



Australian Government



Annual progress report

The Sustainable Diversion Limit Adjustment Mechanism

February 2019

Published by the Murray–Darling Basin Authority
MDBA publication no: 10/19
ISBN (online): 978-1-925762-25-9



GPO Box 1801, Canberra ACT 2601

engagement@mdba.gov.au



1800 230 067



mdba.gov.au

© Murray–Darling Basin Authority 2019

Ownership of intellectual property rights



With the exception of the Commonwealth Coat of Arms, the MDBA logo, trademarks and any exempt photographs and graphics (these are identified), this publication is provided under a *Creative Commons Attribution 4.0* licence. (<https://creativecommons.org/licenses/by/4.0>)

The Australian Government acting through the Murray–Darling Basin Authority has exercised due care and skill in preparing and compiling the information and data in this publication. Notwithstanding, the Murray–Darling Basin Authority, its employees and advisers disclaim all liability, including liability for negligence and for any loss, damage, injury, expense or cost incurred by any person as a result of accessing, using or relying upon any of the information or data in this publication to the maximum extent permitted by law.

The Murray–Darling Basin Authority's preference is that you attribute this publication (and any Murray–Darling Basin Authority material sourced from it) using the following wording within your work:

Cataloguing data

Title: Annual progress report, Murray–Darling Basin Authority Canberra, 2019. CC BY 4.0

Accessibility

The Murray–Darling Basin Authority makes its documents and information available in accessible formats. On some occasions the highly technical nature of the document means that we cannot make some sections fully accessible. If you encounter accessibility problems or the document is in a format that you cannot access, please contact us.

Acknowledgement of the Traditional Owners of the Murray–Darling Basin

The Murray–Darling Basin Authority pays respect to the Traditional Owners and their Nations of the Murray–Darling Basin. We acknowledge their deep cultural, social, environmental, spiritual and economic connection to their lands and waters.

The guidance and support received from the Murray Lower Darling Rivers Indigenous Nations, the Northern Basin Aboriginal Nations and our many Traditional Owner friends and colleagues is very much valued and appreciated.

Aboriginal people should be aware that this publication may contain images, names or quotations of deceased persons.

Contents

| | |
|---|----|
| Executive summary | 4 |
| Key findings | 6 |
| Funding and program governance | 6 |
| Community engagement and communication | 6 |
| Supply projects..... | 6 |
| Constraints projects | 7 |
| Efficiency projects | 7 |
| Pre-requisite policy measures..... | 7 |
| The SDL Adjustment Mechanism: overview | 9 |
| Supply measures | 11 |
| Funding and program governance | 11 |
| Individual project progress | 12 |
| Community engagement | 13 |
| Commitments package | 13 |
| Constraints projects | 14 |
| The constraints management strategy | 15 |
| Progress to date | 15 |
| Constraints measures coordinating work plan | 15 |
| Challenges | 15 |
| Efficiency measures | 16 |
| Socio-economic test..... | 16 |
| Progress to date | 17 |
| Challenges | 18 |
| Prerequisite Policy Measures (PPMs) | 19 |
| Progress..... | 20 |
| Challenges | 21 |
| Reconciliation..... | 22 |
| Path forward | 23 |
| Supporting documentation..... | 24 |
| Further information | 24 |
| Appendix 1: Supply measures project map | 25 |

Executive summary

This is the first report from the Murray–Darling Basin Authority (the MDBA) on how all jurisdictions have progressed in the implementation of the Sustainable Diversion Limit Adjustment Mechanism (SDLAM) program—projects that improve river management to make both consumptive and environmental water use more efficient, and collectively manage the river system to optimise the use of available water.

On 13 January 2018, the *Basin Plan Amendment (SDL Adjustment) Instrument 2017* commenced as law, with a motion to disallow the amendment defeated in the Senate on 9 May 2018. The amendment received the endorsement of all Basin governments and bipartisan support, and represents a historic opportunity to move from a river management system designed primarily to extract water for agricultural use, to one optimised to achieve a range of benefits based on a sustaining a healthy river system and environment.

To date, the MDBA notes progress in some areas, but there is also still a substantial amount of work to be done, with some risks and challenges to the successful delivery of the SDLAM program. Basin state governments have committed to the delivery of all adjustment projects, however there are a number of key issues to address to ensure implementation remains on track. This includes appropriate governance and funding arrangements to allow program roll out, and ensuring a high level of engagement and transparency on projects at the local level and more broadly. Communities need to be strongly involved and informed in project design and delivery early in the process.

Progress in the delivery of efficiency projects remains slow. The full SDL adjustment of 605 GL is subject to 62 GL being recovered through efficiency measures by 1 July 2019, maintaining the SDL change to within the five percent allowed for in the Basin Plan. While Basin Ministers have agreed that the first priority for efficiency measures is to recover the 62 GL required by 1 July 2019, a pathway to achieving this goal is not clear at this point. As further efficiency measures are delivered beyond 30 June 2019, the gap in water recovery will be progressively closed. However, water use will need to comply with the relevant SDL for each water accounting year.

Concerns have also been raised by a number of stakeholders, and in the Productivity Commission’s recent review of Basin Plan implementation, about the ability to deliver some of the more complex projects within the 2024 timeframe. It is accepted that the SDLAM is an ambitious program, as is often the case for reforms with the potential for substantial outcomes and benefits. Completing all projects by 2024 will be challenging, and there are difficult policy and legislative issues to be resolved.

Whilst recognising this risk, the MDBA believes that, with six years remaining for program implementation, the focus should be on accelerating program delivery, including increased community engagement and consultation. With arrangements now in place to allow for funding agreements to be settled, the pace of delivery needs to increase and be maintained. As implementation is progressed it will be possible to more accurately assess progress and determine if any change to projects or timeframes may be required.

Supply projects must be implemented effectively in the southern Basin to manage the risk of further water recovery in 2024. The MDBA will make a decision on whether it considers that the package of supply measure projects, as delivered, will produce different environmental outcomes from those

determined in 2017. In this case the MDBA has the capacity to undertake a reconciliation process to evaluate any difference and adjust the SDLs in Basin catchments to reflect actual environmental outcomes delivered.

The MDBA is committed to working with Basin governments to finalise the approach to reconciliation and annual reporting. All jurisdictions have recognised the need to manage adaptively, and the MDBA must be confident that any project changes will still deliver environmental outcomes consistent with the 2017 determination. The approach will be aimed at supporting any necessary project changes, and tracking reasonable progress leading up to 2024.

The MDBA's reporting in the initial years of SDLAM program implementation will focus on both the progress towards intended environmental outcomes and the timeframes for delivery. A clear pathway to full implementation *must* be defined. Particular attention will be given to the more complex projects that require further design and community consultation, and subsequently have higher delivery risks. These include the Menindee Lakes Water Saving Project, constraints projects, and the multi-jurisdictional Enhanced Environmental Water Delivery project.

The SDLAM program was conceived as a joint exercise requiring the commitment and collaboration of all Basin state and Federal governments. As such, the SDLAM is owned by all Basin jurisdictions, working together to achieve the SDLAM's intended environmental and socio-economic outcomes. The MDBA remains committed to working cooperatively with all governments, to ensure the SDLAM will deliver on its objectives—success will depend upon the collective efforts of all parties to ensure delivery of the SDLAM outcomes as a priority.

Key findings

Funding and program governance

- Since the elements of the SDLAM program were settled in mid-2018, progress in establishing the necessary funding and governance arrangements has been slow.
- Changes to the Basin Plan, which provided an extra year for Basin state governments to bring forward new projects, and a motion to disallow the amendment delaying funding by several months, have compressed the timeframe for delivery.
- The 30 June 2024 deadline will be challenging for some of the more complex projects. With arrangements now in place to allow for funding agreements to be settled, the focus should be on accelerating program delivery.

Community engagement and communication

- Communities in the southern Basin are still concerned about how projects will affect them. State proponents are responsible for consultation on individual projects, with co-proponents jointly responsible for coordinating community engagement and communication.
- Some projects have been widely consulted on, however for other projects, such as rules changes and constraints, more needs to be done to involve and inform communities.
- In general, Basin state governments are encouraged to lift the level of engagement and transparency on projects at the local level and more broadly. It is recognised that governments have committed to increased levels of engagement. The MDBA considers that community engagement in design and delivery of the SDL adjustment program is essential and should occur early in project design.
- There is also scope to improve communication of progress with implementing the SDLAM package as a whole. In this context it is noted that:
 - The Department of Agriculture and Water Resources (DAWR) has consulted widely on additional socio-economic criteria for projects under the efficiency measure program, engaging with stakeholders across the Basin.
 - The MDBA initiated annual technical workshops on SDLAM progress, with the first workshop held on 28 June 2018.

Supply projects

- Completing all projects by 2024 will be challenging. Some are extremely complex, with risks and policy matters to be worked through and resolved for the significant program benefits to be realised.
- Some projects, such as The Living Murray environmental works or rule changes trialled over several years, are already completed or near completion. For others, while there have been positive steps in initial development, progress is not consistent, with some at very preliminary stages of implementation.
- For projects where funding has not already been committed, funding agreements between the Australian Government and Basin state governments need to be finalised.

Constraints projects

- Strong community engagement throughout the design and implementation of constraints projects is essential.
- Preliminary work on the constraint measure program has begun in terms of developing a coordinated work plan, with the aim of providing integrated, consistent and coordinated implementation across jurisdictions.
- Considerable work is planned for the first half of 2019 including, for example, identification of whole-of-system risks and issues and preparing a pathway forward to begin engagement with communities. The community has not yet been significantly involved in the process.
- Constraint project implementation is crucial to delivering Basin Plan environmental benefits, allowing water to be delivered where and when it is needed. This includes, but is not limited to, delivering the 450 GL of water obtained through efficiency measures.

Efficiency projects

- Efficiency measure projects are crucial to providing the environmental benefits of the SDLAM, in the same manner as supply measures provide economic benefits.
- The full SDL adjustment of 605 GL is subject to 62 GL being recovered through efficiency measures by 1 July 2019, maintaining the SDL change to within the five percent allowed for in the Basin Plan.
- Slow progress in achieving this target has, in part, related to community and government concerns about the socio-economic criteria for the program.
- While Basin ministers have agreed that the first priority for efficiency measures is to recover the 62 GL required by 1 July 2019, a pathway to achieving this goal is not clear at this point.
- As a result of a shortfall in efficiency measures at 30 June 2019, water recovery may be less than that required to meet SDL in some catchments.
- The Australian Government has tasked the newly launched (July 2018) Murray–Darling Basin Water Infrastructure Program (MDBWIP) to focus on achieving the 62 GL and Basin state governments have proposed potential projects to achieve this goal. The MDBWIP has not recovered any water to date.
- In December 2018, ministers agreed a series of additional socio-economic criteria, to be applied to all efficiency projects proposed under the program, with a few exceptions.
- To ensure that the aims of the program are achieved, careful consideration must be given to managing the application of the additional criteria to ensure that it does not introduce impediments to finding suitable projects by June 2019.
- The Australian Government has committed to making State access to supply project funding conditional on the Australian Government being able to roll-out any efficiency measures projects.

Pre-requisite policy measures

- The three southern states – New South Wales, Victoria and South Australia – have nominated a number of important rule changes known as ‘pre-requisite policy measures’ (PPMs) that must be in place by 30 June 2019.

- These measures assume a level of protection and coordination for water for the environment modelled as part of the Basin Plan, and also the SDLAM. If PPMs are not effectively implemented, this will be a key matter for reconciliation.
- The MDBA is providing preliminary comments on PPM implementation, where documentation has been provided by Basin state governments. Formal assessment will begin in March 2019.
- The MDBA is closely monitoring the effective implementation of PPMs and will make an assessment by 30 June 2019.

The SDL Adjustment Mechanism: overview

The Basin Plan sets SDLs which specify how much water can be used in the Murray–Darling Basin, while leaving enough water to sustain natural ecosystems. To provide flexibility, the Basin Plan includes a mechanism to adjust SDLs. The mechanism requires a suite of projects to be implemented – some allow Basin Plan environmental outcomes to be achieved with less water, leaving more water in the system for other users, including households, industry and irrigated agriculture. Other projects change water use practices and save water for the environment.

The SDLAM was incorporated into the Basin Plan through a series of collaborative negotiations between all Basin governments. It was developed to apply the principle of ongoing river management improvement once the Basin Plan came into effect. As such, the SDLAM is owned by all jurisdictions, working together to achieve the intended environmental and socio-economic goals.

Adjustments to SDLs are facilitated through three elements that work together - supply and constraints projects achieve equivalent environmental outcomes with less water and thereby improve river management. Efficiency measures recover water for the environment through the more efficient use of consumptive water. All three project types interact to improve water management and the health of our rivers while supporting productive communities and industries. They are vital to making the best collective use of Australia’s shared water resources.

The Basin Plan SDLAM amendment increased SDLs by 605 GL in the southern-connected Basin, based on outcomes from a package of 36 supply and constraints measures notified to the MDBA by the Basin Officials Committee. This included five constraint projects submitted as supply measures (two further constraint measures, Goulburn and Gwydir, were not notified as supply projects). The amendment also allows for the delivery of 450 GL of water for the environment through the efficiency measures notification. Supply and efficiency projects must enter into operation by 30 June 2024.

Basin state governments are responsible for delivering the supply and constraints projects, including consulting with communities on detailed design and implementation. The Australian Government Department of Agriculture and Water Resources (DAWR) provides funding for supply and constraint projects and manages the efficiency measures program (Murray–Darling Basin Water Infrastructure Program), working in conjunction with the Basin state governments on some program elements.

In 2017 the MDBA undertook a determination of the SDL adjustment available from supply projects, as notified by Basin governments. Moving forward the MDBA will also provide technical advice and assistance to jurisdictions on an ongoing basis, based on its available expertise in river operations and management. The MDBA also has a key role in monitoring the integrity of SDLs and the operation of the adjustment mechanism. It will make a decision on whether it considers that the package of SDLAM projects, as delivered, provides the environmental outcome determined in 2017. If at any point the MDBA considers that this will not be the case, it will undertake a reconciliation process to evaluate the difference and adjust SDLs to reflect actual environmental outcomes delivered.

This is just the start—in years ahead projects will be further refined and implemented. Community input and involvement, along with technical and practical on-ground knowledge, will inform projects as they progress, noting some have been in operation or consulted on for some time, while others are in relatively early stages. Projects must also be approved under relevant state and Australian Government regulations (for example the NSW *Environmental Planning & Assessment Act 1979*, the NSW *Fisheries Management Act 1994*, and the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* and *Native Title Act 1993*). All elements of the SDLAM—supply, constraint and efficiency measures—are designed to be interrelated and work together to achieve the intended outcomes under the Basin Plan. They each present their own benefits and challenges. Equal prioritisation is required for the delivery of all elements of the SDLAM, requiring the cooperation and coordination of all Basin governments.

Supply measures



Supply projects allow the Basin's rivers to be managed more efficiently to deliver water for the environment. They must deliver equivalent or better environmental outcomes compared to those achieved under 2012 Basin Plan settings, using less water. This water remains in the river for consumptive use, such as irrigated agriculture, and allows SDLs to increase.

Supply projects represent an opportunity to improve river management arrangements designed and put in place before held environmental water entitlement delivery was part of everyday operations. They can streamline the way the river is operated or build environmental infrastructure works.

In some cases, this is a significant chance to rethink the way we operate the system. For example the Menindee Lakes Water Saving project provides the first opportunity in over 50 years to improve the way that the Menindee Lakes system is managed. The project has multiple objectives, including improving the reliability of low flows in the Lower Darling River and supporting fish breeding. There is a long way to go in design and delivery, and as for all projects, community input will be critically important to get the best outcome.

Funding and program governance

There have been positive initial steps in project planning for supply measures as a package, however progress overall has been slow. Funding arrangements and governance frameworks for some supply and constraint projects between the Australian Government and Basin state governments were, in part, delayed by a motion to disallow the SDLAM amendment to the Basin Plan, as funding during the disallowance period of several months could not be certain. Other projects, for example rule changes and the South Australian infrastructure projects, were funded through different sources and able to continue in development and implementation.

On 21 June 2018, the Australian Government established a two-stage funding approach for supply and constraints projects. Relevant ministers signed a Stage 1 funding agreement to underpin the initial stage of project funding on 14 December 2018. The Australian Government and relevant Basin state governments agreed to work cooperatively to finalise funding schedules under this agreement by the end of February 2019. At the end of stage 1, each project will be reviewed to determine progression to Stage 2, implementation. Funding through a National Partnership Agreement (NPA) for implementation, which includes physical on-ground works and acquisition of easements (for constraints measures) will be considered as part of Stage 2.

The funding delay has compressed the timeline for implementation, which may pose a risk for the full delivery of some of the more complex and detailed projects. The two-stage approach and review process are key mechanisms for Basin governments to collectively manage project risks, including a shortfall in the supply contribution. The initial stage enables Basin state governments to continue to develop their projects, while providing further time for Basin governments to agree arrangements for a range of key implementation matters. At this time, negotiations are still underway between Basin state governments and the Australian Government to resolve issues around stage one project funding, prior to the release of funding under the new arrangements.

While there has been no SDLAM specific committee responsible for the oversight of project implementation since 2018, due in part to the delays noted above, the Basin Officials Committee has continued to provide overall oversight of the package. Basin governments have agreed to establish an Adjustment Implementation Committee (AIC) to monitor implementation of supply and constraints projects, consisting of members from Basin governments and the MDBA. The primary objective of the AIC will be to deliver, and manage risks to, the 605 GL offset from the SDLAM package. Terms of reference have been discussed and an interim Chair appointed. The AIC is expected to hold its inaugural meeting in early 2019.

Project-specific interjurisdictional committees are in place and have been working together on some of the more complex projects, including those with the potential to deliver the most benefits. These are the NSW Menindee Lakes Water Saving Project Interjurisdictional Working Group, NSW Menindee Lakes Water Saving Project Interagency Working Group, interim Enhanced Environmental Water Delivery working group and Constraints Management Working Group.

Individual project progress

There has been progress on some supply projects, although this is not consistent, noting that some projects have been funded and established for a number of years, for example, The Living Murray environmental works projects, the Riverine Recovery Project, the South Australian Riverland Floodplain Integrated Infrastructure Project, the South-East Flows Restoration Project and Phase 1 of the Flows for the Future Project.

NSW has re-commenced consultation on the Menindee Lakes Water Saving project, and has also held community and stakeholder meetings on its projects in the Murrumbidgee region. Victoria's nine environmental works projects are at various stages of development, from concept to detailed design. The Victoria/NSW rules changes projects, based on several years of operational trials, need to be finalised to become operational, including undertaking community consultation as appropriate. Most projects in South Australia are well progressed, as noted above, with some nearing completion.

Work on the multijurisdictional Enhanced Environmental Water Delivery project has been slow. A Stage One funding proposal is currently being developed for the multijurisdictional Enhanced Environmental Water Delivery project to support project initiation, detailed design and planning. As noted in the constraints section, community consultation on implementation has been minimal to date.

Individual project progress can be found on [the MDBA website](#).

Community engagement

The MDBA considers that the level of engagement and transparency has been insufficient. Community consultation was a requirement of business case development, and the MDBA has continuously advocated for improved transparency and community engagement in the ongoing development and implementation of all SDLAM measures. While recognising state commitments to improved engagement, the MDBA notes that improvements need to occur throughout the design and implementation process. Once projects move into the design phase, Basin state governments must work with local communities and affected landholders to ensure that projects consider local needs.

Commitments package

On 7 May 2018, the Australian Government made a number of commitments as part of its agreement with the Federal Opposition to secure passage of the SDLAM amendment through Federal Parliament. Commitments relating to supply projects include:

- **Annual technical workshops on progress in implementing the package of measures that form the SDLAM.** The MDBA held its [first annual SDLAM technical workshop](#) on 28 June 2018. Attendees were presented with information on projects, the assessment process, and how the MDBA will be monitoring performance going forward. Participants highlighted the value of a central, coordinated approach to communication and engagement, and the need for all Basin governments to consistently engage and involve First Nations in project implementation.
- **Linking payments for supply measure implementation to the cooperation of Basin state governments with efficiency measure delivery under a national partnership agreement (NPA).** The Australian Government will link payments for supply project funding to the demonstration, by a state, of full cooperation with the delivery of efficiency measures as defined under the Basin Plan. Principles and criteria to include in the NPA for this purpose have been discussed by Basin governments, but are not yet settled. No funding can be rolled out until all matters relating to the NPA are resolved, potentially creating delays to project roll-out.

Constraints projects



Basin governments collectively recognise that the river system can be better managed to optimise the use of available water. Constraints projects aim to overcome some of the physical barriers that impact water delivery in the system. They can include changes to physical restrictions such as crossings and low lying bridges, or changes to river operating practices and rules that restrict how much water can be put down a river. Current constraints significantly reduce the ability to deliver water for both the environment and for consumptive purposes.

Constraints projects allow water managers more flexibility in releasing and moving water through the system where it is needed, when it is needed, to maximise outcomes from the flows. While the Basin Plan provides environmental benefits even if constraints are not removed, relaxation of system constraints is crucial to maximising Basin Plan benefits for enhanced ecosystem management throughout the Basin.

The projects are a significant contributor to the 605 GL adjustment to the SDLs achieved through SDLAM supply projects, and are also needed to achieve maximum benefit from water transferred to the Commonwealth Environmental Water Holder through the 450 GL efficiency measure program.

The environment is not the only beneficiary of relaxed constraints. Measures to deal with the effects of managed high flow events are also of value in mitigating the impacts of natural flooding events.

Constraints measure projects are complex, and span river reaches in New South Wales, Victoria and South Australia. The reaches include:

- Hume to Yarrawonga (Murray)
- Yarrawonga to Wakool Junction (Murray)
- Goulburn
- Murrumbidgee
- Lower Darling
- Lower Murray (South Australia)
- Gwydir.

Projects to address constraints in all areas, except the Goulburn and the Gwydir, are notified as supply projects under the SDLAM. The Goulburn in Victoria was submitted separately as a constraint project, and the Gwydir project will be further developed by the NSW state government as part of the Northern Basin Review's toolkit measures. The Gwydir was not considered as part of the SDLAM.

Proponent states are responsible for driving and delivering their individual constraints measure projects at a local-level, including consulting with communities, detailed project design and implementation. Basin state governments have agreed that no changes to flows will occur until third party impacts have been resolved in consultation with affected communities.

The constraints management strategy

In 2012, Basin governments asked the MDBA to develop a strategy which ‘identifies and describes the physical, operational and management constraints affecting environmental water delivery’. The MDBA’s [Constraints Management Strategy](#) (CMS) investigated how water can get where it’s needed, when it’s needed while avoiding or mitigating impacts to riparian landholders, communities and industries. The strategy canvassed management practices and ideas worthy of further examination. Work under the strategy evolved into the development of constraint project business cases.

Progress to date

Constraints measures coordinating work plan

In November 2017, the Basin Officials Committee re-established the constraints management working group to prepare a coordinating work plan (the work plan). Development was, at times, slow due to the complexity of gaining consensus on agreed short-term priorities in the context of differing state perspectives. The work plan was presented to Ministers for endorsement in December 2018.

The development of a coordinated approach between Basin states to constraint projects is necessary to resolve strategic issues affecting program delivery, and avoid inequity in measures offered between states. This could include, for example, inundation levee management regulation and ownership arrangements that currently differ across jurisdictions.

The work plan provides governments with a means to guide a phased implementation approach for the delivery of integrated constraints projects across the entire southern connected system between now and 2024. It establishes principles and processes to facilitate strong, responsible and informed community involvement in constraint project development and planning. The work plan indicates a considerable amount of work in the first half of 2019 to identify strategic whole-of-system risks/issues and prepare a path forward for the program, however this may not be transparent to communities without engagement in the process.

Challenges

Constraint projects implementation is closely linked with the Enhanced Environmental Water Delivery supply project. It may also have implications for the Lower Darling (part of the Menindee Lakes Water Saving project) and Gwydir constraints projects. Implementation of the constraints program should consider consistency in environmental water delivery approaches across all projects.

Constraints relaxation is a critical element for Basin Plan success. The projects are complex, with both significant challenges and benefits. At the December 2018 Ministerial Council meeting ministers noted the importance of genuine community engagement and support for the projects, and agreed that community concerns about the constraints program, including transparency and deliverability, are to be addressed as a priority. Implementation will require substantial engagement with riverine floodplain landholders and communities. While this extensive engagement makes the 2024 delivery timeframe challenging, maintaining public transparency and accountability is crucial to obtaining the public support needed to deliver the projects.

Efficiency measures



Efficiency measure projects change water use practices and save water for the environment—for example, water previously lost to seepage or evaporation can be captured through lining or covering irrigation channels. The efficiency measure program (the Murray–Darling Basin Water Infrastructure Program) funds urban, industrial, off-farm, on-farm and metering projects across the Basin. Efficiency measure projects can integrate climate-resilient agricultural practices through irrigation modernisation, and improve the water productivity of agriculture.

A total of up to \$1.575 billion in funding is currently available for projects up until 2024. These could include upgrading irrigation systems, installing water meters, water productivity improvements in manufacturing or irrigated agriculture, and more efficient urban water management practices. Basin state governments may also directly propose efficiency projects.

Efficiency projects are an integral component of the SDLAM, designed and included in the Basin Plan to work hand-in-hand with supply and constraint projects. The connectivity between all elements of the SDLAM means that the benefits of water recovered from the efficiency measure program will provide for a healthier, more sustainable and resilient river system, and will be maximised when implemented in conjunction with constraint and supply project delivery.

Under the Basin Plan, the adjustment to SDLs is restricted to five per cent (or 543 GL) of the Basin-wide SDL. Because of this, the efficiency measures program must recover 62 GL by 30 June 2019 for the full 605 GL supply measure offset to be available from that time. For example, an efficiency measure shortfall of 30 GL would reduce the supply offset by 30 GL to 575 GL.

As a result of a shortfall in efficiency measures at 30 June 2019, water recovery may be less than that required to meet SDL in some catchments. As further efficiency measures are delivered beyond 30 June 2019, the gap in water recovery will be progressively closed. However, water use will need to comply with the relevant SDL for each water accounting year.

As part of the Basin Plan commitments package, the Australian Government has indicated that state access to supply measure funding will be conditional on the roll-out of any efficiency measure programs. These arrangements are to be set out in performance milestones under funding agreements with Basin state governments, which will link payments for the supply measures delivery to states who are able to demonstrate their full cooperation with the delivery of efficiency measures as defined under the Basin Plan.

Socio-economic test

The Basin Plan allows for Basin state governments to propose alternative arrangements to the socio-economic neutrality test included in the Plan for efficiency measure projects. On 8 June 2018, the Ministerial Council asked state and territory governments and the Australian Government to develop agreed additional program criteria for efficiency measure projects to ensure neutral or improved socio-economic outcomes and avoid adverse impacts.

The Australian Government consulted stakeholders throughout the Basin in October and November 2018, on potential additional criteria for the program. Independent consultants, Sefton's, were engaged to assist in the public consultation meetings and prepare an independent report

encompassing the feedback received through public meetings, webinars, online submissions and surveys. The Sefton's report is now [publically available](#).

Basin Ministers considered the Sefton's consultation report at the Murray-Darling Basin Ministerial Council meeting on 14 December 2018. The Ministerial Council agreed [additional socio-economic criteria](#) to be applied to all efficiency measure projects that are part of the 450 GL, except for the Adelaide desalination project and Coorong environmental works in South Australia and the ACT Healthy Waterways project.

Basin Ministers also agreed that states will each establish a process to assess projects against the agreed socio-economic criteria to ensure their compliance. Projects will then be submitted to the Australian Government for assessment.

Progress to date

Progress in the delivery of the efficiency program to date has been troublingly slow.

The South Australia pilot of the Australian Government On-Farm Further Irrigation Efficiencies Program (COFFIE program) operated from September 2016 to October 2018 and aimed to contribute 2 GL by December 2018. 1.9 GL has been contracted to date (with 0.5 GL on the register). This leaves over 60 GL to be recovered by 30 June 2019 for the full 605 GL supply adjustment to be realised at that time.

Ministers agreed in June 2018 that the first priority for efficiency measures was to recover the 62 GL required by June 2019 to ensure that the full 605 GL offset comes into effect from that date. The Murray-Darling Basin Water Infrastructure Program was launched on 13 July 2018, and consistent with the Ministerial Council decision, the program sought tenders for urban, industrial, off-farm and water metering infrastructure projects Basin-wide. To date, the program has sought proposals for on-farm infrastructure projects in Queensland, South Australia and the Australian Capital Territory, but has not yet recovered any water.

At the 14 December 2018 Ministerial Council meeting, Ministers agreed to additional socio-economic criteria aimed at ensuring efficiency measures were delivered in a way that did not create adverse socio-economic impacts. The program is now available on-farm Basin-wide. Contract negotiations with existing tenderers are progressing with the intent to re-open the call to new tenders in February 2019 with the additional criteria.

At the June 2018 and December 2018 Ministerial Council meetings, Basin Ministers committed to a suite of projects within each state that could contribute towards the 62 GL target. The Australian Government agreed to fund the following projects or initiatives, subject to the provision of business cases by jurisdictions that meet the requirements of the Australian Government's assessment:

- Facilitators within regional NSW to help design industry and community led projects to help improve resilience to the extremes of climate. This could include urban, off-farm, on-farm and industrial projects.
- Opportunities for efficiency measures in Queensland that benefit the northern Basin.
- A project to investigate the contribution that the Adelaide Desalination Plant and other urban and industrial projects building on the existing South Australian on-farm irrigation efficiency pilot.

- Victoria’s Northern Water Infrastructure prospectus, estimated to yield up to 9 gigalitres (GL) from Shepparton East Modernisation, Mitiamo Stock and Domestic, System Savings and Sunraysia distribution channel upgrades.
- A project to investigate an efficiency measure contribution in the ACT from urban water efficiency infrastructure projects, combined with waterway restoration, catchment management, revised water conservation measures and planning controls.

Ministers also agreed the new socio-economic criteria will not apply to the Adelaide desalination project, Coorong environmental works and the ACT Healthy Waterways projects.

To maintain momentum and encourage further uptake of efficiency measures, the Australian Government will commence an engagement program across the Basin to raise awareness of the opportunities available to stakeholders and build understanding of the environmental benefits of the program. Program uptake and delivery relies on Basin governments building social licence and understanding for the program and for the Basin Plan more broadly. The Australian Government, in consultation with Basin state governments, is engaging with relevant water management authorities, key stakeholders and communities to work on these issues.

Basin ministers have agreed that officials are to develop an efficiency measures work plan through to 2024 to achieve the remaining water recovery of 450 GL.

Challenges

A balanced approach must be taken to the efficiency measure program so that the new criteria are managed in a way that ensures that the neutral or positive socio-economic outcomes, sought under the Basin Plan, can be achieved.

The new criteria have secured agreement from the Ministerial Council for all Basin states to participate in on-farm efficiency measures. However, to achieve the aims of the program in line with Ministerial commitments, careful consideration must be given to managing the application of the new criteria so that adverse impacts are avoided, but at the same time the complexity and administrative burden for proponents is not increased. Consistent with the Ministerial Council decision not to increase red tape, governments will need to work together to ensure there are no impediments to finding suitable projects.

A pathway to achieving the 62 GL by 30 June 2019 is not clear at this point. With any shortfall in achieving this amount, and lower SDLs as a result, the relevant state would need to manage levels of take to the lower SDL at that point. This may result in a consequential impact on the Australian Government’s ability to achieve the remaining water recovery target by 30 June 2019.

Prerequisite Policy Measures (PPMs)

In developing the Basin Plan, the MDBA included an assumption in its modelling that rivers will be managed to maximise environmental outcomes with the water available, without impacting on the reliability of other water users. This was based on an exploration by Basin state governments of multi-site environmental watering trials for the River Murray. Consistent with policies adopted in those trials, the two key outcomes assumed in the Basin Plan were:

- a) environmental water flows throughout the length of the river, and between rivers; and is protected from extraction, re-regulation or substitution; and
- b) the release of water for the environment is allowed on top of other in-stream flows, effectively, 'piggybacking' held water releases on unregulated events.

These outcomes are described in the Basin Plan as unimplemented policy measures (referred to now as pre-requisite policy measures (PPMs)) under s 7.15. PPMs are expressed as two key policy assumptions:

- a) credit environmental return flows for downstream environmental use
- b) allow the call of held environmental water from storage during unregulated flow events.

PPMs are 'activated' during the operation of the SDLAM. The benchmark model established for the Basin Plan, and used as the basis for SDLAM modelling, assumed that PPMs were fully implemented. For the SDLAM determination of the adjustment outcome, the Basin Plan obliges the MDBA to remove any unimplemented PPMs from the benchmark model to the extent that the measure, at the time of the SDLAM determination, is not expected to, or did not, come into effect by 30 June 2019.

The MDBA's assessment of whether PPMs were expected to come into effect by 30 June 2019 was based on PPM implementation plans submitted to the MDBA in 2016–2017 by relevant Basin states (the three southern states—New South Wales, Victoria and South Australia). The Basin Officials Committee asked the MDBA to coordinate the PPM Implementation Plan for the River Murray on behalf of Basin state governments. These implementation plans nominate a number of important rule changes to be in place by 30 June 2019 which would meet the criteria under s 7.15 of the Basin Plan. The plans were assessed and approved by the MDBA, with these assessments independently reviewed by members of the Independent River Operations Review Group.

Implementing PPMs addresses the most significant operational and management constraints identified in the *Constraints Management Strategy 2013*, and improves the outcomes of both supply and constraints projects. It is critical to achieving the environmental outcomes of the Basin Plan. Failure to implement PPMs significantly reduces the SDL adjustment resulting from supply projects. This will be a key consideration in the MDBA's decision on the need for a reconciliation. Depending on the scale of failure to implement, this may result in the need for further water recovery.

In the period leading up to 30 June 2019, Basin state governments must demonstrate that PPMs have been implemented in a way that is secure and enduring, for example through operational procedure manuals, changes to the Murray–Darling Basin Agreement or other documentation. Consultation with environmental water holders in the southern Basin is required as part of this work. The MDBA must be able to determine that Basin state governments have addressed all necessary

policy and operational matters required for implementation, and that implementation outcomes accord with the assumptions used in SDLAM modelling. The MDBA's PPM Assessment Guidelines provide assistance to Basin state governments in implementing PPMs.

PPMs will be considered as implemented if Basin state governments can demonstrate the appropriate policy settings are in place, or will be by 30 June 2019, consistent with the assumptions in the SDLAM model. The MDBA will assess the effectiveness of state policies to address the PPM against the requirements of s7.15 of the Basin Plan.

Following the MDBA's assessment of implementation, an independent review of the assessment is to be carried out by members of the Independent River Operations Review Group (IRORG), in a similar manner to their review of MDBA assessments of PPM implementation plans.

The MDBA is monitoring the effective implementation of PPMs closely and will make an assessment by 30 June 2019. If PPMs are not effectively implemented, this will be a key consideration in the MDBA's reconciliation decision.

Progress

New South Wales, Victoria and South Australia have begun implementation and have, to varying degrees, provided PPM implementation documentation to the MDBA for initial comment. The MDBA is currently liaising with jurisdictions regarding the MDBA's assessment of PPM implementation, and will begin the formal assessment process in March 2019.

NSW held agency workshops on implementation and publically consulted on PPM arrangements in August 2018 and November 2018 through Stakeholder Advisory Panels for the Murray–Lower Darling and Murrumbidgee water resource plans. Environmental water holders, including the Commonwealth Environmental Water Holder, were consulted during development of operational procedures.

Victoria is currently working on amendments to the relevant bulk water entitlements where return flow crediting is not yet allowed for, and documenting the required operational arrangements for PPM implementation.

South Australia has prepared some broad outline documentation on how PPMs will be implemented and is working on policy and operational documentation to support this.

The MDBA is working with the New South Wales, Victoria and South Australia through the Water Liaison Working Group and state PPM implementation teams on the coordination of PPM implementation for the River Murray. This will primarily be through amendments to the Objectives and Outcomes for River Operations in the River Murray document.

Challenges

Where Basin state governments intend to give effect to PPMs in water resource plans, the appropriate policy and operational settings must still be in place by 30 June 2019. PPMs are not a Basin Plan accreditation requirement for water resource plans, however where referred to in these plans, this must be consistent with what was assessed prior to 30 June 2019.

It is anticipated that all measures will be submitted to the MDBA for assessment in a timely manner—the key will be to ensure submission with enough time to allow for discussion and iterations if necessary to meet the appropriate standards. At 30 June 2019 implementation must be complete and must be transparent, robust and enduring, while allowing for adaptation and improvement.

Reconciliation

The MDBA must make a decision on whether it considers that the package of SDLAM projects, as delivered, provides the environmental outcome determined in 2017. If at any point the MDBA considers that the environmental outcome would be different, the MDBA has the capacity to undertake a reconciliation process, using the original methodology agreed by all Basin governments, to evaluate the difference and adjust the SDLs in Basin catchments to reflect the actual environmental outcomes delivered.

For this reason, the MDBA will continue to play a key role in monitoring the integrity of SDLs and the operation of the adjustment mechanism. This report is the first of the MDBA's public annual stocktake and reviews of program progress. Future annual progress reports will focus in more detail on monitoring project progress, and managing any issues to minimise the risks associated with delivering project outcomes within the required timeframe, as projects move further down the implementation pathway. The reports will serve three purposes:

- to provide the transparency and credibility needed for stakeholders and the community to have confidence in the SDL adjustment projects delivering the environmental outcomes committed to by each project
- to provide a level of accountability for the implementation of projects across all governments
- to best manage and minimise risks associated with delivering project outcomes.

Many of the SDL projects have important issues and risks to be resolved during the implementation phase from 2018–2024. It is clear that most projects will evolve and change, through concept trials, community and stakeholder input, and interactions between projects as they are designed and implemented.

A portfolio approach to the projects will be taken, acknowledging that it is expected that some projects may not deliver the full environmental benefits expected, and other projects may improve and deliver greater benefits, as refinements are made through learning and adaptation.

Concerns have been raised by a number of stakeholders and in the Productivity Commission's recent review of Basin Plan implementation, about the ability to deliver some of the more complex projects within the 2024 timeframe. Whilst recognising this risk, the MDBA believes that, with six years remaining for program implementation, the focus now should be on accelerating program delivery, including increased community engagement and consultation. As implementation is progressed, it will be possible to more accurately assess progress and determine if any change to projects or timeframes may be required.

The MDBA must be confident that any project changes will still deliver environmental outcomes consistent with the 2017 determination. The MDBA is committed to working with Basin governments to finalise the approach to reconciliation and annual reporting. In the initial years the MDBA intends to report progress with a focus on both the progress towards intended environmental outcomes and the timeframes for delivery. All jurisdictions have recognised the need to manage adaptively. The MDBA's approach will be aimed at supporting any necessary project changes, and track reasonable progress leading up to 2024.

Path forward

In 2017, the MDBA made its determination to increase SDLs in the southern Basin by 605 GL. This determination included a commitment from the New South Wales, Victorian and South Australian governments to design and implement SDLAM projects by 2024.

In contemplating challenges to the delivery of the SDLAM program, it is easy to lose sight of what the projects can offer communities, industry and the environment. Relaxing constraints and mitigating any third party impacts from higher managed flow levels has the benefit of also mitigating the impacts of natural flow events at the same levels. Communities can benefit through increased infrastructure projects operating in their area, providing economic opportunities for local contractors and flow on benefits from this investment. Tourism, associated with improvements to water dependent ecosystems, will also benefit.

Supply measures can achieve equivalent environmental outcomes from less water, leaving more water in the system for other users, including irrigated agriculture. In addition, the projects at an individual level will provide a range of benefits which may apply over the whole length of a river, a river reach, or at the system level.

Efficiency project reviews have consistently shown benefits to the irrigator that are broad and long lasting, such as increased crop yield and quality, improved crop flexibility and better use of labour. The projects can integrate climate-resilient agricultural practices and improve agricultural water productivity. Economic benefits can also accrue to local communities through the program's requirements for local materials and services. Project participants have reported improved irrigator confidence in the future and assistance in succession planning.

The interdependency of all elements of the SDLAM highlights the importance of all projects being delivered: supply; efficiency; and constraint measures. The MDBA fully supports all aspects of the SDLAM, as included in the Basin Plan in 2012.

It is understood that the timeframe for supply, constraints and efficiency measures is challenging. However, making judgements on extending timeframes for the projects at this stage is considered by the MDBA to be premature. At this early stage, the focus is on governments applying themselves diligently to the task, reporting regularly on progress, and considering the incentives for success.

The MDBA recognises that there is a lack of trust in some sections of the community regarding the SDLAM, in part as a result of limited publicly available information for some projects. Improvements have been made in this area, however governments need to act cooperatively to lift the level of engagement and transparency, and provide access for all stakeholders to information and ways to provide feedback. Effective consultation and engagement of local communities will be needed for all projects going forward. All evidence points to the need to bring the community along on the journey.

The MDBA remains committed to working cooperatively with all governments to ensure the SDLAM will deliver on its objectives. The hard work of implementation is ahead, and success will depend upon the collective efforts of all parties.

Supporting documentation

The key elements of the SDLAM and a description of the MDBA's implementation of the adjustment mechanism are set out in the *Sustainable Diversion Limit Adjustment Mechanism: Draft Determination Report 2017*:

<https://www.mdba.gov.au/publications/mdba-reports/sustainable-diversion-limit-adjustment-mechanism-assessment-draft>

In addition a range of documents supporting the adjustment mechanism can be found on the MDBA's website here:

<https://www.mdba.gov.au/publications/mdba-reports/sustainable-diversion-limit-adjustment-mechanism-assessment-draft>

- *Summary of feedback report*
- *Benchmark conditions of development for assessment of the SDL supply contribution*
- *Modelling assessment to determine SDL adjustment volume*
- *Independent Review of Hydrologic Modelling for SDL Adjustment (by Bewsher Consulting)*
- *Independent Expert Panel Murray–Darling Basin Plan SDL Limits of Change Review*
- *Advice from the Basin Officials Committee*
- *Sustainable Diversion Limit adjustment mechanism assessment framework for supply measures*
- *CSIRO summary of the scoring method*
- *Summary of the Independent Panel's method review*

The review of the SDLAM process can be found at:

- [*SDL adjustment mechanism process review May 2018*](#)

Further information

- [The Sustainable Diversion Limit Adjustment Mechanism](#)
- [Sustainable diversion limit adjustment projects](#)
- [Map of SDL projects](#)
- [The determination to adjust sustainable diversion limits](#)
- [Commitments package website - DAWR](#)

Appendix 1: Supply measures project map



Map illustrating location of supply measures projects

| Map reference | Project title | Proponent state(s) |
|---------------|---|--|
| 1 | South East Flows restoration project | South Australia |
| 2 | Flows for the future | South Australia |
| 3 | South Australian Riverland Floodplain Integrated Infrastructure Program (SARFIIP) | South Australia |
| 4 | Riverine recovery project | South Australia |
| 5 | Chowilla Floodplain TLM project | South Australia / New South Wales / Victoria |
| 6 | South Australian Murray key focus area | South Australia |
| 7 | Lindsay Island (Stage 1) Upper Lindsay watercourse enhancement TLM project | Victoria / New South Wales / South Australia |
| 8 | Lindsay Island (Stage 2) floodplain management project | Victoria |
| 9 | Mulcra Island environmental flows TLM project | Victoria / New South Wales / South Australia |
| 10 | SDL offsets in the Lower Murray (New South Wales) | New South Wales |

| | | |
|----|---|--|
| 11 | Wallpolla Island floodplain management project | Victoria |
| 12 | Hattah Lakes North floodplain management project | Victoria |
| 13 | Hattah Lakes environmental flows TLM project | Victoria / New South Wales / South Australia |
| 14 | Belsar–Yungera floodplain management project | Victoria |
| 15 | Burra Creek floodplain management proposal | Victoria |
| 16 | Vinifera floodplain management project | Victoria |
| 17 | Nyah floodplain management project | Victoria |
| 18 | Guttrum and Benwell State forests floodplain environmental works project | Victoria |
| 19 | Murray and Murrumbidgee Valley national parks SDL adjustment supply measure | New South Wales |
| 20 | Gunbower Forest TLM project | Victoria / New South Wales / South Australia |
| 21 | Gunbower national park floodplain management project | Victoria |

| | | |
|----|---|--|
| 22 | Flexible rates of fall in river levels downstream of Hume Dam | Victoria / New South Wales |
| 23 | TLM environmental works and measures — Koondrook–Perricoota Forest flood enhancement proposal | New South Wales / Victoria / South Australia |
| 24 | Barmah–Millewa Forest environmental water allocation | Victoria / New South Wales |
| 25 | New Goulburn key focus area* | Victoria |
| 26 | Yarrowonga to Wakool junction key focus area | New South Wales |
| 27 | Improved regulation of the River Murray** | Victoria / New South Wales |
| 28 | Hume to Yarrowonga key focus area | Victoria / New South Wales |
| 29 | Hume Dam airspace management and pre-release rules | Victoria / New South Wales |
| 30 | 2011 Snowy water licence schedule 4 amendments to River Murray increased flow call out provisions | New South Wales / Victoria |
| 31 | Enhanced environmental water delivery (hydro cues) | New South Wales / Victoria / South Australia |
| 32 | Nimmie Caira infrastructure modifications proposals | New South Wales |
| 33 | Modernising supply systems for effluent creeks - Murrumbidgee River | New South Wales |

| | | |
|-----|---|-------------------------------|
| 34 | Improved flow management works at the Murrumbidgee River — Yanco Creek offtake | New South Wales |
| 35 | Computer Aided River Management (CARM) Murrumbidgee | New South Wales |
| 36 | Murrumbidgee key focus area | New South Wales |
| 37 | Structural and operational changes at Menindee Lakes, including the Lower Darling key focus area constraint project | New South Wales |
| n/a | On farm irrigation efficiency and other water use efficiencies | Australian Government program |
| n/a | Urban or industrial and mining areas water efficiency | Australian Government program |