

LTAAEL compliance assessment for NSW Border Rivers Regulated Water Source

Executive Summary

This report describes the methods used to assess if extractions in the NSW Border Rivers Regulated River Water Source are compliant with the limit described in the water sharing plan (WSP) in the 2024-2025 water year. The assessment found that long-term average annual extractions (LTAAE) were compliant in 2024-2025.

Background and Purpose

The water sharing plan for the NSW Border Rivers Regulated River Water Source requires an assessment of compliance with a Long-term Average Annual Extraction Limit (LTAAEL). The LTAAEL is often referred to as the 'plan limit'.

The assessment is to be carried out annually by the Department¹ on behalf of the Minister following the end of each water year. LTAAEL compliance assessment requires two scenario models; one to represent the LTAAEL and one to represent current conditions. The long-term results from both scenario models are compared to assess compliance.

Each water sharing plan (WSP) defines the LTAAEL, how the compliance assessment is to be completed, triggers for non-compliance and subsequent compliance action. The LTAAEL includes multiple types of water use. However, the compliance assessment is based on the total.

This report summarises a compliance assessment for the NSW Border Rivers Regulated River Water Source for the 2024-2025 water year. The assessment was based on best available models, using fully refreshed climate data from 1895 to 2025.

Scenarios and agreed model version

Model scenarios for Cap, WSP and current conditions were selected based on evaluation against multiple scenario model selection criteria, including whether these had been documented and independently reviewed, how appropriate the management and levels of development are, and the consistency of the hydrology. For the NSW Border Rivers Regulated River Water Source, the

¹ Refers to the current Department of Climate Change, Energy, the Environment and Water (DEECCW), as well as its predecessor(s) and likely successor(s) over the lifecycle of each water sharing plan (WSP).

selected model scenarios reported in Table 1 are the most appropriate for the 2024-2025 LTAAEL compliance purposes.

The scenarios are based on the floodplain harvesting scenario models which have been documented and published on the department website. There are two reports. The model build report describes the development of the river system model - its conceptualisation, construction and calibration. The scenario report describes how the model was used to assess the LTAAEL and current conditions as well as other scenarios required for the floodplain harvesting program.

The NSW Border Rivers Regulated River Water Sharing Plan was amended on 29 July 2022 to incorporate floodplain harvesting access licences and the associated accounting rules.

Although floodplain harvesting licences have been operational since 15 August 2022, several were invalidated following litigation, and will be subject to determination by the Minister (or delegate) in the near future.

For the 2024–2025 assessment, approval was sought from the Executive Director Water Planning & Knowledge, to adopt a temporary approach and treat the valley as fully licensed, as it was considered that the absence of licences is only for a temporary period. This was considered the most appropriate interim position, given the licences were valid in that water year, and the expectation that the licences would be soon determined and issued. This approach was approved (BN26/1765).

Table 1 Scenario models selected for NSW Border Rivers Regulated River Water Source for LTAAEL assessment

Scenario	System file	Description
Cap conditions	BorderRivers_2024_25_C compliance_FPH_Menindee_5.20.rsproj	Default Input Set.NSWPlanLimit.CAP Input set used for CAP conditions run.
WSP conditions	As above	Default Input Set.QLD_ROP.ROP_On.NSW_BDL Input set used for WSP conditions run.
Current conditions	As above	Default Input Set.NSW_1516.NSW_1516_fphscale Input set used for Current conditions run.

LTAAEL compliance results

LTAAEL assessment

The LTAAEL is the modelled long-term average annual extractions calculated over the duration of the available climate record using either the Cap or the WSP scenario model, whichever is the

lesser. For this assessment, the modelling period 1895-2025 was used. The results of this analysis are reported in Table 2.

The LTAAEL for the NSW Border Rivers Regulated River Water Source is 206 GL/y based on the water sharing plan scenario model. There are also unmodelled extractions estimated at 8.0 GL/y. These unmodelled estimates have not changed and are not included in LTAAEL compliance assessment.

The water sharing plan now includes all water take components such as plantation forestry and harvestable right dams, to harmonise with reporting required under the Basin Plan. In this regulated river water sharing plan area, the water source boundary is defined by the bank of the regulated river and hence plantation forestry and harvestable rights dams are located within the adjacent unregulated river water source. It is worth noting that while floodplain harvesting does not occur in the water source, the water sharing plan explicitly includes floodplain harvesting in connection with extractions from a regulated river in the LTAAEL and the use from the associated access licences is to be included in the compliance assessment.

Table 2 Modelled long term average annual extractions (1895-2025) for Cap and WSP scenario models (GL/y)

Extraction category	Cap scenario	Water Sharing Plan scenario
General and high security	95.6	91.7
Supplementary access	75.4	66.8
Local Water Utility	0.6	0.6
Floodplain harvesting	36.2	44.5
Total modelled extractions	207.9	203.7
Basic Rights (unmodelled estimates)	8.0	8.0

Water taken under a basic landholder right has also been excluded from the compliance assessment. This exclusion is due to any unmodelled estimates being omitted if no assessment of change has been made.

Finally, rainfall runoff exempt under the [Water Management \(General\) Regulation 2018](#) (Clause 39B) has also been excluded from the compliance assessment. The exempt rainfall runoff volume is excluded from the definition of floodplain harvesting and from the definition of LTAAEL under the water sharing plan (WSP) dated 29 July 2022.

Compliance assessment

The modelled long-term average annual extractions from the current conditions model scenario are compared to the LTAEL results in Table 3.

Table 3 Modelled long term average annual extractions (1895-2025) for LTAEL and Current Conditions' scenario models (GL/y)

Extraction category	LTAEL scenario	Current Conditions scenario ²
General and high security	91.7	92.3
Supplementary access	66.8	71.5
Local Water Utility	0.6	0.6
Floodplain harvesting	44.5	42.1
Total modelled extractions	203.7	206.5

The key difference between the LTAEL and current scenario models' results is a 7.0% increase in supplementary diversions and a smaller increase in regulated diversions, both driven by the FPH accounting framework's restriction on floodplain harvesting. The restriction on FPH take increases demand on regulated supply subject to allocations. Additionally, the reduced FPH take increases storage availability, enabling higher supplementary take.

The current WSP specifies that there is non-compliance where current condition extractions exceed LTAEL by 3% or more.

The results (Table 3) show that current conditions extractions are larger than LTAEL extractions by 1%.

The long-term average annual extractions in the NSW Border Rivers Regulated River Water Source were compliant in 2024–2025.

No compliance action is required.

² The Current Conditions model used for the 2024–2025 LTAEL compliance assessment has been updated to apply restrictions on water take based on the Menindee Lakes trigger of 195 GL.

Supporting information

Results over Basin Plan assessment period

This year, we refreshed all climate data inputs for the entire long-term model simulation period.

The updated results over the Basin Plan assessment period of 1895-2009 are presented in Table 4 and included for reference only. These results were also reported in last year's report and can be used to track significance of model updates. Table 4 shows that the current conditions average is 2% more than the LTAEL.

Table 4 Modelled long term average annual extractions (1895-2009) for LTAEL scenario model and Current with floodplain harvesting licences scenario model (GL/y)

Extraction category	LTAEL scenario	Current Conditions scenario ^s
General and high security	91.8	93.1
Supplementary access	68.5	73.4
Local Water Utility	0.6	0.6
Floodplain harvesting	43.1	41.1
Total modelled extractions	204.0	208.2