

# Basin Salinity Management 2030 - South Australia's Status Report 2021-22



## 1. Overview of Outcomes and Key Achievements

South Australia remains committed to the ongoing delivery of salinity management obligations under Schedule B of the Murray-Darling Basin Agreement and implementation of the Basin Salinity Management 2030 (BSM2030) strategy. The ongoing management of salinity in the Murray-Darling Basin is critical to protect the environment, irrigated agriculture, industry and critical human water supplies from adverse effects of high salinities.

South Australia's outcomes and key achievements in implementing the BSM2030 strategy in 2021-22 include:

- Salinity remained below the Basin Salinity Target and South Australian End of Valley Targets.
- South Australia maintained a positive balance of \$7.252 million on the Salinity Registers.
- The review of the Morgan to Wellington groundwater model and accountable actions was completed in 2021-22, and substantial progress was made on the review of the Pike-Murtho groundwater model and accountable actions.
- River Murray operations and environmental watering actions were made in accordance with annual operating plans, to mitigate salinity risks.
- Salt Interception Schemes located in South Australia intercepted more than 270,000 tonnes of salt during 2021-22.
- A tool was developed to estimate short-term changes in salinity in the River Murray between Locks 6 and 3 to support annual planning and operational decision-making.
- Continued to collaborate on projects to improve the understanding of the water and salt balance in lower River Murray floodplains under environmental watering activities.

## 2. Update on Existing and New State Works or Measures

South Australia has two State Works or Measures that are included on the Salinity Registers - the Qualco-Sunlands Ground Water Control Scheme and the Pike salt interception scheme.

The Qualco-Sunlands Ground Water Control Scheme is operated by a private trust in accordance with the *Ground Water (Qualco-Sunlands) Control Act 2000*.

The Pike salt interception scheme is operated by the Murray-Darling Basin Authority (MDBA) on behalf of the South Australian Government. In 2021-22, the scheme was operated in accordance with the operations and maintenance manual and any directions provided by the MDBA as part of the responsive salt interception scheme trial.

A third State Work or Measure, the Pike groundwater management scheme, has been operational since 2019-20. The salinity benefits associated with the scheme will be included on the salinity register once groundwater modelling has been approved by the MDBA.

## 3. Review of Models and Accountable Actions

In 2021-22, South Australia completed the review of the Morgan to Wellington groundwater model and accountable actions, with the revised model and salinity impacts endorsed by the Basin Salinity Management Advisory Panel at meeting 55 on 10 May 2022.

The review of the Pike-Murtho groundwater model and accountable actions was also substantially completed in 2021-22, and will be provided to the Basin Salinity Management Advisory Panel for endorsement following completion of the independent peer review.

South Australia will review the Woolpunda groundwater model and associated accountable actions in 2022-23 and does not have any proposed amendments to the BSM2030 review plan.

## 4. Proposed or New Accountable Actions

In accordance with Schedule B of the Murray-Darling Basin Agreement, the South Australian Government has notified the MDBA that actions undertaken as a part of the South Australian Riverland Floodplain Integrated Infrastructure Program (SARFIIP) are likely to have a Significant Effect (as defined in Schedule B sub clause 18(3)).

Groundwater models for the Pike and Katarapko floodplains have been developed by the Department for Environment and Water to assess the potential salinity impacts to the River Murray from the construction and operation of environmental regulators, levee banks and groundwater management schemes as part of SARFIIP.

Independent peer reviews of the Pike and Katarapko floodplain groundwater models to evaluate the suitability of the platforms to estimate long-term salinity impacts for the salinity register has been completed by CDM Smith. It is anticipated that the entries for these actions will be included on the Salinity Register in 2023.

## 5. End of Valley Target Sites

BSM2030 retains the End of Valley Targets to preserve Basin-wide monitoring and to inform the assessment of salinity risk to the shared water resources and within-valley assets. As part of BSM2030, flow and salinity must be monitored at each End of Valley Target site and reported annually.

In 2021-22, monitoring has been undertaken at all South Australian End of Valley Target sites and there were no data collection issues. The program of salinity controls implemented to date, including improved irrigation practices and salt interception schemes, have contributed to the maintenance of in-river salinity levels below target levels for 2021-22. The 2021-22 monitoring data for South Australian End of Valley Target sites will be presented in South Australia's 2023 Comprehensive Report.

## 6. Basin-wide Core Salinity Monitoring Network

The BSM2030 strategy requires partner governments and the MDBA to nominate their core salinity monitoring network and make a commitment to the operation, maintenance and reporting on the delivery of monitoring at these sites for the life of the strategy.

The Basin-wide Core Salinity Monitoring Network includes monitoring sites considered critical to underpin the models that quantify register entries, evaluate trends at End of Valley Target sites, assess compliance with the Basin Plan, improve knowledge in priority areas and support management of the river, salt interception schemes and environmental flows.

South Australia nominated 435 groundwater bores in October 2017 that are monitored by Department for Environment and Water. A further 475 groundwater bores that are monitored to support the salt interception scheme program in South Australia have been nominated by the MDBA. The MDBA has also nominated 66 surface water sites in South Australia for inclusion in the monitoring network that are funded by the joint program.

No changes have been made to the sites included in the Basin-wide core salinity monitoring network for which the Government of South Australia is responsible for in 2021-22.

### More information

Further information on the Basin Salinity Management 2030 strategy and South Australia's salinity management program is available online at:

<https://www.environment.sa.gov.au/topics/river-murray/improving-river-health/water-quality-and-salinity/taking-action-on-salinity>

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