

LTAEL compliance assessment for Murrumbidgee Regulated River Water Source

Executive Summary

This report describes the methods used to assess if extractions in the Murrumbidgee Regulated River are compliant with the limit described in the Water Sharing Plan. The assessment has found that long term average annual extractions are compliant for the 2022-23 water year.

Background and Purpose

The Water Sharing Plan for the Murrumbidgee Regulated River Water Source requires an assessment of compliance with a Long-term Average Annual Extraction Limit (LTAEL) which is sometimes 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. LTAEL compliance requires two models; one to represent the LTAEL and one to represent current conditions. The long-term results from both models are compared to assess compliance.

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

This report summarises a compliance assessment for the Murrumbidgee Regulated River Water Source. The assessment was based on best available models using climate data from 1895 to 2023.

Scenarios and agreed model version

Model scenarios for Cap, water sharing plan 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 consistency of the hydrology. For the Murrumbidgee Regulated River Water Source, the selected model scenarios reported in Table 1 are the most appropriate for LTAEL compliance purposes.

The scenarios are based on the accredited model scenario used for the Cap and the derived model scenario used for the Water Sharing Plan to set the LTAEL, and the annual permitted take model used for sustainable diversion limit compliance assessment for the Basin Plan.

Table 1 Model scenarios selected for Murrumbidgee Regulated River water source for LTAEL assessment purposes

Model scenario	System file
Cap conditions	BidgC109.sqq

¹ Refers to the current Department of Climate Change, Energy, the Environment and Water (DCCEEW), as well as its predecessor(s) and likely successor(s) over the life cycle of each WSP).

Model scenario	System file
Water Sharing Plan conditions	BidgP103.sqq
Current conditions	BIDGPBPA.sqq

LTAEL compliance results

LTAEL assessment

The Water Sharing Plan specifies that a LTAEL is calculated by adding together the long-term average annual Murrumbidgee and Lowbidgee extractions:

- For the Murrumbidgee this is the lesser of the Cap scenario and the Water Sharing Plan (WSP) scenario.
- For the Lowbidgee it is the Cap scenario.

The LTAEL is a long-term average modelled result calculated over the duration of the available climate record. For this assessment the modelling period 1895-2023 is used. The modelled results of this analysis are reported in Table 2. The LTAEL for the Murrumbidgee Regulated River Water Source is 2163 GL/a, which is the sum of the Murrumbidgee (1873 GL/a) and Lowbidgee (290 GL/a) components.

Table 2 Modelled long term average annual extractions (1895-2023) for Cap and WSP scenario models (GL/a)

Extraction category	Cap scenario model	WSP scenario model
Modelled extractions		
Murrumbidgee	1970	1873
Lowbidgee	290	262
Total modelled extractions	2260	2135

Compliance assessment

Compared to the LTAEL scenario, the modelled long term average annual extractions from the current conditions model scenario are reported in .

Table 3.

The current water sharing plan defines non-compliance in the Murrumbidgee Regulated River Water Source if:

- Current condition extractions exceed LTAEL by 3% or more
- Current condition extractions exceed the average of Cap and LTAEL
- Current condition extractions exceed Cap extractions

The results in Table 3 show current level of extractions is less than the LTAEL. Therefore, the long-term extractions in the Murrumbidgee Regulated River Water Source are compliant with LTAEL.

Table 3 Modelled long term average annual extractions (1895-2023) for LTAEL and Current scenario model (GL/a)

Extraction category	LTAEL	Current scenario model
Modelled extractions		
Murrumbidgee (WSP)	1873	1839
Lowbidgee (Cap)	290	264
Total modelled extractions	2163	2103

Modelled compliance action

No compliance action is required as the LTAEL assessment shows compliance.

Supporting information

Results over Basin Plan assessment period

The results over the Basin Plan assessment period of 1895-2009 reported in Table 4 are included for reference only. These results will be used to track the degree to which future model updates change these long-term averages.

Table 4 Modelled long term average annual extractions (1895-2009) for LTAEL and Current scenario model (GL/a)

Extraction category	LTAEL	Current scenario model
Modelled extractions		
Murrumbidgee	1909	1868
Lowbidgee	294	268
Total modelled extractions	2203	2137