



Ensuring LTAAELs are sustainable

Note: This brief reflects the Commission's recent findings in relation to inland unregulated water sharing plans.

As Issue brief #1 discussed, the Commission's recent review of seven inland unregulated water sharing plans¹ completed from 2021-2023 found that these plans do not include clear, numeric long-term average annual extraction limits (LTAAELs) (See Issue brief #1).

In addition, we found that DPE-Water has not assessed the current, descriptive LTAAELs in these plans to determine if they are sustainable over the long term. As outlined in Issue brief #1, LTAAELs are intended to be the limit on the amount of water that can sustainably be taken from the system on average over the long-term.

The lack of assessment of sustainability of the LTAAELs creates a material risk that many of these water sharing plans are not achieving their intended outcomes and that the Act's priorities are not being given effect. This must be addressed as a priority.

The sections below explain this issue in more detail including why having sustainable LTAAELs matters and sets out the Commission's recommendation for addressing it.

What are LTAAELs intended to do?

The intent of the LTAAELs is to manage extraction to a limit that is sustainable over the long-term. If the annual average volume of water taken from an extraction management unit is exceeded by a certain percentage over a specified timeframe (typically over a period of three years), then actions to reduce extraction are triggered. The LTAAEL is intended to ensure that sufficient water remains in the system over the long term to:

- protect the health of the water sources and their dependent ecosystems
- meet basic landholder rights (including domestic and stock needs and native title holder rights to water) and town water supply needs
- provide for sufficient flows downstream to help ensure the above goals, and the plans socio-economic objectives can be met along the length and breadth of the system.

These goals can only be realised if the extraction limits are sustainable over the long-term.

1: Murray Unregulated River Water Sources 2011; Intersecting Streams Unregulated River Water Sources 2011; Lower Murray-Darling Unregulated River Water Sources 2011; NSW Border Rivers Unregulated River Water Sources 2012; Castlereagh Unregulated River Water Sources 2011; North Western Unregulated and Fractured Rock Water Sources 2011; Murrumbidgee Unregulated River Water Sources 2012.

How were the current LTAAELs established?

The LTAAELs currently included in the inland unregulated water sharing plans are based on historic water use. For example, they typically include a component that is equal to historic annual use averaged over the period 1 July 1993 to 30 June 1999 (as data were available for this period).

The Commission's understanding is that these LTAAELs were set as an interim cap only, to prevent further growth in water usage to ensure that the health of water sources and their dependent ecosystems at least did not deteriorate further. The intention was that these interim limits would be assessed and revised over time as better information became available to assess their sustainability and adequacy for achieving the three goals outlined above.

However, this assessment and revision has not yet been undertaken. We note that DPE-Water has recently begun work to develop a method for defining sustainable LTAAELs for coastal unregulated water sources only. It is currently only in the pilot stage and not yet published.

Are current LTAAELs sustainable?

Whether the LTAAELs in the unregulated water sharing plans are sustainable is a difficult question to answer as no assessment of this has been done. However, the Commission considers there is a high probability that in many cases they are not. For example:

- Current LTAAELs are not based on environmental water requirements, despite the environment being a priority under the *Water Management Act 2000* (the Act). New information collated during the term of the plans should inform the establishment of ecologically sustainable LTAAELs.

- Current LTAAELs were not set with adequate consideration of climate variability or climate change. As noted above, they were based primarily on historic usage over a fixed period of less than 10 years. No consideration was given to whether annual flows in that period were higher or lower than the long-term average, or to the projected impacts of climate change on future average annual flows.

In our view, to be sustainable, the LTAAELs would need to (among other things) be set with consideration of a full suite of climate scenarios and recognise that the future climate is uncertain. They would also need to be regularly assessed and refined to take account of new information and updated climate modelling. While we recognise this would be a complex undertaking, it is a necessary part of adaptive management, consistent with the principles of the Act.

Over the past decade, there have been significant improvements in scientific understanding of climatic variability and climate projections. DPE-Water has also recently expanded its understanding of NSW's climate – both historically via the paleoclimate dataset, and with respect to climate change through work undertaken as part of Regional Water Strategies. This new information and knowledge should inform the development of sustainable extraction limits.

Doesn't the Basin Plan already set sustainable limits?

The Murray Darling Basin Plan includes extraction limits called "sustainable diversion limits" (SDLs). These limits are based on the "baseline diversion limits" minus required savings for the environment. As part of the process for complying with the Basin Plan 2012, the water sharing plans are being updated to refer to the SDLs set by the Basin Plan 2012 and include requirements to meet the SDLs. However, the LTAAELs and SDLs

serve different purposes and SDLs cannot be used as the extraction limits for water sharing plans for two main reasons.

First, they are not set at the appropriate scale. The SDLs are for specified “surface water resource units”. In most cases, these units span more than one water sharing plan area. For example, the Namoi surface water resource unit spans:

- The Upper Namoi and Lower Namoi regulated river water sharing plan area
- The Namoi and Peel unregulated rivers water sharing plan area, and
- The Peel regulated river water sharing plan area.

Second, the current SDLs are not based on the latest available data, including on projected climate change. The MDBA is set to review the SDLs in 2025.

Why are sustainable LTAAELs important?

Water sharing plans establishes rules to manage extraction at three scales:

- **Long term:** LTAAELs control the amount of water that can be extracted over the long term in each extraction management unit. Setting these limits is critical; a limit that is too high will reduce the amount of water remaining for the environment and downstream water users, while a limit that is too low reduces economic and social opportunities. LTAAEL assessment should include all extraction for consumptive (non-environmental) use, including basic landholder rights.
- **Medium term:** Available water determinations (AWDs) allocate the volume of water that can be extracted under access licences each year. The Plan requires AWDs to be used to retrospectively reduce extraction if the LTAAEL is exceeded. To date, AWDs have not been used to reduce risks to the unregulated water sources (see Issue brief #1).

- **Short term:** daily access rules define when licensees can extract water. These include rules like “cease to pump” requirements and establishment of flow classes. They are intended to protect the needs of the environment, basic landholder rights and water utilities on a daily basis.

Appropriate rules to manage water at all three scales is essential for sustainably managing water sources, with LTAAELs being the critical tool for management of extraction over the long-term. The water sharing plans are fundamentally based around ensuring that water is protected for priority needs, including the environment and basic land holder rights. Without assessing LTAAELs to ensure that they are adequately protective over the long term there is a real risk that the plans cannot meet the priorities specified in the Act.

Communities depend on healthy rivers that are adequately protected by the water sharing plans. If LTAAELs are not sustainable and not enforced this can contribute to a decline in river health over the long term and also impact on communities and their relationship with rivers.

The Commission considers that as a minimum the LTAAEL should take into consideration what is required to support the integrity of water sources and their water dependent ecosystems but also the fundamental water needs of communities reliant on a Plan’s water sources. This includes basic landholder rights, town water needs, domestic and stock use, but also what is needed for Aboriginal people to prosper and support cultural values and practices.



What are the Commission's recommendations?

As part of its reviews of inland unregulated river water sharing plans the Commission has recommended that:

- To support adaptive management during the term of the replacement Plan, the Plan should include a provision requiring DPE-Water to determine the sustainable level of extraction by Year 5 based on best available ecological requirements, hydrological and climate information and that these levels are used to define and amend the Plan's LTAAELs for each extraction management unit.

Ideally the determination of sustainable numeric LTAAELs should occur in a timely manner to inform the review of the Basin Plan scheduled for 2026 and any information used to derive sustainable LTAAELs should be shared with the MDBA. However, the Commission acknowledges that it will take time to establish and implement a method for determining sustainable LTAAELs. Therefore, recommendations in the Commission's reviews have indicated that the sustainable numeric LTAAELs be established by Year 5 of a replacement water sharing plan.

DPE-Water's recently released water sharing plan replacement manual indicates they will review the current method for defining LTAAELs in response to the recurring recommendations of the Commission regarding the need for sustainable LTAAELs, with an initial focus on coastal water sharing plans.² While this is welcome, no timeframes have been provided nor has sufficient detail been shared as to what will be included in the revised method.

2: NSW Department of Planning and Environment (2022) [Replacement water sharing plan manual](#), p.18 and 29.