Condamine-Balonne (SS26)

INITIAL SDL ASSESSMENT RESULT

The Authority is **confident** that the SDL continues to reflect an environmentally sustainable level of take and **proposes the SDL is maintained**.

It is recognised that the extent, nature of and planning for continued monitoring, evaluation and assessment is tailored by the Queensland government for the management of local and site-specific areas of concern to maintain environmental outcomes.

It is important that the impacts of a changing climate continue to be actively considered for this Unit.

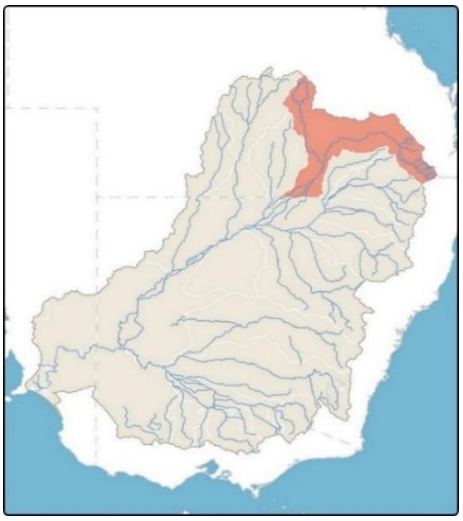

Figure 1: Condamine-Balonne (SS26) SDL Resource Unit

The Authority has assessed whether the Sustainable Diversion Limit (SDL) for the Condamine-Balonne (the **Unit**) continues to support environmental outcomes and reflect an environmentally sustainable level of take (ESLT).

This Assessment Summary provides an overview of the factors which are relevant to that work and the Authority's initial view. The summary draws on three 'Lines of Enquiry', engaging with the likelihood that flow regimes support environmental outcomes, the Authority's confidence in that assessment, and the consequence of an at risk finding. Line of Enquiry 2 – full Basin Plan implementation – has been considered as the primary line of evidence.

Information on the Lines of Enquiry and methodology used in this assessment is available in the *Summary of Assessment Approach* and the *SDL Assessment and Response Framework*. Information on the *Basin Plan Review Discussion Paper* and process for making a submission are available on the MDBA website.

About this Unit (as at June 2024)

Ramsar sites	None
Contribution to Basin Water	8.5% of the Murray-Darling Basin (approx..)
Annual Stream Flow	Not available
Key waterways	Condamine, Balonne and Culgoa channel (1,195 km); Tributaries: Maranoa River, Nebine Creek; Distributaries: Narran, Bokhara, Ballandool, Birrie and Culgoa rivers, and Briarie Creek
Water storages	Beardmore Dam (94 GL), Leslie Dam (106 GL), Cooby Dam (21 GL)
Significant groundwater connections	Upper Condamine Alluvium (Central Condamine Alluvium) (GS64a), Upper Condamine Alluvium (Tributaries) (GS64b) & Upper Condamine Basalts (GS65)

The Water Resource Plan (WRP) that supports this Unit commenced on21 September 2019. The WRP includes the rules and arrangements that Queensland are using to manage this Unit and maintain sustainability. Further information on water recovery for this Unit

is available at the Department of Climate Change, Energy, the Environment and Water's surface water recovery factsheet.

Current Condition

Figure 2 below summarises the observed environmental condition in the Unit (as at June 2024).

As can be seen the Authority assessed that all themes except 'Other species', were in moderate condition but that confidence in the evidence base was mostly low. 'Other species' was not assessed.

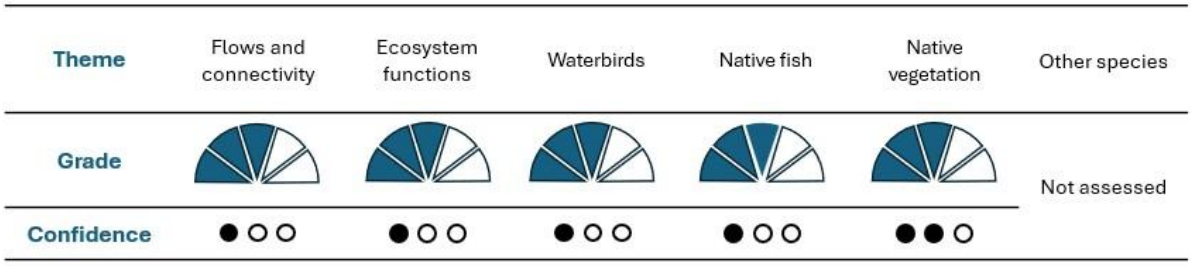

Figure 2. Environmental condition assessment in the Unit. Across each theme environmental condition is graded as *Very Poor, Poor, Moderate, Good, Very Good or Not Assessed* (as indicated by segments) and confidence in this grading is assessed as *Low, Medium, High or Data Deficient* (as indicated by dots). The Not Assessed grading applies where there are no ecological objectives and no relevant data. The Data Deficient grading relies heavily on expert elicitation to address data paucity. Other species refers to animals including frogs, platypuses and turtles.

Environmental outcomes under a fully implemented Basin Plan

Table 1 presents a compilation of:

- the *likelihood* that environmental outcomes for the six surface water themes will be supported by the SDL for this Unit; and
- the Authority's *confidence* in that assessment, i.e. low (L), medium (M) or high (H) surety of the finding.

Theme	The *likelihood* that the pattern and volume of flow will support the objectives for each ecological theme							
	Line of enquiry	Very unlikely	Unlikely	About as likely as not	More likely than not	Likely	Very likely	Confidence
Flows and connectivity	LoE 1				●			●○○
	LoE 2				●			●○○
Ecosystem functions	LoE 1				●			●○○
	LoE 2				●			●○○
Waterbirds	LoE 1					●		●●●
	LoE 2					●		●●●
Native fish	LoE 1				●			●●○
	LoE 2				●			●●○
Native vegetation	LoE 1				●			●○○
	LoE 2					●		●○○
Other species	LoE 1							
	LoE 2							

Table 1: Initial likelihood assessment of the flows supporting the objectives for ecological themes for the Unit. Note: LoE 1 refers to Line of Enquiry 1 - current Basin Plan implementation and LoE 2 refers to Line of Enquiry 2 - full Basin Plan implementation. Other species was not assessed.

Environmental outcomes under a climate impacted future

For a description of anticipated climate impacts across the Basin see the *Surface Water Assessment Approach* published on the MDBA website.

Table 2 presents a summary of the anticipated environmental impacts of climate change for the Unit by reference to the likelihood of flow regimes being met for the six environmental themes.

Theme	The *likelihood* that the pattern and volume of flow will support the objectives for each ecological theme						
	Line of enquiry	Very unlikely	Unlikely	About as likely as not	More likely than not	Likely	Very likely	Confidence
Flows and connectivity	LoE 3 (~2030s)							●○○
	LoE 3 (~2050s)							●○○
Ecosystem functions	LoE 3 (~2030s)							●○○
	LoE 3 (~2050s)							●○○
Waterbirds	LoE 3 (~2030s)							●○○
	LoE 3 (~2050s)							●○○
Native fish	LoE 3 (~2030s)							●○○
	LoE 3 (~2050s)							●○○
Native vegetation	LoE 3 (~2030s)							●○○
	LoE 3 (~2050s)							●○○
Other species	LoE 3 (~2030s)							
	LoE 3 (~2050s)							

Table 2: Assessment of flows supporting the objectives for ecological themes at 2030 and 2050 levels of global warming in the Unit. Note: LoE 3 (~2030s) refers to Line of Enquiry 3 - possible future 2030s hydroclimate sequences and LoE 3 (~2050s) refers to Line of Enquiry 3 - possible future 2050s hydroclimate sequences. Other species was not assessed.

As can be seen, the Authority has assessed under the median scenario at both 2030 and 2050 levels of global warming, it is *more likely than not* that the pattern and volume flow will support objectives for Flows and Connectivity, Ecosystem Functions and Native Fish. It is *likely* that the pattern and volume of flow will support objectives for Waterbirds and Native Vegetation under both scenarios. For flows and connectivity, it is assessed as *more likely than not* under the median scenario for 2030, reducing to *about as likely as not* to 2050.

Initial Assessment

As noted, the current assessment reflects that flow regime requirements for the six themes are currently supported by the SDLs.

On the balance of all three Lines of Enquiry, the Authority is **confident** that the SDL reflects an environmentally sustainable level of take and is supporting the Basin Plan's environmental outcomes under full implementation conditions with none of the themes having been identified as at risk.

It is also the case that the Basin Plan settings in connection with monitoring, evaluation and assessment activities warrant review as they apply to this Unit. Other relevant factors include planning by the Queensland government for the management of local and site-specific areas of concern to maintain environmental outcomes.

Consideration of Response

It is recognised that ongoing monitoring, evaluation and assessment will be important, as will planning for and supporting delivery of environmental watering events to maintain environmental outcomes.

Whilst this assessment has not identified any at risk themes, the Discussion Paper engages with well-known challenges at a sub-Basin and Basin scale including river connectivity and the connection between rivers and their floodplains, water delivery challenges and physical constraints, native fish decline and the impacts of invasive species. The risks of a changing climate continue to be actively considered in the Basin.

Evidence

The standard evidence sources presented in the *Summary of Assessment Approach* were used for this Unit.