

CLLMM: Open Murray Mouth



Barrage outflow and dredging

SA trend and condition report card 2020

STATEWIDE



Trend
Getting better



Condition
Poor



Reliability
Very good

Trend

Barrage outflows to the Murray Mouth have improved; however, dredging is still required.

Barrage outflows that support the openness of the Murray Mouth have increased. However, despite the improved outflows, dredging to remove sand is still required to keep the Mouth open.

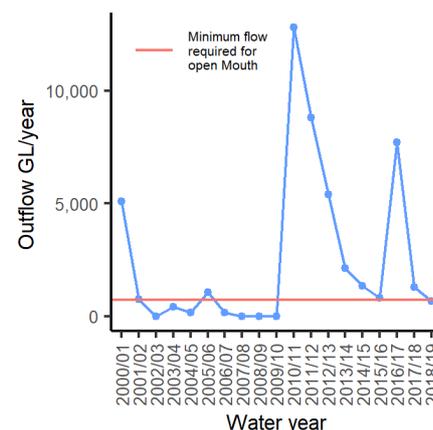
The Murray–Darling Basin Authority calculated that the minimum annual water flow required to keep the Murray Mouth open is 730 gegalitres per year. This minimum outflow target has been met 44% more often since 2012 due to a combination of the breaking of the Millennium Drought and the delivery of water for the environment through the Basin Plan.

Condition

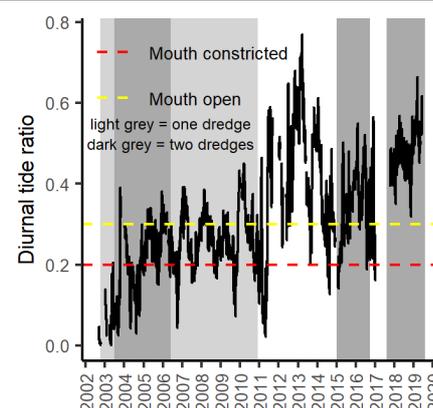
The condition of the Murray Mouth is rated as poor because dredging is required to keep the Mouth open.

The openness of the Murray Mouth is assessed using three key indicators.

- freshwater barrage outflows to the Coorong and Murray Mouth
 - diurnal tidal ratio (DTR), which is an indication of the exchange of water between the estuarine and marine environments
 - removal of sand by dredging.
- Barrage outflows have been too low to prevent the Murray Mouth from becoming constricted in some years (top figure). DTR fell below the critical threshold of 0.2 at Goolwa in 2014 and 2015. As a result, two dredges have been in operation for most of the past five years (bottom figure).



Outflows to the Murray Mouth have improved; however, dredging is still required.



Why is an open Murray Mouth important?

An open Murray Mouth provides connection between the freshwater environments (River Murray and Lower Lakes), the estuary (Coorong) and marine environments (Southern Ocean). This connection is important for flushing excess salt (targeted at 2 million tonnes per year) and nutrients from the river system, as well as maintaining the quality of water in the Coorong. It is also important for native fauna that need to move between the Coorong and the ocean.

What are the pressures?

Without sufficient freshwater flow through the barrages and Murray Mouth, sand deposition from the ocean results in the Murray Mouth silting up and closing. Water resource development throughout the Murray–Darling Basin has heavily reduced the flows that reach the Murray Mouth, leading to increased sand deposition and reliance on dredging. Without dredging, the Murray Mouth will close more often and the benefits of the connection between the Coorong and the ocean will be lost.

What is being done?

The Murray–Darling Basin Plan seeks to provide barrage outflows to the Coorong, Lower Lakes and Murray Mouth to ensure that the Murray Mouth remains open without the need for dredging in at least 95% of years. It is unlikely that the current water delivery constraints (including the timing of water delivery) and volumes will be sufficient to maintain an open Murray Mouth without intervention, such as dredging.

For further information, see [Technical information](#)



This report is a work in progress. As resource monitoring improves, so too will our ability to describe trends in condition. Licensed under [Creative Commons Attribution 4.0 International License](#). © Crown in right of the State of South Australia.



Government of
South Australia