

Issues Brief Number: 18 B

Division: River Murray/Natural Resource Management

LOWER LAKES**OPENING THE LOWER LAKES TO THE SEA****ISSUE**

This brief describes the proposal, from upstream irrigator groups, to introduce seawater to the Lower Lakes through the barrages.

TALKING POINTS

- There have been a number of calls, for a change in the management of the Lower Lakes, primarily for reasons of perceived water savings (through reduced evaporation).
- Introducing seawater into the Lower Lakes was considered as a possible emergency response to the threat of acidification during the drought. This threat has since diminished when the drought broke and the Lakes refilled.
- The weight of evidence suggests that prior to European settlement and water resource development, the Lower Lakes area would have been a predominantly freshwater system with occasional periods of salt water intrusion from the sea during periods of low freshwater flow from upstream.
- Introducing seawater into the Lower Lakes would significantly impact on their ecological character as well as threaten urban water supplies and is not aligned with the Government's obligations under the Ramsar Convention or the *Water Act 2007*.

BACKGROUND

- There have been a number of calls, for a change in the management of the Lower Lakes, primarily for reasons of perceived water savings (through reduced evaporation).
- These calls propose to introduce seawater into the Lakes during periods of drought in order to convert the system to an estuarine state. While the claimed reason is for Lake health, the assumed unstated reason is that the proponents hope that the change will avoid the average annual evaporative losses of 800GL of freshwater and in doing so, reduce the amount of water required from upstream.
- The introduction of seawater was actively considered in the review of the Real time Management Strategy to Avoid Acidification in the Lower Lakes by South Australia. The review recommended that in order to maintain lake levels above acidification trigger levels, a freshwater solution was preferred as introducing seawater rapidly leads to hyper saline conditions.
- The Authority believes that proposals to introduce seawater to the Lakes would result in a number of major issues for the environment of the Lower Lakes and consumptive water users.
- The weight of evidence suggests that prior to water resource development; the Lower Lakes were predominantly freshwater, with short and infrequent periods when seawater would have flowed into the Lakes. However, with current levels of consumptive use

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across the Basin, there is simply insufficient freshwater flow to flush out any salt that has been let in. Accordingly, rather than short, infrequent periods of estuarine condition these could be much longer estuarine periods and include periods of hyper salinity.

- The Coorong, Lower Lakes and Murray Mouth (CLLMM) site is a wetland of international importance listed under the Ramsar Convention, is one of six Icon Sites under The Living Murray program and also one of the most important bird habitats in the Murray–Darling Basin.
- By the early 1930s it was recognised that previous and planned expansion of irrigation would lead to deterioration in water quality (salinity) for consumptive users. The adopted solution was to construct the five barrages to retain the lakes as freshwater.
- During the severe drought of 2006-2009, preliminary modelling (of low flow scenarios) showed that the introduction of seawater into the Lower Lakes would present an unacceptable risk to Adelaide's water supply and would necessitate the construction of a temporary weir near Wellington to protect those supplies.
- The introduction of seawater into the Lakes would cause sudden changes in salinity, the rapidity of which would significantly impact on the ecological character of the site.
- A central tenet of the Water Act is, in developing the Basin Plan, to give effect to international agreements. A key component of the proposed Basin Plan is delivery of sufficient water to meet the environmental requirements of the CLLMM. Introducing seawater would significantly impact on the ecological character of the site and is not aligned with the Governments obligations under the Ramsar Convention, migratory bird agreements and the Water Act.
- The levels of water resource development throughout the Basin mean that a return to the pre-European condition of the Lakes (as proposed by the Myth and the Murray Group) would require ceasing all upstream water use and storage. Instead, the Lakes should be managed to protect and restore their inherent and internationally recognised ecological values.

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