

Lachlan – Translucent Flows

Innovation in the delivery of Translucent environmental water

9 August 2020

Department of Planning, Industry and Environment (Water) has approved WaterNSW request to deliver translucent environmental water from Lake Brewster in lieu of Wyangala Dam.

The inflows to Wyangala Dam from 1 January 2020 to date (8 Aug 2020) is about 232 GL requiring another 18 GL of inflows to trigger translucent environmental water releases.

Wyangala Dam is currently at 24.5% holding 298 GL. Lake Brewster is currently at 45% holding 66 GL and projected to increase to 75% holding 110 GL from the flows currently in transit in the river. Lake Brewster full supply volume is 145 GL.

More rain is forecast for the remainder of this month on the already wet catchment. These rain events are likely to produce (a) dam inflows in excess of 18 GL that is required to trigger translucent environmental water releases and (b) large tributary inflows that are likely to cause local flooding risks around Forbes and Jemalong when combined with dam releases to deliver translucent environmental water releases.

Additionally, the excess tributary inflows from these events are likely to raise volumes in Lake Brewster further. Due to low availability of usable allocations in this water year the drawdown from the lake Brewster is likely to be slow and may result in suboptimal use of stored resources.

DPIE Water's approval will help WaterNSW to optimise the use of stored water in Lake Brewster and to minimise the risk of flooding around Forbes and Jemalong.

The agreed method of delivery between WaterNSW and DPIE (EES) is that when translucent releases are triggered, the d/s tributary inflows are shepherded to Lake Brewster Weir and topped up with releases from Lake Brewster and if necessary, from Lake Cargelligo to achieve the target flow at Brewster Weir.

The translucent release protocol will include,

- delivering majority or all storage releases required for the translucent release from Lake Brewster storage and possibly from Lake Cargelligo as provided for in the WSP
- Nil or only minimal release from Wyangala Dam
- Rate of release from the storage is calculated as provided for under WSP rules
- Releases from Lakes are subject to no detrimental water quality in the lakes

As an example, when Wyangala Dam is at 30% the flow rate targeted at Lake Brewster Weir would be minimum 4,000 ML/d and maximum 4,750 ML/d.

This rainfall triggered translucent flow will allow for near-natural flow pulses to be released into the Lower Lachlan River system and alluvial floodplain to restore some medium to high flows, seasonality and flow variability. Flows are expected to inundate priority riparian wetlands and effluent creeks below Lake Brewster. This part of the Lachlan riverine system has experienced sustained low or nil flow conditions since late 2019 as all inflows were captured for critical water needs, and hence, has not yet benefited from the weakening of drought conditions across the Lachlan Valley since March 2020.

Large tributary flows can also connect isolated pools and flush water quality; improve connectivity with wetlands to improve condition and promote flowering of riparian and floodplain vegetation (e.g. River Red Gums, lignum) – all of which will have lasting benefits for aquatic plants, frogs, waterbirds and fish communities. It will assist prime nationally and internationally significant colonial waterbird breeding colony sites on effluent creeks if substantial inflows continue into Spring, as well as improve efficiency and effectiveness of any stock and domestic replenishment flows should they occur in the near future.

Translucent flows can be an important contributor to the health of the Lachlan catchment because water from tributary inflows is generally richer in nutrient than water released from the dams.

Authorised by

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More information

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