



Need to set numeric extraction limits and assess compliance

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

The Commission's review of seven inland NSW unregulated water sharing plans from 2021 to 2023¹ identified that:

- These plans do not include numeric long-term average annual extraction limits for the water sources they govern.
- DPE-Water has not assessed how much water is extracted from these sources each year, nor compared this actual usage to the extraction limits to assess compliance with the plans.

A water sharing plan's ability to achieve its objectives is dependent upon compliance with its extraction limits. Therefore, these issues create a material risk that many of the inland unregulated water sharing plans are not achieving their intended outcomes.

The Commission considers that both these issues must be addressed as a matter of priority. These plans have been in place for at least 10 years. Previous audits of water sharing plan implementation and reviews have repeatedly identified these concerns and the potentially serious risks they create. The plans currently include no mechanism to ensure precautionary steps are taken to protect water sources in the event compliance assessments are not completed.

The sections below provide more information to explain why the issues matter and set out the Commission's recommendations for addressing them.

What is an extraction limit?

The *NSW Water Management Act 2000* (the Act) requires all water sharing plans to specify rules for environmental water². Water sharing plans achieve this in part by setting long-term average annual extraction limits (LTAAELs) for each extraction management unit in the plan area.

An LTAAEL specifies the amount of water that can be taken from the extraction management units by licence holders within a specified time period. They are intended to ensure that the amount extracted or diverted from the water sources by users does not exceed a sustainable level, so enough water remains in the rivers, streams or other sources to maintain their ecological health and that of the ecosystems they support.

To be effective in doing this, an LTAAEL must specify the amount that can be taken in clear, measurable terms and must apply at a scale appropriate for managing the water source sustainably.

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

2: *NSW Water Management Act 2000* Sections 8 and 20.

This will:

- enable regular and comprehensive assessments of compliance with the plan extraction limits, and
- ensure extraction limits are clear and transparent to all water users in the region.

How were the current LTAAELs determined?

When the current unregulated water sharing plans were written, limited data were available to determine extraction limits. Therefore, descriptive LTAAELs were set in line with extraction levels at a set point in time. This was meant to ensure that water extraction was limited to existing levels until better information was available to estimate the level of extraction sustainable over the long term, and LTAAELs could be updated.

The Commission has identified that sustainable LTAAELs have not been estimated as intended, and their continued refinement has not occurred. The sustainability of long-term extraction limits is discussed separately in Issue brief #2.

What is a “numeric” LTAAEL and why is it important?

A numeric LTAAEL expresses the extraction limit as the number of megalitres (ML) that can be taken from the extraction management units annually. Typically, the plans require compliance to be assessed over a three year time period. This form of expression is necessary so that the limit is clear and measurable and can be reported against.

The absence of a numeric LTAAEL undermines the effectiveness of a water sharing plan. It means there is no concrete value to compare the current water usage level against in order to assess compliance with the extraction limit. In turn, this means that restrictions are not placed on water users if required to maintain extraction at or below the limit so that the environment, basic landholder rights and downstream users are protected.

How are LTAAELs currently expressed?

The LTAAELs included in the inland unregulated water sharing plans we have recently reviewed are not expressed in numeric form.³ Rather they are expressed as the sum of various types of actual water usage, over certain periods of time. For example, these LTAAELs typically include:

- A component that is “the annual extraction of water averaged over the period from 1 July 1993 to 30 June 1999 under entitlements issued under Part 2 of the Water Act 1912”, plus
- A component that is “the annual water requirements pursuant to basic landholder rights” for the relevant water sources.

The associated numeric value (in other words a volumetric value in ML) of this LTAAEL definition is not included in the plan.

Some LTAAEL components for unregulated water sharing plans were estimated and used to set the extraction limits in the Basin Plan 2012 (known as Sustainable Diversion Limits or SDLs) and could be used as a starting point for estimating numeric LTAAELs.

3: The Commission recognises that DPE-Water completed some analysis via modelling for the Barwon-Darling Plan.

How is water shared in the absence of LTAAEL compliance assessments?

The plans contain rules that allow for available water determinations (the percentage of their entitlement a water user is allowed to take) to be reduced if there is an LTAAEL exceedance. In the absence of accurate compliance assessments, DPE-Water currently allocates all licence holders 100% of their entitlement every year.

The Commission has identified that in many of the unregulated water sharing plan areas reviewed⁴, total entitlement (and therefore annual allocation) greatly exceeds estimates of water sharing plan LTAAELs based on data available in the Basin Plan. This creates a high risk that the current water extraction levels in these systems are higher than the current extraction limits and that water that is meant to be reserved for the environment and basic landholder rights is being extracted.

Despite this, the plans currently include no mechanism to require precautionary steps to be taken if LTAAEL compliance is not implemented, even in systems where there is a very high risk that 100% allocation may lead to LTAAEL exceedances.

The lack of numeric LTAAEL and LTAAEL compliance assessments also creates risks for licence holders. If DPE-Water were to undertake the required LTAAEL compliance assessment there is a considerable risk that water allocations would need to be reduced, in some

cases significantly, given the expected difference between entitlement and LTAAEL in many water sources. Because there is no volumetric value assigned to the LTAAEL this risk is not transparent for users, who may be anticipating continued 100% allocations into the future. The Commission has encouraged DPE-Water to begin engaging with licence holders about these risks and potential impacts to them as soon as possible.

Is data available for completing LTAAEL compliance?

The Commission notes that there are currently metering reforms and other work underway by DPE-Water. Metering is an important step towards improved understanding of overall water usage and can be used to improve the accuracy of extraction estimates over time. However, the Commission is of the view that there is sufficient information to make a reasonable estimate of usage and undertake LTAAEL compliance assessments in all unregulated systems immediately. While we acknowledge that perfect data are not available, consistent with the application of the precautionary principle – as required by the Act – if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

4: See for example the Commission's final reports on the reviews of the Border Rivers Unregulated Water Sources and the Castlereagh Unregulated Water Sources: WSP reviews -2021 Completed reviews (nsw.gov.au)



What are the Commission's recommendations?

- DPE-Water establish accurate numeric LTAAELs to provide clarity around the amount of water that can be extracted or diverted under the water sharing plans and enable compliance assessment.
- DPE-Water undertake LTAAEL compliance assessment based on the best available information beginning with extraction management units at high risk for LTAAEL exceedance. This assessment should not be delayed until better information is available, rather it should be done immediately based on information available and continually improved over time.
- Available water determinations be set conservatively until DPE-Water conducts appropriate LTAAEL compliance assessments. Once these assessments are completed, available water determinations should be made flexibly and adaptively based on a range of considerations, including (but not limited to) historic and predicted climate conditions, risks to urban water supplies, and amount of carryover.
- Where there is no better information, conservative available water determinations be based on the ratio of the LTAAEL to the entitlement to ensure planned environmental water is not extracted. This is not the Commission's preferred outcome, but in the absence of any other estimate of LTAAEL compliance it is necessary to provide accountability and assurance that the environmental water is protected as a priority consistent with the Act requirements.