

Submission to Department of Climate Change, Energy, Environment and Water Delivering the Basin Plan Ideas Consultation Process

July 2023

# Background

The National Irrigators' Council (NIC) is the peak industry body for irrigated agriculture in Australia. NIC is the voice of irrigated agriculture and the industries producing food and fibre for domestic consumption and significant international trade. Put simply, our industry is helping to feed and clothe Australia and our trading partners.

Irrigated agriculture in Australia employs world leading practices in water management. The industry has extensively adopted and embraced new technologies and knowledge to ensure we are consistently growing more with less water. Australian farmers also operate under strict regulations and compliance mechanisms. These factors mean we lead the world in both farming practices and produce quality.

NIC's policy and advocacy are dedicated to growing and sustaining a viable and productive irrigated agriculture sector in Australia. We inform, we listen and we debate ideas, but we always seek to collaborate in the best interests of all water users. We are committed to the triple bottom line outcomes of water use - for local communities, the environment, and for our economy.

# **Recommendations**

NIC recommends the following solutions to finalise the Basin Plan:

- Focus on Outcomes
- Extend the Timeframes
- Invest in Complementary Measures
- Build and Extend Infrastructure Partnerships
- Options Trading Through River Reach
- Shared Benefits Through Renewable Energy
- Explore Other Options.

# Introduction

The Murray Darling Basin is arguably Australia's most important agricultural region, with irrigated agriculture a key component. All Australians are connected to the Murray-Darling Basin, whether they know it or not. Forty percent of our farms, over \$22 billion in economic activity at the farmgate, thousands of direct and indirect jobs, and the vast majority of the irrigated produce which hits our dinner plates and clothes us is grown in the Basin.

In Australia, 100% of our rice, over 93% of our fruit, nuts and grapes, over 86% of our cotton, over 83% of our vegetables, over 83% of our turf, flowers and plants, over 50% of our dairy and sugarcane, and significant volumes of hay, cereals and other grains are grown by irrigation farmers. It is also important to note that more than 90% of the food consumed in Australia is grown locally.

The Plan has been a vital tool in balancing the needs of our communities, our environment and our productive sector. It hasn't always got it right, but it has achieved a great deal since its inception. Ensuring balance is needed so we can keep our rivers and communities healthy and thriving, while feeding and clothing Australia and the world.

The Basin Plan is the latest in a series of reforms since the 1990s that have reduced access to water for agriculture. The Plan has seen one in every five litres of water previously available for irrigation stripped from the irrigation sector, producing hardship for irrigation communities particularly where the water has been recovered mainly through buybacks. Negative impacts are particularly exacerbated in times of severe drought.

While much has been achieved and should be celebrated, it is noted that there are many significant challenges remaining. The potential for failure is largely out of the control of individuals or communities and the risks that presents for communities – particularly if the Government pursues further water recovery through buybacks.

According to the Murray-Darling Basin Authority, the current potential shortfall in the Plan volumes could be around 760 GL across both the Sustainable Diversion Limits Adjustment Mechanism (SDLAM) and Efficiency Measures programs, at ~315-340 GL and ~425 GL, respectively. This represents between 20-25% of the productive pool in the Southern Basin. While water use varies year on year, to put it in context, all irrigation in South Australia is only around 355 GL, in the Southern Riverina it's 554GL, Riverina it's 618 GL, Coleambally uses 224GL, the Sunraysia and Western Murray uses 140GL, Victorian Murray uses 316GL, Victorian Goulburn 544 GL and the Lower Murray Valley uses 204 GL.

To recover this volume of water through direct buybacks would be catastrophic to our regions. It would see huge regional job losses and business closures, and would significantly impact food availability, trade and the cost of living.<sup>1</sup> It is also likely to see flow on effects to value-add and manufacturing businesses, and local community businesses and services through population changes. Some irrigation schemes, or parts thereof, will become unmanageable and unsustainable which will force more farmers out of the industry, creating a snowball effect.<sup>2</sup> To put it another way, if a farmer exits the irrigation scheme or area, the remaining farmers on that channel will have to shoulder the infrastructure costs. These costs could become too great for the remaining people on that channel, forcing them out too. It will also likely impact deliveries and conveyance. Further water recovery should consider the legacy issues it could create, including the Swiss cheese effect on irrigation schemes.

https://www.frontier-economics.com.au/social-and-economic-impacts-of-the-basin-plan-in-victoria

<sup>&</sup>lt;sup>2</sup> lbid.

Some have said these farms could be converted to dry land farming, but given the climate and weather conditions in some of these areas that is unlikely, which means any buybacks would also need to consider industry transition and support, buying out farms, training and development, and relocation support. It should also be noted that within some IIOs, particularly in VIC and SA, the smaller size of holdings means that there are very limited, if any, alternative productive uses for properties if they cease to be irrigated.

Conservative estimates put the cost of buybacks alone into the tens of billions of dollars, while additional funds would be needed for the farmer, community, irrigation scheme and industry support.

Closing farms would significantly impact trade. It puts the \$100 billion in agricultural produce goal at considerable risk, at a time when governments are also moving to put limits on other exports such as coal and gas, which adds to growing economic uncertainty.

Additionally, less food grown locally with higher input costs (for example, water and maintenance) will put the price of water and food up. All Australians will be left paying more for food and textile products. Imports grown under less regulation and with inferior water management practices will be bought in meaning poorer Australians will have lower quality food and fibre products, and fewer healthy options as we move to more processed and frozen foods high in preservatives. We will also lose reliability and self-sufficiency, placing our food supply at risk to global shipping issues.

While NIC and our members support healthy rivers and wildlife, we do not believe buybacks are the only option to achieving the outcomes of the Basin Plan.

## Ideas

## Focus on Outcomes

Politicians, public servants and the general public need to know where their food and fibre comes from, how and where it is grown, and how practices and regulations have changed over the years to make Australian irrigation the most efficient and effective in the world. As noted above, without irrigation most Australians will not be able to enjoy or afford the benefits of a healthy fresh diet.

Farmers and associated industries are impacted even more than the environment during dry times. The allocations system puts irrigators – the people growing the food we eat and the fibre we wear – last. Towns are first, then the environment, then the productive sector. The narrative that farmers are to blame for climate change or for draining the rivers is factually incorrect and needs to change.

The commentary, political discourse and consultation on the Basin Plan has lost sight of the primary goal of the Basin Plan – to get real and measurable outcomes. Instead, the focus has been on achieving the volumes, without regard for the outcomes. Volumes are no substitute for real outcomes. Just adding water and hoping for an outcome, isn't the same as taking direct action to lead to an outcome.

Additional work under the Basin Plan should be focused on delivering the outcomes, not just chasing volumes for the sake of ticking off the Plan. It must focus on what is actually achievable.

The majority of water used in the agriculture sector is monitored, modelled, measured and/or metered. The Commonwealth Environmental Water Holder should be subject to the same obligations. The CEWH has a multibillion dollar water portfolio and should be accountable to the Australian people for the use of this public asset.

The CEWH needs to be more transparent by setting work plans and targets, having its performance monitored and measured, accounting for every drop, and being held accountable for its use of water, including impacts on landholders and communities.

Politicians and other stakeholders have called for buybacks on the 450 GL Efficiency Measures program. This program, as the name suggests, is about increasing efficiency of water movement throughout the system. Buybacks aren't efficiencies. To buyback this water would be a breach of the original intent of the Act and the Plan – as agreed to by the Commonwealth and the States.

The 450 GL is also tied to neutral or positive socio-economic outcomes for local communities. Buybacks as noted above would have catastrophic socio-economic outcomes for communities and thus should not in any way be considered for the Efficiency Measures program, because to do so would again go against the intent of the Plan.

The buybacks narrative fails to comprehend the fact without delivering on constraints management projects water cannot effectively move through the system. In other words, even if the Government ripped water out of local communities through buybacks, it would not be able to use it until the constraints projects are delivered. Estimates put these project delays at between five and ten years.

## **Extend the Timeframes**

As noted above, constraints work will take between five and ten years to complete. Without this work, additional water recovered will not likely be able to be used. More time and resources are needed to deliver these projects.

The States have recently asked for more time to be given to complete the SDLAM projects and this too should be given to allow the States to deliver on their promises to regional communities. It is important to note, water users have delivered on their commitments and have invested and made market decisions on the understanding that the States would deliver on their commitments. It is therefore imperative for the States to deliver.

The timeframes should be extended to cater for losses and delays incurred by COVID and floods which have meant work could not progress. Getting the right plan in place and delivering what was promised, should be a priority and if that takes a couple of extra years, then so be it. The alternative of buybacks carries too much risk, while being patently unfair on regional communities, jobs and businesses which have already done the heavy lifting in completing the Plan.

## **Invest in Complementary Measures**

The irrigated agriculture sector has long advocated the need for complementary measures to improve connectivity and habitat for native fish, concerted action on terrestrial and aquatic animal and plant pest species, and to address cold water pollution. A dedicated focus on these measures is becoming increasingly pressing, where it is underpinned by the outcome of scientific work on native fish, impacts of terrestrial and aquatic pest species etc.

Without complementary measures, the water reserved for the river and the environment will not produce the desired environmental outcomes and the expectations of communities. A flow target is not an environmental outcome, but just one part of the mechanism to achieving an outcome.

NIC submits that Complementary Measures (also known as toolkit measures in the Northern Basin) facilitate:

- delivering equivalent ecological outcomes required to meet Basin Plan objectives that will not be met through existing water recovery measures
- supporting the rehabilitation of native fish species
- improving productivity within aquatic ecosystems
- increasing the resilience of threatened species
- improving social and economic prosperity from aquatic resources
- contributing to the achievement of cultural water objectives.

These are critical measures designed to underpin short, medium and long term outcomes to ensure native species have the greatest opportunity to thrive. This approach will deliver the Basin Plan's environmental objectives over time without additional collateral damage to regional communities.

Such measures fall into two categories, fundamental interventions or actions required to achieve improved ecological outcomes in our river systems, or new opportunities for operation and management of environmental resources.

Complementary measures could include, but are not limited to:

- carp control through the release of the Carp Herpes virus
- appropriate management of cold water pollution
- improvement of fish migration through fishways along the Barwon-Darling and tributary catchments
- restoration of native fish habitat
- feral animal control in wetlands such as the Narran Lakes, Gwydir Wetlands and Macquarie Marshes
- Riparian land management
- Weed management.

The irrigated agriculture sector has for some time viewed complementary measures as potentially so effective that they could achieve better environmental outcomes than recovering further water. We strongly advocate consideration of complementary measures as a part of achieving the remainder of the Basin Plan.

## **Build and Extend Infrastructure Partnerships**

The Commonwealth Environmental Water Holder has been able to successfully build partnerships with Irrigation Infrastructure Operators (IIOs) to deliver e-water. During the recent floods, the CEWH used the Murray Irrigation system to provide refuge for fish during the black water events by oxygenating the water.

Environmental Water Holders have developed effective partnerships with Murrumbidgee Irrigation and Coleambally Irrigation to deliver water to environmental assets, including black box depressions.

The CEWH delivers water using the Renmark Irrigation Trust system to water floodplains in South Australia and has used the Central Irrigation Trust infrastructure to deliver hundreds of megalitres to two sites, with further options available through this network into the future. This water is only able to reach these areas thanks to that system, it would otherwise not be possible. The Government has put some funding aside for the Murray Reconnected Floodplains project. According to the project's website, it will:

Upgrade of existing infrastructure both within the Murray Irrigation channel network (escapes, channel upgrades), and private land (creek crossings and fences) within the region's rivers, creeks and wetlands to build on enhance e-water events by delivering water into natural assets via Murray Irrigation's channel network. The overarching objective of this project is to deliver better environmental outcomes using water already recovered through water reform.

The development of a business case during stage 4 of the Murray Reconnected Floodplains project will explore the viability of the below potential benefits on full implementation.

- Total of 74,000ha of floodplain ecosystems re-connected and rejuvenated
- 2,000km of riparian systems connected to the Murray River (20,000ha riparian beds). 2,000 on-farm private wetlands rejuvenated (54,000ha wetland area).
- Our modernised supply network will enable precise control and measurement of water, enabling targeted environmental outcomes and demonstrating full accountability of public water
- Target and rehabilitate at-risk ecosystems
- Key water delivery infrastructure is already in place
- Potential water recovery offset benefits
- Strong community support.

In parallel recognising the challenges faced by the Murrumbidgee SDLAM projects, Murrumbidgee Irrigation and Coleambally Irrigation completed earlier work which investigated the opportunities to optimise the operation of the Murrumbidgee, these organisations have sought feasibility funding for a project which has both elements of SDLAM and efficiency measures. The Commonwealth has an opportunity to consider support these ideas as solutions to the Basin Plan finalization challenge. These partnerships are examples which could easily be adopted to deliver similar results in other parts of the Basin and should be urgently explored.

There is an opportunity to extend this investment outside the IIOs to deliver actual results. For example, installing pumps to move water from rivers and storage to high points in the landscape to water creeks and wetlands. This investment would negate the need for large scale flooding, while delivering a similar result. The Government should explore these opportunities as a matter of urgency.

## **Options Trading Through River Reach**

River Reach was an idea explored pre-Basin Plan. Put simply, it is an options trading or derivatives program. A market mechanism which would provide water for the environment when it was needed, while farmers and other water owners retained their entitlements and could use the water when the environment didn't need it or could not use it. NIC was involved with testing the idea and working to help develop it, but at the time it was seen as too difficult given the market was not as well established as it is today. For context, imagine a water owner's entitlement as ten buckets. In any given year, they receive an allocation against these buckets. In wet years like we have just experienced, water holders receive allocations against all ten buckets (100% allocation). In dry years, some farmers don't receive any allocations or limited amounts, maybe two buckets (20% allocation). In average years, five to seven buckets (50-70% allocations) will receive an allocation.

River Reach could be used in the current market to give the Commonwealth Environmental Water Holder (CEWH) options against future water allocations. For example, the Commonwealth could negotiate with a farmer in the Murray region an option to purchase any water allocated against two of their buckets. If the farmer received an allocation against these buckets, the CEWH would have the option to purchase that water allocation to use as required. If there is no allocation, then the option cannot be exercised. If the CEWH doesn't need or cannot use that water at that time, then the farmer would retain it to use, carry over or trade. The CEWH would negotiate these options with farmers via an online platform, ideally owned and developed by the Commonwealth, and could perhaps include standard terms and offers to streamline this process. For example, one offer could be for the CEWH to purchase an option against the first bucket and the last bucket. In a wet year, the CEWH would be able to access both these buckets. In a dry year or average year, the CEWH may only be able to access one of these buckets, should it need that water. A range of offers could be developed to address specific needs in individual catchments with appropriate terms and conditions. The options could also be purchased for one year or multiple years, or permanently. A simple video was put together explaining it here: https://youtu.be/y2cYsmDon3E.

River Reach's biggest advantage is that it provides flexibility which is certainly lacking in the Plan and Water Act. It gives the CEWH an option if it needs it, without the need to permanently transfer water out of the productive pool. If the CEWH doesn't need the water that year or season, the farmer can use it to grow food and fibre. It can move between the CEWH and farmer from year to year or season to season as required. It also allows the farmer to generate an income or part thereof to compensate for losses in production if the water is not available to them. It would also be cost effective for the Commonwealth as it is leasing an allocation over time, not buying an entitlement up front.

River Reach avoids the need for buybacks and the associated costs; adds flexibility to the water market and Plan so water can move between users depending on need and availability; ensures production is not permanently cut, particularly if water is not needed by the CEWH or can't be used; and ensures no socio-economic harm to regions from buybacks.

A similar pilot program was run by the Commonwealth Environmental Water Holder at Narran Lakes.<sup>3</sup>

## Shared Benefits Through Renewable Energy

The energy market is transitioning in Australia as more renewables are being brought into the system and new transmission infrastructure is being built. Historically, Australia had centralised power generation and in the future it will be completely reversed. More and more energy will be generated in the regions and transmitted back to our cities.

There is an opportunity to invest in renewable energy infrastructure which has a dual purpose. In India and Egypt, they have started investing in solar panels which cover irrigation channels and California is exploring the idea too. The renewable energy is produced on land already being used, so it does not need extra prime agricultural land to be wasted or new land to be cleared. The panels also limit water evaporation from the channels (see footnotes for examples).<sup>4</sup>

In Japan and California, there are small scale examples of investments in floating photovoltaics. China, India, Brazil, Portugal and Singapore have examples of much larger scale projects.

<sup>&</sup>lt;sup>3</sup> <u>https://www.dcceew.gov.au/water/cewo/media-release/narran-bounces-back-to-life</u>

<sup>&</sup>lt;sup>4</sup> <u>https://www.bbc.com/future/article/20200803-the-solar-canals-revolutionising-indias-renewable-energy;</u> <u>https://www.designboom.com/technology/over-canal-solar-panels-evaporating-water-ucsc-07-13-2021/;</u> <u>https://www.anthropocenemagazine.org/2021/03/the-two-for-one-benefits-of-solar-canals/</u>

These are again examples of projects with dual or multiple benefits: clean energy generation, less evaporation, less land clearing or wasted prime agricultural land, fish and breeding habitat.<sup>5</sup>

These projects are creating efficiencies in the water, because less is being lost and therefore could be funded and contribute to the Efficiency Measure (450 GL) program. The Government should prioritise investment in these solutions to both our growing energy needs and to increase water efficiencies.

Some of our members are already exploring options to invest in similar solutions at the farm and IIO scheme level, which shows there is community and business interest and support for the concept.

## **Explore Other Options**

The following projects were provided by Murray Irrigation:

## Millewa forest regulator upgrades

## What works could happen?

Upgrade/replace several forest regulators with modern remote controlled delivery infrastructure to enhance the existing NSW National Parks Millewa SDLAM project.

## What is the environmental outcome?

Improved water delivery to help maintain the ecological character of a RAMSAR site- which is the Millewa forest.

# Possible cost

\$20M



Area location of sites to upgrade for the Millewa forest

## Werai forest regulators

## What works could happen?

Upgrade/replace several forest regulators with modern remote controlled delivery infrastructure. Works include: Niemur offtake regulator, Moonya lagoon regulator, Tumudgery creek regulator, Reed Beds Creek regulator. This will compliment the NSW National Parks SDLAM project.

<sup>&</sup>lt;sup>5</sup> https://www.voanews.com/a/something-new-under-the-sun-floating-solar-panels-/6794529.html

## What is the environmental outcome?

This forest is of high ecological interest with existing watering arrangements with environmental water holders. Improved water delivery to help maintain the ecological character of a RAMSAR site- which is the Werai forest. Achieving ecological outcomes with less water and also significant cultural benefits given the first nations significance of this forest.

#### Possible cost \$15M



Area location of sites to upgrade for the Werai forest

## Aratula and Bullatale Creek Reconnection

## What works could happen?

Remove sediment build-up and replace crossing site with clear span bridge.

## What is the environmental outcome?

This will deliver "constraints level" outcomes but at a lower level and will also reduce pressure on the Barmah Millewa Reach. Improved flow regime for eastern Millewa and provide a more frequent flow into the Bullatale creek with earlier commence to flow conditions. This project has strong landholder support.

## Possible cost

\$2M



Location of site works for Aratula and Bullatale Creek Connection

## **Extension of Murray River Works Program**

#### What works could happen?

Extension of Murray River remediation works to stabilise eroding river banks to assist with River Murray operations and deliverability issues. Revetment works using timber and vegetation, for example, installing fish habitat logs. Remove sediment build up and replace crossing. Upgrade or replace several forest regulators with modern remote controlled delivery infrastructure.

#### What is the environmental outcome

Protect and enhance environmental and first nations cultural values of the river and river banks and RAMSAR listed wetlands. Enhance first nations capacity building with long term environmental and cultural works program.

#### Possible cost

\$100M (over 10 years)



Area location of remediation works for the Murray and Edward Rivers

## Lower Darling and Darling Anabranch Fish Passage works

## What works could happen?

Support and fund the Better Baaka program, this includes: Lower Darling: Removing barriers to fish passage, installing fishways in Lake Wetheral outlet, weir 32, Pooncarie and Burtundy weir. Darling anabranch: remove barriers to fish passage, packers crossing and dam 183.

## What is the environmental outcome?

Improve pathway for fish migration from the Menindee lakes storages to the Murray river.

Possible cost \$70M

Area location of fish passage works for the Darling and Darling Anabranch



The following projects were provided by Ricegrowers Association of Australia:

Project	Description	Notes
Murray to Broken Hill Pipeline	Operational in 2019, the Murray to Broken Hill pipeline moved the supply of Broken Hill's water from the Menindee Lakes to the River Murray, NSW. When Broken Hill was reliant on Menindee Lakes for its water supply, the NSW Government has estimated that this resulted in approximately 420 GL of evaporative losses at the Lakes every year. <sup>6</sup> The new pipeline has been operating for four years, yet none of its water savings benefits are being recognised under the Basin Plan. With respect to our bridging the gap obligations, it's more than likely that at least 10 GL of benefit already exists, and has been occurring every year since 2018-2019. Proper recognition of this benefit means	The Phase Two Business Case for the Menindee Lakes SDL project noted that: The initial SDL modelling undertaken by the MDBA in 2013, based on works and measures proposed by NSW at that time, indicated water savings of only 72GL for the Menindee project. The collective view of the jurisdictions was that more needed to be done to capture a greater percentage of the well documented system losses at Menindee. <sup>7</sup> Independent assessments of the project have also noted its value to be in the order of 50 GL – 106 GL. <sup>8</sup> <sup>9</sup> Despite the pipeline having been completed four years ago, and 420 GL of evaporative losses having been dready removed the MDBA continues to judge the merits
	that no water needs to be purchased in the NSW Murray.	of the Menindee Project very harshly. <sup>10</sup> It's important that the benefits of the pipeline, in particular, not be ignored by the MDBA.
Barmah- Millewa Feasibility Study	One of the five options that will be further investigated is: Optimising the timing and transfers of water from Hume Dam to Tar-Ru (Lake Victoria) with consideration of environmental opportunities and reducing unseasonal flow. <sup>11</sup> One of the key objectives underpinning this work is to minimise water loss, either from storage spills or increased	In May 2002, operations at Tar-Ru (Lake Victoria) were revised to give effect to actions that would minimise the impact on Aboriginal cultural heritage values. <sup>13</sup> A key priority in these revised operations was to: reduce the impact on water resource availability. Having this as a driving principle proved to be very successful. Revised operations at Tar-Ru resulted in a 19 GL increase in flow to South Australia in dry years.
	conveyance. <sup>12</sup>	Changed river operations frequently create resource availability dividends for Basin states. Factoring this into the Barmah Millewa Feasibility Study should be an obligatory, separate work-stream going forward.
Town Water Risk Reduction <sup>14</sup>	Announced in December 2022, Phase 2 of this Program runs for 2 years. Objectives include: (i) secure/sustainable water supply & sewerage; (ii) using innovative technology to ensure towns have reliable, resilient & safe water; & (iii) 'boosted' employment opportunities, including for Aboriginal and First Nations people.	The water saving opportunities of this Program have not been explored in terms of Basin Plan outcomes. This warrants further investigation.
Existing Project 'Stocktakes'	Marsden Jacob Associates (MJA) has undertaken one of the more recent, comprehensive stocktakes of reasonably viable Basin water recovery projects. <sup>15</sup> A number of these fall within RGA's current position on water recovery: (i) no recovery through buy-back; (ii) no recovery from the General Security allocation pool, or volumes connected to this pool via markets; and (iii) the benefits arising from water recovery should be shared.	It would be worth revisiting the options put forward in the MJA report, and other similar stocktakes, to test their feasibility against RGA's pre-conditions and the Commonwealth's promise that: nothing's off the table.

<sup>6</sup> <u>https://www.industry.nsw.gov.au/\_\_data/assets/pdf\_file/0011/143030/Broken-Hill-long-term-water-supply-solution-summary-of-final-business-case.pdf</u>

<sup>7</sup> <u>https://www.industry.nsw.gov.au/\_data/assets/pdf\_file/0016/165130/Menindee-Lakes-Water-Savings-Project-business-case.pdf</u>

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https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.mdba.gov.au%2Fsites%2Fdefault%2Ffiles% 2Fpubs%2FSDL-Adjustment-Stocktake-Report.docx&wdOrigin=BROWSELINK

https://www.mdba.gov.au/sites/default/files/pubs/sdlam-independent-indec-status-assessment-report-april-2021.pdf

<sup>10</sup> https://www.mdba.gov.au/sites/default/files/pubs/annual-assurance-report-2022-sustainable-diversion-limitadjustment-mechanism.pdf

<sup>11</sup> https://www.mdba.gov.au/publications/mdba-reports/barmah-millewa-program

<sup>12</sup> <u>https://www.mdba.gov.au/sites/default/files/pubs/review-of-impacts-of-system-wide-drivers-on-tar-ru-scoping-study-stage-1.pdf</u>

13 https://www.mdba.gov.au/sites/default/files/archived/mdbc-SW-

reports/2145 Lake Victoria operating strategy.pdf

<sup>15</sup> https://www.dcceew.gov.au/sites/default/files/documents/water-for-the-environment-special-account-2ndindependent-review-advice.pdf

<sup>&</sup>lt;sup>14</sup> https://www.dpie.nsw.gov.au/water/plans-and-programs/town-water-risk-reduction-program/about

Capturing Heavier Rains	Associate Dean and Professor, Dr Kurt Schwabe, from the University of California – Riverside has recently been awarded a Fulbright Distinguished Chair Fellowship to: collaborate with Australian scientists to better capture and store water as the planet warms. <sup>16</sup> Working in collaboration with CSIRO, Dr Schwabe's study will take place in the first half of 2024, and will look specifically at the establishment of 'groundwater banks' across the Murray-Darling Basin.	RGA has already reached out to Dr Schwabe in relation to this study, and expressed interest in being involved.
Improved Murray Regulation	Leading up to and following the millennium drought, there has been a significant water reform program and a shift in long-term river operational practices. This proposal has been under consideration for over 10 years, and involves locking in place recent observed improvements in operational loss performance, and recognising the improved performance by revising arrangements for estimating the operational loss requirements needed to run the River Murray system. Applying this more efficient approach would mean that: an additional 110 GL/yr of operational losses will not be required. <sup>17</sup> The result is an extra 110 GL becoming available	The Victorian Government has long been a strong proponent of the Improved Regulation of the River Murray project. And while it sits in the package of notified measures under the SDLAM 605 GL, the MDBA refuses to assign it an off-set value. <sup>18</sup>
Werai Forest	From an e-water perspective, principally this would look at the upgrade of existing regulators; however, there are also strong potential benefits for First Nations at this site, along with the possibility of a modest water recovery volume.	More work is required to investigate the full potential of this option, and similar ones like it in the footprint that RGA supports.
Increase Returr – CEWH Portfolio	This option would explore activities that can add to the CEWH's water holdings, without requiring the further acquisition of entitlement. All options would fit squarely within the RGA's current position on water recovery, as described above.	RGA requires advice from the Commonwealth regarding what format these options need to take in order to be seriously considered by Ministerial Council.

# **Challenges or Gaps**

## Legislative Change

There are solutions, some of which are suggested by NIC in this submission, and many more will be provided throughout this consultation approach. However, to consider these legislative amendments are required.

Those discussed earlier include:

- Extension of the timeframes for exiting projects for SDLAM, Efficiency Measures and Constraints
- Opportunity for new ideas to be included for SDLAM projects.

Farmers who have wetlands on their properties and who water those wetlands, should have those contributions count towards volumes under the SDLAM program. Thought should also be given to changing the project development and delivery models to accommodate a partnership based model to further reduce project risk.

## **Non-Flow Measures**

Governments should embrace complementary measures throughout the Basin and not only in the Northern Basin, so Efficiency Measures and/or SDLAM programs should be expanded to accept non-licenced water options such as those listed above.

If the Basin Plan remains steadfast on volumes, these projects should be given an equivalence in volume to account for them under existing programs.

<sup>&</sup>lt;sup>16</sup> https://news.ucr.edu/articles/2023/03/16/capturing-heavier-rains-era-drought

<sup>&</sup>lt;sup>17</sup> https://www.water.vic.gov.au/ data/assets/pdf file/0025/325078/10-Improved-Regulation-of-the-River-Murray-IRRM-Current-notification-Amendment-1-Redactions-applied.pdf

<sup>&</sup>lt;sup>18</sup> <u>https://www.water.vic.gov.au/murray-darling-basin-plan/victorias-progress/projects</u>

#### **Over-Recovery**

Furthermore, to regain trust with communities around the Basin, consideration should be given to a clear legislative mechanism that water recovered will be to the Sustainable Diversion Limits, no more or no less. Any region which is over-recovered should have a clear pathway to ensure excess environmental water is returned to the productive pool or put to use as determined by that community. Continuing to not address the over-recovery of water is creating inequities between Basin communities. Any future water recovery should also avoid over-recovery and take a conservative approach to ensure water is not unnecessarily taken out of communities.

# **Point of Contact**

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