

Proposed works and measures

The Menindee Lakes Water Saving Project currently consists of a package of proposed infrastructure works and measures that together, will deliver water efficiency savings, better river operations, and improved environmental outcomes, while benefiting communities.

The proposed works and measures include (but are not limited to):

- allowing Lake Menindee to be operated independently of Lake Cawndilla, and ceasing to use Lake Cawndilla for water storage in all but the wettest years
- considering alternative options for water security in the Lower Darling
- permitting faster drawdown of water in Lake Menindee, including giving access to residual water
- enlarging the outlet structure and constructing a drainage channel in Lake Menindee's bed
- increasing flexibility of supply by preferentially retaining water in the more efficient Lakes Wetherell and Pamamaroo
- accommodating higher managed flows in the Lower Darling through works to:
 - limit breakouts onto the floodplain and into dry lakes and anabranches
 - protect private infrastructure from being impacted by higher flows, including changed operational rules to complement structural works.

Through the proposed works and measures, the project will also make significant contributions to overcoming system constraints and improve the ability for operators to achieve higher flow events in the Lower Murray.

The detailed plan for design and implementation of these changes has not been confirmed as the project is still in concept stage. Input from stakeholders and community members will be critical to the successful delivery of the project as it works through design and implementation stages.

The following table provides a summary of five categories of works and measures proposed as part of the project. While each carries costs and benefits, the works are intended to interact collectively as a single package and should be considered as such.

Table 1. Summary of proposed works and measures

| Type | Measure | Known as | Feature | Basin Plan Outcomes |
|----------------------|-----------|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| Infrastructure works | Measure 1 | Enlarged Menindee Outlet Regulator | Capacity increased from 5,000ML/day up to 14,000ML/day to enable more efficient drawdown. | SDL adjustment supply measure Constraints management |
| | Measure 2 | Lake Menindee Drainage Channel | Construction of drainage channel to feed outlet and improve discharge up to 14,000ML/day. Also allows access to residual water. | SDL adjustment supply measure |
| | Measure 3 | Morton-Bookla Regulator | New regulator to control releases to and from Lake Menindee and Lake Cawndilla up to 14,000ML/day. Allows Lake Menindee to be operated independently of Lake Cawndilla. | SDL adjustment supply measure |
| | Measure 4 | Old Menindee Town Weir removal | Removal of redundant weir to improve Menindee Outlet Regulator flows. | SDL adjustment constraints measure |
| | Measure 5 | Lower Darling Channel Capacity – Emu Lake Offtake Regulator | Increased flows up to 14,000ML/day in Darling channel from higher Menindee discharge—offtake regulator prevent escape flow into Emu Lake. | SDL adjustment supply measure and constraints measure |
| | Measure 6 | Lower Darling Channel Capacity – Yartla Lake Offtake Regulator | Increased flows up to 14,000ML/day in Darling channel from higher Menindee discharge—offtake regulator prevent escape flow into Yartla Lake. | SDL adjustment supply measure and constraints measure |
| | Measure 7 | Cawndilla Creek Regulator | Enable isolation of Cawndilla Creek when Lake Menindee draining. Regulator up to 14,000ML/day. Enables managed use of Lake Cawndilla as a storage option and to reduce evaporative losses. | Environmental mitigation |
| | Measure 8 | Anabranh Offtake Regulator | Update existing upstream Anabranh offtake regulator to supply regulated flow when needed up to 14,000ML/day and reduce high flow losses when regulator is closed. | SDL adjustment supply measure and constraints measure |

| Type | Measure | Known as | Feature | Basin Plan Outcomes |
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| | Measure 9 | Anabranch E-flow Regulator and Road Bridge | Update existing downstream Anabranch environmental offtake regulator to control up to 1,000ML/day. | Environmental mitigation |
| | Measure 10 | Menindee Main Weir Fish Passage | Works to facilitate fish passage at Menindee Main Weir. | SDL adjustment supply measure |
| | Measure 11 | 183 Dam Regulator, Road Bridge and Fishway | Increased flows up to 14,000ML/day in Darling channel from higher Menindee discharge—new regulator, existing road bridge, new fish passage. | SDL adjustment supply measure and constraints measure |
| | Measure 12 | Menindee Flood Protection | Construction of Menindee town high flow levee bank as flood protection measure for residents. | SDL adjustment constraints measure |
| | Measure 13 | Lower Darling Constraints Mitigation Works | Works to existing pumps and infrastructure to allow continued stock and domestic access and some irrigation access. | SDL adjustment constraints measure |
| Structural adjustment measure | Measure 14 | Acquisition of Lower Darling & Webster Ltd (Tandou) entitlements | <p>Reduce high security irrigation demand from the Lakes through acquisition of remaining high security water access licences in the Lower Darling.</p> <p>Update on Business Case information</p> <p>The Commonwealth purchased the Webster Ltd entitlements of almost 2.2 GL on 21 June 2017</p> <p>Further work on potential options to reduce high security demand (irrigation, town water supply and stock and domestic) has been undertaken and provided to the Commonwealth. Additional analysis of infrastructure options is being commissioned by NSW. Discussions with affected landholders on these options will commence shortly.</p> | SDL adjustment supply measure |
| Changes to institutional arrangements | Measure 15 | Menindee System Control Transfer and Storage Drawdown | Lake Wetherell drawdown to establish water reserve for riparian use in Lower Darling for up to 12 months. MDBA to assume full control of Lakes from NSW pending confirmation of volume reserved, how released and by whom. Proposed storage reserve 80GL. | SDL adjustment supply measure |

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|---------------------|------------|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| | Measure 16 | Broken Hill Entitlement | Town Water Supply entitlement shifted to River Murray at Wentworth. The Wentworth to Broken Hill Pipeline and associated plant are currently in testing and road reinstatement stage, with expected completion to be April 2019. | SDL adjustment supply measure |
| | Measure 17 | Cawndilla Additional E-flows | Lake Cawndilla retired for water storage but will periodically fill during natural high flow events for short periods to retain environmental values. The operating strategy for Lake Cawndilla will be designed to improve environmental outcomes. Environmental Water portfolios will only be required if the environmental watering differs from the final agreed operating strategy for Lake Cawndilla—e.g. retention of water for longer periods or slower drawdown of the lake. | Environmental mitigation |
| | Measure 18 | River Murray Improved Operations | Recalibration of modelling to capture full extent of SDL supply benefits from the project and confirm changes to River Murray Operations Framework. | SDL adjustment supply measure |
| | Measure 19 | Lake Wetherell (floodplain) drying cycle | Restore natural hydrologic profile through reinstatement of drying cycles. | Environmental mitigation |
| Concurrent measures | Measure 20 | Broken Hill Town Water Supply Alternate Supply | Long-term water supply to Broken Hill will be secured with a pipeline from the River Murray at Wentworth. The Wentworth to Broken Hill Pipeline and associated plant are currently in testing and road reinstatement stage, with expected completion to be April 2019. | SDL adjustment supply measure |
| Other measures | Measure 21 | Northern Basin Inflows | Recognition of additional Northern basin inflows to Menindee Lakes from Basin Plan environmental recovery. | SDL adjustment supply measure |
| | Measure 22 | Lower Darling Temporary Trade | Limited temporary general security trade to the Lower Darling subject to resource assessment. | Dealing rule |

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