sup>2</sup> A 195GL floodplain harvesting restriction is also being proposed which would be eased when local valley targets are forecast to be met

<sup>3</sup> A 60 GL Lower Darling River Flow Re-start allowance has been proposed to be included in the water sharing plan for the Lower Darling

	<ul style="list-style-type: none"> <li>- If evaporation rates are extreme and operational constraints require water to be held in inefficient lakes, more water will be required in the Lakes before the restrictions can be lifted</li> </ul> <p>The trigger for lifting restrictions may need further refinement following consultation.</p>
<p>All or most of the northern valleys and/or Barwon–Darling River system are classified as Drought Stage 4 criticality under the Department's drought stages.</p> <p>AND/OR</p> <p>cease to flow for 30 days or more extended periods for any of the following locations <sup>4</sup>:</p> <ul style="list-style-type: none"> <li>• Border Rivers - Macintyre at Goondiwindi (416201A)</li> <li>• Gwydir River - Mehi at Moree (418002)</li> <li>• Macquarie - below Warren Weir (421004)</li> <li>• Namoi - below Mollee Weir (419039)</li> </ul>	<p>Resumption of flow targets for the Northern tributaries such as:</p> <ul style="list-style-type: none"> <li>• Border Rivers - Macintyre at Goondiwindi –3,600 ML over 7 days</li> <li>• Gwydir River - Mehi at Moree – 3,600 ML over 7 days</li> <li>• Macquarie - below Warren Weir – 21,000 over 7 days</li> <li>• Namoi: below Mollee Weir – 8,000 ML over 7 days<sup>5</sup></li> </ul>

### Rule-based triggers

- There was a preference for rules-based approaches, rather than reliance on Section 324 orders to make sure rules are transparent, predictable and not subject to ad-hoc decision-making or political discretion.
- There was support for clear rules around which trigger point has priority.

### Department's response

- Section 324 orders should be viewed as an extraordinary measure used under extreme circumstances rather than as a routine practice.
- Regional water strategies are examining the long-term options for improving connectivity, including less reliance on Section 324 orders, and potentially incorporating similar rules into water sharing plans

### Water quality targets

- There was support for additional water quality monitoring at key locations.

<sup>4</sup> Locations and cease to flow period to be determined following feedback from consultation

<sup>5</sup> The northern valley triggers are interim proposals and linked to when the regulated valleys are in Drought Stage 4. We will continue to research the most appropriate trigger locations and durations.

- Stakeholders outlined that the proposed water quality triggers may not be implemented until it is too late

### Department's response

- The draft discussion paper reviewed by the Connectivity Stakeholder Reference Group included draft triggers that would influence water being released from Menindee Lakes to address water quality issues in the Lower Darling. We have decided to remove the water quality triggers from the s324 temporary water restriction triggers because temporary water restrictions are not the most appropriate tool in managing water quality issues. Instead water quality will continue to be a focus in the Western Regional Water Strategy and as part of the operational management of Menindee Lakes.

### Meaningful contributions

- Some stakeholders suggested that the term 'meaningful contribution' when referring to making decisions on whether to restrict flows should not be used as it can be ambiguous and creates uncertainty for water users. Any flow contribution into a dry or stressed system is meaningful and all events should be protected until targets are met.

### Department's response

- "Meaningful contribution" refers to lifting restrictions when forecasts show that, even without extraction, the downstream target would not be met. Therefore access is allowed because there is no 'meaningful contribution'. This is how the 2020 first flush event was managed i.e. if the nearest downstream target was not met, restrictions were lifted. and access was permitted.
- Given the feedback to date, at this stage we propose to be more explicit in informing stakeholders when s324 orders will be implemented and lifted and suggests that access will not be permitted until the downstream lifting target is met. However, this position will be tested with the broader community as part of the Western Regional Water Strategy public consultation process. Views received on this issue will shape if lifting restrictions are based on meaningful contribution of flows to downstream targets.

### Wilcannia target and Menindee storage target

- Some stakeholders did not support the trigger at Wilcannia, suggesting that 120 days of no flow at Wilcannia is far too long. Alternative options for the Wilcannia target were suggested.
- Some stakeholders requested additional targets for towns upstream of Wilcannia.
- Many responses outlined that the Menindee storage target should be amended. Some stakeholders suggested that a time-based target (such as 18 months) should be used instead of a static volume-based target. Others suggested that the 195 GL target is not sufficient, and the volume should be higher.
- Timing of tributary inflows along the length of the Barwon–Darling must be factored in along with travel times for flows

### Department's response

- For critical human needs, we have considered the water needs for towns, domestic and stock, and basic landholder rights. For critical dry environment needs, we have looked at the thresholds at which a deterioration in refuge pool conditions could lead to an increased



risk of unacceptable damage to environmental assets. These thresholds are the points when timely intervention may prevent damage altogether.

- We considered a draft trigger that would provide up to two summers, or 18 months', supply in Menindee Lakes under no inflows, but still with required water sharing plan releases which meet town, domestic and stock, and commercial needs. We did not progress this because significantly larger volumes of water would be required to be stored in lakes Pamamaroo and Copi Hollow that would also mean that a substantial amount of that water would be lost to evaporation.
- The NSW Government has also proposed to include a new rule in water sharing plans that would restrict floodplain harvesting access when there is less than 195GL being stored in Menindee Lakes, until local in-valley targets are forecast to be met.
- Given stakeholder feedback, we are proposing to develop a trigger for Bourke, in addition to Wilcannia. The critical dry environmental triggers are based on the MDBA (2018) guidelines for the maximum cease-to-flow durations that would naturally occur at Bourke and Wilcannia. We are looking at developing other ways to identify critical thresholds including active monitoring of refuge pools once flows have ceased. If this is a viable approach, other locations beside Bourke and Wilcannia will be identified where critical conditions will be monitored to increase our understanding and to inform future management options.
- The temporary water restrictions are designed to protect critical water supplies during unexpected extreme events. They are not intended to be used routinely on an ongoing basis.

## Next steps

We are updating the draft critical dry condition triggers to reduce risk to environmental and human water needs based on targeted stakeholder engagement feedback to date. This includes the feedback provided in this document by the Connectivity Stakeholder Reference Group.

The revised document will be released for broader public consultation together with the draft Western Regional Water Strategy where the community will have the opportunity to provide comment.

We will need to undertake further work to understand cultural needs in the context of an extended drought and first flush.

Community consultation will be undertaken in 2022 through the Western Regional Water Strategy process.