Australian Government

MURRAY–DARLING BASIN AUTHORITY

Basin Salinity Management 2030

Summary report 2015–16

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Acknowledgement of the Traditional Owners of the Murray–Darling Basin

The Murray–Darling Basin Authority acknowledges and pays respect to the Traditional Owners, and their Nations, of the Murray–Darling Basin, who have a deep cultural, social, environmental, spiritual and economic connection to their lands and waters. The MDBA understands the need for recognition of Traditional Owner knowledge and cultural values in natural resource management associated with the Basin.

The approach of Traditional Owners to caring for the natural landscape, including water, can be expressed in the words of the Northern Basin Aboriginal Nations Board:

> …As the First Nations peoples (Traditional Owners) we are the knowledge holders, connected to Country and with the cultural authority to share our knowledge. We offer perspectives to balance and challenge other voices and viewpoints. We aspire to owning and managing water to protect our totemic obligations, to carry out our way of life, and to teach our younger generations to maintain our connections and heritage through our law and customs. When Country is happy, our spirits are happy.

The use of terms 'Aboriginal' and 'Indigenous' reflects usage in different communities within the Murray–Darling Basin.

Cover image: Intercepted saline groundwater flowing out of the Mourquong disposal basin outfall

Introduction

Basin governments have been working together with their communities for almost 30 years to manage salinity in the rivers and catchments of the Murray–Darling Basin. Building on this knowledge, the Basin Salinity Management 2030 (BSM2030) strategy looks ahead to set the direction for the next 15 years.

BSM2030 is a strategy that meets the task during a time of transition for the basin, as water reforms continue to be implemented and become fully operational. It includes many initiatives that take salt management to a new level—such as further optimising the operation of salt interception schemes and bringing in contemporary issues relating to environmental water and Basin Plan flow management.

Implementation reporting has been rationalised under the BSM2030 strategy. The changes recognise that for 15 years under the Basin Salinity Management Strategy (BSMS) the partner governments and the MDBA provided audited comprehensive reporting each year to Ministerial Council on Basin salinity management. Given the progress in Basin salinity management over that time and the maturity of the collaborative arrangements, reporting is now able to be streamlined under BSM2030 without risking strategy implementation or achievement of the strategy objectives.

This is the inaugural year of reporting under the BSM2030 strategy. Commencing in 2016 and continuing biennially, partner governments and the MDBA are required to prepare a BSM2030 summary report for Ministerial Council. Every second year commencing in 2017, more comprehensive reporting will be completed and, following an external audit, provided to Ministerial Council under the BSM2030 strategy.

Salinity status of the Basin in 2015–16

Consecutive years of below average rainfall and above average temperatures had depleted soil moisture throughout most of the Murray–Darling Basin. Combined with the driest spring on record in the River Murray system, inflows for 2015–16 were in the lowest 10% of historic inflows which saw salinity levels trending slowly upwards in the second part of the year. However, in response to widespread rainfall in May and June 2016, River Murray system inflows increased and as these flows started to move through the system they served to dilute river salinity and flush salt through the system.

The key indicator of the status of salinity within the Murray–Darling Basin is the salinity outcome in the lower Murray at Morgan in South Australia. Consistent with water quality outcomes over the past few years, river salinities recorded at Morgan in 2015–16 remained relatively low, with an average daily salinity of 271 Electrical Conductivity Units (EC) and a peak daily salinity of 380 EC. Given the intention to maintain the salinity at Morgan below 800 EC, this outcome is highly beneficial to the environmental, social and economic values of the River Murray.

A significant part of this achievement is due to the improvement of land and water management practices over many years and the operation of salt interception schemes.

Variability in the salinity outcome from year to year is an inevitable characteristic of a dynamic river system. The magnitude of salinity reductions provided by mitigation works and measures is affected by climate, which delivers variations in dilution flows and changes in catchment salt mobilisation. In light of this variability and its impact on salinity outcomes, modelling is undertaken to understand how improved land and water management practices and mitigation works and measures deliver salinity benefits over both wet and dry periods.

When considered over the climatic conditions from 1975–2000 (the benchmark period), mitigation works and measures put in place to 2016 have delivered an average daily salinity outcome at Morgan of less than 800 EC for 96% of the time. In comparison the outcome that would have occurred with the works and measures that were in place in 2000 was average daily salinity at Morgan less than 800 EC for only 72% of the time.

In other words, irrespective of climatic conditions, the incidence of salinity exceedance of 800 EC at Morgan has substantially declined as a consequence of implementing works and measures under the salinity management strategies. The 2015–16 achievement highlights the success of salinity management to date, as shown in Figure 1, and the importance of continued and ongoing effort through Basin-wide salinity management strategies to sustain improved salinity outcomes.

These outcomes reflect the partnership and commitment of the Australian Government, state and territory governments and the coordination of Basin-wide salinity management provided by the MDBA. This commitment was reinforced in November 2015 when Ministerial Council approved the BSM2030 strategy. BSM2030 builds on earlier strategies and complements the objectives of the Basin Plan by supporting the obligations related to salinity targets for flow management.

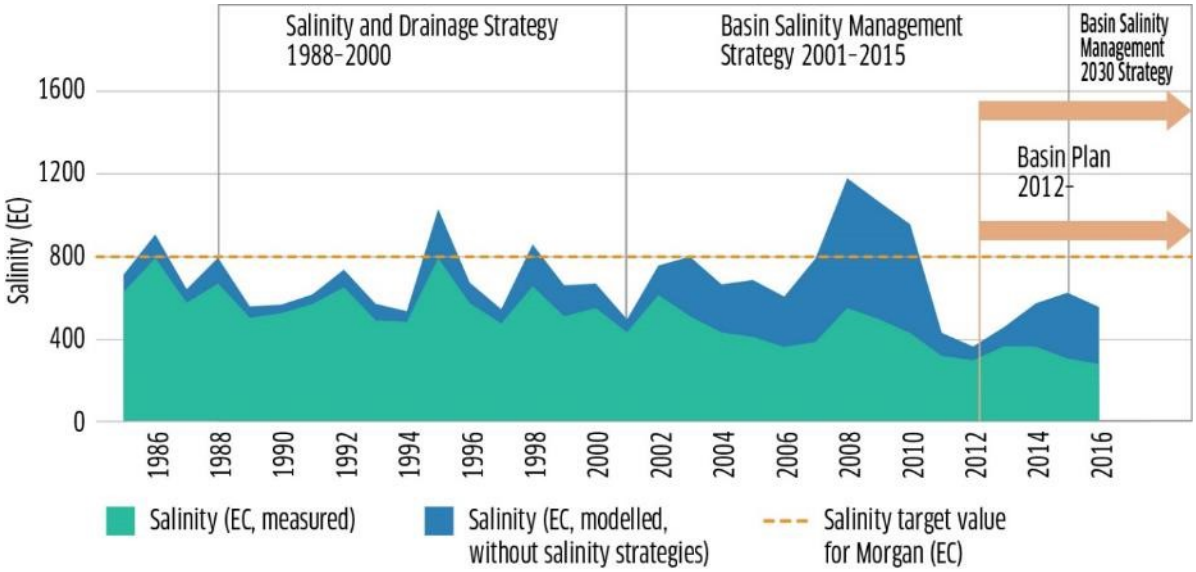

Figure 1: River Murray salinity at Morgan and impact of management strategies

The BSM2030 strategy focuses on continuing to ensure salinity is kept at levels appropriate to protect economic, environmental, cultural and social values. The BSM2030 strategy will:

- maintain the cap on salinity through the existing Basin Salinity Target and the existing accountability framework
- bring environmental water fully into the accountability framework in a practical and pragmatic way

- explore opportunities to responsively manage salt interception schemes so that operations can be further optimised and costs can be reduced when river salinity risk is forecast to be low
- support Basin Plan flow management obligations to have regard to the salinity targets for managing water flows
- support Basin states to manage salinity in their catchments through their land and water management plans and be consistent with their Basin Plan water resource plan obligations
- develop fit-for-purpose governance arrangements which reduce the frequency of audit, reporting and reviews
- invest in knowledge to reduce uncertainty and potentially avoid the need for future capital investment in new joint works and measures
- include a major strategic review to ensure the strategy continues to guide effective management of salinity in the Basin.

Governance and planning under the BSM2030 strategy will continue to be supported by the Basin Salinity Management Advisory Panel, which comprises representatives from the six partner governments: the Australian Government and the governments of Queensland, New South Wales, the Australian Capital Territory, Victoria and South Australia.

Highlights from 2015–16

Throughout 2015–16, the MDBA and partner governments concentrated on developing and then commencing to implement the BSM2030 strategy. Implementation included continuing the key tasks of reviewing and updating the salinity registers and associated modelling tools and operating and maintaining salt interception schemes.

Key highlights in 2015–16 included:

- wrapping up the Basin Salinity Management Strategy 2001–2015
- Ministerial Council approved the BSM2030 strategy in November 2015
- the process for revising Schedule B to support the BSM2030 strategy began
- the Basin Officials Committee endorsed the BSM2030 strategy implementation plan in April 2016
- the Basin Salinity Target was met for the seventh consecutive year (the target aims to maintain the average daily salinity at less than 800 EC for at least 95% of the time at Morgan, South Australia)
- the salt interception schemes diverted approximately 525,000 tonnes of salt away from the River Murray system and adjacent landscapes
- the independent auditors confirmed a net credit balance in the 2015 salinity registers for New South Wales, Victoria and South Australia.

The next phase — implementing BSM2030

The priorities for the next phase of Basin-wide salinity management arise from the continuing obligations in Schedule B of the Murray–Darling Basin Agreement and new activities under the BSM2030 strategy.

In 2016–17, priorities for implementing the BSM2030 strategy include:

- amending Schedule B to enable implementation of the BSM2030 strategy
- developing Basin Salinity Management procedures that will replace the existing Basin Salinity Management Strategy Operational Protocols
- implementing the trial of responsive management of the salt interception schemes
- scoping out and commencing projects related to Knowledge Priorities identified under the BSM2030 strategy
- progressing major reviews of actions with significant river salinity effects that are located in the South Australian river reaches and the Mallee and riverine plain regions of NSW and Victoria
- progressing updates to the MDBA river model for salinity accountability purposes
- nominating a basin-wide core salinity monitoring network
- undertaking other activities in line with the BSM2030 strategy implementation plan.