Australian Government

MURRAY–DARLING BASIN AUTHORITY

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Basin Salinity Management Strategy 2009–10 Summary

The Murray–Darling Basin Authority (MDBA) publishes a synopsis of salinity-related activities undertaken in each financial year by MDBA and partner governments under the Basin Salinity Management Strategy (BSMS) 2001–2015.

Since 2001, the BSMS has provided a robust framework against which to track and adaptively manage the joint efforts of partner governments to control the ongoing risk of salinity across the Murray–Darling Basin. The targets put in place by the BSMS, for the river salinity of the Murray-Darling system as a whole and of each tributary valley, reflect the shared responsibility of governments and communities for action.

For the 2009–10 reporting period, recorded data indicate a low daily average salinity of 427 EC and a peak salinity of 701 EC in the River Murray at Morgan in South Australia. This outcome reflects the impacts of low rainfall in the southern Basin, drought-affected groundwater levels, releases of low salinity water from dams into the River Murray and salinity mitigation actions. Salt interception schemes prevented around 490,000 tonnes of salt from entering the River Murray system. However, extremely low inflows across the Basin impacted the share of water resources below Lock 1, with ongoing water availability and salinity issues, especially in lakes Alexandrina and Albert. Runoff generated from significant rains in the north of the Basin has not impacted significantly on River Murray salinity outcomes for the reporting period.

This 2009–2010 summary sets out key achievements against the nine elements that comprise the BSMS framework. MDBA is required to prepare this synopsis under Schedule B of the Murray–Darling Basin Agreement of the Commonwealth *Water Act 2007*, based on information from annual reports prepared by the partner governments. These annual reports reflect the parallel process of developing the Basin Plan and its constituent parts (sustainable diversion limits, environmental watering plan, and water quality and salinity management plan). It is anticipated that the BSMS will operate for its full term until 2015 in conjunction with the first Basin Plan.

BSMS OBJECTIVES

The BSMS is a landmark agreement between six signatory governments for coordinated action in response to significant threats of salinity to water quality, environmental values, regional infrastructure and productive agricultural land.

The BSMS states the following four objectives:

- Maintain the water quality of the shared water resources of the Murray and Darling rivers for all beneficial uses – agricultural, environmental, urban, industrial and recreational.
- Control the rise in salt loads in all tributary rivers of the Basin and, through that control, protect their water resources and aquatic ecosystems at agreed levels.
- Control land degradation and protect important terrestrial ecosystems, productive farm land, cultural heritage, and built infrastructure at agreed levels basin-wide.
- Maximise net benefits from salinity control across the Basin.

BSMS SIGNATORIES AND THEIR RESPONSIBILITIES

The BSMS partners comprise the MDBA, the Australian Government and the five state and territory governments of the Murray–Darling Basin (Australian Capital Territory, New South Wales, Queensland, South Australia and Victoria).

MDBA is assigned responsibility under the BSMS for whole-of-basin issues and outcomes associated with its implementation, namely:

- increased understanding of basin-scale biophysical processes and associated socioeconomic impacts
- design and management of basin-scale salinity infrastructure and operational activities
- design and operation of accountability arrangements supported by basin-level monitoring, evaluation, auditing and reporting.

State and territory governments work in partnership with regional natural resource management bodies that have responsibility for catchment salinity outcomes. These responsibilities encompass:

- within-valley actions and tools to predict salinity and salt load trends
- on-ground investment to address salinity risk and their impacts
- assessments of the effects and tradeoffs associated with salinity management options
- monitoring and assessment of salinity as part of a range of catchment health indicators.

Australian Government and MDBA investment in salinity control, directly and indirectly, is closely tied to the substantial funding package that accompanied the introduction of the Commonwealth *Water Act 2007*. This investment primarily targets irrigation efficiency works and direct market buy-back of high security entitlements from willing sellers. The Commonwealth Environmental Water Holder, which operates within and outside the Basin, was established under the Act to manage Commonwealth-owned environmental water.

The Australian Government makes further investments for indirect salinity control through its Caring for our Country initiative – the replacement national grants program for the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality. However, salinity control is not explicitly identified as one of the six national priority areas targeted by the program. This is quite different to the Natural Heritage Trust and National Action Plan funding arrangements and is posing a challenge for continued investment in on-ground salinity mitigation actions. State and territory governments make contributions to the program in accordance with the terms of their respective bilateral agreements with the Australian Government.

BSMS PROGRESS 2009–10

An overview of BSMS progress for 2009–10 is presented here according to each of its nine elements, namely:

1. Developing capacity to implement the BSMS.
2. Identifying values and assets at risk.
3. Setting salinity targets.
4. Managing trade-offs with available within-valley options.
5. Implementing salinity and catchment management plans.
6. Redesigning farming systems.
7. Targeting reforestation and vegetation management.
8. Constructing salt interception works.
9. Ensuring Basin-wide accountability.

A more detailed account of activities and outcomes is given in the individual annual reports of the BSMS signatories. Copies of these reports are available from MDBA upon request.

Element 1: Developing capacity to implement the BSMS

Capacity development is a central pillar of the BSMS delivery. A strategic program of knowledge generation is managed by MDBA to develop the capacity needed to implement the BSMS. Partner governments make additional and complementary investments to improve use of and access to knowledge and decision tools, including through communication initiatives.

Key achievements in 2009–10

- Significant progress on development of a conceptual model for flood-recession salt mobilisation from floodplains.
- Documenting district-scale root zone drainage from irrigated areas of the Basin's Mallee Zone, which will provide a key dataset and inform future improvement of the irrigation salinity assessment framework.
- The salinity impacts of using coal seam gas water for irrigation and the ecosystem health impacts of discharging treated coal seam gas water into streams are under investigation. Queensland is developing risk-based guidelines for the use of treated coal seam gas water for irrigation.
- The hydrogeological landscapes framework has been applied in Dubbo (New South Wales) and represents a significant breakthrough in capacity to identify detailed urban management actions for specific parts of the landscape.
- Major drivers and enablers of changes in water use efficiency since 1960 have been examined in the South Australian Murray–Darling Basin, and areas of high, medium and low performance have been identified.
- The Australian Government's Water for the Future program contributes to salinity management through promoting more efficient and wise use of water.

Element 2: Identifying values and assets at risk

There are a number of planning processes and instruments operating within the Basin that have been used to implement the BSMS, especially water management plans and the strategic plans of the 18 regional natural resource management organisations within the Basin. These plans are also important for identifying and managing values and assets of local and regional significance that may not be accounted for in larger-scale planning and reporting processes.

Key achievements in 2009–10

- Water quality values are being assessed for the Queensland Murray–Darling Basin. Water quality objectives and a water management plan will be developed over the next two years in consultation with local stakeholders.
- A salinity audit for the Condamine–Balonne catchment is in progress, and is the last of three catchment audits following completion of the Border Rivers and Moonie catchments in 2005 and the Warrego and Paroo catchments in 2007.
- Aerial mapping survey of a 40–80 km-wide corridor along the Macquarie River has been conducted to improve understanding of salinity processes and groundwater systems in the lower Central West catchment of New South Wales.
- South Australia has completed the Salinity Horizons project, which has broadly quantified the long-term salinity risk of actions not factored into the salinity registers, such as climate change, new diversion limits and environmental watering impacts.
- A document titled 'Securing the future: Long-term plan for the Coorong, Lower Lakes and Murray Mouth' provided direction for the future management of the site as a healthy, productive and resilient wetland system that maintains its international importance.

Element 3: Setting salinity targets

The setting of salinity targets is the core of the BSMS framework, and provides a clear basis for tracking progress towards achieving its objectives. The BSMS is based on three tiers of targets. At the Basin scale, a Basin salinity target is set at Morgan, South Australia, to achieve an average daily salinity at a simulated level of less than 800 EC* for at least 95% of the time during the benchmark period (1975–2000). The benchmark period is an observed climatic sequence over a defined period that is representative of hydrological variability across the Basin. BSMS models use the benchmark period consistently to simulate catchment responses under current land and water management regimes at specified scenario dates. In the case of the tributaries, targets are set for salinity, salt load and flow at each end-of-valley site. The third tier, within-valley targets to manage other basin-wide values and assets, is set by the responsible state or territory government.

Targets are embedded in water and salinity-related strategies at all scales across the Basin, including regional natural resource management plans and water management plans. The BSMS enables targets to be revised as new information becomes available in recognition of the need to take an adaptive approach to salinity management.

Key achievements in 2009–10

- In 2009–10, the Basin salinity target was achieved for the first time since the inception of the BSMS, with simulated results indicating a low daily average salinity of 510 EC and peak (95 percentile) salinity of 787 EC for the River Murray at Morgan in South Australia.
- A review has commended the credibility of existing end-of-valley targets and monitoring arrangements, and recommended establishing additional target sites and using more recent predictions of salt mobilised from drylands to revise current targets.
- Salt export from the Queensland Murray–Darling Basin, following floods in March, was the highest on record at end-of-valley sites since time series EC monitoring commenced in 2001; however, the 50th and 80th percentiles for stream salinity concentrations were consistent with the baseline end-of-valley salinity targets.

* EC is an electrical conductivity unit commonly used to indicate salt concentration or the salinity of water (1 EC = 1 μS/cm)

Figure 1 shows observed (green line) and modelled (grey line) mean daily salinity levels at Morgan for the reporting period. The modelled salinity levels represent the 'no further intervention' scenario, which simulates river salinity levels in the absence of post-1975 salt interception works, improved land management actions and dilution flows. The difference between the observed and modelled salinity levels is therefore assumed to be the result of management interventions. This difference for the 2009–10 reporting period is estimated to range between 53 to1,411 EC. Figure 1 also shows that the impact of management interventions is greater when salinity levels are high (reducing salinity peaks) than when salinity is low.

Peak daily salinity at Morgan for this reporting period was 701 EC, which compares favourably with the previous five years (785 EC) and 25 years (1,220 EC). However, the lower daily salinity level observed at Morgan in 2009–10 (ranging between 226 and 701 EC) reflects prolonged drought conditions and the retention of salt in the landscape, particularly in the floodplains of the lower reaches of the River Murray. The salt stored in floodplains can be mobilised during higher river flows causing higher peak salinities. It is important to manage these short-term salinity peaks for the benefit of aquatic ecosystems and water for consumptive uses (drinking and irrigation), as well as to flush salt out of the Basin.

Independent Audit Group for Salinity recommended that BSMS develop salinity targets below Morgan, South Australia. This recommendation has been considered by MDBA in developing the draft water quality and salinity management plan.

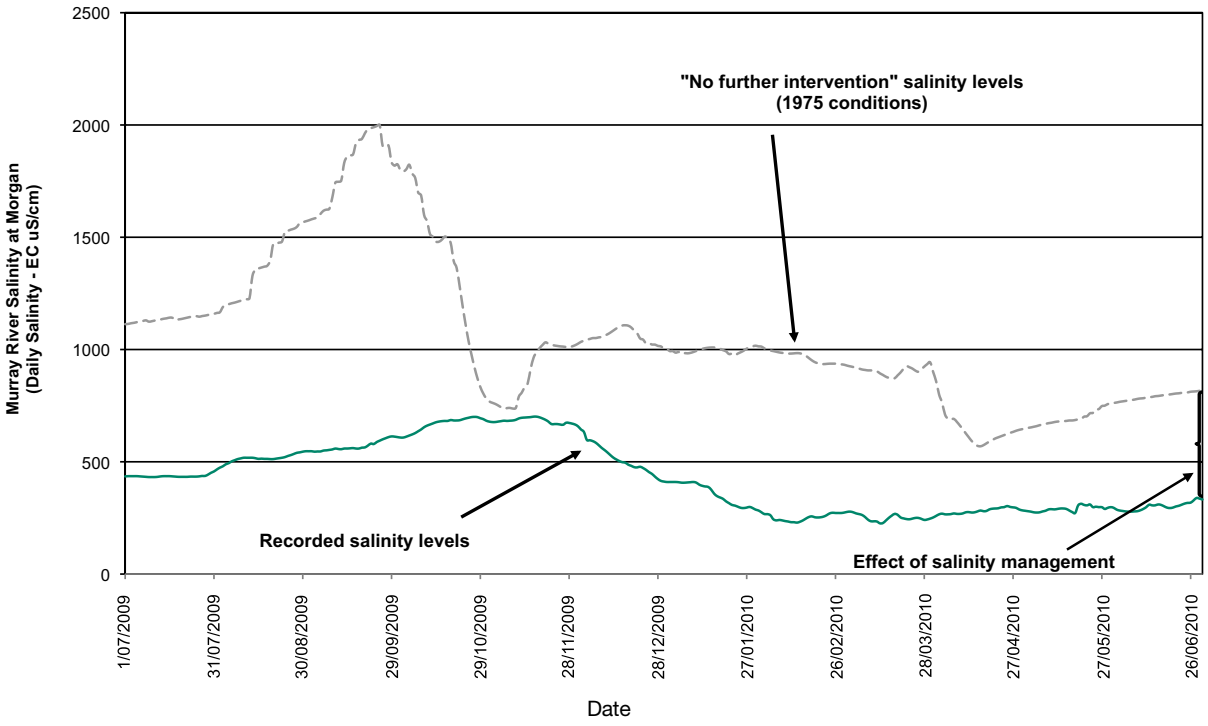


Figure 1: The assumed effect of salinity management in the Murray–Darling Basin at Morgan, South Australia (July 2009 to June 2010).

Element 4: Managing trade-offs with available within-valley options

The optimal mix of salinity management responses is principally determined through planning processes led by the Basin's regional natural resource management organisations, each of which is governed by a community-based board of management. These plans seek to balance the ecological, social and economic impacts arising from actions to achieve within-valley salinity targets. The response options may include land management, engineering works, river flow management and living with salt. Regional plans provide a good foundation for achieving on-ground change; however, research indicates that further improvements could be made through better data access and use of best available science and technology.

Key achievements in 2009–10

- A landscape hazard and risk assessment tool has been developed for irrigated lands of the Condamine–Balonne and Border Rivers catchments.
- The use of regional groundwater modelling has been trialled to provide proof of concept for salinity impact zoning in the New South Wales Mallee.
- Emergency response projects have been developed across agencies in South Australia to address immediate drought response issues (especially in relation to water levels below Lock 1) and plan for worst-case scenarios.
- Victoria has funded high and low salinity impact zone mapping and investment framework development to assist decision-making by catchment management authorities.

Element 5: Implementing salinity and catchment management plans

The BSMS requires any plan that has or will result in a significant change in land and water management to be assessed and reported against the end-of-valley and Basin targets and recorded on the salinity registers. This requirement applies to regional natural resource management plans and water management plans, amongst other smaller and larger scale plans that fall within or overlap with the Basin boundary.

Implementation of salinity management activities identified in regional natural resource management plans has been constrained following the conclusion of the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust, and changes in Australian government funding priorities under the Caring for our Country initiative.

Key achievements in 2009–10

- Water savings from bore capping and piping have been accelerated under Phase 3 of the Great Artesian Basin Sustainability Initiative.
- A major review of the South Australian Environmental Protection (Water Quality) Policy (2003) is underway, including consideration of aligning water quality (and salinity) thresholds with national water quality standards.
- Victoria's Northern Region Sustainable Water Strategy, released in December 2009, aims to manage threats to water availability and quality over the next 50 years.

Element 6: Redesigning farming systems

The BSMS emphasises the need for significant investment in research and development. Salinity risk needs to be reduced in dryland and irrigated agricultural contexts, while maintaining viable industries and communities. This means that farming systems need redesigning to better manage groundwater recharge, which presents a particular challenge in the context of each major dryland agricultural zone (high rainfall grazing, winter rainfall cropping and summer rainfall cropping). The BSMS identifies the prospective benefits of research investment in new industries based on salinised resources (broadacre salt land agronomy, saline aquaculture, salt harvesting) and forestry systems.

Key achievements in 2009–10

- Queensland's Healthy Headwaters program primarily targets water savings and adoption of more sustainable practices in irrigation areas, and has invested in practice change, infrastructure improvements, options for beneficial use of coal seam gas water, and water entitlement purchases from willing sellers.
- The uptake of pasture cropping technology, which involves drilling a crop into native pasture or vice versa, has expanded rapidly in 2009–10, both to the north and south of Central West New South Wales where the system was developed.
- A project has been scoped within South Australia to identify and use regional champions to work with developers of event-based irrigation monitoring tools to improve system capability, examine barriers to further uptake and facilitate technology adoption.

- Victorian catchment management authorities have continued to provide financial support to landholders for whole-farm planning, drainage reuse systems, soil salinity surveys and other activities to improve farming practices.

Element 7: Targeting reforestation and vegetation management

Trees have a significant role to play in salinity control because they are high water-using perennial plants. The BSMS recognises that strategies focused on tree management will be critical in reducing groundwater recharge, but impacts on instream salinities and flows need careful consideration. It highlights the importance of establishing trees for both production and conservation purposes, in addition to maintaining and enhancing existing tree cover. Further, native vegetation management, rehabilitation and stewardship are identified as opportunity areas for investment, together with short rotation tree crop commercialisation.

Key achievements in 2009–10

- Condamine Alliance and Queensland Murray–Darling Committee are trialling a range of market-based instruments for improving vegetation management.
- Queensland Murray–Darling Committee registered voluntary conservation agreements for an additional 1,333 ha of land outside the reserve system in 2009–10, bringing the total area to more than 111,000 ha.
- Native vegetation was restored or replanted on more than 156,000 ha of land in New South Wales during 2009–10, principally under property vegetation plans prescribed in the *Native Vegetation Act 2003*.
- Large-scale landscape programs in South Australia like Woodland BushBids, the Woorinen Recovery Project and the South Australia Multiple Ecological Communities Environmental Stewardship project have dramatically increased the scope to support conservation management on private lands.
- Investment in recharge management in Victoria protected 6,840 ha of native vegetation, established more than 2,200 ha of trees and over 1,000 ha of perennial pasture and lucerne, and improved cropping practices over an area of 240,000 ha.

Element 8: Constructing salt interception works

The construction and management of salt interception schemes (SIS) is a major investment component of the BSMS, with total expenditure in 2009–10 at just over $16.49 million. Salt interception schemes along the River Murray are instrumental in maintaining water quality for agricultural, environmental, urban, industrial and recreational uses.

Nine salt interception schemes have been constructed since 1988, and have diverted around 490,000 tonnes of salt away from the River Murray each year. A further eight salt interception schemes are in the pipeline, with five under construction and three under investigation.

The BSMS identified a target for salt interception schemes to reduce average salinity by 61 EC at Morgan by 2007. The revised timeframe for meeting this target is now 2011–12.

Key achievements in 2009–10

- Upper Darling (New South Wales) – all scheme pipelines and access roads are now completed, and the drilling program and construction of the disposal system are expected to commence in 2010–11.
- Mildura–Merbein (Victoria) – construction of Stage 1 of the scheme's rehabilitation was authorised by the Murray–Darling Basin Ministerial Council in June 2010, with Stage 2 development (disposal pipeline system) noted for consideration in 2012–13.
- Pyramid Creek (Victoria) – formal commissioning of the full scheme is anticipated in late 2010 following a program of pumping optimisation and the installation of additional valves to assist with maintenance.
- Pike River (South Australia) – the detailed design phase for this scheme has commenced, together with identifying staging options for the work.
- Loxton (South Australia) – an extension to the 'cliff toe drain' adjacent to the Loxton town centre has been completed, and construction of the highland borefields in Rillis Cliffs and Proud Avenue is expected to be completed by September 2010.

- Woolpunda (South Australia) – a preliminary assessment has been conducted of the salinity impact on the River Murray immediately upstream of the existing salt interception scheme, and is expected to report on the feasibility of extending the scheme to address salt loads.
- Murtho (South Australia) – some 38 km of collection and disposal pipelines have been constructed, including 600 m of directional boring under the River Murray, and all proposed production bores and associated monitoring bores have been drilled.
- Waikerie 2L (South Australia) – construction of this scheme, an extension to the existing Waikerie scheme, was approved in 2007 and formally commissioned during 2009–10, with the salinity benefits entered in the salinity register.
- Cost reductions – scheduling pumping times to coincide with periods of lower power tariffs have realised significant savings, while maintaining target groundwater levels.

Element 9: Ensuring Basin-wide accountability

The BSMS is founded on strong accountability arrangements, including rolling audits and structured review processes. Partner governments report to MDBA and the Ministerial Council using end-of-valley report cards, while the salinity registers (refer to the next section) record the outcomes of investment actions.

Key achievements in 2009–10

- The Independent Audit Group for Salinity conducted the eighth annual audit of the BSMS to assess the performance of partner governments and make recommendations for improvements.
- Improvements have been made to the salinity registers database to enable transparent and auditable links between decisions, correspondence and technical documentation.
- Significant progress in developing a procedure to account for the salinity impacts of environmental watering onto the salinity registers.
- Models for assessing 'legacy of history' and irrigation salinity impacts of the Victorian and New South Wales Mallee region have been completed.
- The baseline conditions model for the Australian Capital Territory has been approved, thereby allowing the baseline conditions and an end-of-valley target for the Australian Capital Territory to be established.
- Development continues on a suite of numerical groundwater models to refine quantitative estimates of salt load entering the Murray River in South Australia.
- Monitoring data availability for both flow and EC has increased from an aggregate of 34% of days in 2000 to 72% of days in 2010.

THE SALINITY REGISTERS

The BSMS has an accounting mechanism – the salinity registers – where accountable actions are formally recorded. An accountable action is any activity that may change salinity levels at Morgan by 0.1 EC within 100 years, and is recorded in the salinity registers as a credit or debit. The registers enable partner governments to cost-effectively target their resources, including through joint investments with other partner governments.

There are two salinity registers. Register A records each accountable action that occurred after the baseline date (1988 for New South Wales, Victoria and South Australia, and 2000 for Queensland). It also records jointly funded works and measures. Register B accounts for 'legacy of history'. These entries represent delayed salinity impacts arising from actions taken before 1988 (before 2000 for Queensland) that affect salinity levels after 2000.

State and territory governments report to MDBA on an annual basis about the status of their accountable actions. MDBA uses this information to recalculate register items, which is then subject to review by the Independent Audit Group for Salinity. Table 1 provides a summary of the 2009-10 salinity registers approved by the auditors, and is followed by brief explanatory notes.

Table 1: Summary of the 2010 salinity registers

Actions	NSW ($m/yr)	VIC ($m/yr)	SA ($m/yr)	QLD ($m/yr)	ACT ($m/yr)	Commonwealth contribution (EC)
Joint works & measures	2.638	2.638	0.767	0.0	0.0	32.1
State shared works and measures	0.191	0.191	0.0	0.0	0.0	0.0
State actions	2.652	2.190	2.209	tbd	tbd	2.6
Total Register A	5.481	5.020	2.976	tbd	tbd	34.8
Transfers to Register B	0.578	0.461	1.339	0.0	0.0	0.0
Total Register B*	0.404	-0.025	1.154	0.0	0.0	0.0
Balance – registers A & B	5.885	4.994	4.129	0.0	0.0	34.8

*Total Register B includes transfers from Register A
Negative numbers indicate a debit entry and positive numbers are credit entries
tbd = to be determined

Joint works and measures

The economic benefits arising from salt interception schemes are represented in the first row of Table 1 under 'Joint works and measures'. The contribution of the Australian Government to the joint works and measures program is shown in the last column as EC impact at Morgan.

State shared works and measures

The register identifies a specific category for works and measures carried out on a shared basis between states. Currently, only New South Wales and Victoria have entered into such arrangements, specifically for introducing operating rules for Barmah–Millewa Forest and for making permanent trade accounting adjustments from New South Wales to Victoria.

State actions

The third row in Table 1 shows the salinity result (benefits minus costs) arising from land and water management actions taken by individual states. Activities that increase salinity costs include new irrigation development, new drainage scheme construction, and wetland flushing. Activities that off-set salinity costs include irrigation efficiency improvement and river operation enhancement.

Transfers to Register B

The 'transfers to Register B' row shows the proportion of joint works and measures credits used to offset debits recorded in Register B. These transfers include the agreed share of Commonwealth credits allocated to each state.

Total Register A and total Register B

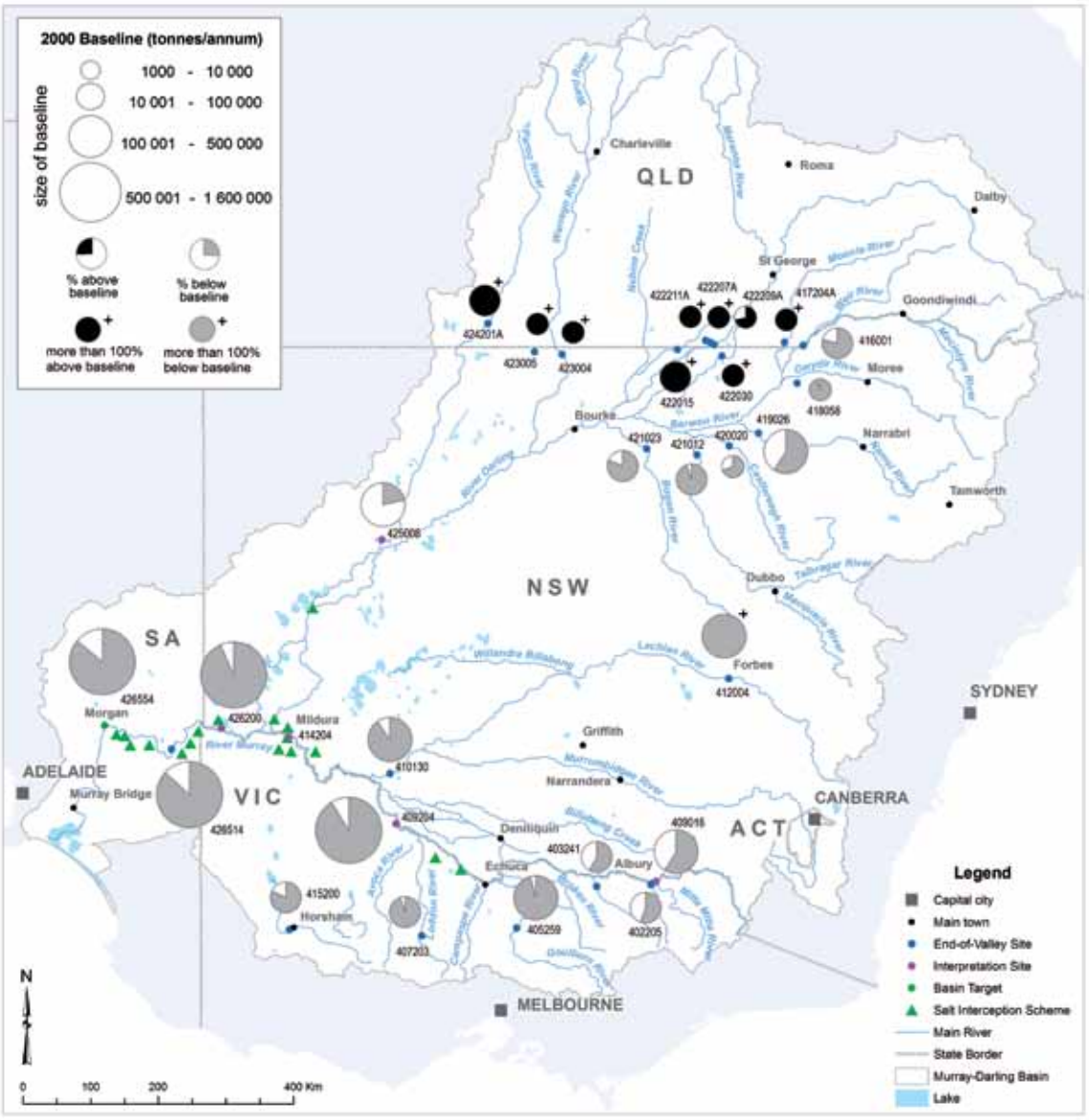
Table rows 'Total Register A' and 'Total Register B' show cumulative accountability for salinity impacts on the river in 2009–10.

Balance – Registers A and B

The final row shows the overall register balance. It indicates the extent to which each Basin partner is in net credit or debit. Balances may be adjusted as data underpinning the register entries is progressively improved.

END-OF-VALLEY OUTCOMES

Basin-wide monitoring results for end-of-valley salt load (tonnes/annum) and instream salinity (EC) are presented in Figures 2 and 3. These maps consolidate data collected by the states at approved sites for measuring end-of-valley targets. Results are presented as a percentage of the 2000 baseline level.



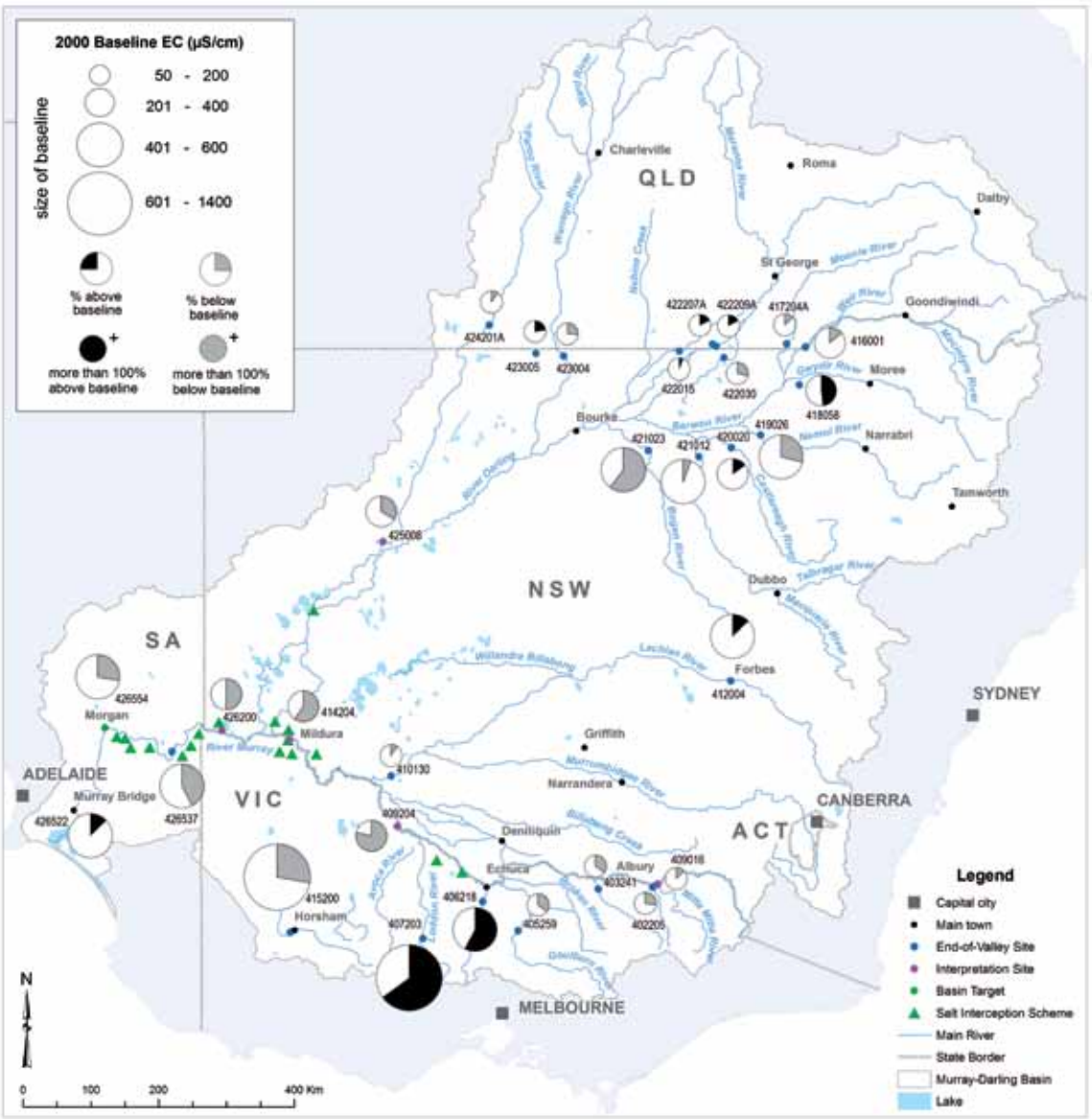
AWRC No	Site Name	Valley
402205	Kiewa at Bandiana	Kiewa
403241	Ovens at Peechelba East	Ovens
404217	Broken Ck at Casey's Weir *	Broken
405259	Goulburn at Goulburn Weir	Goulburn
406218	Campaspe at Campaspe Weir *	Campaspe
407203	Loddon at Laanecoorie	Loddon
408203	Avoca at Quambatook *	Avoca
409016	Murray at Heywoods	NSW/VIC Upper Murray
409204	Murray at Swan Hill	Vic Riverine Plains
410130	Murrumbidgee at Balranald	Murrumbidgee
410777	Murrumbidgee at Hall's Crossing *	ACT
412004	Lachlan at Forbes	Lachlan
414204	Murray at Redcliffs	NSW Riverine Plains
415200	Wimmera at Horsham Weir	Wimmera
416001	Barwon at Mungindi	NSW Border Rivers
417204A	Moonie at Fenton	Moonie
418058	Mehi at Bronte	Gwydir

AWRC No	Site Name	Valley
419026	Namoi at Goangra	Namoi
420020	Castlereagh at Gungalman	Castlereagh
421023	Bogan at Gongolgon	Bogan
422015	Culgoa at Brenda	Condamine Balonne
421012	Macquarie at Carinda	Macquarie
422030	Narran at New Angledool	Condamine Balonne
422207A	Ballandool at Hebel–Bollon Road	Condamine Balonne
422209A	Bokhara at Hebel	Condamine Balonne
422211A	Briarie at Woolerbilla–Hebel Road	Condamine Balonne
423004	Warrego at Barringun	Warrego
423005	Cuttaburra at Turra	Warrego
424201A	Paroo at Caiwarro	Paroo
425008	Darling at Wilcannia	Barwon-Darling
426200	Murray at Lock 7 (flow) Lock 6 (EC)	NSW/VIC Mallee Zone
426522	Murray at Murray Bridge *	Below Morgan
426537	Murray at Lock 4 (flow) Berri Pumping Station (EC)	Lock 6 to Berri
426554	Murray at Morgan	Lock 6 to Morgan

* Data not available to report on Salt Load

Figure 2: Salt load (tonnes/annum) for 2009-10 and the end-of-valley baseline.

The figures for 2009–10 contrast high rainfalls in the northern Basin with ongoing drought conditions in the south. Generally, high rainfall increases salt loads through target sites while maintaining salinities at acceptable levels. Salinity in some of the drought affected streams can be high while salt loads remains low.



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404217	Broken Ck at Casey's Weir *	Broken
405259	Goulburn at Goulburn Weir	Goulburn
406218	Campaspe at Campaspe Weir	Campaspe
407203	Loddon at Laanecoorie	Loddon
408203	Avoca at Quambatook *	Avoca
409016	Murray at Heywoods	NSW/VIC Upper Murray
409204	Murray at Swan Hill	Vic Riverine Plains
410130	Murrumbidgee at Balranald	Murrumbidgee
410777	Murrumbidgee at Hall's Crossing *	ACT
412004	Lachlan at Forbes	Lachlan
414204	Murray at Redcliffs	NSW Riverine Plains
415200	Wimmera at Horsham Weir	Wimmera
416001	Barwon at Mungindi	NSW Border Rivers
417204A	Moonie at Fenton	Moonie
418058	Mehi at Bronte	Gwydir

AWRC No	Site Name	Valley
419026	Namoi at Goangra	Namoi
420020	Castlereagh at Gungalman	Castlereagh
421023	Bogan at Gongolgon	Bogan
422015	Culgoa at Brenda	Condamine Balonne
421012	Macquarie at Carinda	Macquarie
422030	Narran at New Angledool	Condamine Balonne
422207A	Ballandool at Hebel–Bollon Road	Condamine Balonne
422209A	Bokhara at Hebel	Condamine Balonne
422211A	Briarie at Woolerbilla–Hebel Road	Condamine Balonne
423004	Warrego at Barringun	Warrego
423005	Cuttaburra at Turra	Warrego
424201A	Paroo at Caiwarro	Paroo
425008	Darling at Wilcannia	Barwon-Darling
426200	Murray at Lock 7 (flow) Lock 6 (EC)	NSW/VIC Mallee Zone
426522	Murray at Murray Bridge	Below Morgan
426537	Murray at Lock 4 (flow) Berri Pumping Station (EC)	Lock 6 to Berri
426554	Murray at Morgan	Lock 6 to Morgan

* Data not available to report on Salinity

Figure 3: Instream salinity (EC) for 2009–10 and the end-of-valley baseline.

PRIORITIES FOR 2010–11

The Independent Audit Group for Salinity conducts an assessment of BSMS implementation each year, and makes recommendations to inform program investments in the following year. This section provides a synopsis of high priority recommendations identified in the 'Report of the Independent Audit Group for Salinity 2009-10'. The full report is available on request from MDBA.

Flood recession salinity risks: That the current program be continued and the preparation of operational plans to manage salinity risks for the next high flow event.

Accountability for salt mobilisation by environmental watering: That a framework be completed to allow salinity effects of environmental watering to be entered onto the salinity registers.

Re-assessing salinity risk in the Basin: That a comprehensive review be initiated to assess the currently projected salinity risk in the basin for 2050.

Prioritising catchments and sub-catchments for salinity management: That an assessment of currently available tools that prioritise catchments with high salinity outflows or salinity risk be conducted.

Coal Seam Gas: That Queensland and New South Wales formally document and reports the policy and framework used to manage coal seam gas developments to minimise salinity risk.

Resourcing of salinity in catchment plans: That funding for catchment plans to address salinity issues be increased to ensure the skills, knowledge and actions built up during the first 9 years of BSMS are not lost.

Irrigation Salinity Accountability Framework: That a consistent framework for the accountability of irrigation salinity impacts be developed.

FURTHER INFORMATION

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